LEGISLATIVE SUMMARY SHEET
Tracking No. 0194-16

DATE: May 10, 2016

TITLE OF RESOLUTION: PROPOSED STANDING COMMITTEE RESOLUTION; AN ACTION RELATING TO RESOURCES AND DEVELOPMENT; APPROVING A SAND AND GRAVEL LEASE TO RECON OIL CO., INC., TO OPERATE AND MAINTAIN A SAND AND GRAVEL PIT TO OCCUPY 11.41 ACRES, MORE OR LESS, AND AN ACCESS ROAD OF 0.24 ACRES, MORE OR LESS, OF NAVAJO NATION TRUST LANDS LOCATED WITHIN THE TOHATCHI CHAPTER VICINITY, NAVAJO NATION (MCKINLEY COUNTY, NEW MEXICO) FOR ROAD IMPROVEMENT PROJECTS

PURPOSE: Approving the Sand And Gravel Lease to Recon Oil Co., Inc., to Operate And Maintain a Sand and Gravel Pit To Occupy 11.41 Acres, More Or Less, and an Access Road of 0.24 Acres, more or less, of Navajo Nation Trust Lands located within the Tohatchi Chapter vicinity, Navajo Nation (McKinley County, New Mexico) for road improvement projects.

This written summary does not address recommended amendments as may be provided by the standing committees. The Office of Legislative Counsel requests each Council Delegate to review each proposed resolution in detail.

5-DAY BILL HOLD PERIOD: Waived
Website Posting Time/Date: 10:00am 6/21/16
Posting End Date: 6/26/2016
Eligible for Action: 6/27/2016

Resources & Development Committee

PROPOSED STANDING COMMITTEE RESOLUTION

23rd NAVAJO NATION COUNCIL -- Second Year, 2016

INTRODUCED BY

(Prime Sponsor)

TRACKING NO. 0194-16

AN ACTION

RELATING TO RESOURCES AND DEVELOPMENT; APPROVING A SAND AND GRAVEL LEASE TO RECON OIL CO., INC., TO OPERATE AND MAINTAIN A SAND AND GRAVEL PIT TO OCCUPY 11.41 ACRES, MORE OR LESS, AND AN ACCESS ROAD OF 0.24 ACRES, MORE OR LESS, OF NAVAJO NATION TRUST LANDS LOCATED WITHIN THE TOHATCHI CHAPTER VICINITY, NAVAJO NATION (MCKINLEY COUNTY, NEW MEXICO) FOR ROAD IMPROVEMENT PROJECTS

BE IT ENACTED:

Section One. Authority

Pursuant to 2 N.N.C. Section 501 (B)(2), the Resources and Development Committee of the Navajo Nation Council has authority to give final approval of all land withdrawals, non-mineral leases, permits, licenses, rights-of-way, surface easements and bonding requirements on Navajo Nation lands and unrestricted (fee) land. This authority shall include subleases, modifications, assignments, leasehold encumbrances, transfers, renewals, and terminations.

Section Two. Findings

A. The Recon Oil Co., Inc., P. O. Box 1687, Window Rock, Arizona 86515, has submitted a request for a sand and gravel lease to occupy 11.41 acres and an access road right-of-way of 0.24 acres, more or less, of Navajo Nation Trust Lands. The proposed Sand and Gravel Lease is attached as **Exhibit A**; and

B. The proposed Sand and Gravel Lease consists of 11.41 acres, more or less, of Navajo Nation Trust Lands located NE 1/4 of Section 28, Township 20 North, Range 17 West, NMPM, McKinley County, New Mexico. The location of the site is more particularly described on the map marked **Exhibit B and B-1**; and

C. The Project Review Section with the Navajo Land Department has obtained the consent from the affected land users (i.e., grazing permittees). The consent documents are attached as **Exhibit C**; and

D. All environmental and archaeological studies and clearances have been completed and are attached hereto and incorporated herein by this reference. The Environmental Assessment including the environmental assessment map are attached as **Exhibit D**. The Cultural Resource Compliance Form is attached as **Exhibit E.** The Biological Evaluation is attached as **Exhibit F**. The Tohatchi-Buffalo Springs Gravel Pit Figure 1, Figure 2 and Figure 3 maps are attached as **Exhibit G**. The U.S. Fish & Wildlife Service IPaC Trust Resource Report is attached as **Exhibit H**. The Navajo Natural Heritage Program letter is attached as **Exhibit I**. The Biological Resources Compliance Form, Navajo Nation Department of Fish and Wildlife is attached as **Exhibit J**. The Cultural Resource Survey is attached as **Exhibit K**. The Mining and Reclamation Plan is attached as **Exhibit L.** The Environmental Protection Agency memorandum is attached as **Exhibit M**.

Section Three. Approval:

A. The Resources and Development Committee of the Navajo Nation Council hereby approves a Sand and Gravel Lease for Recon Oil Co., Inc., for 11.41 acres, more or less, of Navajo Nation Trust Lands in the Buffalo Springs vicinity, Tohatchi Chapter, Navajo Nation (McKinley County, New Mexico) to operate and maintain a sand and gravel pit and access road. The location is more particularly described on the survey map attached as **Exhibit B**.

B. The Navajo Nation hereby approves the Sand and Gravel Lease subject to, but not limited to the terms and conditions in the Lease attached hereto as **Exhibit A** and made a part hereof.

C. The Navajo Nation hereby authorizes the President of the Navajo Nation to execute any and all documents necessary to implement the intent and purpose of this resolution.

NAVAJO NATION SAND AND GRAVEL LEASE

THIS AGREEMENT for a Sand and Gravel Lease (Lease) is made and entered into this by and between the Navajo Nation and whose address is at Window Rock, Arizona, 86515 and Recon Oil Company, Inc. (Recon), herein called the Lessee and whose address is at P.O. Box 1687, Window Rock, Arizona 86515.

Definitions:

Sand & Gravel means: _____

Department means the Navajo Nation Minerals Department.

Navajo Nation (Nation) means the Navajo Tribe of Indians.

Secretary means the Secretary of the U.S. Department of Interior or his/her designated representative.

Performance bond means a surety bond, collateral bond or self-bond or a combination thereof, by which a lessee assures faithful performance of all the requirements this lease and mining and reclamation plan.

Reclamation means those actions taken to restore mined land as required to a post-mining land use approved by the Department.

Resources and Development Committee means the Resources and Development Committee of the Navajo Nation Council.

Slope means average inclination of a surface, measured from the horizontal. Normally expressed as a unit of horizontal distance to vertical distance.

Stabilize means to control movement of soil, or areas of disturbed earth by modifying the geometry of the mass, or by otherwise modifying physical or chemical properties, such as by providing a protective surface coating.

Ton means 2000 pounds.

Water table means the upper surface of a zone of saturation.

The Navajo Nation hereby grants Lessee right to extract sand and gravel from the NE ¼ of Sections 28, Township 20N, Range 17W, N.M.P.M., McKinley County, State of New Mexico. The Lease occupy an area of 11.41 acres, more or less, and the access road right-of-way consists of 0.24 acres, more or less. The location maps and legal descriptions of the Lease and the access road are shown in attached Exhibit "B" and "B-1", respectively. The Lease shall be subject to the following terms and conditions.

1. The Lease shall be valid for a period of 5 years six (6) months effective the date it is approved by the Secretary. This date shall be known as the Effective Date of the Lease. The quantity of material that can be removed is limited un ~~to 6,000 cubic~~ yards.

2. Payments to the Nation by the Lessee: The Lessee shall make a lump sum payment of $12,780.00 to the Navajo Nation within 10 days of approval of the lease by the Regional Director, Navajo Region, Bureau of Indian Affairs.

3. Mining and Reclamation Plan: The Lessee shall provide a mining and reclamation plan (Plan) to the Nation and to the U.S. Department of Interior (DOI). The Lessee shall comply with all the requirements of the approved Plan. Lessee shall obtain the approval of the Nation and the DOI prior to making any changes in the approved Plan. The Plan will include the area to be mined with drainage control; annual tonnage estimates for the mining area; and the planned reclamation timing to coincide with the mining. As a general rule, slopes will be exceed 5:1 and majority of the revegetation species will be native to the area.

4. Bond: The Lessee shall furnish a performance and reclamation bond for fifty thousand dollars ($50,000.00). The Lessee shall maintain this bond at all times even if the Lease has expired or is terminated. The bond shall only be released with the written consent of the Navajo Nation. The bond may also be increased by the Navajo Nation and/or the DOI. The Lessee shall request a bond release to DOI only after the Lease has been expired or terminated and Lessee has fulfilled all its obligations, including payments to the Nation and reclamation, under the terms and conditions of this Lease

5. Records and Reports: The Lessee shall maintain accurate records of all sand and gravel material extracted, stockpiled, sold and removed from the Lease and the royalty due and paid to the Navajo Nation. A copy of the records shall be provided to the DOI and the Navajo Nation Minerals Department (P.O. Box 1910, Window Rock, AZ: 86515) on a monthly basis within fifteen (15) days following the sale month. Monthly production reports must be filed even if there was no sale of material.

6. Method of Payments: All required payments under Section 2 of this Lease shall be made to the Department, in lawful money of the United States. A copy of the payments shall be provided to the DOI.

7. Disposition of Minerals and Surface: The Navajo Nation expressly reserves the right to use, lease or otherwise dispose of the minerals not covered by this Lease and the surface of the lands embraced within this Lease under existing laws and laws hereinafter enacted. Lessor further reserves the right to grant additional leases for the extraction and removal of sand and gravel or for any other purposes from the lands described herein. Such disposition and use shall be subject to the prior rights of the Lessee herein to use of so much of the said surface as is necessary in the extraction and removal of sand and gravel described in accordance with this Lease.

8. Diligence: The Lessee shall exercise diligence in the conduct of its mining operation and the land described herein shall not be held for speculative purposes, but in good faith for the extraction of sand and gravel and shall begin operation within one (1) month of the Effective Date.

9. No work shall commence until the mandatory mine health and safety training has been provided to the workers pursuant to 30 CFR, Part 46. The Lessee shall maintain the required training plan pursuant to the provisions of 30 CFR, Part 46. The Department shall be listed in the training plan if the Lessee wants the Department to conduct the training. The Lessee may contact the Department to arrange for the training.

10. The Lessee may develop, use and occupy the area under the Lease for the purpose of removing sand and gravel material. The Lessee may not develop, use or occupy the area under the Lease for any other purpose without the prior written approval of the Nation and the Secretary. Such approval of the Nation may be granted upon conditions or withheld at the sole discretion of the Nation. The Lessee may not develop, use or occupy the area under the permit for any unlawful purpose. Any unlawful use of the land within the Lease shall render the Lease void at the option of the Nation and/or the Secretary.

11. Sand and gravel material shall not be used for projects outside the Nation unless it is expressly authorized by the Resources and Development Committee of the Navajo Nation Council.

12. In all activities conducted by the Lessee within the Navajo Nation, the Lessee shall abide by all laws and regulations of the Nation and of the United States, now in force and effect or as hereafter may come into force and effect, including but not limited to the following:

a. Title 25, Code of Federal Regulations, Parts 162 and 169;

b. Title 30, Code of Federal Regulations, Parts 46 and 56;

c. The Navajo Nation Mine Safety Code 18 N.N.C. § 401;

d. All applicable federal and Nation antiquities laws and regulations, with the following additional condition: In the event of a discovery, all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified immediately. As used herein, "discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious/ traditional beliefs or practice.

e. To the extent allowed by applicable law, the Navajo Preference in Employment Act, 15 N.N.C. §§ 601 et seq., the Navajo Nation Business Opportunity Act, 5 N.N.C. §§ 201 et seq., and

f. The Navajo Nation Water Code, 22 N.N.C. § et seq., Lessee shall apply for and submit all applicable permits and information to the Navajo Nation Water Resources Department, or its successor.

13. The Lessee shall ensure that the air quality of the Nation is not unduly degraded during operations by violating federal and Nation's applicable laws and regulations.

14. The Lessee shall clear and keep clear the lands within the Lease area to the extent compatible with the purpose of the Lease, and shall dispose of all vegetation and other materials cut, uprooted, or otherwise accumulated during any surface disturbance activities.

15. The Lessee shall at all times during the term of the Lease and at the Lessee's sole cost and expense, maintain the land subject to the Lease and all improvements located thereon and make all necessary reasonable repairs.

16. The Lessee shall obtain prior written permission to cross an existing permit or lease areas, if any, from the appropriate parties.

17. The Lessee shall be responsible for and promptly pay all damages when they are sustained, from actions the Lessee causes.

18. The Lessee shall indemnify and hold harmless the Nation and the Secretary and their respective authorized agents, employees, land users and occupants against any liability for loss of life, personal injury and property damages arising from the development, use or occupancy or use of area under the Lease by the Lessee.

19. The Lessee shall not assign, convey, transfer or sublet in any manner whatsoever, the lease or any interest therein, or in or to any of the improvements on the land subject to the lease, without the prior written consent of the Nation and the Secretary. Any such attempted assignment, conveyance or transfer without such prior written consent shall be void and of no effect. The consent of the Nation may be granted, granted upon conditions or withheld at the sole discretion of the Nation.

20. The Nation may recommend termination of the Lease by DOI for violation of any of the terms and conditions stated herein.

21. At the termination of the Lease, the Lessee shall peaceably and without legal process deliver up the possession of the premises, in good condition, usual wear and tear excepted. Upon the written request from the Nation, the Lessee shall provide the Navajo, at the Lessee's sole cost and expense, with an environmental audit assessment of the premises at least thirty (30) days after completion and notification to the Nation that all required reclamation has been performed.

22. Holding over by the Lessee after the termination of the Lease shall not constitute a renewal or extension thereof or give the Lessee any rights hereunder or in to the land subject to the Lease or to any improvements located thereon.

23. The Nation and the Secretary shall have the right, at any reasonable time during the term of the permit, to enter upon the premises, or any part thereof, to inspect the same and any improvements located therein. The Nation and Secretary have further right to audit all payments due to the Nation.

24. By acceptance of the grant of Lease, the Lessee consents to the full territorial legislative, executive and judicial jurisdiction of the Nation, including but not limited to the jurisdiction to levy fines and to enter judgments for compensatory and punitive damages and injunctive relief, in connection with all activities conducted by the Lessee within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Nation.

25. By acceptance of the grant of the Lease, the Lessee covenants and agrees never to contest or challenge the legislative, executive or judicial jurisdiction of the Nation on the basis that such jurisdiction is inconsistent with the status of the Nation as an Indian nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the general health and welfare)

over all lands, persons and activities within its territorial boundaries, or on any other basis not generally applicable to a similar challenge to the jurisdiction of a state government. Nothing contained in this provision shall be construed to negate or impair federal responsibilities with respect to the land subject to the Lease or to the Nation.

26. Any action or proceeding brought by the Lessee against the Nation in connection with or arising out of the terms and conditions of the Lease shall be brought only in the Courts of the Nation. and no such action or proceeding shall be brought by the Lessee against the Nation in any court of any state.

27. Nothing contained herein shall be interpreted as constituting a waiver, express or implied, of the sovereign immunity of the Nation.

28. Except as prohibited by applicable federal law, the law of the Nation shall govern the performance and enforcement of the terms and conditions contained herein.

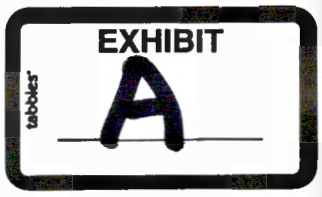
29. The terms and conditions contained herein shall extend to and be binding upon the successors, heirs, assigns, executors, administrators, employees and agents, including all contractors and subcontractors, of the Lessee, and the term "Lessee" whenever used herein, shall be deemed to include all such successors, heirs, assigns, executors, administrators, employees and agents.

30. There is expressly reserved to the Nation full territorial legislative, executive and judicial jurisdiction over the area under the Lease and all lands burdened by the Lease, including without limitation over all persons, including the public, and all activities conducted or otherwise occurring within the area under the Lease and all lands burdened by the Lease shall be and forever remain Navajo Indian Country for purposes of Navajo Nation jurisdiction.

31. The Lessee is required to maintain and submit a certificate issued by an insurance company authorized to do business in the United States, and on the Navajo Nation, certifying that the applicant has a public liability insurance policy in force for the mining and reclamation operations pursuant to this Lease. Such policy shall provide for personal injury and property damage protection in an amount adequate to compensate any person injured or property damaged as a result of the mining and reclamation operations, including the use of explosives. Minimum insurance coverage for bodily injury and property damage shall be $ 500,000 for each occurrence and $1,000,000 aggregate.

a. The policy shall be maintained in full force during the term of the Lease and the liability period necessary to complete all reclamation requirements under the Plan.

b. The policy shall include a rider requiring that the insurer notify the Department and DOI whenever substantive changes are made in the policy including any termination or failure to renew.



NAVAJO NATION SAND AND GRAVEL LEASE

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Resources and Development Committee means the Resources and Development Committee of the Navajo Nation Council.

Slope means average inclination of a surface, measured from the horizontal. Normally expressed as a unit of horizontal distance to vertical distance.

Stabilize means to control movement of soil, or areas of disturbed earth by modifying the geometry of the mass, or by otherwise modifying physical or chemical properties, such as by providing a protective surface coating.

Ton means 2000 pounds.

Water table means the upper surface of a zone of saturation.

The Navajo Nation hereby grants Lessee right to extract sand and gravel from the NE ¼ of Sections 28, Township 20N, Range 17W, N.M.P.M., McKinley County, State of New Mexico. The Lease occupy an area of 11.41 acres, more or less, and the access road right-of-way consists of 0.24 acres, more or less. The location maps and legal descriptions of the Lease and the access road are shown in attached Exhibit "B" and "B-1", respectively. The Lease shall be subject to the following terms and conditions.

1. The Lease shall be valid for a period of six (6) months effective the date it is approved by the Secretary. This date shall be known as the Effective Date of the Lease. The quantity of material that can be removed is limited to 6,000 cubic yards.

2. Payments to the Nation by the Lessee: The Lessee shall make a lump sum payment of $12,780.00 to the Navajo Nation within 10 days of approval of the lease by the Regional Director, Navajo Region, Bureau of Indian Affairs.

3. Mining and Reclamation Plan: The Lessee shall provide a mining and reclamation plan (Plan) to the Nation and to the U.S. Department of Interior (DOI). The Lessee shall comply with all the requirements of the approved Plan. Lessee shall obtain the approval of the Nation and the DOI prior to making any changes in the approved Plan. The Plan will include the area to be mined with drainage control; annual tonnage estimates for the mining area; and the planned reclamation timing to coincide with the mining. As a general rule, slopes will be exceed 5:1 and majority of the revegetation species will be native to the area.

4. Bond: The Lessee shall furnish a performance and reclamation bond for fifty thousand dollars ($50,000.00). The Lessee shall maintain this bond at all times even if the Lease has expired or is terminated. The bond shall only be released with the written consent of the Navajo Nation. The bond may also be increased by the Navajo Nation and/or the DOI. The Lessee shall request a bond release to DOI only after the Lease has been expired or terminated and Lessee has fulfilled all its obligations, including payments to the Nation and reclamation, under the terms and conditions of this Lease

5. Records and Reports: The Lessee shall maintain accurate records of all sand and gravel material extracted, stockpiled, sold and removed from the Lease and the royalty due and paid to the Navajo Nation. A copy of the records shall be provided to the DOI and the Navajo Nation Minerals Department (P.O. Box 1910, Window Rock, AZ: 86515) on a monthly basis within fifteen (15) days following the sale month. Monthly production reports must be filed even if there was no sale of material.

6. Method of Payments: All required payments under Section 2 of this Lease shall be made to the Department, in lawful money of the United States. A copy of the payments shall be provided to the DOI.

7. Disposition of Minerals and Surface: The Navajo Nation expressly reserves the right to use, lease or otherwise dispose of the minerals not covered by this Lease and the surface of the lands embraced within this Lease under existing laws and laws hereinafter enacted. Lessor further reserves the right to grant additional leases for the extraction and removal of sand and gravel or for any other purposes from the lands described herein. Such disposition and use shall be subject to the prior rights of the Lessee herein to use of so much of the said surface as is necessary in the extraction and removal of sand and gravel described in accordance with this Lease.

8. Diligence: The Lessee shall exercise diligence in the conduct of its mining operation and the land described herein shall not be held for speculative purposes, but in good faith for the extraction of sand and gravel and shall begin operation within one (1) month of the Effective Date.

9. No work shall commence until the mandatory mine health and safety training has been provided to the workers pursuant to 30 CFR, Part 46. The Lessee shall maintain the required training plan pursuant to the provisions of 30 CFR, Part 46. The Department shall be listed in the training plan if the Lessee wants the Department to conduct the training. The Lessee may contact the Department to arrange for the training.

10. The Lessee may develop, use and occupy the area under the Lease for the purpose of removing sand and gravel material. The Lessee may not develop, use or occupy the area under the Lease for any other purpose without the prior written approval of the Nation and the Secretary. Such approval of the Nation may be granted upon conditions or withheld at the sole discretion of the Nation. The Lessee may not develop, use or occupy the area under the permit for any unlawful purpose. Any unlawful use of the land within the Lease shall render the Lease void at the option of the Nation and/or the Secretary.

11. Sand and gravel material shall not be used for projects outside the Nation unless it is expressly authorized by the Resources and Development Committee of the Navajo Nation Council.

12. In all activities conducted by the Lessee within the Navajo Nation, the Lessee shall abide by all laws and regulations of the Nation and of the United States, now in force and effect or as hereafter may come into force and effect, including but not limited to the following:

a. Title 25, Code of Federal Regulations, Parts 162 and 169;

b. Title 30, Code of Federal Regulations, Parts 46 and 56;

c. The Navajo Nation Mine Safety Code 18 N.N.C. § 401;

d. All applicable federal and Nation antiquities laws and regulations, with the following additional condition: In the event of a discovery, all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified immediately. As used herein, "discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious/ traditional beliefs or practice.

e. To the extent allowed by applicable law, the Navajo Preference in Employment Act, 15 N.N.C. §§ 601 et seq., the Navajo Nation Business Opportunity Act, 5 N.N.C. §§ 201 et seq., and

f. The Navajo Nation Water Code, 22 N.N.C. § et seq., Lessee shall apply for and submit all applicable permits and information to the Navajo Nation Water Resources Department, or its successor.

13. The Lessee shall ensure that the air quality of the Nation is not unduly degraded during operations by violating federal and Nation's applicable laws and regulations.

14. The Lessee shall clear and keep clear the lands within the Lease area to the extent compatible with the purpose of the Lease, and shall dispose of all vegetation and other materials cut, uprooted, or otherwise accumulated during any surface disturbance activities.

15. The Lessee shall at all times during the term of the Lease and at the Lessee's sole cost and expense, maintain the land subject to the Lease and all improvements located thereon and make all necessary reasonable repairs.

16. The Lessee shall obtain prior written permission to cross an existing permit or lease areas, if any, from the appropriate parties.

17. The Lessee shall be responsible for and promptly pay all damages when they are sustained, from actions the Lessee causes.

18. The Lessee shall indemnify and hold harmless the Nation and the Secretary and their respective authorized agents, employees, land users and occupants against any liability for loss of life, personal injury and property damages arising from the development, use or occupancy or use of area under the Lease by the Lessee.

19. The Lessee shall not assign, convey, transfer or sublet in any manner whatsoever, the lease or any interest therein, or in or to any of the improvements on the land subject to the lease, without the prior written consent of the Nation and the Secretary. Any such attempted assignment, conveyance or transfer without such prior written consent shall be void and of no effect. The consent of the Nation may be granted, granted upon conditions or withheld at the sole discretion of the Nation.

20. The Nation may recommend termination of the Lease by DOI for violation of any of the terms and conditions stated herein.

21. At the termination of the Lease, the Lessee shall peaceably and without legal process deliver up the possession of the premises, in good condition, usual wear and tear excepted. Upon the written request from the Nation, the Lessee shall provide the Navajo, at the Lessee's sole cost and expense, with an environmental audit assessment of the premises at least thirty (30) days after completion and notification to the Nation that all required reclamation has been performed.

22. Holding over by the Lessee after the termination of the Lease shall not constitute a renewal or extension thereof or give the Lessee any rights hereunder or in to the land subject to the Lease or to any improvements located thereon.

23. The Nation and the Secretary shall have the right, at any reasonable time during the term of the permit, to enter upon the premises, or any part thereof, to inspect the same and any improvements located therein. The Nation and Secretary have further right to audit all payments due to the Nation.

24. By acceptance of the grant of Lease, the Lessee consents to the full territorial legislative, executive and judicial jurisdiction of the Nation, including but not limited to the jurisdiction to levy fines and to enter judgments for compensatory and punitive damages and injunctive relief, in connection with all activities conducted by the Lessee within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Nation.

25. By acceptance of the grant of the Lease, the Lessee covenants and agrees never to contest or challenge the legislative, executive or judicial jurisdiction of the Nation on the basis that such jurisdiction is inconsistent with the status of the Nation as an Indian nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the general health and welfare)

over all lands, persons and activities within its territorial boundaries, or on any other basis not generally applicable to a similar challenge to the jurisdiction of a state government. Nothing contained in this provision shall be construed to negate or impair federal responsibilities with respect to the land subject to the Lease or to the Nation.

26. Any action or proceeding brought by the Lessee against the Nation in connection with or arising out of the terms and conditions of the Lease shall be brought only in the Courts of the Nation, and no such action or proceeding shall be brought by the Lessee against the Nation in any court of any state.

27. Nothing contained herein shall be interpreted as constituting a waiver, express or implied, of the sovereign immunity of the Nation.

28. Except as prohibited by applicable federal law, the law of the Nation shall govern the performance and enforcement of the terms and conditions contained herein.

29. The terms and conditions contained herein shall extend to and be binding upon the successors, heirs, assigns, executors, administrators, employees and agents, including all contractors and subcontractors, of the Lessee, and the term "Lessee" whenever used herein, shall be deemed to include all such successors, heirs, assigns, executors, administrators, employees and agents.

30. There is expressly reserved to the Nation full territorial legislative, executive and judicial jurisdiction over the area under the Lease and all lands burdened by the Lease, including without limitation over all persons, including the public, and all activities conducted or otherwise occurring within the area under the Lease and all lands burdened by the Lease shall be and forever remain Navajo Indian Country for purposes of Navajo Nation jurisdiction.

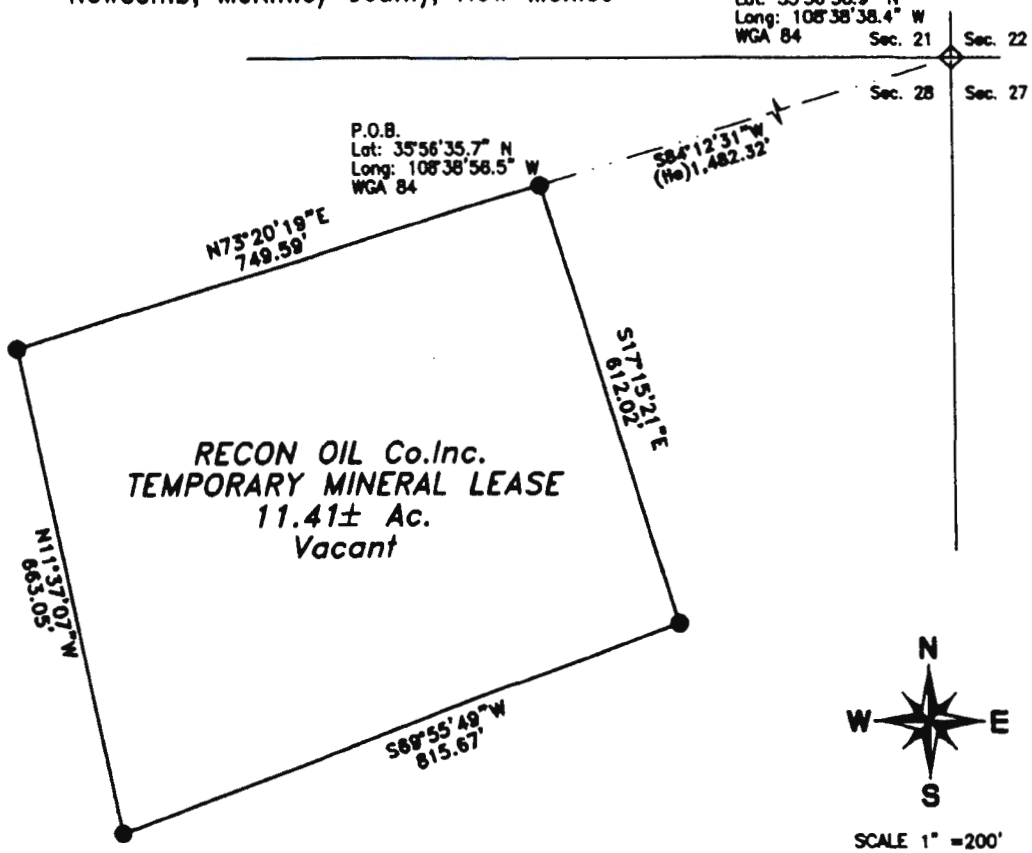
31. The Lessee is required to maintain and submit a certificate issued by an insurance company authorized to do business in the United States, and on the Navajo Nation, certifying that the applicant has a public liability insurance policy in force for the mining and reclamation operations pursuant to this Lease. Such policy shall provide for personal injury and property damage protection in an amount adequate to compensate any person injured or property damaged as a result of the mining and reclamation operations, including the use of explosives. Minimum insurance coverage for bodily injury and property damage shall be $ 500,000 for each occurrence and $1,000,000 aggregate.

a. The policy shall be maintained in full force during the term of the Lease and the liability period necessary to complete all reclamation requirements under the Plan.

b. The policy shall include a rider requiring that the insurer notify the Department and DOI whenever substantive changes are made in the policy including any termination or failure to renew.

EXHIBIT
tabbies
B

A Record of Survey Located in the Northeast Quarter (NE1/4) of Section 28, Township 20 North, Range 17 West N.M.P.M. Newcomb, McKinley County, New Mexico



Legal Description.

A parcel of land located in the Northeast Quarter (NE1/4) of Section 28 Township 20 North, Range 17 West, N.M.P.M., McKinley County, New Mexico also situate in the Newcomb area and being more particularly described as follows;

Commencing at the Point of Beginning a point which bears South 84°12'31" West, a distance of 1,482.32 feet from the Northeast Corner of said Section 28;

thence South 17°15'21" East, a distance of 612.02 feet;
thence South 69°55'49" West, a distance of 815.67 feet;
thence North 11°37'07" West, a distance of 663.05 feet;
thence North 73°20'19" East, a distance of 749.59 feet to point of Beginning said tract containing 11.41± Acres more or less in area and being subject to any reservations, easements and restrictions of record.

This is to certify that this plat was prepared from field notes of actual surveys made under my supervision. This survey complies with the minimum standards of property surveys in New Mexico and is correctly represented on this plat.

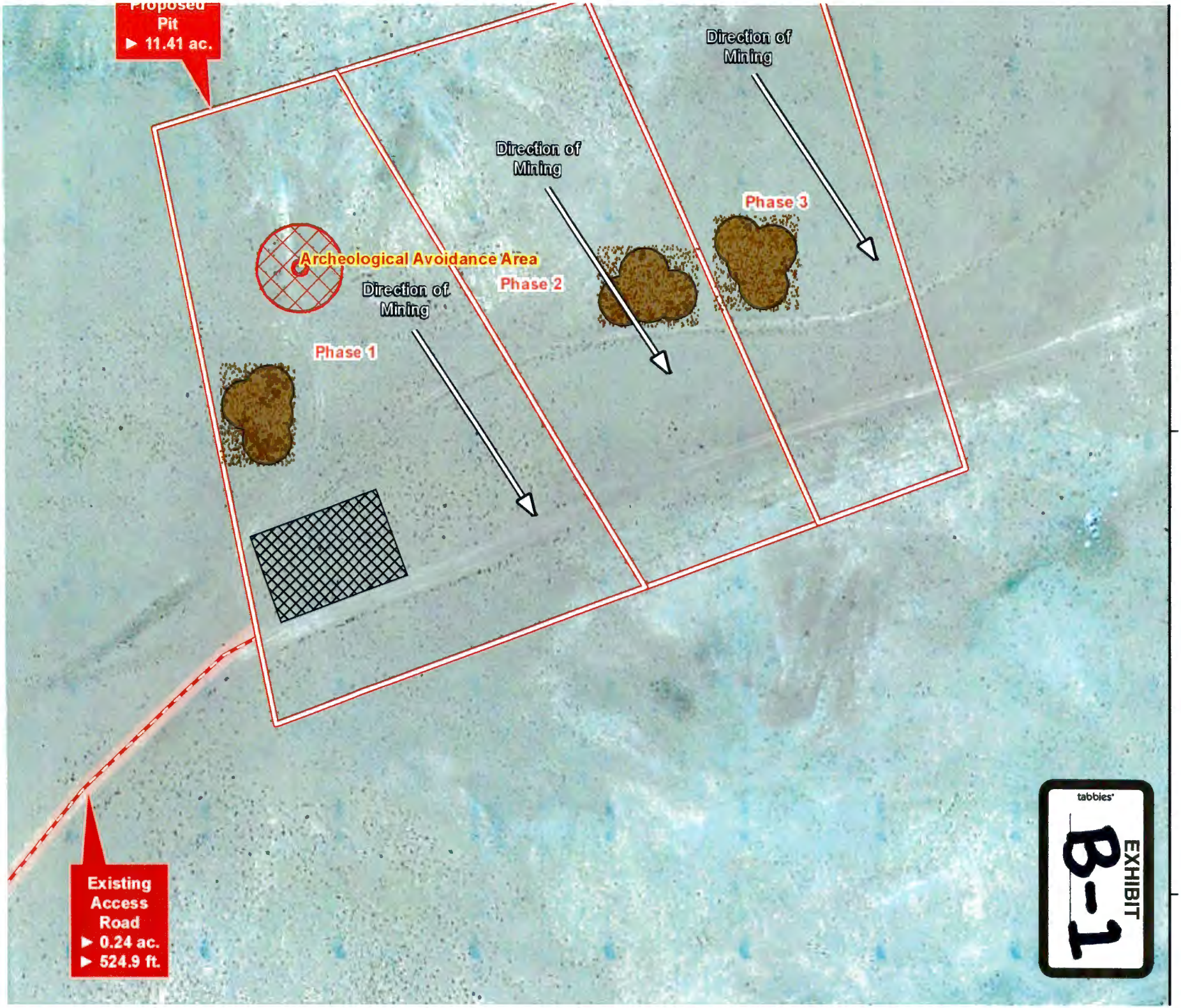
NEW MEXICO 12163 REGISTERED PROFESSIONAL SURVEYOR

Henry Thomas
Registered N.M.P.L.S. # 12163

NOTES
Basis of Bearing: Solar Observation=3-25-15 P.M.
● Denotes Set 1/2" X 18" rebar
Lease area is Vacant

References Used:
(R-1) USBLM Township Plat T20N, R17W NMPM
(R-2) Coyote Canyon NW Quad Map

RED VALLEY SURVEY PO BOX 2827 Shiprock,NM 87420 (505) 320-0479	*RECON OIL Co. Inc.* *TEMPORARY MINERAL LEASE* Site Lease Survey
Drawn By: HThomas Approved By: HThomas SCALE: 1" =100' DATE: 3/26/15	11.04± Ac. District 12– Shiprock Agency NAVAJO INDIAN RESERVATION NE1/4 of Sec. 28 T20N, R17W, N.M.P.M. Nachitti, McKinley County, New Mexico



Section 2
McKinley

EXHIBIT: B-1

35.9417° N

35.9403° N

THE NAVAJO NATION
Navajo Land Department
P.O. Box # 2249 · Window Rock, Arizona 86515 · (928) 871-6401 · FAX: (928) 871-7039

EXHIBIT C

M E M O R A N D U M

TO : Howard P. Draper, Supervisor
Project Review Section, NLD

FROM : Esther Kee
Esther Kee, R/W Agent
Project Review Section, NLD

DATE : September 28, 2015

SUBJECT: Recon Buffalo Springs Sand & Gravel Lease

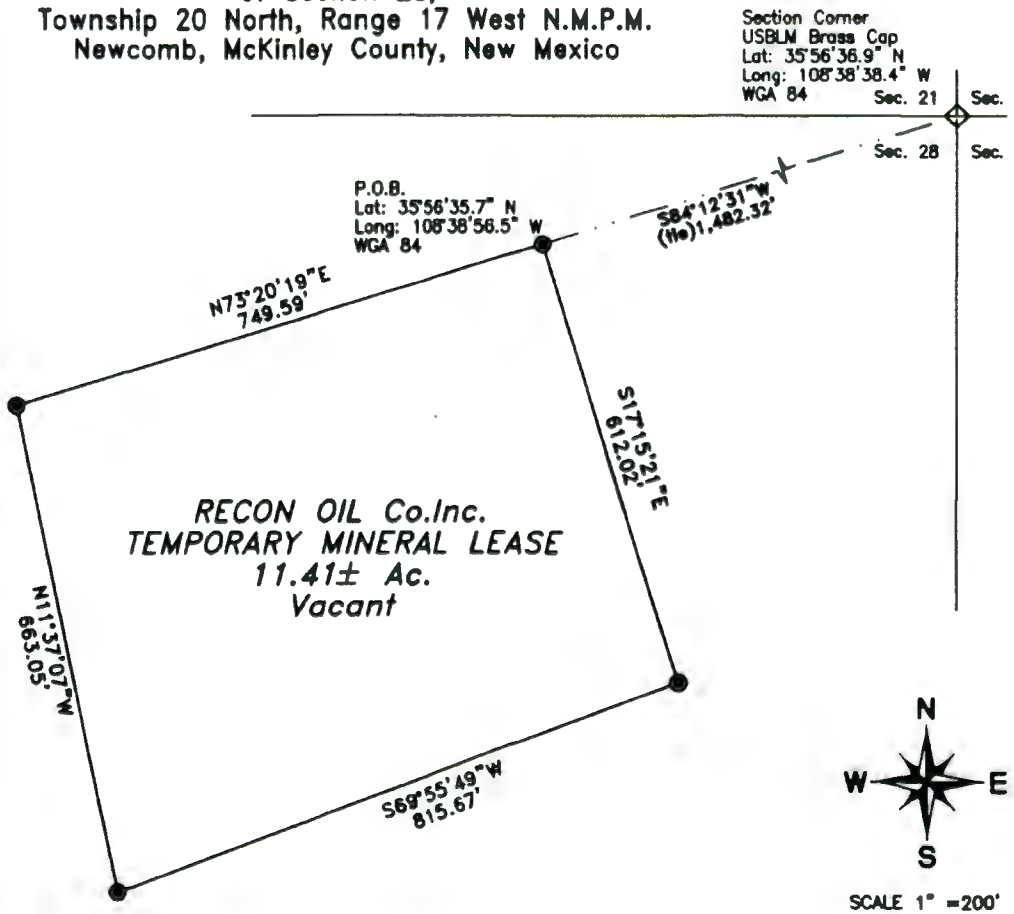
Recon Oil Company, Inc., Post Office Box 1678, Window Rock, Arizona 86515, submitted a Sand and Gravel Lease of 11.41 acres, 0.24 acres Access Road to extract fill materials from Buffalo Springs Borrow pit for 491 road project all on Navajo Trust lands near Tohatchi Chapter located in the NE/4 of Section 28, T20N, R17E, McKinley County, New Mexico.

District 14 Grazing Committee member, Edison D. Jones, identified two grazing permittees Cecil D. Pinto and Corinne Sleuth, affected by the proposed project. I informed the land users on the proposed request and they had no objections as long as the applicant reclaim the area. I obtained the land users consent along with the concurrence of the Tohatchi Chapter Grazing Official, Edison D. Jones. Land users will be compensated $5,945.00 (11.41 acres/borrow pit, 0.24 acres/access road) for surface damages.

Field clearance complete, land users consent, map and supporting documents are all attached for your information and reference.

cc: Project file

A Record of Survey
Located in the
Northeast Quarter (NE1/4)
of Section 28,
Township 20 North, Range 17 West N.M.P.M.
Newcomb, McKinley County, New Mexico



Legal Description.

A parcel of land located in the Northeast Quarter (NE1/4) of Section 28 Township 20 North, Range 17 West, N.M.P.M., McKinley County, New Mexico also situate in the Newcomb area and being more particularly described as follows;

Commencing at the Point of Beginning a point which bears South 84°12'31" West, a distance of 1,482.32 feet from the Northeast Corner of said Section 28;

thence South 17°15'21" East, a distance of 612.02 feet;
thence South 69°55'49" West, a distance of 815.67 feet;
thence North 11°37'07" West, a distance of 663.05 feet;
thence North 73°20'19" East, a distance of 749.59 feet to point of Beginning said tract containing 11.41± Acres more or less in area and being subject to any reservations, easements and restrictions of record.

This is to certify that this plat was prepared from field notes of actual surveys made under my supervision. This survey complies with the amended minimum standards of property surveys in New Mexico and is accurately represented on this plat.

NEW MEXICO 12163 REGISTERED PROFESSIONAL SURVEYOR

Henry Thomas
Registered N.M.P.L.S. # 12163

NOTES
Basis of Bearing: Solar Observation=3-25-15 P.M.
● Denotes Set 1/2" X 18" rebar
Lease area is Vacant

References Used:
(R-1) USBLM Township Plat T20N, R17W NMPM
(R-2) Coyote Canyon NW Quad Map

RED VALLEY SURVEY PO BOX 2827 Shiprock,NM 87420 (505) 320-0479	*RECON OIL Co. Inc.* *TEMPORARY MINERAL LEASE* Site Lease Survey
Drawn By: HThomas Approved By: HThomas SCALE: 1" =100' DATE: 3/26/15	11.04± Ac. District 12– Shiprock Agency NAVAJO INDIAN RESERVATION NE1/4 of Sec. 28 T20N, R17W, N.M.P.M. Nachitti, McKinley County, New Mexico

CONSENT 2
(Compensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I, Corinne Sleuth, hereby grant consent to the Navajo Nation and the Bureau of Indian Affairs, Window Rock, Arizona to permit **Recon Oil Company, Inc., Post Office Box 1678, Window Rock, Arizona 86515** to use a portion of my land use area for the following purpose(s) **Sand & Gravel Lease of 11.41 acres, for borrow materials for 491 road project and 20'x524.9'/0.24 acres access road all on Navajo Trust lands located in the NE/4 of Section 28, T20N, R17E, NMPM, McKinley County, New Mexico,** as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of $2,972.50 (11.89 acres x $500/ac = $5,945.00 / 2 permittees), which I acknowledge as good an adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS:

10/23/15 x Corinne Sleuth _____ _____ _____
Date Land User Signature/Thumbprint Social Security No. Census No. Permit No.

P.O Box 1 TOhatchi, NM 87325
Address (P.O. Box, City, State, Zip, Telephone No.)

WITNESS: _____

10-23-15 Adrian D. Jones 14-2
Date Grazing Committee or Land Board Member District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable)

Esther Lee
Field Agent Signature

CONSENT 2
(Compensation for damages)

CONSENT TO USE
NAVAJO TRIBAL LANDS

TO WHOM IT MAY CONCERN:

I Ellen B Bunto, hereby grant consent to the Navajo Nation and the Bureau of Indian Affairs, Window Rock, Arizona to permit **Recon Oil Company, Inc., Post Office Box 1678, Window Rock, Arizona 86515** to use a portion of my land use area for the following purpose(s) **Sand & Gravel Lease of 11.41 acres, for borrow materials for 491 road project and 20'x524.9'/0.24 acres access road all on Navajo Trust lands located in the NE/4 of Section 28, T20N, R17E, NMPM, McKinley County, New Mexico,** as shown on the map showing the location of the proposed project on the back of this consent form.

My consent is given subject to the receipt of compensation of $2,972.50 (11.89 acres x 500/ac = $5,945.00 / 2 permittees), which I acknowledge as good an adequate compensation for the diminishment in value of my land use rights as a result of the above-referenced project as proposed.

REMARKS:

10-22-15 Ellen B Bunto
Date Land User Signature/Thumbprint Social Security No. Census No. Permit No.

Box , Tohatchi, N.M. 87325
Address (P.O. Box, City, State, Zip, Telephone No.)

WITNESS: _____

10-23-15 Edison D. Jones 14-2
Date Grazing Committee or Land Board Member District No.

Acknowledgement of Field Agent

I acknowledge that the contents of this consent form was read// or fully explained// to the land user in Navajo// or English// (Check where applicable)

Effie Lee
Field Agent Signature

prjt ID# 16-8310

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

September 25, 2015

Esther Kee
Navajo Land Department
P. O. Box 2249
Window Rock, AZ 86515

Dear Esther,

On behalf of Recon Oil, I am requesting field clearance for the Tohatchi/Buffalo Springs Borrow Pit for the U.S. 491 construction project, as shown the attached map and plat.

The pit will be accessed via an existing road (20' x 524.9' (=0.24 acre)) at a point 32.7 miles north of Gallup on US 491. The 11.41 acre pit is ≥300' east of US 491. The project is in the northeast quarter of Section 28, Township 20 North, Range 17 East, McKinley County, New Mexico. Total land use in the Tohatchi Chapter will be 11.65 acres of Tribal trust land.

Please call me if you have any questions.

Sincerely,

Jeanette Reisenburg

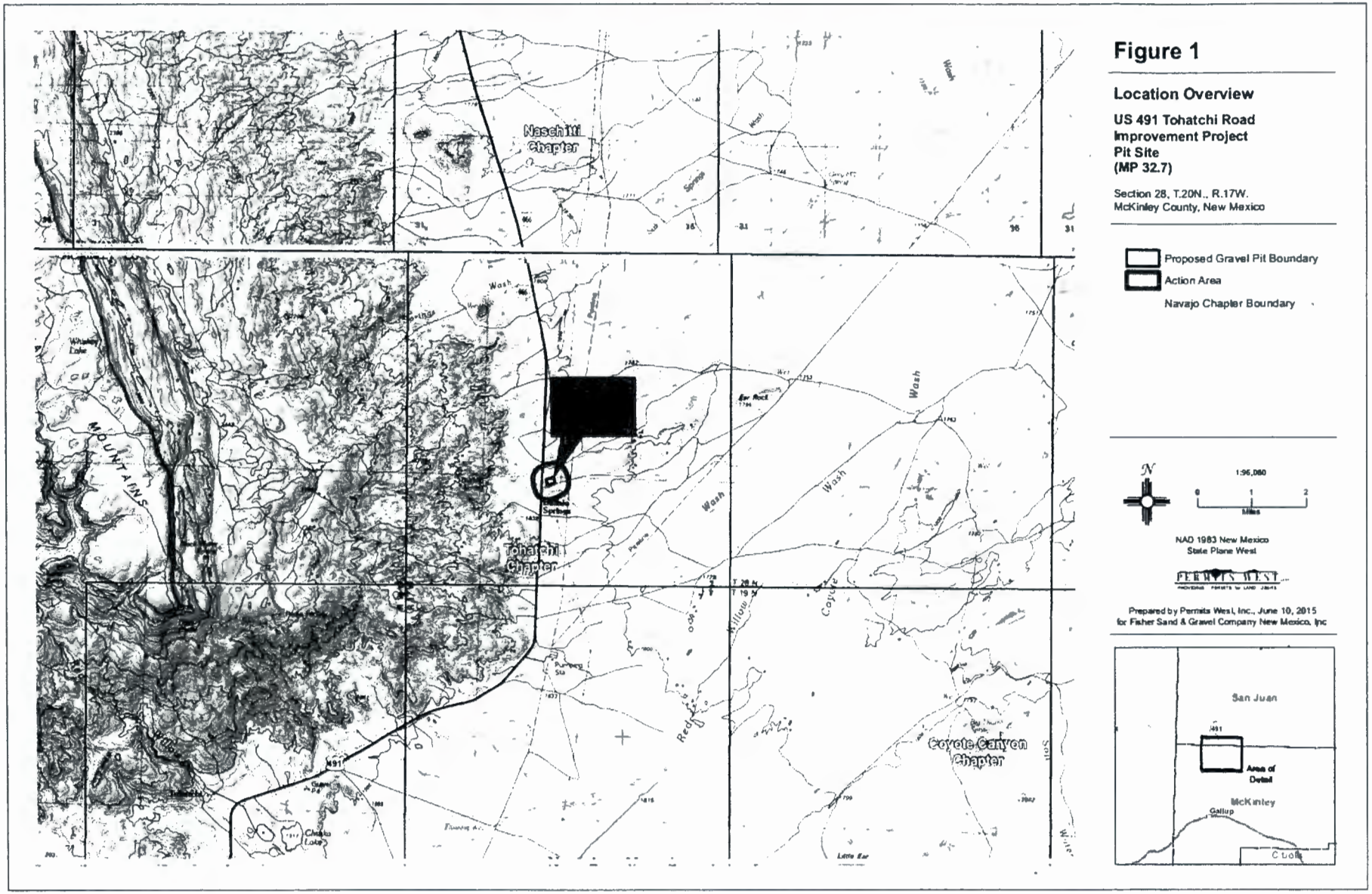


Figure 1. General Location Map.

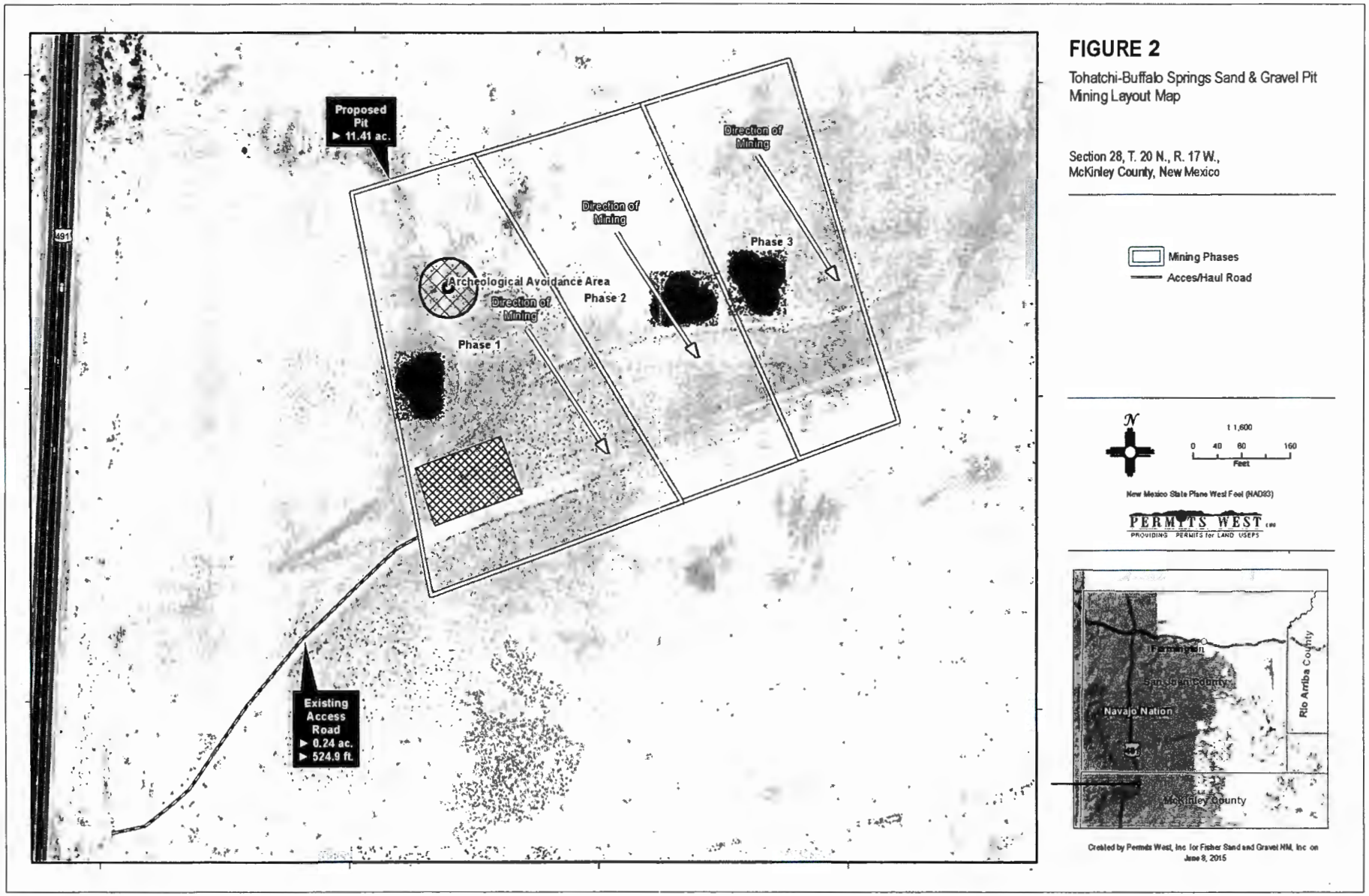


Figure 2. Mining Phases and General Features of the Tohatchi/Buffalo Springs Materials Pit.

EXHIBIT
tabbies
D

ENVIRONMENTAL ASSESSMENT

FOR

RECON OIL

TOHATCHI/BUFFALO SPRINGS BORROW PIT FOR THE US 491 IMPROVEMENT PROJECT

SECTION 28, T. 20 NORTH, R. 17 WEST
MCKINLEY COUNTY, NEW MEXICO

JULY 2015

PREPARED BY:

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466 8120

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

1. CULTURAL RESOURCES COMPLIANCE FORM (CRCF)
2. BIOLOGICAL EVALUATION
3. BIOLOGICAL RESOURCES COMPLIANCE FORM (BRCF)

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

Recon Oil (Recon) is proposing to obtain a lease to mine Navajo Tribal minerals (gravel and borrow material) from a previously disturbed site located approximately 10 miles northeast of Tohatchi/Buffalo Springs, McKinley County, New Mexico (Proposed Action). The borrow/gravel pit would support a New Mexico 491 upgrade. The proposed project is located on Navajo Tribal Trust land and is approximately 11.65 acres in size, and includes an 11.41 acre pit and 0.24 acre access road ROW (Figure 1). The access road is located at mile post 32.7 along U.S. 491; the western boundary of the proposed pit is located within 530 feet of U.S. 491.

This project Environmental Assessment (EA) addresses site-specific resources and impacts on Navajo-managed lands as required by the National Environmental Policy Act of 1969, as amended (NEPA; Pub. L. 91-90, 42 U.S.C. 4321 et seq.).

1.2 PURPOSE AND NEED

The purpose of this EA is to provide authorization to excavate gravel and borrow material at the proposed Tohatchi/Buffalo Springs pit. The BIA needs to consider this action in accordance with its responsibilities under NEPA found in the Departmental Manual (DM) at 516 DM 10 and in the Indian Affairs Manual (IAM) at 59 IAM 3-H (Appendices 15 and 16), and regulations for environmental guidance for surface mining in 25 CFR Part 216 (Surface Exploration, Mining, and Reclamation of Lands).

1.3 CONFORMANCE WITH APPLICABLE LAND USE

This environmental assessment addresses the resources and impacts on a site specific basis as required by the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-90, 42 USC 4321 et seq.). This assessment will be submitted to the Bureau of Indian Affairs (BIA) for review and approval. To date, the Proposed Action would not be in any conflict with any local, county, or state plans and the Naschitti and Tohatchi Chapters have endorsed the proposed pit.

1.4 FEDERAL, TRIBAL, STATE, AND LOCAL PERMITS, LICENSES, OR REQUIREMENTS

Both the surface and minerals in the project area are owned by the Navajo Nation. Mining of the site would be accomplished according to applicable federal and tribal regulations.

A Navajo Nation Sand and Gravel Lease will be obtained by Recon for the right to extract gravel and borrow material from near surface deposits at the site. Recon will be responsible for obtaining the required permits from Navajo Environmental Protection Agency (Navajo EPA) and/or U.S. Environmental Protection Agency (U.S. EPA), Navajo Minerals Department, and Air Quality Control Program.

A Field clearance request for the 11.41 acre pit and 0.24 acre access road ROW will be submitted to the Navajo Nation Project Review Office, and a response and resolution will be obtained prior to commencing the project.

The Navajo Nation Department of Fish and Wildlife – Natural Heritage Program (NNDFW) was consulted regarding Threatened, Endangered, and Special Status Species with potential to occur in the project area (Appendix A2 in Biological Evaluation [Appendix 2]). Both a wildlife survey and plant survey were performed at the project area by a qualified wildlife biologist and botanist. A Biological Evaluation was prepared as part of the New Mexico Department of Transportation requirements for a Federally Funded Highway Project (i.e. US 491 Highway improvement). The Biological Evaluation analyzed U.S. Fish and Wildlife and Navajo Nation Department of Fish and Wildlife listed species and their potential to occur at

the project area (Appendix A2 in Biological Evaluation [Appendix 2]). The Biological Resources Clearance Form (BRCF) was received from Navajo Nation Department of Fish and Wildlife July 7, 2015 and is attached as Appendix 3.

The Proposed Action would excavate an area larger than 1 acre; therefore, Recon would be subject to National Pollution Discharge Elimination System (NPDES) permit requirements. Recon will develop and file a Storm Water Pollution Prevention Plan (SWPPP) for the site and obtain a permit from the U.S. EPA NPDES Program prior to commencing operations.

Recon would be required to comply with Section 106 of the National Historic Preservation Act (NHPA). Cultural resources field inventories were collected and are undergoing NHPA review and consultation with the Navajo Nation Historic Preservation Department (NNHPD).

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 ALTERNATIVE A – NO ACTION

The BLM NEPA Handbook (H-1790-1) states that for EAs on externally initiated proposed actions, the No Action Alternative generally means that the proposed activity will not take place. This option is provided for in 43 CFR 3162.3-2 (h) (2). This alternative would deny the approval of the proposal for the gravel quarry and no activity would take place.

2.2 ALTERNATIVE B – PROPOSED ACTION

The Proposed Action is located in Section 28, T. 20 North R. 17 West, approximately 10 miles northeast of Tohatchi/Buffalo Springs, McKinley County, New Mexico (Figure 1). It is within the Bureau of Indian Affairs (BIA) Fort Defiance Agency, Tohatchi Chapter. The total disturbance land area for the Proposed Action is 11.65 acres (11.41 acres for quarry, and 0.24 acres for the access road). The access road would be 524.9 feet long by 20 feet wide (Table 2.1).

2.2.1 MATERIAL EXTRACTION, PROCESSING, AND ACCESS

The Proposed Action involves extracting gravel and borrow materials from the Tohatchi/Buffalo Springs borrow pit using front end loaders and bulldozers. The 11.41 acre pit will be expanded on an as needed basis and sections will be mined from north to south in 3-5 acre parcels beginning with Phase 1 (Figure 2). A culturally significant site located within the Phase 1 area would be avoided by 15 meters (50 feet). Materials from the pit would loaded into trucks and transported to a separate location to be crushed and separated. Prepared materials would then be transferred to U.S. 491 improvement locations via haul trucks. The existing 0.24 acre (524.9' x 20') access road into the proposed pit would be widened and upgraded to accommodate haul trucks and equipment. This method of materials extraction and transfer of materials would occur throughout the life of the project (approximately 2 years). It is estimated that +/-40,000 yards of aggregates and borrow material will be removed from the proposed pit for the U.S. 491 paving project.

During pit operations, Recon will make efforts to avoid any unnecessary disturbance of existing natural resources outside of the pit boundaries. Prior to excavation within the pits, existing vegetation and topsoil will be bladed off the surface and stockpiled. Upon closing of the pits, slopes will be graded to a 3:1 ratio, topsoil will be replaced and spread evenly over excavated areas, and a Navajo Nation approved seed mix would be applied. During excavation and operations, it is possible that buried or previously unidentified cultural material may be encountered. In the event of a discovery, all operations in the immediate vicinity would cease and the NNHPD would be contacted for guidance and approval to proceed.

Operational equipment at the mine would include a front-end loader/excavator, bulldozers, and haul trucks, water truck, portable truck scale, and company/employee personal vehicles. Site facilities would include a portable office trailer, dumpster or trash cage, and portable toilet. No fuels for equipment will be stored at the site.

Table 2.1. Project Location, ownership, and map quadrangle.

Project Name	Disturbance Area (Acres)	T.	R.	Sec.	Surface Ownership	County, State	Quad Map
Tohatchi/Buffalo Springs Gravel/Borrow Pit	Pit – 11.41 Road – 0.24 (524.9' x 20') Total – **11.65**	20N	17W	28	Navajo Tribal Trust	McKinley, New Mexico	Coyote Canyon, N.M. 7.5-minute

An existing road originating at milepost 32.7 will provide access to the site. The access road would be improved and widened to 20 feet to accommodate increased traffic and haul trucks prior to and/or concurrent with mining operations. A locking gate may be installed on the road to prevent unauthorized entry to the site.

Dust will be controlled using a water truck with water obtained from an approved source. The only anticipated water use is dust control; no pumping or groundwater will be necessary for mining operation. No water use permit will be necessary.

The operating hours for the proposed Tohatchi/Buffalo Springs Pit would be from 7:00 a.m. to 5:00 p.m., Monday through Friday throughout the life of the project (approximately 2 years). The number of employees on site during these hours would be approximately two to four.

2.2.2 *EROSION AND SEDIMENT CONTROL*

Recon will adhere to all Navajo Nation Environmental Protection Agency (Navajo EPA) and U. S. Environmental Protection Agency (EPA) regulations and requirements to control erosion and sedimentation at the project site, including a Storm Water Pollution Prevention Plan (SWPPP) and the use of Best Management Practices (BMPs). BMPs will be implemented to control sedimentation, wind and water erosion, and wind deposition. Prior to material extraction, the top 6" of available topsoil and brush would be removed and stockpiled separate from overburden for future reclamation use. In the short-term, erosion of and sedimentation from topsoil piles would be controlled by seeding and mulching the topsoil piles. Stormwater runoff barriers (e.g. straw bales and/or geotextile fences), and a diversion berm would be installed around the uphill boundaries of the project area to prevent entrance of stormwater from precipitation runoff into the pit. The reclamation walls of the pit would be sloped inward towards the center at no greater than 1V:2.5H (1 vertical to 2.5 horizontal) to capture and control precipitation falling directly into the active mine areas. All storm water management will be detailed in a SWPPP that will be filed, certified, and approved by the U.S. EPA and/or Navajo EPA prior to initiating mining. Final contours and grading during closure reclamation activities would leave the mined out area with

positive drainage toward the north central portion of the project area to exit via unnamed drainages to a broad valley and larger ephemeral channel north of the project area. Straw bales would be placed along the drain line near the drainage exit to prevent off-site sedimentation.

All personnel working at the site will receive onsite basic fire awareness training and will be notified of the locations of fire extinguishers and their proper methods of use.

2.2.3 *RECLAMATION AND REVEGETATION*

Once the U.S. 491 highway improvement project is complete, the Proposed Action area would be reclaimed. All equipment would be removed and the site would be returned to a natural contour and reseeded. On closure of the pit, reclamation and revegetation will be accomplished using the following procedures:

- Overburden, crusher fines, waste rock, and other unmarketable material will be used as reclamation backfill to reduce angle and stabilize slopes as interim reclamation. Pits would be backfilled to follow pre-mine drainage patterns and/or would be backfilled to provide internal drainage so as to capture water to aid in revegetation.
- Slopes would be contoured to match pre-mining topography as closely as possible with slopes no steeper than 2.5:1 (2.5 horizontal to 1 vertical). The new contours would be compacted to provide a stable substrate for topsoil and seed application.
- Stockpiled topsoils (Section 2.2.2) will be applied after slope contouring. Topsoil would be applied to slopes, compacted and then ripped and terraced where necessary to capture water and to provide a viable seedbed against wind and water erosion.
- After topsoil application, the site will be seeded with a Navajo approved seedmix, mulched, and monitored for reclamation success. Noxious weeds and invasive species will be controlled using a Navajo EPA approved herbicide.
- All seeded areas during interim and final reclamation will be protected by installing straw bales or similar BMP structures at drainage low points to protect seed beds from water erosion.

2.3 *ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL*

One other location for the Proposed Action was considered; however, the present location was chosen due to the existing disturbance at the site, plentiful material availability, and proximity to the U.S. 491 construction area. Other than the cultural resources site, no significant issues were identified for the present location of the Proposed Action during the following activities:

1. Onsite inspections;
2. Threatened, Endangered, and Special Status Species surveys; and
3. Review of Navajo Nation Department of Fish and Wildlife species of concern know to occur or with potential to occur on the 7.5 minute Coyote Canyon, NW quadrangle.

No additional alternatives to the Proposed Action, other than the No Action Alternative will be analyzed in this Environmental Assessment (EA).

3.0 AFFECTED ENVIRONMENT

This section describes the environment that could be affected by implementation of an action alternative. Aspects of the affected environment described in this section focus on the relevant major resources or issues only.

3.1 TOPOGRAPHY AND GEOLOGIC RESOURCES

The Proposed Action would occur within a previously mined area located approximately 0.25 miles east of U.S. 491 at milepost 32.7 and approximately 10 miles northeast of Tohatchi, New Mexico. The project area is located in the San Juan Basin, a large basin located within northwestern New Mexico, bounded generally on the south by Interstate 40, on the East by the Jemez Mountain Range, on the west by the Defiance Plateau, and on the North by the San Juan River. The San Juan Basin is a structural basin formed from a large downwarp of sedimentary rocks of mostly Mesozoic age. Geologically, the San Juan Basin is noted for its large deposits of oil, coal, natural gas, and uranium. Related topography consists of abrupt sandstone cliffs west of the project area (Defiance Plateau) and hogback ridges as one travels eastward. In general, exposed geologic layers get older to the west and younger to the east (Kelly, 1967). Exposed surface formations surrounding the project area from youngest to oldest include Early Pleistocene to Latest Pliocene surficial deposits, Middle Miocene to Oligocene shallow intrusions and Permian to Pennsylvanian sedimentary rocks. Large areas of the Shinarump Conglomerate member are also exposed (Arizona Geologic Survey, 2013).

The project area is generally flat desert shrubland/grassland with alluvial cobble outcroppings, mudstones, sandstones, and shales exposed at the surface. The main surface formation is the Menefee, deposited in the late Cretaceous (NMBGMR, 2003).

3.2 SOILS RESOURCES

The soils in the project area are composed of the Mesa family, 1-4% slopes. These soils are found on mesas and fan terraces and are well drained. The Mesa family soils are composed of fine sandy loams, gravelly clay sandy loams, very cobbly sandy loam, very cobbly fine sandy loam, and loamy fine sand in descending order of depth. Parent material is fan and slope alluvium. Depth to restrictive feature is more than 80 inches. Ksat (capacity of most limiting layer to transmit water) is moderately high to high. There is no frequency of flooding or ponding, and runoff class is low (USDA, 2015).

3.3 AIR QUALITY

Air quality in the region is affected by industry in the Four Corners area and natural terrain. The 2014 air quality in the vicinity of the project has an air quality index percentage of 95.93% for "good" and air quality index percentage of 4.07% for "moderate" (EPA, 2014). Moderate air quality can impact sensitive individuals in the population such as elderly, ill, or very young.

The closest industry centers, high traffic areas, and commercial development potentially affecting air quality in the region would be Farmington, New Mexico, approximately 35 miles north of the project area.

3.4 WATER RESOURCES: SURFACE AND GROUNDWATER

There are no perennial streams, rivers, lakes or wetlands, in or near the project area. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the project area indicates that the project is not located within a 100-year floodplain. The average annual precipitation for the area is 9.62 inches (WRCC, 2015). Surface flows and infiltration associated with ephemeral

drainages and water storage are the principle source of groundwater recharge in the area. There are no water wells located in the vicinity of the project area.

In the immediate vicinity of the project area, surface water drains generally northward into a large unnamed wash located approximately 0.3 miles north of the project area. Smaller drains and washes are located within the project area and only flow during significant precipitation events.

3.5 GENERAL WILDLIFE

In April 2015 a pedestrian wildlife survey was conducted by a qualified wildlife biologist. The entire project area was inspected (proposed pit and access road ROW), plus a 50-foot buffer around the project area, and a 25-foot buffer on both sides of the access road. Also, a 0.5-mile radius around the project area was inspected for raptor nests, along with a 1.0-mile line-of-sight survey from the project area. No federal or Navajo listed species were observed during the wildlife survey. A summary of wildlife information is provided in the Biological Evaluation (Appendix 2).

Wildlife in the project area is typical of great basin grassland habitat. Few migratory bird species were observed during the survey due to limited habitat structure.

There are no perennial waters that could support fish populations in the vicinity of the project area.

3.6 VEGETATION AND FORESTRY

The Tohatchi/Buffalo Springs project area is representative of a Plains and Great Basin Grassland (Brown, 1994). Dominant plants include galleta (*Pleuraphis jamesii*), blue grama (*Bouteloua gracilis*), Greene's rabbitbrush (*Chrysothamnus greenei*), broom snakeweed (*Gutierrezia sarothrae*), and alkali sacaton (*Sporobolus airoides*). Infrequent small, shallow basins are dominated by alkali sacaton. A complete list of plant species can be found in Table 3 in Section 7.2 of Appendix 2.

No plant species on the BIA Navajo Area Noxious Weed List (USDI-OSM 1998) were found during the survey.

3.7 THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES

Currently there are a total of fifteen Navajo Nation special status and federally listed species that have the potential to occur in or near the project area (NNDFW-NNHP, 2015)(USFWS IPAC, 2015). These species include those that have Navajo cultural or economic significance, those that are protected by Navajo Fish and Wildlife Natural Heritage Program (NNHP), and those that are protected by the Federal Endangered Species Act (ESA), the Eagle Protection Act EPA), and the Migratory Bird Treaty Act (MBTA). Most of the species designated for protection under these acts require specific habitat elements that are unique to the species. In general, most of the species recognized as special status have been impacted by habitat fragmentation or alteration, or have had their numbers reduced across their range due to some other factor, usually human induced.

No Navajo Nation Department of Fish & Wildlife (NNDFW) or U.S. Fish and Wildlife listed species were observed within or adjacent to the project area during biological surveys of the project area in April 2015. However, habitat for four listed by the Navajo Nation Department of Fish and Wildlife Natural Heritage Program could occur within the project or Action Area. The potential for occurrence in the vicinity of the project area of these species is discussed below.

Kit Fox (*Vulpes macrotis*)

Kit foxes are recognized as Group 4 (G4) species under NNDFW-NNHP. G4 species are currently under evaluation with regards to their numbers and distribution across the Navajo Nation (NNDFW, 2008a), and efforts are being made to inventory these small, shy foxes in order to establish conservation

measures where needed. Habitat for the kit fox is represented by desert scrub and grasslands in open lands. Kit foxes nest in burrows; often in sandy banks or draws.

The habitat in the project area is suitable for kit foxes and they are known to occur in McKinley County. During the April 13, 2015 surveys, no evidence of kit foxes was observed (tracks, scat, burrows); however, kit foxes may forage in the area. The construction and 2 year operation of the Tohatchi/Buffalo Springs pit will remove potential foraging habitat for the kit fox and will likely alter movement patterns of any kit foxes that potentially occur in the area. Additionally, increased traffic and activity in the project area may directly impact individual foxes and/or fox populations by potentially causing death or injury to foxes from vehicle collisions, particularly on US 491. Direct impacts from collisions and indirect impacts, such as loss of forage habitat and alteration of movement patterns, will subside once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished.

Golden eagle (*Aquila chrysaetos*)

Golden eagles are recognized as Group 3 species by NNFWD-NNHP. Group 3 species are considered "endangered" by the Navajo Nation (NNFWD, 2008a). These majestic birds are also protected by the MBTA [16 U.S.C. § 701-12], the federal Bald and Golden Eagle (BGEPA) [16 U.S.C. 668-668c], and the Navajo Nation Bald and Golden Eagle Nest Protection Regulations (NNFWD, 2008b). There are no suitable nest areas within the project area or Action Area; however, golden eagles may forage within the project boundaries. The closest nest habitat for this species is approximately 30 miles east of the Action Area (Kendall, 2013). Golden eagles may be impacted by loss of suitable forage habitat. Loss of vegetation within the project area boundaries will result in the loss of prey species for the golden eagle from the project area. This loss of forage species and associated habitat will be in place until successful reclamation has occurred and prey species (e.g. rodents and rabbits) have re-colonized the project area. Human activity within the project area may alter hunting and movement patterns for golden eagles passing over the project area. These potential impacts will occur until the pit is closed (2 years). Once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished. No direct impacts to golden eagles, or golden eagle populations are anticipated from the operation of the proposed Tohatchi/Buffalo Springs materials pit.

Ferruginous Hawk (*Buteo regalis*)

Ferruginous hawks are recognized as Group 3 species by NNFWD-NNHP. Group 3 species are considered "endangered" by the Navajo Nation (NNDFW, 2008a). There are no suitable nest areas within the project area or Action Area; however, ferruginous hawks may forage within the project boundaries. The closest nest habitat for this species is approximately 35 miles northeast of the Action Area (Kendall, 2013). Ferruginous hawks may be impacted by loss of suitable forage habitat. Loss of vegetation within the project area boundaries will result in the loss of prey species for the ferruginous hawk from the project area. This loss of forage species and associated habitat will be in place until successful reclamation has occurred and prey species (e.g. rodents and rabbits) have re-colonized the project area. Human activity within the project area may alter hunting and movement patterns for hawks passing over the project area. These potential impacts will occur until the pit is closed (2 years). Once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished. No direct impacts to ferruginous hawks, or ferruginous hawk populations are anticipated from the operation of the proposed Tohatchi/Buffalo Springs materials pit.

Burrowing Owl (*Athene cunicularia*)

Burrowing owls are recognized by NNFWD-NNHP as a Group 4 species. G4 species are currently under evaluation with regards to their numbers and distribution across the Navajo Nation (NNDFW, 2008a). Burrowing owls are generally associated with prairie dogs or other burrowing mammals. There are no prairie dogs or potential nest burrows within the project area or Action Area, so it is unlikely that any burrowing owls are nesting within the project area; however, they may forage in the area. Construction and operation of the pit will result in loss of forage habitat for this species. This loss of forage will be in place until successful reclamation has occurred and prey species have re-colonized the project area. Human activity within the project area may alter hunting and movement patterns for owls using the project area. There is a potential to directly impact individual burrowing owls from vehicle collisions, as burrowing owls tend to fly low and forage along roadsides. These potential impacts will occur until the pit is closed (2 years). Once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished.

A detailed inventory of wildlife and plant species documented at the site, their potential to occur, existence of suitable habitat, and their listed status are provided in the Biological Evaluation attached as Appendix 2.

3.8 *CULTURAL RESOURCES*

Cibola Research Consultants surveyed the project area in May 2015. The cultural resource survey of the proposed project area, access road, and buffer zones identified 1 cultural resource (NM-Q-3-95, LA 181,739) and 3 isolated occurrences (IOs). There are no historic structures within or near the project. The cultural resources site will be avoided by a buffer of 15 meters (50 feet) (Figure 2). The Cultural Resources Compliance Form is attached as Appendix 1.

Compliance with Section 106 responsibilities of the National Historic Preservation act (NHPA) will be adhered to, as well as consultation with the Cultural Resources Compliance Section (CRCS) of the Navajo Nation Historic Preservation Department.

3.9 *VISUAL RESOURCES*

Typically views are uninterrupted throughout the Navajo Nation with few structures visible except two track routes, barbed wire fencing, the occasional power line in the distance, and infrequent homesites. This leaves one with an impression of space and remoteness. However, along travel routes, intrusions are more numerous and apparent including; signs, highways, dirt roads, power lines, pipeline corridors, industrial buildings, and residences. The project area has been previously disturbed, though natural reclamation of the area has occurred and the area more or less blends in to the surrounding landscape, which is flat to undulating and relatively unmarked by any outstanding visual impact. Existing vertical structures within the project area include barbed wire fences and power lines. A few homes are located within a mile of the project area. Development of the pit will pose a visual distraction to travelers on U.S. 491; however some of the pit will be partially obscured by topography. One home located approximately 0.3 miles (1,600 feet) southeast of the proposed project area will likely be impacted by visual changes to the landscape as the proposed pit and associated facilities will be in a direct line of site to the residents of the home.

3.10 *NOISE*

Currently noises heard from the project area are dominated by natural sources such as wind and human activities such as traffic along U.S. 491. The site is currently relatively quiet with little noise disturbances heard by the casual observer. Noise impacts from heavy equipment and development of the pit will likely impact local residents (the closest being within 0.3 miles).

3.11 LAND USE

The proposed project is located on Navajo Tribal surface. Hunting, wood gathering, ceremonial use, residences, and raising livestock and farming are the primary land uses in the project area. Grazing allotments are located within and adjacent to the project area.

3.12 HAZARDOUS AND SOLID WASTE

Some hazardous materials will be used on site (e.g. fuels, hydraulic oils, etc.); however, no hazardous wastes or toxic substances will be stored at the site. Mining activities will not create any hazardous wastes. A portable toilet would be located in the project area. Human wastes would be removed on a regular basis and would be disposed of at an approved facility. Trash generated during construction and operation of the mine would be stored in a dumpster or trash cage. No wastes will be buried or burned at the site. Currently, there are no hazardous wastes or other environmental contaminants in the vicinity of the project area.

3.13 PUBLIC HEALTH AND SAFETY

There is currently no mining activity occurring at the site, and there are no activities proposed that would result in a hazard to public health and safety. Shared public roads would ultimately be used to transport machinery, crews, and produced materials to and from the site. No activities are proposed that would endanger public health and safety.

4.0 ENVIRONMENTAL CONSEQUENCES

Operation of the proposed Tohatchi/Buffalo Springs Materials pit is anticipated to at least two years during which an estimated total of approximately 40,000 yards of aggregate and sand materials for the U.S. 491 Highway improvement project. Various aspects of the environment described in Section 3.0 will be impacted by the operation and subsequent closure of the Proposed Action. The relevant and pertinent impacts to the local environment from the Proposed Action are described in the following sections.

4.1 TOPOGRAPHY AND GEOLOGIC RESOURCES

4.1.1 DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the mine and access road would not be authorized or constructed and no impacts to topography and geologic resources would occur.

4.1.2 DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION

A direct impact to topography would occur from modification to the shape and drainage pattern in the project area. The resulting excavation would leave the topography permanently changed from its existing form. The elevation of the project area would be modified but would remain flat on the mine floor with slopes ≤ 1:2.5. These topographic grades would be consistent with surrounding landforms. The post-mining topography would leave the area altered, but would not be significantly different from the current topographic character or function of the site.

4.1.4 MITIGATIONS FOR TOPOGRAPHY AND GEOLOGIC RESOURCES

As long as appropriate protective and reclamation measures outlined as design features of the Proposed Action are followed, no mitigations to protect topography or geologic resources should be required.

4.2 SOILS RESOURCES

4.2.1 DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the mine and access road would not be authorized or constructed and no impacts to soils resources would occur.

4.2.2 DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION

Soils would be directly affected for the life of the project in the project area and access road due to scraping, mixing, compacting, and burying. BMPs would be implemented to limit impacts from erosion and sedimentation around the rim of the pit and into offsite locations. Where available, the top 6" of topsoil would be collected for stockpiling and later use as a seed bed during reclamation revegetation. Areas receiving considerable heavy machinery traffic or beneath processing areas would also be heavily compacted; however, Recon would rip compacted areas at least 12" deep and distribute stockpiled topsoil to offset negative effects to soils and help re-establish a viable post-mining soil substrate in the project area.

4.2.3 MITIGATIONS FOR SOILS RESOURCES

Short-term, direct impacts to soils from the Proposed Action cannot be avoided. However, long-term, indirect and/or residual impacts to soils from the Proposed Action are expected to be minimal is BMPs and SWPPP practices and procedures are implemented. These include but are not limited to: 1) installation of BMPs (sediment transport barriers, entrances, and washouts, and 2) grading, contouring, seeding with a prescribed seed mix, mulching, and monitoring for revegetation success.

4.3 AIR QUALITY

4.3.1 DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the materials pit and access road would not be authorized or constructed and no impacts to air quality would occur.

4.3.2 DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION

Proposed upgrades to the access road, prior to and during operation of the materials pit, would lead to a temporary (for the life of the project) increase in emissions and fugitive dust during construction. These increased dust and exhaust emissions would be short-term and would occur prior to opening the pit and intermittently during the life of the materials pit.

For the life of the project (approx. 2 years), dust and emissions from heavy equipment operating at the mine, and dust and emissions from haul trucks operating on the access road and in the active quarry, would temporarily increase in the project area. Emissions would be greater on weekdays during daylight hours. Fugitive dust emissions would increase along the dirt access road; however, low speed truck traffic is not anticipated to cause significant air quality impacts. Emissions from heavy equipment and traffic would include volatile organic compounds (VOC), oxides of nitrogen (NO_x), carbon monoxide (CO), hydrocarbons (HC), and particulate matter. Slight local increases in all of these emissions are anticipated during the estimated two year operational life of the pit. If dust

is regularly controlled in the active mining area and access road using water sprayed from a water truck, significant impacts to air quality are not anticipated.

4.3.3 MITIGATIONS FOR AIR QUALITY

As long as water is sprayed to control dust and appropriate BMPs outlined as design features of the Proposed Action are followed, no mitigations to protect air quality should be required.

4.4 WATER RESOURCES: SURFACE AND GROUNDWATER

4.4.1 DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the materials pit and access road would not be authorized or constructed and no impacts to water resources would occur.

4.4.2 DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION

No water would be generated during mining or operations at the Tohatchi/Buffalo Springs materials pit. Some water will be required for dust control on an as needed basis. Any water required at the site would be trucked in by Recon from one of its office locations, or purchased from an approved source.

Direct impacts to water resources could result from increases in sediment loading into adjacent surface drainages through runoff of disturbed soils and dust generation from mining operations. Spilled contaminants (e.g., fuel, hydraulic oil) could also be accidently introduced into the environment that resulting in negative consequences. Also, potential changes to runoff patterns from ongoing earthwork at the site could result in sedimentation or ponding within the mine area during construction.

Under the Proposed Action, Recon will implement appropriate BMPs to protect resources. No fuels for equipment will be stored on site. Any spilled contaminants will be cleaned up as soon as possible to prevent run-off or infiltration of contaminants. During closure, positive drainage will be established at the site to control stormwater flows to drain out the southeast corner of the mine site through straw bales or other appropriate BMP structure. The entire site will be prepped and seeded with a Navajo approved seed mix. As a result, no significant impacts to surface or groundwater resources are anticipated.

4.4.3 MITIGATIONS FOR WATER RESOURCES

As long as appropriate BMPs outlined as design features of the Proposed Action are followed, no mitigations to protect water resources should be required.

4.5 GENERAL WILDLIFE

4.5.1 DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the mine and access road would not be authorized or constructed and no impacts to wildlife would occur.

4.5.2 DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION

Noise and activity associated with the project would likely result in behavioral changes in local wildlife. Hunting and foraging patterns, nesting, denning, and migration patterns may be altered to avoid the project area, especially during operating hours. Direct impacts to wildlife could result from displacement and traffic collisions with individual animals. Local wildlife would likely adjust to these patterns and may still use the vicinity of the project area during or after hours, which could

alleviate impacts to movement patterns and behaviors. Environmental contaminants such as dust and emissions, or spilled contaminants such as fuels and oil, could directly affect local wildlife if exposure occurs. All contaminants would be sealed and contained properly and all spills would be cleaned up promptly and thoroughly to reduce potential exposure to wildlife and immediately reported to the proper authorities.

During operation, removal of vegetation would result in a temporary loss of forage and cover. Reclamation efforts described in Section 2.2.3 would restore vegetation and may ultimately improve the availability of forage and cover following closure. During closure, vegetation will be reestablished using a Navajo approved seed mix.

Although there would be direct disturbances from mining and a loss of vegetation for the life of the mine, no threatened, endangered, or special status wildlife species were observed, and significant impacts to listed wildlife are not anticipated.

4.5.3 *MITIGATIONS FOR WILDLIFE*

As long as appropriate BMPs and revegetation standards outlined as design features of the Proposed Action are followed, no mitigations to protect general wildlife should be required.

4.6 *VEGETATION AND FORESTRY RESOURCES*

4.6.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the materials pit and access road would not be authorized or constructed and no impacts to vegetation and forestry resources would occur.

4.6.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

Mining operations and improvement to the access road will remove existing vegetation from the up to 11.65 acres of the project area. BMPs to protect vegetation resources will be implemented, and following mining, the site will be revegetated using a Navajo approved seed mix. The site will also be monitored at regular intervals for the presence of noxious weeds. Vegetation would be restored to cleared areas through seeding and reclamation efforts as described in Section 2.2.3. The implementation of these design features should limit impacts to vegetation and forestry resources and prevent the establishment and/or spread of noxious weeds at the site. As a result, no significant impacts to vegetation and forestry resources are anticipated.

4.6.3 *MITIGATIONS FOR VEGETATION AND FORESTRY RESOURCES*

As long as appropriate BMPs and revegetation standards outlined as design features of the Proposed Action are followed, no mitigations to protect vegetation or forestry resources should be required.

4.7 *THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES*

4.7.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the mine and access road would not be authorized or constructed and no impacts to threatened, endangered, and special status species would occur.

4.7.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

None of the species indicated on the Navajo Department of Fish and Wildlife-Navajo Natural Heritage correspondence list [15perm104](Detsoi, 2015) were observed during the surveys; however habitat does exist at the site for four species and migratory birds including: kit fox *(Vulpes*

macrotis), golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), and burrowing owl (*Athene cunicularia*). Potential impacts to these species are discussed in detail in the Biological Evaluation (Appendix 2).

Land surrounding the project area provide ample similar habitat to the project area. Other impacts to these species would be the same as those discussed for vegetation and general wildlife. Therefore, the temporary loss of habitat for the four sensitive wildlife species with potential to occur in the area should not have significant negative effects to these species.

4.7.3 *MITIGATIONS FOR THREATENED, ENDANGERED, AND SPECIAL STATUS SPECIES*

As long as appropriate BMPs and revegetation standards outlined as design features of the Proposed Action are followed, no mitigations to protect threatened, endangered, and special status species should be required.

4.8 *CULTURAL RESOURCES*

4.8.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the materials pit and access road would not be authorized or constructed and no impacts to cultural resources or Traditional Cultural Properties would occur.

4.8.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

During a Class III cultural resources survey, Cibolo Research Consultants identified one cultural resource site and three isolated occurrences within the Proposed Action boundaries. The cultural resource site will be flagged and protected from disturbance by a 15 meter (50 foot) buffer during development of the materials pit. No resources are considered significant and eligible for nomination to the National Record of Historic Places (NRHP) or for protection under the Archaeological Resources Protection Act (ARPA; 16 USC 470). During excavation and operations, it is possible that additional buried or previously unidentified cultural material may be encountered. Any cultural resources (historic or prehistoric site or object) discovered by Recon or its contractors during the life of the Proposed Action, or any person working on their behalf, would be protected and immediately reported to the NNHPD. All work in the area of a discovery would be immediately suspended until approval to proceed is issued by NNHPD.

4.8.3 *MITIGATIONS FOR CULTURAL RESOURCES*

The cultural resource site located with the Proposed Action area will be protected by a 15 meter (50 foot buffer and flagging. No construction will occur within this protective buffer.

4.9 *VISUAL RESOURCES*

4.9.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the materials pit and access road would not be authorized or constructed and no impacts to visual resources would occur.

4.9.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

Mining of the Tohatchi/Buffalo Springs materials pit will alter the character of the project area by removing existing vegetation and creating a high contrast feature (pit) and recognizable lineament from the access road improvements. The project area is located along U.S. 491 which is a moderately traveled roadway. Portions of the Proposed Action will be visible from this travel corridor and will impact the visual character of the landscape by creating a mining scar. Local residents living near the site and travelers along U.S. 491 be able to see dust and clearing activities

during operations, as well as the subsequent land scar from mining of materials and borrow. Impacts to visual elements of the landscape would occur for the life of the project (2 years) and until revegetation of the site is successful. However, once the site is reclaimed and revegetated visual impacts from the Proposed Action will be negligible.

As a result, no significant impacts to visual resources are anticipated from implementation of the Proposed Action.

4.9.3 *MITIGATIONS FOR VISUAL RESOURCES*

As long as appropriate BMPs and revegetation standards outlined as design features of the Proposed Action are followed, no mitigations to protect visual resources should be required.

4.10 *NOISE*

4.10.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the mine and access road would not be authorized or constructed and no impacts to noise resources would occur.

4.10.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

During operating hours (7 a.m. to 5 p.m. Monday through Friday) the mine and access road will generate considerable noise. Over the life of the mine, the ambient noise levels in the project area will increase due to the use of heavy equipment, powered processing equipment, vehicle traffic, and human activity. These operating noises are unavoidable. This mining noise may impact wildlife and nearby residents when environmental conditions allow (e.g., wind blowing noise toward receptor).

The closest home is within 0.3 miles of the project area and depending on weather conditions will likely be impacted by varying amounts of noise from the Proposed Action.

4.10.3 *MITIGATIONS FOR NOISE*

Noise mitigation would include not operating equipment outside of normal work hours. No other mitigation is anticipated at this time.

4.11 *SOCIOECONOMIC RESOURCES*

4.11.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the mine and access road would not be authorized or constructed and no impacts to socioeconomic resources would occur.

4.11.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

The Proposed Action will have a temporary beneficial impact on socioeconomic conditions in the area by improving employment, increasing the tax base, generating royalties for the Navajo Nation, and generating materials source to support other building projects in the area. Two to four workers will be needed for the Proposed Action. The project would also have a beneficial impact from purchases at local supply stores, gas stations, restaurants/grocery stores, and other businesses by employees of the pit. This will all help to improve economic conditions in the area.

Upon closure of the mine, reclamation efforts would restore the vegetation at the site to resemble the surrounding vegetative community. These efforts would be monitored for success and to ensure that no noxious weeds become established at the site that could negatively affect socioeconomics. Establishment of reclamation vegetation is expected to take several years. Once

vegetation establishes, some land use activities could be resumed such as grazing and hunting to replace land uses lost by the materials pit development.

The land use within the project area would be temporarily altered to a materials pit use. This would be quite different from the current uses of livestock grazing. Direct impacts would result from clearing approximately 11.65 acres of potential grazing and hunting land for the life of the project. However, none of these activities will be heavily impacted due to the presence of large amounts of similar land available for the same or similar uses entirely surrounding the project area. Furthermore, the project area does not offer prime grazing or hunting opportunities.

There will also be an increase in local traffic along the access roads leading to the project area for the life of the project. Most traffic would be in the form of haul truck traffic, employee vehicles, a water truck, and service trucks travelling to and from the site. This increased traffic may impact air quality by increasing emissions (dust and exhaust), ambient noise levels, and local traffic patterns during road improvement; however, these impacts will be temporary and minor and would become less noticeable over time as people habituate to the increased level of activity. None of this is anticipated to have a significant negative impact on the socioeconomics of the area.

4.11.3 *MITIGATIONS FOR SOCIOECONOMIC RESOURCES*

Grazing permittees in the vicinity of the Proposed Action would be compensated for the clearing of approximately 11.65 acres of potential grazing lands.

4.12 *HAZARDOUS AND SOLID WASTE*

4.12.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the materials pit and access road would not be authorized or constructed and no impacts from hazardous and/or solid wastes would occur.

4.12.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

Some hazardous materials will be used at the site (e.g. fuels and oils). These substances have the potential to negatively impact the environment if not properly contained and handled. There is also the potential for hazardous materials, such as fuels to be spilled in the project area. Infiltration of hazardous materials into the soils and ultimately into groundwater can have significant negative consequences on local residents and wildlife. As a result, machinery will be inspected daily for leaks and any leaks will be corrected prior to mining. All hazardous or contaminant materials brought on site will be properly contained and handled according to federal and Navajo Tribal Hazardous Waste guidelines. Major spills will be contained, immediately cleaned up, and reported to Navajo Hazardous Waste Program. Portable toilets would available on site and would be pumped as needed. Human waste would be disposed of at an approved disposal facility. Therefore, no significant impacts from hazardous or solid wastes are anticipated.

4.12.3 *MITIGATIONS FOR HAZARDOUS AND SOLID WASTE*

As long as appropriate BMPs and revegetation standards outlined as design features of the Proposed Action are followed, no mitigations to protect against hazardous and solid wastes should be required.

4.13 *PUBLIC HEALTH AND SAFETY*

4.13.1 *DIRECT AND INDIRECT EFFECTS OF THE NO ACTION ALTERNATIVE*

Under the No Action Alternative, the materials pit and access road would not be authorized or constructed and no impacts to public health and safety would occur.

4.13.2 *DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION*

The Proposed Action could potentially impact the health and safety of local residents and the public. Potential impacts to health and safety could result from exposure to dust and emissions during mining operations, heavy equipment usage, exposure to hazardous materials, increased air pollution in the vicinity of the mine (closest resident is approximately 0.3 miles west); however, the general public would not be exposed to the majority of these impacts. Dust control measures (water truck) and limited idle time of trucks and equipment would help to alleviate impacts to air quality, local residents, and the general public that may be sensitive to emissions. The greatest hazards to the general public are from haul trucks traveling roads and unauthorized trespass into the project area. The access road to the mine will have a locking gate installed to limit unauthorized entry to the site. Therefore, significant impacts to public health and safety are not anticipated.

4.13.3 *MITIGATIONS FOR PUBLIC HEALTH AND SAFETY*

As long as appropriate BMPs and site controls outlined as design features of the Proposed Action are followed, no mitigations to protect public health and safety should be required.

4.14 *CUMULATIVE IMPACTS*

Past impacts to the Area of Potential Effect (APE) have come from previous gravel mining activities, road building (access road), power lines, grazing of livestock, and hunting. The Proposed Action would increase visual impacts slightly on up to 11.65 acres and add to the general land disturbance from human activities in the area. These impacts would be somewhat alleviated by successful earthwork reclamation and reseeding of the site and the placement of appropriate BMPs to protect resources. The Proposed Action would add to the cumulative impacts to air quality originating from industry and traffic in the region. Cumulative impacts to grazing and hunting in the area would increase by up to 11.65 acres due to the loss of grazing land and exclusion of hunters from the project area using a locking gate. However, installation of a locking gate and prevention of unauthorized entry into the site would limit any negative effects to human health and safety. Cumulative impacts to travel and air quality along local roads would be increased due to an increase in operational traffic for the mine.

5.0 CONSULTATION AND COORDINATION

This section includes individuals responsible for obtaining the information necessary for the preparation of this document.

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Appendix 1-1
THE NAVAJO NATION
HISTORIC PRESERVATION DEPARTMENT
PO Box 4950, Window Rock, Arizona 86515
TEL: (928) 871-7198 FAX: (928) 871-7886

EXHIBIT
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E

CULTURAL RESOURCE COMPLIANCE FORM

ROUTE COPIES TO:	NNHPD NO.: HPD-15-365
☑ CRC	OTHER PROJECT NO.: CRC 563

PROJECT TITLE: A Cultural Resources Inventory Survey of the Proposed Buffalo Springs-Recon Oil Co. Mineral Lease and Access Road on the Navajo Indian Reservation, Tohatchi Chapter, McKinley County, New Mexico

LEAD AGENCY: BIA/NR

SPONSOR: Fisher Sand & Gravel-NM, Inc., PO Box 2340, Placitas, New Mexico 87043

PROJECT DESCRIPTION: The proposed undertaking will involve an area for a materials pit which will be used in conjunction of the US 491 road improvement at Milepost 32.7. An access road was also surveyed. The mineral pit measures 11.41-acres and the access road measures 0.24-acre. The total area of effect is 11.65-acres. Ground disturbance will be intensive and extensive with the use of heavy equipment.

LAND STATUS: Navajo Tribal Trust
CHAPTER: Tohatchi
LOCATIONS: **T. 20 N, R. 17 W – Section 28;** Coyote Canyon NW, McKinley County, New Mexico NMPM

PROJECT ARCHAEOLOGIST: Mike Marshall
NAVAJO ANTIQUITIES PERMIT NO.: B15138
DATE INSPECTED: 05/01/2015
DATE OF REPORT: 05/15/2015
TOTAL ACREAGE INSPECTED: 11.65 – ac

METHOD OF INVESTIGATION: Class III pedestrian inventory with transects spaced 15 m apart.

LIST OF CULTURAL RESOURCES FOUND: **(1) Site (NM-Q-3-95); (3) Isolated Occurrences (IO)**
LIST OF ELIGIBLE PROPERTIES: **(1) Site (NM-Q-3-95);**
LIST OF NON-ELIGIBLE PROPERTIES: **(3) IO**
LIST OF ARCHAEOLOGICAL RESOURCES: **(1) Site (NM-Q-3-95);**

EFFECT/CONDITIONS OF COMPLIANCE: No Historic Properties affected with the following conditions:

Site NM-Q-3-95:
1. The site boundary will be permanently fenced under the direction of a qualified archaeologist PRIOR to ground disturbing activities.
2. Site will be avoided by all ground disturbing activities by a minimum of 50-ft from the site boundary.
3. The pit edge should be sloped to the fenced boundary to prevent bank collapse or erosion into the site area. This will be conducted under the direction of a qualified archaeologist.
4. The two-track road that bisects the site will be abandoned.
OR
1. The gravel pit boundary will be modified to exclude the site.
2. The new area will need to be inventoried by an archaeologist.

In the event of a discovery ["*discovery*" means any previously unidentified or incorrectly identified cultural resources including but not limited to archaeological deposits, human remains, or locations reportedly associated with Native American religious/traditional beliefs or practices], all operations in the immediate vicinity of the discovery must cease, and the Navajo Nation Historic Preservation Department must be notified at (928) 871-7198.

FORM PREPARED BY: Tamara Billie
FINALIZED: June 22, 2015

Notification to Proceed Recommended ☑ Yes ☐ No

Conditions: ☑ Yes ☐ No

The Navajo Nation Historic Preservation Office — 6/23/15 Date

Navajo Region Approval ☑ Yes ☐ No

BIA – Navajo Regional Office — 7.15.15 Date

TCM 7.14.15

Appendix 2

EXHIBIT
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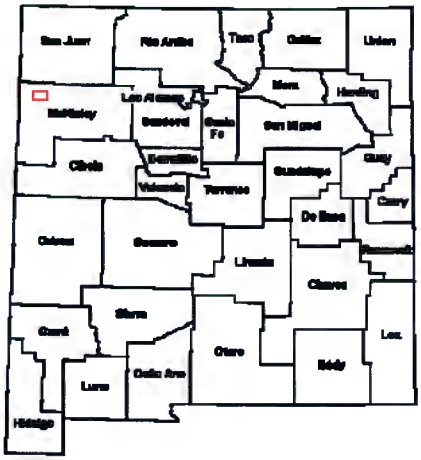
Biological Evaluation

Tohatchi/Buffalo Springs Borrow Pit for the US 491 Improvement Project

Recon Oil

MP 15.03 to 37.00
New Mexico

NMDOT District # 6



Prepared for: New Mexico Department of Transportation
Environmental Analysts: Rick Wessel
On behalf of Fisher Sand & Gravel, New Mexico, Inc.

Funded by:
Federal Highway Administration

Prepared By:
Celia Cook
Wildlife Biologist
(505) 466-8120
PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

June 16, 2015

Table of Contents

List of Tables

List of Photographs

Maps:

Appendix A1

USFWS Information Planning and Conservation Species List

Appendix A2

Navajo Nation Department of Fish and Widlife Navajo Natural Heritage Program Species Consultation

Appendix A3

New Mexico Rare Plant Technical Council Plant List for McKinley County

Appendix A4

New Mexico Department of Game and Fish BISON-M Species List

1.0 Introduction

1.1 Project Purpose and Need

This Biological Evaluation (BE) documents the findings for a biological survey at a location that would provide materials support for a US 491 upgrade. The Tohatchi/Buffalo Springs borrow pit, an approximately **11.65 acre site** including access, would provide gravel materials for the US 491 Highway improvement project. The project area has been previously disturbed by grazing. It is located on Navajo Nation trust land in the northeast quarter of Section 28, T. 20 North, R. 17 West, McKinley County, New Mexico.

The Tohatchi/Buffalo Springs project area would provide the borrow materials needed for a New Mexico Department of Transportation (NMDOT) federally funded paving project and upgrade for US 491. The operator/contractor for the proposed Tohatchi/Buffalo Springs materials pit project area would be Recon Oil, Inc. and Fisher Sand and Gravel-New Mexico, Inc. (Recon/Fisher).

This BE takes into consideration the Action Area, which are the project boundaries plus additional lands and natural resources that may be impacted by projects activity beyond the project boundaries. It describes natural resources and species observed in the project areas during the biological surveys; provides analyses of impacts resulting from the proposed project; and recommends measures to avoid, minimize or mitigate impacts to natural resources and species consistent with federal, state, tribal and local laws.

1.2 Project Description and Location

The proposed Tohatchi/Buffalo Springs borrow pit is 11.41 acres in size with a 0.24 acre (524.9 foot x 20 foot) access road (11.65 acre total disturbance) (Figures 2 & 3). The site is located on Navajo Tribal Trust land. It is situated on the east side of US 491 at milepost 32.7 approximately 10.0 miles northeast of Tohatchi/Buffalo Springs, McKinley County, New Mexico (Figure 1). The project area and Action Area have been previously disturbed by historic and current grazing activity, power lines, and two track dirt roads.

Figure 1 depicts the proposed project location in reference to the state. Figure 2 is an aerial photo of the proposed project area and its Universal Transverse Mercator (North American Datum [NAD] of 1983) coordinates.

The projected Public Land Survey System (PLSS) of the project area is shown in Table 1 and gives the legal description of the proposed project site. The U.S. Geological Survey (USGS) Quadrangle map name is also given.

Table 1: Public Land Survey System of the Project Area

Location	Township	Range	Section	USGS 7.5 Minute Quad
Tohatchi/Buffalo Springs Gravel Materials Pit	20N	17W	28	Coyote Canyon NW

The US 491 paving project is scheduled to commence June 2015. Project duration is expected to be approximately two years.

Once the paving project begins, aggregate materials would be extracted from deposits within the proposed pit area using front end loaders and bulldozers. The 11.41 acre pit will be expanded on an as needed basis and sections will be mined from west to east in 3-5 acre parcels (Figure 3). Materials from the pit would loaded into trucks and transported to a separate location to be crushed and separated. Prepared materials would then be transferred to US 491 improvement locations via haul trucks. The existing access road into the proposed pit would be widened and upgraded to accommodate haul trucks and equipment. This method of materials extraction and transfer of materials would occur throughout the life of the project. It is estimated that +/-40,000 yards of aggregates will be removed from the proposed pit for the US 491 paving project.

During pit operations, Fisher will make efforts to avoid any unnecessary disturbance of existing natural resources outside of the pit boundaries. Prior to excavation within the pits, existing vegetation and topsoil will be bladed off the surface and stockpiled. Upon closing of the pits, slopes will be graded to a 3:1 ratio, topsoil will be replaced and spread evenly over excavated areas, and an NMDOT or Navajo Nation approved seed mix would be applied.

An existing 524.9 foot two track road accesses the project area. This road would be bladed, graveled, and widened to 20 feet to accommodate two lanes and pit equipment traffic. Total land use for the road would be 0.24 acres. Water will be applied to reduce dust emissions when necessary.

2.0 Project History

The Tohatchi/Buffalo Springs project location has a history of livestock grazing. A dirt road accesses the site; there are several jeep trails in the area. No other land use is apparent.

3.0 Action Area

The Action Area for the Tohatchi/Buffalo Springs site includes the disturbance footprint of the proposed project area boundaries, as well as the areas surrounding the project location; including any special considerations such as federally listed critical habitat, nearby waterways, wildlife migration corridors, and any other naturally occurring habitats in the project vicinity.

The project area is located within the Navajo section of the Colorado Plateau physiographic province that spans the Four Corners region of the southwest, including the northwest corner of New Mexico. The Navajo section is one of seven sections of the province and is noted for its horizontal sandstone beds and shale sequences of late Cretaceous and early Cenzoic age (Wikipedia, 2015). Arid, extreme weather conditions have resulted in dramatic topography in the form of sweeping plains and terraces, questas, mesas, buttes, and badlands. Vegetation in this region is represented by Plains and Great Basin Grassland (Brown, 1994) [Section 16, Photo 1].

The Action Area itself is located in a rural area used for livestock and has thus been previously disturbed [Section 16, Photo 2]. Vegetation includes native grasses (e.g. *Bouteloua* spp.) and shrubs, including Greene's rabbitbrush (*Chrysothamnus greenei*), broom snakeweed (*Gutierrezia sarothrae*). Infrequent small, shallow basins are dominated by alkali sacaton *(Sporobolis aeroides)*. Soils in the Action Area are made up of fan and slope alluvium with soil textures of fine sandy loam to gravelly sandy clay

loam and very cobbly sandy loam (USDA, 2015). The underlying bedrock is the Menefee Formation (NMBMGR, 2003). Elevation of the project area is approximately 6020 to 6050 feet [Sec. 16., Photo 3].

There are fifteen homes and one business within 1 mile of the project area. The closest residence is within 0.25 miles of the entrance road to the project area; likewise, a business is within 0.25 miles of the entrance road to the project area. A power transmission line is located approximately 0.25 mile east of the project area, and NM 491 is located just west of the project area [See photos in Section 16.0]. Livestock grazing has occurred historically within the project boundaries and surrounding area.

Taking local environmental impact factors into consideration (i.e., heavy equipment noise, surface runoff, sediment discharge, dust emissions) it is reasonable to assume that the Action Area expands beyond the project area boundary. For this project, the Action Area should include a minimum of 0.25 miles (1,320 feet) beyond the project boundary (Figure 2). This designated Action Area would include surrounding Plains and Great Basin Grassland habitat, livestock grazing, scattered homes, a business, roads, and power lines.

There are seven federally listed species with potential to occur in McKinley County. However, due to lack of suitable habitat none of these speces are expected to occur within the project area or Action Area (IPaC, 2015a). There is a potential for seven species recognized by the Navajo Nation Department of Game and Fish/Natural Heritage Program to occur within or near the project area (NNHP, 2015). These species include the golden eagle (*Aquila chrsaetos*), the burrowing owl (*Athene cunicularia*), the ferruginous hawk (*Buteo regalis*), the mountain plover (*Charadrius montanus*), the peregrine falcon (*Falco peregrinus*), the black-footed ferret (*Mustela nigripes*), and kit fox (*Vulpes macrotis*). However, none of these species are expected to occur within the Action Area do to lack of suitable habitat.

Wildlife living in the Action Area is typical for the area and associated available habitat.

There are no permanent or perennial waters, no designated Waters of the U.S., wetlands, rivers, or floodplains within or in the vicinity of the project area. There is one small ephemeral/intermittent drainage channel within the boundaries of the proposed pit and a medium sized intermittent drainage wash approximately 200 meters (660 feet) south of the project area but within the Action Area.

4.0 Methods

Prior to conducting the field survey, USGS topographic maps and aerial photographs were reviewed to determine the location, elevation, and potential habitat types within the two project areas. The U.S. Fish and Wildlife Service IPaC website was accessed to determine locations of critical habitat for threatened and endangered species with respect to the project areas as well as to retrieve information on listed species with potential to occur on or near the project areas. The Navajo Natural Heritage Program was consulted for a list of Navajo Endangered Species List (NESL) species that could potentially occur within the project area or Aciton Area. In addition, the New Mexico Rare Plant Technical Council (NMRPTC) database and New Mexico Department of Game and Fish database (BISON-M) were reviewed for rare, threatened, endangered and sensitive wildlife and plant species in McKinley County. Species lists are included in Appendices A1-A4.

Permits West, Inc biologist Charles Black and botanist Marian Rohman performed a biological survey of the Tohatchi/Buffalo Springs project area April 13 and 14, 2015. The project areas were surveyed on foot, using a Garmin GPS unit to mark important locations throughout the project areas, a camera to photograph the project area, and binoculars to observe wildlife and surrounding habitat. The project area was surveyed for flora and fauna species, with an emphasis on inspecting the area for suitable habitat and/or the presence of listed or otherwise sensitive plant and animal species. Habitat and existing conditions were evaluated, and plants and animals (and/or evidence of animals) were identified and recorded. The Action Area and project vicinity was scanned regularly during the surveys for wildlife, nests, and other biologically relevant observations.

5.0 Regulatory Context

Regulatory laws applicable to the project and Action Area include, but are not limited to:

- U.S. Endangered Species Act (ESA) and Navajo Endangered Species List (NESL)
- Migratory Bird Treaty Act (MBTA)
- Bald and Golden Eagle Protection Act (BGEPA) and Navajo Nation Golden and Bald Eagle Nest Protection Regulations
- Clean Water Act Section 404
- Noxious Weed Management Act

6.0 General Environmental Setting

The Tohatchi/Buffalo Springs project area is located in a Plains and Great Basin Grassland (Brown, 1994) [See photos in Section 16]. The climate is a semi-arid climate characterized by hot summers and cold winters, with little precipitation. The average annual high temperature is 65.8(°F) and the average annual low temperature is 38.8(°F). The average annual precipitation for the area is 9.62 inches (WRCC, 2015). There are no trees in the project area. Widely scattered desert shrubs such as sagebrush (*Artemisia* spp.) and rabbitbrush (*Chrysothamnus* spp.) represent the overstory component. The landscape is rolling, degraded grasslands with exposed areas of cobble. Elevation ranges from 6,020 to 6,060 within the project area. There are no significant topographical features within or near the Action Area. The land is generally used for livestock grazing.

6.1 Topography and Geology

The project area is located in the San Juan Basin, a large basin located within northwestern New Mexico, bounded generally on the south by Interstate 40, on the East by the Jemez Mountain Range, on the west by the Defiance Plateau, and on the North by the San Juan River. The San Juan Basin is a structural basin formed from a large

downwarp of sedimentary rocks of mostly Mesozoic age. Geologically, the San Juan Basin is noted for its large deposits of oil, coal, natural gas, and uranium.

6.2 Ecoregion and Vegetation Communities

The Tohatchi/Buffalo Springs project area is representative of a Plains and Great Basin Grassland (Brown, 1994) [Section 16, Photos 1 and 5]. Dominant plants include galleta (*Pleuraphis jamesii*), blue grama (*Bouteloua gracilis*), Greene's rabbitbrush (*Chrysothamnus greenei*), broom snakeweed (*Gutierrezia sarothrae*), and alkali sacaton (*Sporobolus airoides*). Infrequent small, shallow basins are dominated by alkali sacaton. A complete list of plant species can be found in Table 3 in Section 7.2.

6.3 Mapped Soil Types

The soils in the project area are composed of the Mesa family, 1-4% slopes. These soils are found on mesas and fan terraces and are well drained. The Mesa family soils are composed of fine sandy loams, gravelly clay sandy loams, very cobbly sandy loam, very cobbly fine sandy loam, and loamy fine sand in descending order of depth. Parent material is fan and slope alluvium. Depth to restrictive feature is more than 80 inches. Ksat (capacity of most limiting layer to transmit water) is moderately high to high. There is no frequency of flooding or ponding, and runoff class is low (USDA, 2015).

6.4 Waters and Floodplains

The project area is not mapped according to the FEMA Map Service Center. The project area is not located on a floodplain or within an area subject to flooding. There are no perennial waters, wetlands or floodplains within the project area. A medium sized ephemeral/intermittent wash is located approximately 200 meters (660 feet) south of the project area. A smaller intermittent wash is located within the boundaries of the proposed pit. These drainage ways carry runoff from significant precipitation events.

6.5 Land Use

The project area is surrounded by grazing land, widely scattered homes, and at least one business. Within the project boundaries, the land has been used for livestock grazing. Several dirt two tracks and one dirt road cross the area. US 491 is located

approximately 273 meters (900 feet) west of the project area. A 69 kV transmission power line is located approximately 320 meters (1,060 feet) east of the project area (Section 16, Photos 4 and 6).

7.0 Survey Results

The Action Area and project area did not have any unique or preferred habitat that could be used by threatened or endangered species, and no threatenend or endangered species were observed during the April 2015 wildlife and botany surveys.

Wildlife in the project area is typical of great basin grassland habitat. Few migratory bird species were observed during the survey due to limited habitat structure.

Table 2 in section 7.1 below lists all species observed during the April 13 and 14, 2015 biological surveys of the project area. Species were identified by direct observation, tracks, scat, or other sign.

7.1 Fauna Observed

Table 2: Fauna Observed within the Biological Survey Area

Fauna Type Observed	Common Name (*Scientific Name*)	Indicator	Abundance
Invertebrates	None Observed	N/A	N/A
Fish	None Observed	N/A	N/A
Amphibians	None Observed	N/A	N/A
Reptiles	None Observed	N/A	N/A
Birds	Common raven *Corvus corax*	Live animal	Common
	Barn swallow *Hirundo rustica*	Live Animal	Locally common
	Horned lark *Eremophila alpestris*	Live animal	Common in disturbed grassland habitats
	Western meadowlark *Sturnella neglecta*	Live animal	Common
Mammals	Coyote *Canis latrans*	Scat	Common
	Rock squirrel *Ostospermophilus variegatus*	Live animal	Common

Habitat within the project area is being used by a few migratory and resident birds as well as other species of wildlife including small mammals, predators, and reptiles. Habitat is fairly degraded, but suitable for common species that occur in the area.

7.2 Flora Observed

Table 3: Flora Observed within the Biological Survey Area

Common Name (Scientific Name)	Abundance	New Mexico Noxious Weed Class and Location
Blue grama *Bouteloua gracilis*	Abundant	N/A
Indian ricegrass *Achnatherum hymenoides*	Common	N/A
Red threeawn *Aristida purpurea* var. *longiseta*	Occasional	N/A
Galleta *Pleuraphis jamesii*	Abundant	N/A
Alkali sacaton *Sprobolus airoides*	Common	N/A
Cresent milkvetch *Astragalus amphioxys*	Infrequent	N/A
Sand aster *Chaetopappa ericoides*	Common	N/A
Annual cat's eye *Cryptantha sp.*	Occasional	N/A
Spring parsely *Cymopterus sp.*	Occasional	N/A
Western tansymustard *Descurainia pinnata*	Common	N/A
Fineleaf woolywhite *Hymenopappus filifolius*	Infrequent	N/A
Rush pink *Lygodesmia grandiflora.*	Infrequent	N/A
Threadleaf ragwort *Senecio flaccidus* var. *flaccidus*	Occasional	N/A
Scarlet globemallow *Sphaeralcea coccinea*	Occasional	N/A
Gooseberry leaf globemallow *Sphaeralcea grossulariifolia.*	Occasional	N/A
Small leaf globemallow *Sphaeralcea parvifolia*	Occasional	N/A

Common Name (Scientific Name)	Abundance	New Mexico Noxious Weed Class and Location
Russian tumbleweed *Salsola tragus*	Occasional	N/A
Whipple's cholla *Cylindropuntia whipplei*	Uncommon	N/A
Starvation prickly pear *Opuntia polyacantha*	Occasional	N/A
Narrow leaf yucca *Yucca sp.*	Occasional	N/A
Bigelow's sagebrush *Artemisia bigelovii*	Occasional	N/A
Broom snakeweed *Gutierrezia sarothrae*	Common	N/A
Greene's rabbitbrush *Chrysothamnus greeniei*	Abundant	N/A
Bigelow's rabbitbrush *Ericameria nauseosa* var. *bigelovii*	Occasional	N/A
Winterfat *Krascheninnikovia lanata*	Occasional	N/A

7.3 Noxious Weeds Observed

The Bureau of Indian Affairs lists three species of noxious weeds as potential invaders and fourteen species as new invaders on the Navajo Reservation (OSM, 1999). None of these species are found in the project area.

7.4 Observed Waterways and Soils

No jurisdictional wetlands, riparian areas, or perennial waterways are crossed by the Tohatchi/Buffalo Springs materials pit project. One small intermittent/ephemeral drainage is located withn the proposed pit boundaries. A larger ephemeral/intermittent drainage is located approximately 660 feet (200 meters) south of the project area.

Soils within the project area will be exposed during development of the proposed materials pit. The project area will be subject to erosion while soils remain bare. Surface disturbance will exceed one acre and the project will require a National Pollutant

Discharge Elimination System (NPDES) permit as well as a Storm Water Pollution Prevention Plan (SWPPP).

7.5 Observed Surrounding Landscape and Land Use

The Action Area includes rangeland, dirt and two track roads, power lines, US 491, several homes and one business. The community of Tohatchi/Buffalo Springs lies approximately 6 miles southwest.

7.6 Observed Human or Natural Disturbance

The project area has been previously disturbed due to historic grazing, two track roads and dirt roads, power lines, and US Highway 491. Natural disturbances include recent long term drought conditions leaving bare soils and diminished vegetation within the Action Area and project area (See photos 2, 4, and 6 in Section 16).

8.0 Listed Species and Critical Habitat Analysis

The following sections analyze potential impacts to critical habitat and listed species in McKinley County and will take into account both the project area and Action Area. The Navajo Nation Department of Fish and Wildlife (NNDFW) and U.S. Fish and Wildlife Service (USFWS) has jurisdiction over federally listed threatened and endangered plant and animal species. The federal Endangered Species Act (ESA) protects listed species from harm or "take," broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Any activity can be defined as a "take" even if it is unintentional or accidental and includes destruction of habitat. An endangered plant or wildlife species is one that is considered in danger of becoming extinct throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered within the foreseeable future.

In addition to endangered and threatened species, which are legally protected under the federal ESA, the USFWS has a list of proposed, candidate species, and experimental populations. Proposed species are those for which a proposed rule to list them as endangered or threatened has been published in the Federal Register. A candidate species is one for which the USFWS currently has enough information to support a

proposal to list it as a threatened or endangered species. A species of concern refers to a species that may be declining or require specific conservation actions. An experimental population is a reintroduced population established outside a species current range but within its historical range and is treated as a proposed species. Candidate, species of concern and experimental populations are not afforded legal protection under the federal ESA.

Then Navajo Nation Department of Fish and Wildlife Natural Heritage Program (NNDFW-NNHP) has its own Navajo Endangered Species List (NESL). Many of the species listed on the NESL are also listed under the ESA. Species designated at Group 1 (G1) are extirpated from Navajo Lands; Group 2 and 3 species (G1 and G2) are considered endangered. Group 4 (G4) species are currently being inventoried to determine their status on Navajo Nation Lands.

8.1 Critical Habitat Analysis

There is no federally listed critical habitat present within or near the project area. The closest federally listed critical habitat is approximately 40.0 miles to the south southeast in the Zuni Mountains (USFWS, 2015).

8.2 Listed Species Eliminated from Further Consideration

The New Mexico Rare Plant Technical Council (NMRPTC) [1999-2005] and USFWS Information Planning and Conservation system [IPaC] (2015), as well as the NNDFW-NNHP (2015) websites were accessed to determine whether any state-designated rare or federally listed plant species occur in McKinley County. Two federal or state listed plant species were returned for McKinley County: the Zuni fleabane (*Erigeron rhizomatus*) and Gooding's onion (*Allium gooddingii*) [Appendix A3] . No habitat for either of these species was found during botanical surveys within the project area or Action Area, therefore these plants are not expected to occur within or adjacent to the project area.

Data from the Navajo Nation Department of Fish and Wildlife Natural Heritage Program, New Mexico Department of Game and Fish Biota Information System of New Mexico

(BISON-M), and the USFWS IPaC website were evaluated to determine potential occurrence of listed wildlife species for the project area. A total of eleven listed species were returned for McKinley County (Appendices A1-A4). An additional seven species are listed by Navajo Nation Department of Fish and Wildlife Natural Heritage Program (Appendix A2). Based on habitat requirements, an initial evaluation was made whether potential habitat for any of these species might occur in the project area or Action Area. The April 13, 2015 field surveys were conducted to determine whether actual habitat conditions were present at the project site to support any listed species.

Due to lack of suitable habitat, no species currently listed as state threatened or endangered are likely to occur in the project area or Action Area; and no species currently listed as federally threatened or endangered, or as candidates, are likely to occur in the project area or Action Area.

Four species on the Navajo Nation Fish and Wildlife Natural Heritage Program NESL list could occur within the project area or Action Area: the burrowing owl, the kit fox, the golden eagle, and the ferruginous hawk. These species are discussed in Section 8.3.

Table 4: Listed Species with No Potential Habitat in the Project Area and/or Action Area and Eliminated From Further Consideration

Species Category	Species	Status*	Habitat Associations	Rationale for Elimination from Further Consideration
Listed Birds Eliminated From Further Consideration	Yellow-billed cuckoo ***Coccyzus americanus occidentalis***	Federal Threatened	Riparian and lowland woodlands, orchards, and wood lots.	No suitable habitat in Action Area.
	Southwestern willow flycatcher ***Empidonax traillii extimus***	Federal Endangered, State Endangered,	Dense riparian or wetland vegetation consisting of multi-story canopy generally with willow *(Salix* sp.*)* and cottonwood *(Populus* sp.*)* components.	No suitable habitat in Action Area.
	American peregrine falcon	State Threatened, NESL G4	Mountain areas, breeds on cliffs near wooded/ forested habitats, with available nearby	No suitable habitat in Action Area.

Species Category	Species	Status*	Habitat Associations	Rationale for Elimination from Further Consideration
	Falco peregrinus anatum		updrafts for foraging.	
	Arctic peregrine falcon ***Falco peregrinus tundrius***	State Threatened	Mountain areas, breeds on cliffs near wooded/ forested habitats, with available nearby updrafts for foraging. In New Mexico, the tundra subspecies is a very rare migrant through the state.	No suitable habitat in Action Area.
	Bald eagle ***Haliaeetus leucocephalus alascanus***	State Threatened	Primarily found in timbered or wooded areas along lakes and rivers.	No suitable habitat in Action Area.
	Least Tern ***Sternula antillarum***	Federal Endangered; State Endangered	Nests on the ground in sandy areas free of vegetation, such as sandbars in rivers, beaches and spits, as well as alkali flats (BISON-M, 2013).	No suitable habitat in Action Area.
	Mexican spotted owl ***Strix occidentalis lucida***	Federal Threatened, State Threatened	In New Mexico, steep wooded canyons and forests with mature overstory canopy and snags or cliff ledges for nesting.	No suitable habitat in Action Area.
	Gray vireo ***Vireo vicinior***	State Threatened	Juniper savannah and pinyon juniper forest; sometimes with oak (*Quercus* sp.) component, rocky slopes and canyon areas.	No suitable habitat in Action Area.
	Ferruginous hawk ***Buteo regalis***	NESL G3	Badlands, open lands and grasslands with suitable nest structures.	Habitat suitable for foraging, no nest structure within one mile
	Golden eagle ***Aquila chrysaetos***	NESL G3	Open lands with suitable nest structure.	Habitat suitable for foraging, no nest structure within one mile
	Mountain plover ***Charadrius montanus***	NESL G4	Disturbed grassland habitats and barren areas within grassland habitats.	Habitat not suitable- no lowland or flat playa areas.
	Burrowing owl ***Athene cunicularia***	NESL G4	Disturbed grassland or desert scrub habitats, often associated with prairie dog towns or other	No prairie dog towns or burrows present indicating

Species Category	Species	Status*	Habitat Associations	Rationale for Elimination from Further Consideration
			burrowing mammals.	occupancy.
	Costa's hummingbird ***Calypte costae***	State Threatened	Arid canyon and slope habitats; occasionally agricultural areas	No suitable habitat in Action Area.
Listed Mammalian Species Eliminated from Further Consideration	Black-footed ferret ***Mustela nigripes***	Federal Endangered NESL G2	Grasslands and prairies with adequately sized prairie dog towns.	No prairie dogs towns.
	Kit fox ***Vulpes macrotis***	NESL G4	Open grasslands, valleys, desert scrub habitats.	
	Canada lynx ***Lynx rufus***	State Threatened	Boreal and mature pine forests with	No suitable habitat in Action Area.
Listed Fish Species Eliminated From Further Consideration	Zuni bluehead sucker ***Catostomus discobolus yarrowi***	Federal Endangered State Endangered	Found in the Rio Nutria on the Zuni Reservation.	No suitable habitat in Action Area.

NESL species = Navajo Endangered Species List (G1 species – no longer occurs on Navajo Nation lands; G2 and G3 species – "engangered"; G4 species – "species of concern".

8.3 Listed Species Further Evaluated

Four species listed by the Navajo Nation Department of Fish and Wildlife Natural Heritage Program could occur within the project or Action Area. The potential for occurrence in the vicinity of the project area of these species is discussed below.

Kit Fox (*Vulpes macrotis*)

Kit foxes are recognized as Group 4 (G4) species under NNDFW-NNHP. G4 species are currently under evaluation with regards to their numbers and distribution across the Navajo Nation (NNDFW, 2008a), and efforts are being made to inventory these small, shy foxes in order to establish conservation measures where needed. Habitat for the kit fox is represented by desert scrub and grasslands in open lands. Kit foxes nest in burrows; often in sandy banks or draws.

The habitat in the project area is suitable for kit foxes and they are known to occur in McKinley County. During the April 13, 2015 surveys, no evidence of kit foxes was observed (tracks, scat, burrows); however, kit foxes may forage in the area. The construction and 2 year operation of the Tohatchi/Buffalo Springs pit will remove potential foraging habitat for the kit fox and will likely alter movement patterns of any kit foxes that potentially occur in the area. Additionally, increased traffic and activity in the project area may directly impact individual foxes and/or fox populations by potentially causing death or injury to foxes from vehicle collisions, particularly on US 491. Direct impacts from collisions and indirect impacts, such as loss of forage habitat and alteration of movement patterns, will subside once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished.

Golden eagle (*Aquila chrysaetos*)

Golden eagles are recognized as Group 3 species by NNFWD-NNHP. Group 3 species are considered "endangered" by the Navajo Nation (NNFWD, 2008a). These majestic birds are also protected by the MBTA [16 U.S.C.. § 701-12], the federal Bald and Golden Eagle (BGEPA) [16 U.S.C. 668-668c], and the Navajo Nation Bald and Golden Eagle Nest Protection Regulations (NNFWD, 2008b). There are no suitable nest areas within the project area or Action Area; however, golden eagles may forage within the project boundaries. The closest nest habitat for this species is approximately 30 miles east of the Action Area (Kendall, 2013). Golden eagles may be impacted by lost of suitable forage habitat. Loss of vegetation within the project area boundaries will result in the loss of prey species for the golden eagle from the project area. This loss of forage species and associated habitat will be in place until successful reclamation has occurred and prey species (e.g. rodents and rabbits) have re-colonized the project area. Human activity witin the project area may alter hunting and movement patterns for golden eagles passing over the project area. These potential impacts will occur until the pit is closed (2 years). Once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished. No direct impacts to golden eagles, or golden eagle populations are anticipated from the operation of the proposed Tohatchi/Buffalo Springs materials pit.

Ferruginous Hawk (*Buteo regalis*)

Ferruginous hawks are recognized as Group 3 species by NNFWD-NNHP. Group 3 species are considered "endangered" by the Navajo Nation (NNDFWa). There are no suitable nest areas within the project area or Action Area; however, ferruginous hawks may forage within the project boundaries. The closest nest habitat for this species is approximately 35 miles northeast of the Action Area (Kendall, 2013). Ferruginous hawks may be impacted by lost of suitable forage habitat. Loss of vegetation within the project area boundaries will result in the loss of prey species for the ferruginous hawk from the project area. This loss of forage species and associated habitat will be in place until successful reclamation has occurred and prey species (e.g. rodents and rabbits) have re-colonized the project area. Human activity witin the project area may alter hunting and movement patterns for hawks passing over the project area. These potential impacts will occur until the pit is closed (2 years). Once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished. No direct impacts to ferruginous hawks, or ferruginous hawk populations are anticipated from the operation of the proposed Tohatchi/Buffalo Springs materials pit.

Burrowing Owl (*Athene cunicularia*)

Burrowing owls are recognized by NNFWD-NNHP as a Group 4 species. G4 species are currently under evaluation with regards to their numbers and distribution across the Navajo Nation (NNDFW, 2008a). Burrowing owls are generally associated with prairie dogs or other burrowing mammals. There are no prairie dogs or potential nest burrows within the project area or Action Area, so it is unlikely that any burrowing owls are nesting within the project area; however, they may forage in the area. Construction and operation of the pit will result in loss of forage habitat for this species. This loss of forage will be in place until successful reclamation has occurred and prey species have re-colonized the project area. Human activity witin the project area may alter hunting and movement patterns for owls using the project area. There is a potential to directly impact individual burrowing owls from vehicle collisions, as burrowing owls tend to fly low and forage along roadsides. These potential impacts will occur until the pit is closed

(2 years). Once the pit is closed and successful reclamation has occurred, impacts to this species will be diminished.

9.0 Project Area Direct Effects Analysis

The proposed project takes into consideration the direct effects to the environment per the Council on Environmental Quality's (CEQ) definition as, "caused by the action and occur at the same time and place" (CEQ 1978). Direct effects and impacts to the environment will take place during the construction activity of gravel removal and crushing as it would generate a temporary (approximately 24 months) increase in noise and activity. There would also be a temporary increase in emissions from construction vehicles and truck traffic in the areas surrounding the project area. Truck traffic along US 491 would increase during project construction.

Habitat loss would occur with construction of the pit. Foraging and movement patterns of wildlife (e.g., small mammals, insects, birds, and reptiles) using the project area or using areas adjacent to the project area will be altered. Direct losses to wildlife, especially fossorial and other burrowing mammals, will occur from earth moving and excavation, collisions with heavy equipment and/or traffic. Noise, dust, and human activity may disturb animals that are breeding adjacent to the project area.

10.0 Project Area Indirect Effects Analysis

The proposed project takes into consideration the indirect effects to the environment per the CEQ's definition as, "are caused by the action and are later in time and farther removed in distance, but are still reasonably foreseeable" (CEQ 1978). The proposed project will remove habitat and disturb the land designated for a materials pit and access. Until successful reclamation is established, habitat loss would continue to impact the natural communities of the project area.

11.0 Action Area Direct and Indirect Effects Analysis

The Tohatchi/Buffalo Springs materials pit will temporarily (2 years) result in increased traffic, dust, noise, and general activity associated with gravel pit operations. These activities and associated emissions may directly affect migratory birds and other wildlife

breeding or nesting within the boundaries of the Action Area. Construction activities that are initiated or conducted during the avian breeding season have the potential to disturb the nesting activity of species protected by the MBTA. Project activity within15.2 m (50.0 ft) of active bird nests may result in the temporary or permanent abandonment of the nest and potential death of nestlings if breeding birds are present during construction activities.

Small mammals and reptiles will be disturbed by construction activity. They may become entrapped in open trenches or pits, and/or be accidentally buried or crushed by activity in the pit. Small animals will also suffer losses due to removal of habitat, including burrows, and dens within the pit and surrounding areas designated for heavy equipment or other vehicle/facility use.

12.0 Recommendations for Avoidance, Minimization, and Mitigation

New Mexico Department of Game and Fish Trenching Guidelines should be followed for any trenching or deep, steep walled pits left open overnight (NMDGF, 2003) to minimize terrestrial wildlife impacts. No impacts to birds will occur if construction activity is avoided during the New Mexico breeding season for the area (March 1–September 30) or the project commences prior to the breeding season. A breeding bird survey is recommended to be conducted at the project area within 2 weeks of project commencement since the pit is proposed to begin operations in June 2015.

Upon completion of the project, successful reclamation of the project area should include clean-up of all materials and equipment. Revegetation of the project area should include seed mixes compatible with wildlife and current land uses. Monitoring for successful growth of reclamation plants and control of noxious weeds would further promote re-establishment of native habitats.

No noxious weeds were observed at the project site. Project activities will result in soil disturbance, which might encourage the spread of exotic plant species. To help prevent noxious weed introduction, Fisher will reseed the project area with a Navajo Nation or

NMDOT-approved seed mix and construction equipment will be washed prior to bringing onsite.

No wetlands, riparian areas, or streams are present within the project area. Fisher will follow a Storm Water Pollution Prevention Plan and will operate under an EPA National Pollution Discharge Elimination System (NPDES) General Construction Permit.

13.0 Conclusion

The project area supports wildlife and natural communities that will be impacted by development of the site. However, previous disturbances (primarily grazing) combined with drought within the project area limit the availability of habitat preferred by uncommon or rare species. Wildlife occurring at the project area are considered common and are locally abundant.

There were no unique habitats or habitat elements within in the project area, and there are no wetlands, riparian areas, or streams within 1.0 miles of the project area. No noxious weeds were observed within the project area.

The proposed Tohatchi/Buffalo Springs project would not likely have any effect on Navajo tribal, state, or federally listed threatened, endangered, or candidate species. Furthermore, no critical habitat occurs within or near the proposed project and the proposed project would not modify current or proposed critical habitat. Therefore no USFWS consultation is necessary for this project.

14.0 Report Preparers and Certification

It is believed by Permits West, Inc. that the proposed project would not violate any of the provisions of the ESA. Results and conclusions contained in this report are based on the actual field examination and represent best professional judgment, based on information provided by the project proponent, applicable agencies and other sources.

Celia Cook, Biologist

15.0 References.

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16.0 Site Maps and Photographs

Photo 1: Plains and great basin grassland habitat, looking north from access road.

Photo 2: Northeast corner of pit looking south (35.943146, -108.648951).

Photo 3: Southeast portion of proposed materials pit (35.941545. -108.648322).

Photo 4: Southwest corner of proposed pit looking north, 35.940758, -108.650902

Photo 5: Access road, looking east. 35.939675, -108.653103

Photo 6: Northwest corner of pit. 35.942539, -108.651371

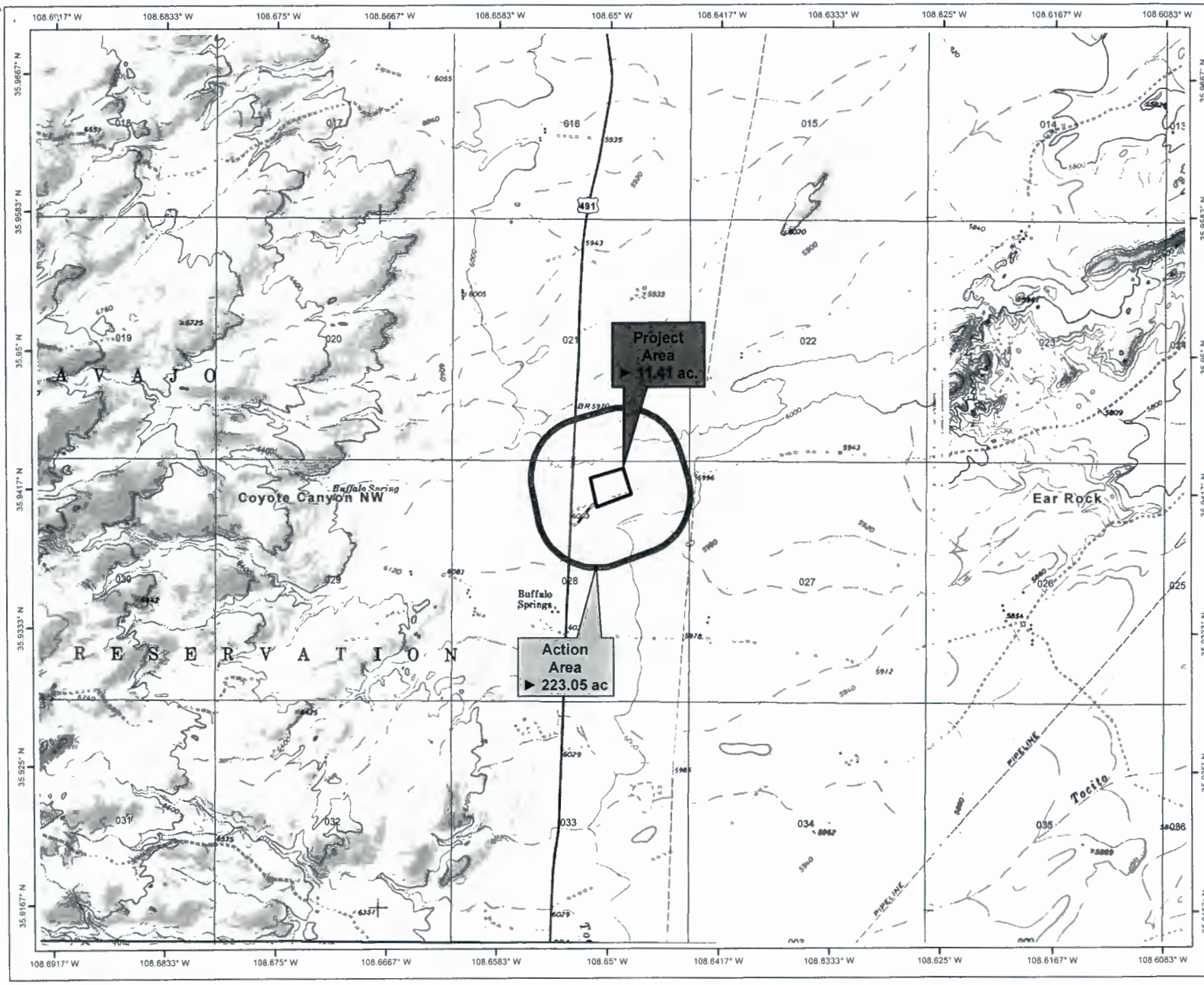
EXHIBIT G

Figure 1

Tohatchi-Buffalo Springs
Sand & Gravel Pit
Location Overview Map
(MP 32.7)

Section 28, T.20N., R.17W.
McKinley County, New Mexico

USGS Quad: Coyote Canyon NW



Proposed Gravel Pit Boundary
Action Area
Acces/Haul Road

N

1:24,000

0 0.25 0.5
Miles

NAD 1983 New Mexico
State Plane West

PERMITS WEST, Inc.
PROVIDING PERMITS for LAND USE

Prepared by Permits West, Inc., May 14, 2015
for Fisher Sand & Gravel Company New Mexico, Inc.

Figure 2

Location Detail

US 491 Tohatchi Road Improvement Project
Pit Site
(MP 32.7)

Section 28, T.20N., R.17W.
McKinley County, New Mexico

Proposed Gravel Pit Boundary
Action Area

N

1:8,000
0 250 500
Feet

NAD 1983 New Mexico State Plane West

PERMITS WEST, Inc.
PROVIDING PERMITS for LAND USE

Prepared by Permits West, Inc., June 16, 2015
for Fisher Sand & Gravel Company New Mexico, Inc.

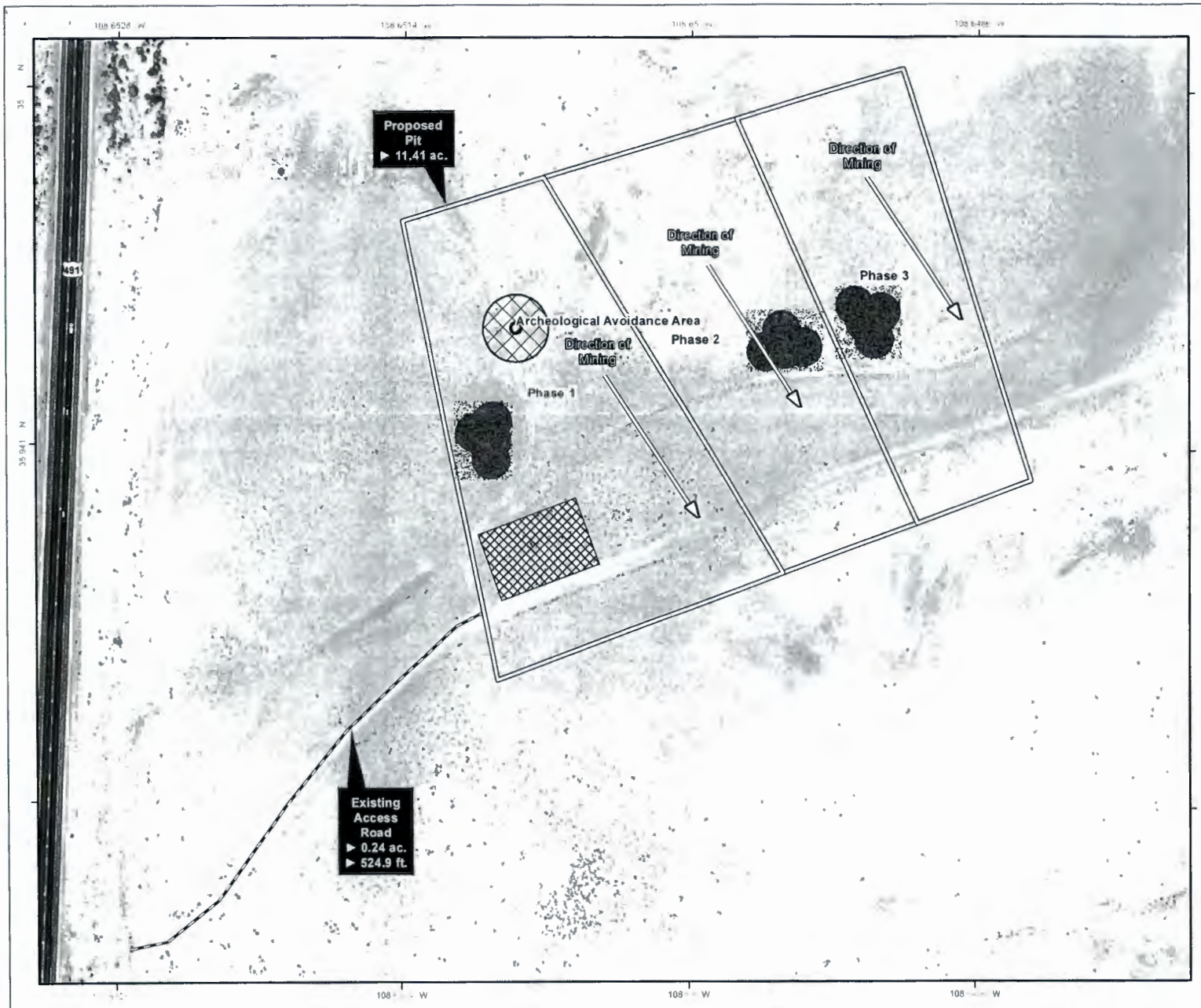


FIGURE 3

Tohatchi-Buffalo Springs Sand & Gravel Pit
Mining Layout Map

Section 28, T. 20 N., R. 17 W.,
McKinley County, New Mexico

Mining Phases
Acces/Haul Road

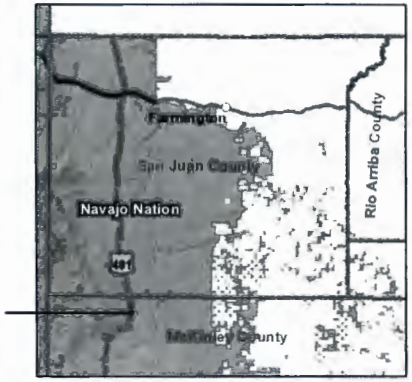
N

1:1,600

0 40 80 160
Feet

New Mexico State Plane West Feet (NAD83)

PERMITS WEST, Inc.
PROVIDING PERMITS for LAND USERS



Created by Permits West, Inc. for Fisher Sand and Gravel NM, Inc. on June 8, 2015

U.S. Fish & Wildlife Service

My project

IPaC Trust Resource Report

Generated May 12, 2015 11:47 AM MDT

Appendix A1-2

US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

My project

PROJECT CODE

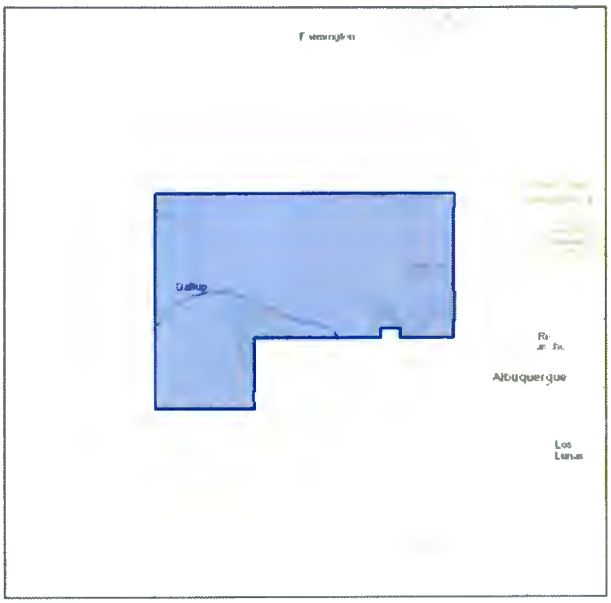
HEBY5-LXPTZ-EZFMK-3CFTW-OWBUQA

LOCATION

McKinley County, New Mexico

DESCRIPTION

No description provided



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

Birds

Mexican Spotted Owl Strix occidentalis lucida

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B074

Southwestern Willow Flycatcher Empidonax traillii extimus — **Endangered**

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B094

Yellow-billed Cuckoo Coccyzus americanus

CRITICAL HABITAT
There is **proposed** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R

Fishes

Zuni Bluehead Sucker Catostomus discobolus yarrowi — **Endangered**

CRITICAL HABITAT
There is **proposed** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E063

Flowering Plants

Zuni Fleabane Erigeron rhizomatus

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q1W4

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

Mexican Spotted Owl Critical Habitat Final designated
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B074#crithab

Zuni Bluehead Sucker Critical Habitat Proposed
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E063#crithab

NNHP
Navajo Natural Heritage Program

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Window Rock, AZ
86515

P 928.871.6472
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http://nnhp.ndfw.org

15perm104

06-April-2015

Mike Deutsch
Permits West, Inc.
37 Verano Loop
Santa Fe, NM 87508

SUBJECT: Fisher Sand and Gravel's Tohatchi Gravel Pit

Mike Deutsch,

NNHP has performed an analysis of your project in comparison to known biological resources of the Navajo Nation and has included the findings in this letter. The letter is composed of seven parts. The sections as they appear in the letter are:

1. **Known Species** – a list of all species within relative proximity to the project
2. **Potential Species** – a list of potential species based on project proximity to respective suitable habitat
3. **Quadrangles** – an exhaustive list of quads containing the project
4. **Project Summary** – a categorized list of biological resources within relative proximity to the project grouped by individual project site(s) or quads
5. **Conditional Criteria Notes** – additional details concerning various species, habitat, etc.
6. **Personnel Contacts** – a list of employee contacts
7. **Resources** – identifies sources for further information

Known Species lists "species of concern" known to occur within proximity to the project area. Planning for avoidance of these species is expected. If no species are displayed then based upon the records of the Navajo Nation Department of Fish and Wildlife (NNDFW) there are no "species of concern" within proximity to the project. Refer to the Navajo Endangered Species List (NESL) Species Accounts for recommended avoidance measures, biology, and distribution of NESL species on the Navajo Nation (http://nnhp.ndfw.org/sp_account.htm).

Potential Species lists species that are potentially within proximity to the project area and need to be evaluated for presence/absence. If no species are found within the Known or Potential Species lists, the project is not expected to affect any federally listed species, nor significantly impact any tribally listed species or other species of concern. Potential for species has been determined primarily on habitat characteristics and species range information. A thorough habitat analysis, and if necessary, species specific surveys, are required to determine the potential for each species.

Species of concern include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For legally protected species, the following tribal and federal statuses are indicated: NESL, federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only ESA candidate, NESL group 4 status, and species listed on the Sensitive Species List. Please be aware of

these species during surveys and inform the NNDFW of observations. Reported observations of these species and documenting them in project planning and management is important for conservation and may contribute to ensuring they will not be up listed in the future

In any and all correspondence with NNDFW or NNHP concerning this project please cite the Data Request Code associated with this document. It can be found in this report on the top right corner of the every page. Additionally please cite this code in any biological evaluation documents returned to our office.

1. Known Species *(NESL=Navajo Endangered Species List, FE=Federally Endangered, FT=Federally Threatened, FC=Federal Candidate)*

Species

ATCU = Athene cunicularia / Burrowing Owl NESL G4

2. Potential Species

Species

AQCH = Aquila chrysaetos / Golden Eagle NESL G3
ATCU = Athene cunicularia / Burrowing Owl NESL G4
BURE = Buteo regalis / Ferruginous Hawk NESL G3
CHMO = Charadrius montanus / Mountain Plover NESL G4
FAPE = Falco peregrinus / Peregrine Falcon NESL G4
MUNI = Mustela nigripes / Black-footed Ferret NESL G2 FE
VUMA = Vulpes macrotis / Kit Fox NESL G4

3. Quadrangles (7.5 Minute)

Quadrangles

Coyote Canyon NW (35108-H6) / NM

4. Project Summary *(EO1 Mile/EO 3 Miles=elements occuring within 1 & 3 miles., MSO=mexican spotted owl PACs, POTS=potential species, RCP=Biological Areas)*

SITE	EO1MI	EO3MI	QUAD	MSO	POTS	AREAS
Proposed Gravel Pit	None	ATCU	Coyote Canyon NW (35108-H6) / NM	None	VUMA, MUNI, FAPE, CHMO, BURE, ATCU, AQCH	Area 3

15perm104

5. Conditional Criteria Notes *(Recent revisions made please read thoroughly. For certain species, and/or circumstances, please read and comply)*

A. **Biological Resource Land Use Clearance Policies and Procedures (RCP)** - The purpose of the RCP is to assist the Navajo Nation government and chapters ensure compliance with federal and Navajo laws which protect, wildlife resources, including plants, and their habitat resulting in an expedited land use clearance process. After years of research and study, the NNDFW has identified and mapped wildlife habitat and sensitive areas that cover the entire Navajo Nation.
The following is a brief summary of six (6) wildlife areas.
1. ***Highly Sensitive Area*** – recommended no development with few exceptions.
2. ***Moderately Sensitive Area*** – moderate restrictions on development to avoid sensitive species/habitats.
3. ***Less Sensitive Area*** – fewest restrictions on development.
4. ***Community Development Area*** – areas in and around towns with few or no restrictions on development.
5. ***Biological Preserve*** – no development unless compatible with the purpose of this area.
6. ***Recreation Area*** – no development unless compatible with the purpose of this area.
None - outside the boundaries of the Navajo Nation
This is not intended to be a full description of the RCP please refer to the our website for additional information at http://www.nndfw.org/clup.htm.

B. **Raptors** – If raptors are known to occur within 1 mile of project location: Contact Chad Smith at 871-7070 regarding your evaluation of potential impacts and mitigation.
o **Golden and Bald Eagles**- If Golden or Bald Eagle are known to occur within 1 mile of the project, decision makers need to ensure that they are not in violation of the Golden and Bald Eagle Nest Protection Regulations found at http://nnhp.nndfw.org/docs_reps/gben.pdf.
o **Ferruginous Hawks** – Refer to "Navajo Nation Department of Fish and Wildlife's Ferruginous Hawk Management Guidelines for Nest Protection" http://nnhp.nndfw.org/docs_reps.htm for relevant information on avoiding impacts to Ferruginous Hawks within 1 mile of project location.
o **Mexican Spotted Owl** - Please refer to the Navajo Nation Mexican Spotted Owl Management Plan http://nnhp.nndfw.org/docs_reps.htm for relevant information on proper project planning near/within spotted owl protected activity centers and habitat.

C. **Surveys** – Biological surveys need to be conducted during the appropriate season to ensure they are complete and accurate please refer to NN Species Accounts http://nnhp.nndfw.org/sp_account.htm. Surveyors on the Navajo Nation must be permitted by the Director, NNDFW. Contact Jeff Cole at (928) 871-7068 for permitting procedures. Questions pertaining to surveys should be directed to the NNDFW Zoologist (Chad Smith) for animals at 871-7070, and Botanist (Andrea Hazelton) for plants at (928)523-3221. Questions regarding biological evaluation should be directed to Jeff Cole at 871-7068.

D. **Oil/Gas Lease Sales** – Any settling or evaporation pits that could hold contaminants should be lined and covered. Covering pits, with a net or other material, will deter waterfowl and other migratory bird use. Lining pits will protect ground water quality.

E. **Power line Projects** – These projects need to ensure that they do not violate the regulations set forth in the Navajo Nation Raptor Electrocution Prevention Regulations found at http://nnhp.nndfw.org/docs_reps/repr.pdf.

F. **Guy Wires** – Does the project design include guy wires for structural support? If so, and if bird species may occur in relatively high concentrations in the project area, then guy wires should be equipped with highly visual markers to reduce the potential mortality due to bird-guy wire collisions Examples of visual markers include aviation balls and bird flight diverters. Birds can be expected to occur in relatively high concentrations along migration routes (e.g., rivers, ridges or other distinctive linear topographic features) or where important habitat for breeding, feeding, roosting, etc. occurs. The U.S. Fish and Wildlife Service recommends marking guy wires with at least one marker per 100 meters of wire.

G. **San Juan River** – On 21 March 1994 (Federal Register, Vol. 59, No. 54), the U.S. Fish and Wildlife Service designated portions of the San Juan River (SJR) as critical habitat for Ptychocheilus lucius (Colorado pikeminnow) and Xyrauchen texanus (Razorback sucker). Colorado pikeminnow critical habitat includes the SJR and its 100-year floodplain from the State Route 371 Bridge in T29N, R13W, sec. 17 (New Mexico Meridian) to Neskahai Canyon in the San Juan arm of Lake Powell in T41S, R11E, sec. 26 (Salt Lake Meridian) up to the full pool elevation. Razorback sucker critical habitat includes the SJR and its 100-year floodplain from the Hogback Diversion in T29N, R16W, sec. 9 (New Mexico Meridian) to the full pool elevation at the mouth of Neskahai Canyon on the San Juan arm of Lake Powell in T41S, R11E, sec. 26 (Salt Lake Meridian). All actions carried out, funded or authorized by a federal agency which may alter the constituent elements of critical habitat must undergo section 7 consultation under the Endangered Species Act of 1973, as amended. Constituent elements are those physical and biological attributes essential to a species conservation and include, but are not limited to, water, physical habitat, and biological environment as required for each particular life stage of a species.

H. **Little Colorado River** - On 21 March 1994 (Federal Register, Vol. 59, No. 54) the U.S. Fish and Wildlife Service designated Critical Habitat along portions of the Colorado and Little Colorado Rivers (LCR) for Gila cypha (humpback chub). Within or adjacent to the Navajo Nation this critical habitat includes the LCR and its 100-year floodplain from river mile 8 in T32N R6E, sec. 12 (Salt and Gila River Meridian) to its confluence with the Colorado River in T32N R5E sec. 1 (S&GRM) and the Colorado River and 100-year floodplain from Nautuloid Canyon (River Mile 34) T36N R5E sec. 35 (S&GRM) to its confluence with the LCR. All actions carried out, funded or authorized by a federal agency which may alter the constituent elements of Critical Habitat must undergo section 7 consultation under the Endangered Species Act of 1973, as amended. Constituent elements are those physical and biological attributes essential to a species conservation and include, but are not limited to, water, physical habitat, and biological environment as required for each particular life stage of a species.

I. **Wetlands** – In Arizona and New Mexico, potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) maps should be examined to determine whether areas classified as wetlands are located close enough to the project site(s) to be impacted. In cases where the maps are inconclusive (e.g., due to their small scale), field surveys must be completed. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted NWI maps are available for examination at the Navajo Natural Heritage Program (NNHP) office, or may be purchased through the U.S. Geological Survey (order forms are available through the NNHP). The NNHP has complete coverage of the Navajo Nation, excluding Utah, at 1:100,000 scale; and coverage at 1:24,000 scale in the southwestern portion of the Navajo Nation. In Utah, the U.S. Fish & Wildlife Service's National Wetlands Inventory maps are not yet available for the Utah portion of the Navajo Nation, therefore, field surveys should be completed to determine whether wetlands are located close enough to the project site(s) to be impacted. For field surveys, wetlands identification and delineation methodology contained in the "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. For more information contact the Navajo Environmental Protection Agency's Water Quality Program.

15perm104

J. **Life Length of Data Request** – The information in this report was identified by the NNHP and NNDFW's biologists and computerized database, and is based on data available at the time of this response. If project planning takes more than two (02) years from the date of this response, verification of the information provided herein is necessary. It should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NNDFW information is continually updated, any given information response is only wholly appropriate for its respective request.

K. **Ground Water Pumping** - Projects involving the ground water pumping for mining operations, agricultural projects or commercial wells (including municipal wells) will have to provide an analysis on the effects to surface water and address potential impacts on all aquatic and/or wetlands species listed below. NESL Species potentially impacted by ground water pumping: Carex specuicola (Navajo Sedge), Cirsium rydbergii (Rydberg's Thistle), Primula specuicola (Cave Primrose), Platanthera zothecina (Alcove Bog Orchid), Puccinellia parishii (Parish Alkali Grass), Zigadenus vaginatus (Alcove Death Camas), Perityle specuicola (Alcove Rock Daisy), Symphyotrichum welshii (Welsh's American-aster), Coccyzus americanus (Yellow-billed Cuckoo), Empidonax traillii extimus (Southwestern Willow Flycatcher), Rana pipiens (Northern Leopard Frog), Gila cypha (Humpback Chub), Gila robusta (Roundtail Chub), Ptychocheilus lucius (Colorado Pikeminnow), Xyrauchen texanus (Razorback Sucker), Cinclus mexicanus (American Dipper), Speyeria nokomis (Western Seep Fritillary), Aechmophorus clarkia (Clark's Grebe), Ceryle alcyon (Belted Kingfisher), Dendroica petechia (Yellow Warbler), Porzana carolina (Sora), Catostomus discobolus (Bluehead Sucker), Cottus bairdi (Mottled Sculpin), Oxyloma kanabense (Kanab Ambersnail)

15perm104

6. Personnel Contacts

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Wildlife Tech
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15perm104

7. Resources

National Environmental Policy Act

Navajo Endangered Species List:
http://nnhp.nndfw.org/endangered.htm

Species Accounts:
http://nnhp.nndfw.org/sp_account.htm

Biological Investigation Permit Application
http://nnhp.nndfw.org/study_permit.htm

Navajo Nation Sensitive Species List
http://nnhp.nndfw.org/study_permit.htm

Various Species Management and/or Document and Reports
http://nnhp.nndfw.org/docs_reps.htm

Consultant List
(Coming Soon)

If you have any questions I may be reached at (928) 871-6472.

Sonja Detsoi, Wildlife Tech.
Natural Heritage Program
Department of Fish and Wildlife

xc: file/chrono

Home
About NMRPTC
Contacts
Rare Plant List
County List
Agency Status
Photo List
About the List
History of Changes
Species Considered, but dropped
Photographers, Illustrators and Authors
Image Usage Guidelines
Sponsors
Discussion Group
Useful Literature
Links

Results of County Search

MCKINLEY	
Scientific name	County-NM
Allium gooddingii	Catron, Lincoln, Mckinley, San Juan
Astragalus chuskanus	Mckinley, San Juan
Astragalus cliffordii	Mckinley
Astragalus heilii	Mckinley
Astragalus micromerius	Mckinley, Rio Arriba, San Juan
Astragalus missouriensis var. accumbens	Catron, Cibola, Mckinley
Astragalus naturitensis	Mckinley, San Juan
Erigeron acomanus	Cibola, Mckinley
Erigeron rhizomatus	Catron, Mckinley, San Juan
Erigeron sivinskii	Mckinley
Eriogonum lachnogynum var. colobum	Mckinley, Taos
Eriogonum lachnogynum var. sarahiae	Mckinley
Mentzelia filifolia	Mckinley
Muhlenbergia arsenei	Mckinley, Sandoval, Santa Fe
Physaria navajoensis	Mckinley
Puccinellia parishii	Catron, Cibola, Grant, Hidalgo, Mckinley, San Juan, Sandoval
Senecio cliffordii	Mckinley, Rio Arriba

Appendix A4

Biota Information System

Support New Mexico's Wildlife. Buy a Hunting, Fishing, or Trapping License and Give to the Share with Wildlife Program.

Disclaimer Policy

Print Page

Database Query

Your search criteria were as follows.

County Name	Status
McKinley	Federal: Endangered Federal: Threatened Federal: Candidate State NM: Endangered State NM: Threatened

11 species returned.

Taxonomic Group	# Species	Taxonomic Group	# Species
Fish	1	Mammals	3
Birds	6		

010486	Zuni Bluehead Sucker	Catostomus discobolus yarrowi		McKinley	Federal: Endangered State NM: Endangered
040250	Yellow-billed Cuckoo (western pop)	Coccyzus americanus occidentalis		McKinley	Federal: Threatened
040370	Bald Eagle	Haliaeetus leucocephalus	Yes	McKinley	State NM: Threatened
040384	Peregrine Falcon	Falco peregrinus	Yes	McKinley	State NM: Threatened
040385	Arctic Peregrine Falcon	Falco peregrinus tundrius	Yes	McKinley	State NM: Threatened
040521	Southwestern Willow Flycatcher	Empidonax traillii extimus	Yes	McKinley	Federal: Endangered State NM: Endangered
040925	Costa's Hummingbird	Calypte costae	Yes	McKinley	State NM: Threatened
041375	Mexican Spotted Owl	Strix occidentalis lucida	Yes	McKinley	Federal: Threatened
04.070	Least Tern	Sternula antillarum	Yes	McKinley	Federal: Endangered State NM: Endangered
042200	Gray Vireo	Vireo vicinior	Yes	McKinley	State NM: Threatened
050325	Canada Lynx	Lynx canadensis	Yes	McKinley	Federal: Threatened

EXHIBIT tabbies J

Appendix 3-1

NNDFW Review No. 15perm104

BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: Tohatchi/Buffalo Springs Borrow Pit for the US 491 Improvement Project

DESCRIPTION: Recon Oil, Inc. and Fisher Sand & Gravel - New Mexico, Inc. propose a 11.65-acre borrow pit site which includes a 524.9-ft. x 20-ft. access road. The project would provide aggregate material for the US 191 upgrade project. Project duration is expected to be approximately 2 years.

LOCATION: NE¼ of Section 28, T20N, R17W, Tohatchi Chapter, McKinley County, New Mexico

REPRESENTATIVE: Permits West Inc. for New Mexico Department of Transportation

ACTION AGENCY: Bureau of Indian Affairs, Navajo Region

B.R. REPORT TITLE / DATE / PREPARER: BE-Tohatchi/Buffalo Springs Borrow Pit for the US 491 Improvement Project/16 JUN 2015/Celia Cook, Permits West, Inc.

SIGNIFICANT BIOLOGICAL RESOURCES FOUND: Area 3.

POTENTIAL IMPACTS

NESL SPECIES POTENTIALLY IMPACTED: NA

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES: [1] The NNDFW highly recommends implementing the mitigation measures outlined in the Biological Evaluation, Section12.0.

CONDITIONS OF COMPLIANCE*: NA

FORM PREPARED BY / DATE: Pamela A. Kyselka/06 JUL 2015

COPIES TO: (add categories as necessary)

☐ _____ ☐ _____

2 NTC § 164 Recommendation:	Signature	Date
☒Approval ☐Conditional Approval (with memo) ☐Disapproval (with memo) ☐Categorical Exclusion (with request letter) ☐None (with memo)	Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife	7/7/15

*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature Date

EXHIBIT
K

A CULTURAL RESOURCE SURVEY OF THE PROPOSED BUFFALO SPRINGS-RECON OIL COMPANY MINERAL LEASE AND ACCESS ROAD ON THE NAVAJO INDIAN RESERVATION, TOHATCHI CHAPTER, MCKINLEY COUNTY, NEW MEXICO

NMDOT PROJECT NO. 6100783

BY
MICHAEL P. MARSHALL

PREPARED BY CIBOLA RESEARCH CONSULTANTS
FOR FISHER SAND AND GRAVEL-NM, INC.

CIBOLA RESEARCH CONSULTANTS REPORT NO. 563
NMCRIS PROJECT NO. 133376
NAVAJO HPD PERMIT NO. B15138
MAY 15, 2015

A Cultural Resource Survey of the Proposed Buffalo Springs-Recon Oil Co. Mineral Lease and Access Road on the Navajo Indian Reservation, Tohatchi Chapter, McKinley County, New Mexico

By
Michael P. Marshall

Prepared by Cibola Research Consultants, LLC
P.O. Box 743, Corrales, New Mexico, 87048
Phone: 505-898-0614

Prepared for Fisher Sand and Gravel-NM, Inc.
P.O. Box 2340 Placitas, New Mexico, 87043
Phone: 505-867-2600

Cibola Research Consultants Report No. 563
NMCRIS Project No. 133376
Navajo HPD Permit No. B15138
May 15, 2015

ABSTRACT

This report presents the results of a Class III cultural resource records search and archaeological survey for a proposed materials pit located on Navajo Indian Reservation lands near Buffalo Springs, McKinley County, New Mexico. The project will be used in conjunction with a New Mexico Department of Transportation (NMDOT) US Highway 491 improvement project (No. 6100783). The project is situated east of US 491 at milepost 32.7. The project area includes a 11.41-acre (4.62-hectare) materials pit, and an access road which is 0.24 acres (.097 hectares) in size. Survey of the materials pit and access road included a total of approximately 11.65 acres (4.715 hectares).

The cultural resource records search and archaeological survey identified one cultural resource (NM-Q-3-95, LA 181,739) and 3 isolated occurrences. The cultural resource consists of a site of early Anassází BMIII period (ca. 500-600 A.D.) affinity. The isolated occurrences include traces of prehistoric ceramic artifacts and a single abandoned two-track road. Only the archaeological site requires further management treatment.

The cultural site (NM-Q-3-95, LA 181,739) contains a masonry roomblock of about 6 to 10 rooms, of which about half have been removed by a former gravel pit road. A blanket midden and artifact scatter occurs adjacent to the roomblock, and is scattered over an area 35 by 60 meters (m) (114.8 feet [ft] by 196.9 ft). Despite the former disturbance, NM-Q-3-95 has the potential to yield information important to understanding early Anassází lifeways and land use in the area. Avoidance of the site (NM-Q-3-95, LA 181,739) is recommended. A 15-meter buffer zone around the site was marked in the field with red flagging tape, which defines the archaeological protection area. It is suggested that a temporary fence be built along these boundaries prior to any testing or mining in the pit area. However, the edges of the fenced boundary should be sloped to prevent bank collapse or erosion from the pit into the site protection area. Given this treatment, the project will have no effect on the cultural properties of the area.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION AND PROJECT DESCRIPTION

This report presents the results of a Class III cultural resource records search and archaeological survey for a proposed materials pit located on Navajo Indian Reservation lands near Buffalo Springs, McKinley County, New Mexico (Figures 1-2). The project will be used in conjunction with a New Mexico Department of Transportation (NMDOT) US Highway 491 improvement project (No. 6100783). The project is situated east of US 491 at milepost 32.7 (Figures 1-2). The boundaries of the materials pit were surveyed by Red Valley Survey Company, and include a temporary mineral lease to Recon Oil Company (Figure 3). The project area includes the materials pit, 11.41 acres (4.62 hectares) in size, and an access road which is 0.24 acres (.097 hectares) in size. Survey of the materials pit and access road included a total of approximately 11.65 acres (4.715 hectares).

The proposed undertaking will be implemented by Fisher Sand and Gravel-NM, Inc. Contact: Brian Gambrel, P.O. Box 2340, Placitas, New Mexico, 87043-2340. Phone: 505-867-2600. The cultural resource survey for the project was conducted on May 1, 2015 by Cibola Research Consultants, LLC under Navajo Nation Historic Preservation Department Permit No. B15138. Contact: Michael Marshall, P.O. Box 743, Corrales, New Mexico, 87048. Phone: 505-898-0614.

The cultural resource records search and archaeological survey identified one cultural resource (NM-Q-3-95, LA 181,739) and 3 isolated occurrences. The cultural resource consists of a site of early Anassází BMIII period (ca. 500-600 A.D.) affinity. The isolated occurrences include traces of prehistoric ceramic artifacts and a single abandoned two-track road. Only the archaeological site requires further management treatment.

The cultural site (NM-Q-3-95, LA 181,739) contains a masonry roomblock of about 6 to 10 rooms, of which about half have been removed by a former gravel pit road. A blanket midden and artifact scatter occurs adjacent to the roomblock, and is scattered over an area 35 by 60 meters (m) (114.8 feet [ft] by 196.9 ft). Despite the former disturbance, NM-Q-3-95 has the potential to yield information important to understanding early Anassází lifeways and land use in the area. Avoidance of the site (NM-Q-3-95, LA 181,739) is recommended. A 15-meter buffer zone around the site was marked in the field with red flagging tape, which defines the archaeological protection area. It is suggested that a temporary fence be built along these boundaries prior to any testing or mining in the pit area. However, the edges of the fenced boundary should be sloped to prevent bank collapse or erosion from the pit into the site protection area. Given this treatment, the project will have no effect on the cultural properties of the area.

The cultural resource investigation was completed in compliance with the provisions of the National Historic Preservation Act of 1966, as amended through 1992, and applicable regulations. The report is consistent with federal and state standards for cultural resource management. The investigation was completed in compliance with Section 106 of the National Preservation Act and pursuant regulations (36 CFR Part 800). The survey was also completed under the authority and according to the standards of the Navajo Nation Historic Preservation Department. Contact: Tamara Billie, Senor Archaeologist, Cultural Resource Compliance Section: Phone: 928-871-7880.

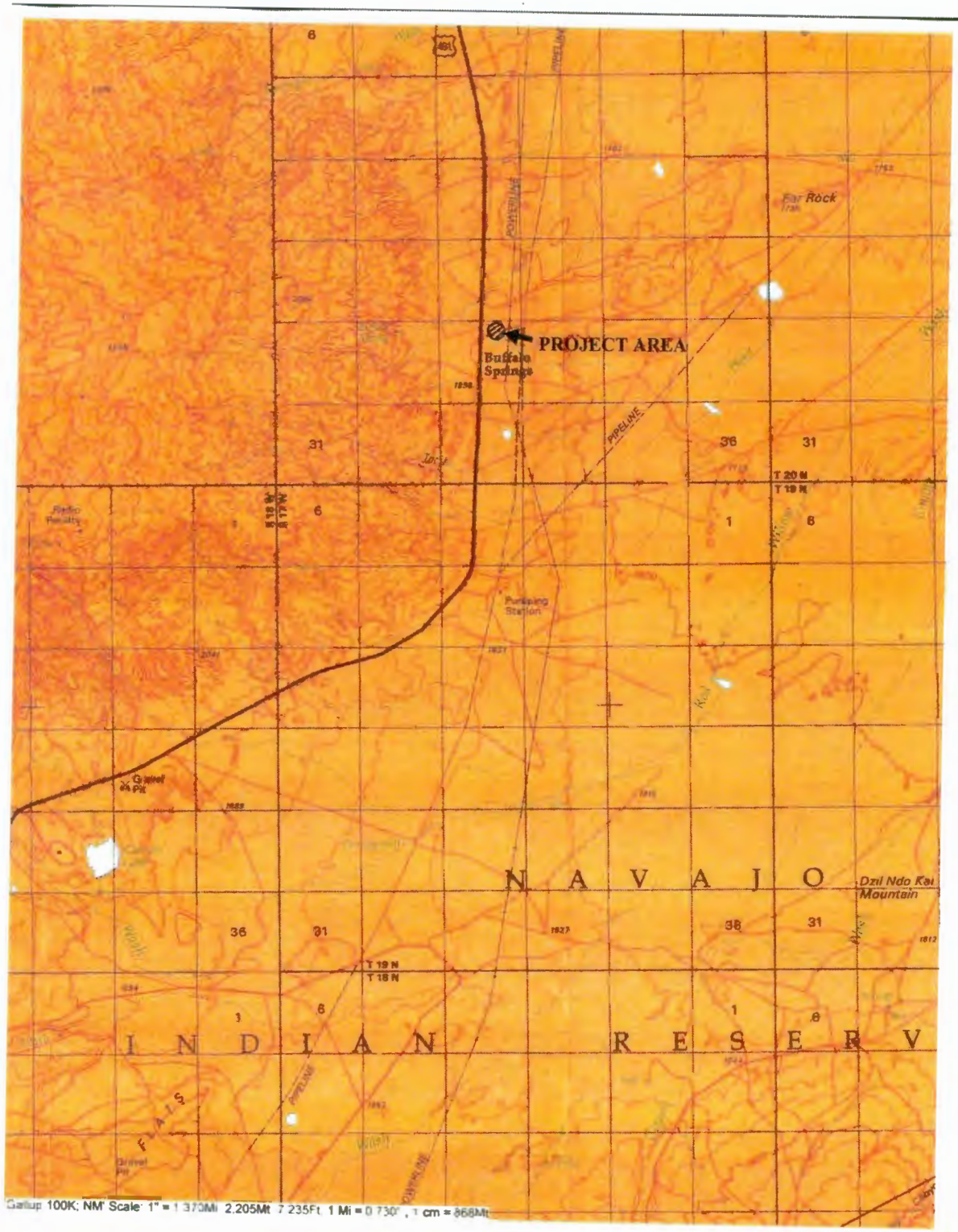

Figure 1. Project Vicinity Map

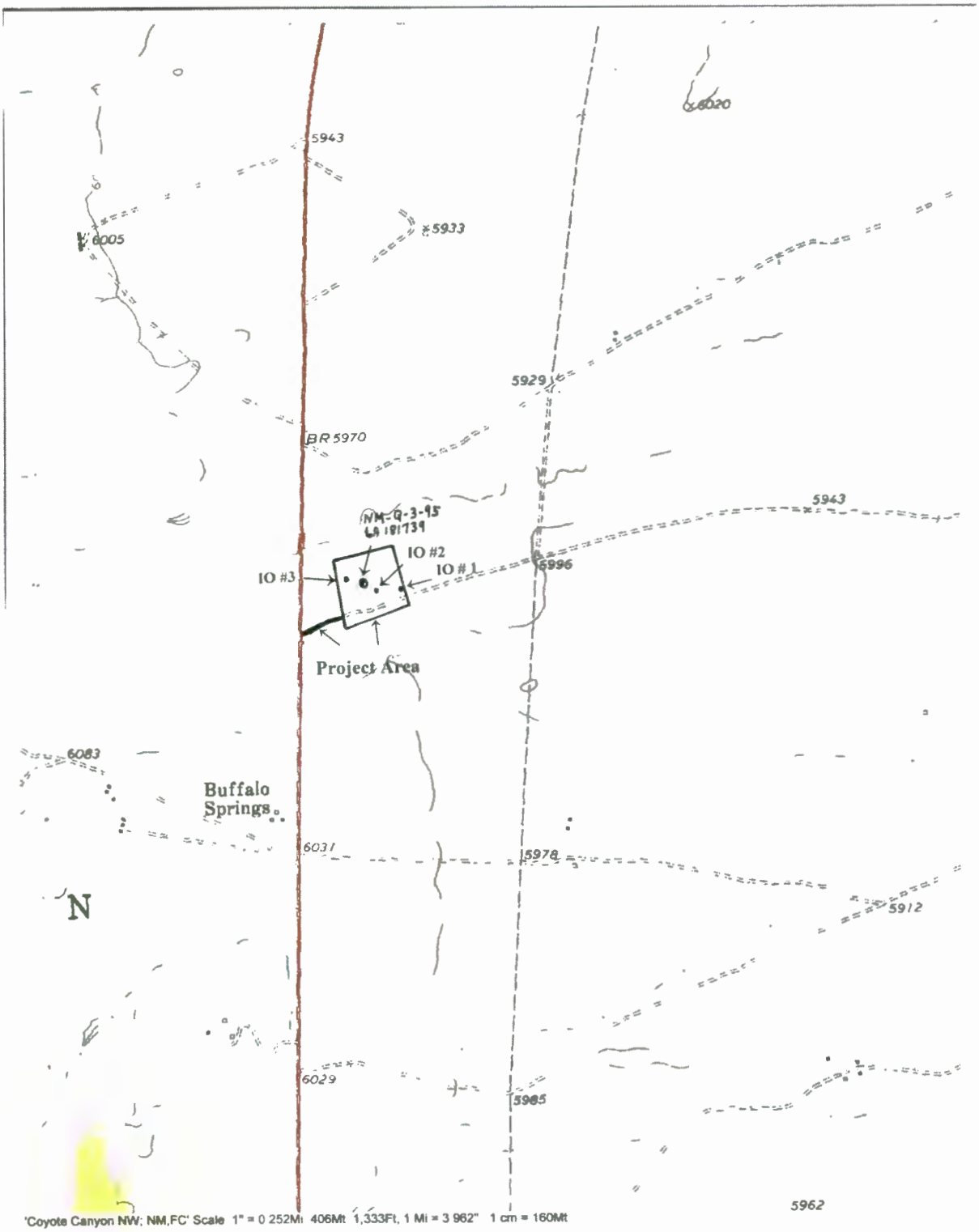

Figure 2. Location of the Cultural Resources and Isolated Occurrences on the Coyote Canyon NW, NM Quadrangle

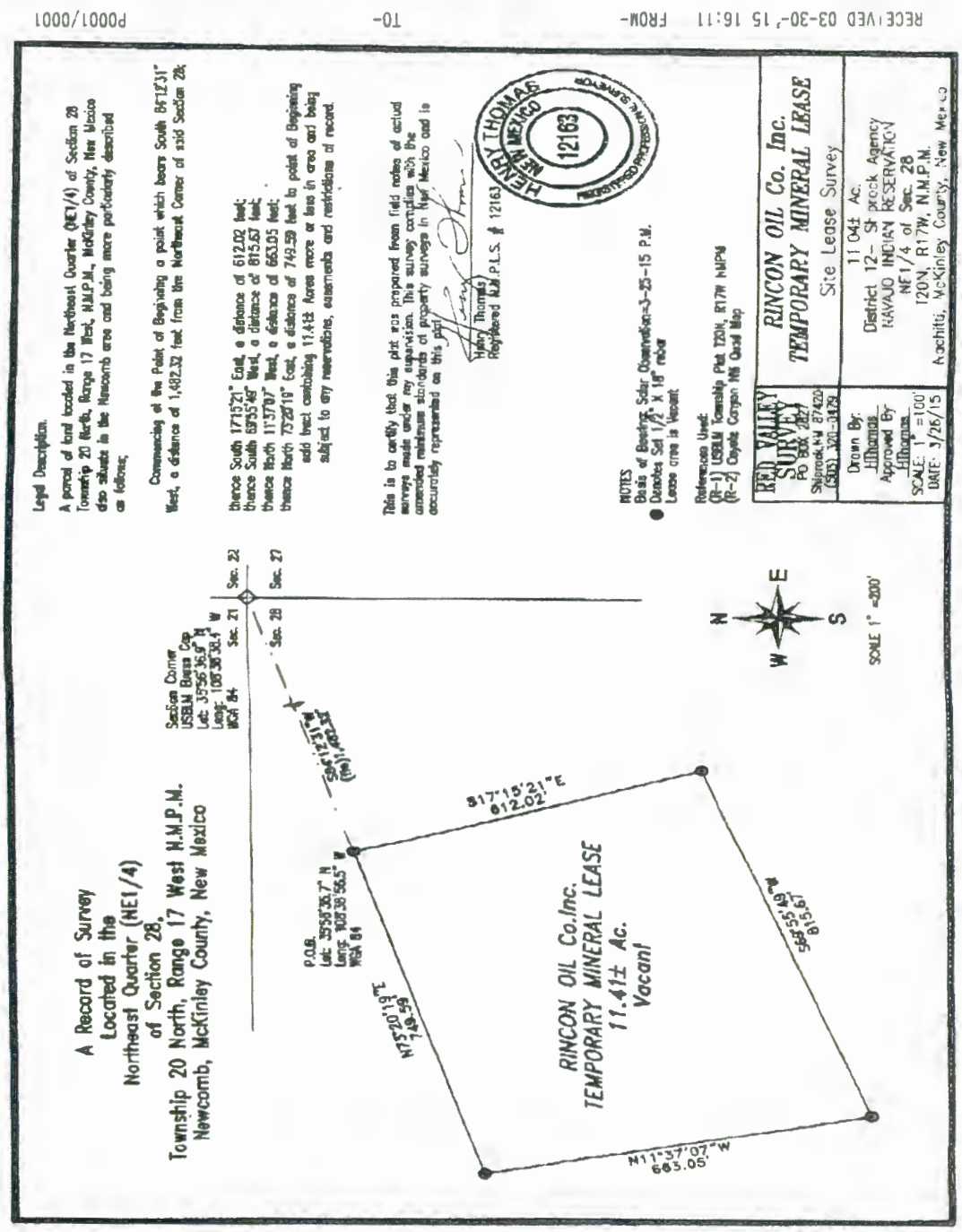

Figure 3. Plat Map of the Recon Oil Company. Lease Project Area

PROJECT LOCATION

The project is located on the Navajo Indian Reservation in McKinley County, New Mexico and is situated within the Fort Defiance Agency, Tohatchi Chapter in Township 20 North, Range 17W, NE ¼ of Section 28 (Figures 1-3). The minerals pit is situated about 0.8 kilometers (km) (0.5 miles) northwest of Buffalo Springs, 13 km (8.1 miles) south of Naschitti, New Mexico, and 160 meters (m) (524.9 feet [ft]) east of US 491.

The boundaries of the materials pit were surveyed by Red Valley Survey Company, and include a temporary mineral lease to Recon Oil Company (Figure 3). The project area includes the materials pit, 11.41 acres (4.62 hectares) in size, and an access road which is 0.24 acres (.097 hectares) in size. There is a total of 11.65 acres (4.715 hectares) within the project area. The access road runs east from US 491 (at mile post 32.7) 160 meters (524.9 ft) to the proposed pit, and extends an additional 250 meters (820.02 ft) along the south side within the materials pit. The south boundary of the material pit is 20 meters south of the graded road. The corners of the pit were marked with survey lath.

ENVIRONMENTAL CONTEXT

The proposed project is located in the southwestern area of the San Juan Basin on the plains directly east of the Chuska Mountains near Buffalo Springs, New Mexico (Figures 1-2). The project ranges in elevation from 5,980 to 6,000 feet. The location is on the lower piedmont slope of the Chuska Mountains and is on an open desert plain with a slight east slope draining to Coyote Wash and into the Rio Chaco at the Great Bend.

The San Juan Basin forms the eastern half of the Navajo section of the Colorado Plateau physiographic province. Stratigraphically, the basin is actually a series of "nested basins with a younger central basin surrounded by uplands of varying structure and age" (Vivian 1990:16; Kelley 1950). The strata of the San Juan Basin are composed primarily of sandstone, shale, and clay deposits of late Cretaceous and early Tertiary period affinity. During the late Cretaceous period, the study area was located near the western shoreline of a tropical sea. The edge of the sea fluctuated over time leaving a variety of depositional strata of both marine and terrestrial nature. At the end of the Cretaceous period, the sea retreated and extensive volumes of sediments were deposited in the San Juan Basin.

The San Juan Basin is characterized by three major structural features-the Central Basin, the Hogback monocline, and uplifts and platforms that border the monocline. The Central Basin is roughly circular, extending 160 km north-south and 145 km east-west. Elevations within this basin range from 4,570 ft to 7,600 ft above sea level. The majority of the basin is drained by the Chaco and San Juan rivers. The landscape, which consists of broad plains and valleys with small mesas and buttes and occasional canyons, was produced by erosion. The Hogback monocline "represents a steep flexure between an outer anticlinal bend and an inner synclinal bend" (Vivian 1990:16). Alternating uplifts-the Carrizo, Ute, La Plata, Nacimiento, San Pedro, Zuni Mountains and Defiance Plateau-and platforms-the Four Corners, Chama, Puerco, Acoma, and Zuni-comprise the outermost rim of the San Juan Basin and were formed during the Cretaceous period.

The climate of the project area can be classified as semiarid. Generally, it is mild and dry. Winds are moderate, with dry westerly winds maintaining a low relative humidity. Air masses from the Pacific and Gulf of Mexico lose most of their moisture before reaching the San Juan Basin. The climate of the area "is conditioned by cyclic shifts of air mass circulation that move varying quantities of heat and moisture and create a bi-seasonal precipitation pattern" (Vivian 1990:20). During the winter, high pressure systems moving south and southeast draw cool, moist polar Pacific air from the northwest, producing winter storms. During the summer, most of the moisture comes from warm, moist tropical air originating in the Gulf of Mexico.

These weather patterns result in a biannual precipitation regime for the San Juan Basin. While the Central Basin averages about 20 centimeters (cm) (8 inches) per year, the surrounding mountains receive 40 to 50 cm (24 to 28 inches). The amount of precipitation can vary from year to year and cyclical patterns in overall rainfall in the past have created more arid or mesic conditions than presently exist.

The project area is characterized by high diurnal and annual temperature variations. Summers are hot and winters are cold to very cold. Yearly maximum temperatures in the Central Basin area range from minus 24 degrees to 106 degrees Fahrenheit. The average frost-free season is 150 days. There is a strong, inverse correlation between the length of the frost-free period and elevation. The frost-free seasons are also affected by topographic location and cold air drainage (Gillespie 1985). Consequently, valley and canyon floors have shorter growing seasons. Late spring or early fall frosts in the historic period occasionally resulted in corn and squash crop loss by Navajo farmers (Brugge 1980:461).

The vegetation of the San Juan Basin is affected by a number of interrelated factors-latitude, elevation, rate of evaporation, temperature, annual precipitation, and seasonal distribution of rainfall. In general, the Central Basin is characterized by grasslands and sagebrush communities. Juniper and mixed pinyon-juniper woodlands occur in the intermediate elevations. The mountains surrounding the basin support coniferous forests.

The project area is located about 1.0 m east of the Chuska Mountain foothills on the piedmont plains of the mountains. This piedmont is cut by arroyo valleys and the project is on a "mesa" remnant of the alluvial outwash from the mountains. Thus, the substrate in the area consists of cobbles and alluvial debris. The location is open and exposed with a slight slope to the east. Vegetation consists of grasses, saltbush, tumbleweed, snakeweed, globe mallow, ground cholla, chimaja, prickly pear cactus, and narrow leaf yucca. There are no trees in the project area.

SURVEY METHODS

A cultural resource survey for the proposed Buffalo Springs project was conducted by Cibola Research Consultants under permit from the Navajo Nation Historic Preservation Department (Permit No B-15138). Prior to the survey, a visit to the Tohatchi Chapter House was completed and notification of the proposed survey was discussed with the Chapter secretary. The survey was completed by Cibola Research Consultants on May 1, 2015.

The survey involved a systematic inspection of the proposed materials pit and a 160-meter existing access road leading to the pit from US 491. The survey was conducted by means of pedestrian transects spaced at 15-meter or less intervals. A single transect was inspected on each side of the access road and included a 50-ft (15.24-m) buffer. A 100-ft (30.48-m) buffer was inspected around the proposed materials pit. Ground surface visibility in the project area is good and the possibility that buried cultural remains are present is unlikely.

RECORDS SEARCH

A cultural resource records search for the project area was completed prior to the survey. This included a review of Navajo Nation HPD archaeological records and traditional cultural properties inventories. A review of the New Mexico Cultural Resource Information System (NMCRIS) files in Santa Fe was also completed. The search also involved consultation with the New Mexico State Register of Cultural Properties and the National Register of Historic Places.

The NMCRIS and Navajo HPD record search indicates that no previous cultural resource surveys have been completed within the materials pit project area or along the access road, and no sites were previously recorded within the project area or buffer zone. However, multiple cultural resources have been recorded in surveys and excavations along US 491 (former US 666), which is about 160 meters west of the materials pit (Walkenhorst 2003; Railey et al. 2004), and along the Tucson Gas and Electric Company power line and the Wesco pipeline, about 500 meters east of the materials pit (Schaafsma 1974; Wilson 1973;and others). The cultural resources identified in the general vicinity of the project are listed in Table 1. None of these sites will be affected by the proposed materials pit undertaking.

An attempt was made to locate two cultural sites previously recorded along the east side of US 491 in the general vicinity of the project. Only one cultural site was found. This site is situated under a power line directly east of US 491 at GPS coordinate Zone 12, 711746 E. by 3980043 N. and is 125 meters west of the materials pit. It is situated near the identified location of LA 32946 (NM-Q-3-68). However, the site is a BMIII-Early PI component, and does not match the LA 32946 site description. Thus, it is perhaps an unrecorded location.

An attempt was also made to relocated site LA 32947, which is described as a ceramic artifact scatter and located on the maps to the south of the access road on the east side of US 491. Careful inspection of this area, both north and south of the access road was completed for a distance of 200 meters and no evidence of the site was found. Perhaps this site was removed by US 491 highway construction.

The area of site LA 11348 was also visited. The site is identified in the ARMS GIS records at 400 meters west of the material pit. This inspection determined that there are a group of BMIII-PI rubble mounds located along the north edge of the mesa extending from about 200 meters east of the materials pit to the area of the power line 500 meters to the east.

Table 1. Previously Recorded Cultural Resources within 650 Meters of the Project Area

Site Number	Site Type	Affinity	Location	Reference
LA 5203	EC-Plaza, kiva, mound LC-Hogan	EC-Anassází PII LC-Navajo, unknown	250 m west of pit	Walkenhorst 2003
LA 5204	Roomblock, mound, kiva	Anassází, BMIII-PI	250 m west of pit	Walkenhorst 2003
LA 5229	4 depressions (pithouses)	Anassází, period unknown	325 m north-west of pit	Walkenhorst 2003
LA 11348	Mound	Anassází BMIII-PI	400 m east of pit	Schaafsma 1974
LA 32945	Artifact scatter?	Anassází, unknown	500 m north-west of pit	Walkenhorst 2003
LA 32946	Kiva, midden, and mound	Anassází PI-PIII	160 m north-west of pit	Railey 2004
LA 32947 (*)	Artifact scatter	Unknown	150 m south-west of access road	Walkenhorst 2003
LA 74500	EC-Depression and midden LC-Mound	EC- Anassází BMIII-PI LC- Navajo, unknown	650 m west of pit	Dykeman 1988
LA 145981 NM-Q-3-70	1 Hogan	Navajo, Unknown period	325 m west of pit	Walkenhorst 2003
LA 145982	Hogan and rock alignment	Navajo, ca. 1868 to 1920	250 m north-west of pit	Walkenhorst 2003

EC-Early Component
LC-Late Component
(*). A search for this site along the east side of US 491 north and south of the access road junction with US 491 failed to identify any evidence of the site. A visit to the GPS coordinates indicated in the site form showed no evidence of an archaeological site.

STATE AND NATIONAL REGISTER PROPERTIES

There are no properties listed on the New Mexico State Register of Cultural Properties or the National Register of Historic Places within or in proximity to the project. The closest property listed on the State Register is the Grey Hill Spring Archaeological District (LA 18244, HPD No. 669), which is an Anassází site complex located 11.3 km northeast of the project. Another nominated site listed on the State Register in the general area is Tohatchi Village LA 3098 (HPD No. 123), a BMIII period site, located 16 km southwest of the project.

TRADITIONAL CULTURAL PROPERITIES

There are no known Traditional Cultural Properties (TCPs) within or in proximity to the project area as listed in the Navajo HPD's TCP Site Inventory (records inspection May 1, 2015). No traditional sites are identified in the published ethnographic literature consulted in this study (Akins 1993; Van Valkenburgh 1941 and 1974; Zolbrod 1984). No cultural sites or landscape features often associated with traditional cultural properties were observed in the area.

The closest traditional cultural property listed in the Navajo HPD files (No. 810) is located at the actual site of Buffalo Springs, about 1.25 km west of the proposed materials pit. This site *Ayani Bito* (Buffalo Springs) is identified in the Navajo Hataal Story, where *Naayee' Neizghani* and wives fail to establish an eagle pit (Atsa:bs:wan-3).

CULTURAL-HISTORICAL CONTEXT

A cultural-historical overview for the San Juan Basin is included in research completed by Magers (1979). A good regional overview of the historic properties of northwest New Mexico was prepared by the N.M. State Historic Preservation Division (Pratt and Scurlock 1990). Overview of Anassází sites in the general area have been completed (Marshall, Stein, Loose, and Novotny 1979; Powers et al. 1983). Recent overview of the Anassází occupations along the eastern front of the Chuska Mountains has been compiled by Railey (editor) 2004 in conjunction with archeological excavations along US 491. A comprehensive history of the Chaco District Navajo was written by David Brugge (Brugge 1980). Accounts of Navajo life in the Chuska area during the early 20th century can be found in the accounts of Franc Newcomb's books, Hosteen Klah 1964 and Navaho Neighbors 1966.

The project area is situated within the prehistoric Chuskan Anassází Province (Marshall et al. 1979). The Chuska Province was an important prehistoric culture area during the period from ca. 500 to 1200 A.D. During the florescent Bonito phase (ca. 950-1175), numerous Anasaází communities were developed throughout the San Juan Basin, and the central complex or ceremonial center was developed in Chaco Canyon about 55 km northeast of the project. Chacoan and Chuskan communities consist of a relatively dense constellation of domicile sites clustered around a large multi-storied Great House, which was apparently the public building and ceremonial center for the community. Great kivas, roadways, shrines and other structures were also constructed by these prehistoric populations. A cluster of large great house buildings in Chaco Canyon and the convergence of numerous prehistoric roads into the canyon indicate a central place or perhaps a kind of capital city of the region. There is a large Anassází site complex (LA 14779) on an isolated mesa north of Naschitti and east US 491.

Navajo populations have occupied the Chuska area since ancient times. Navajo populations and settlements are identified in the earliest historic records. A cluster of Navajo settlements was present in the Dinetah area in the Blanco, Largo and Gobernador Canyon areas where numerous hogans and Gobernador phase pueblito settlements have been identified (Powers and Johnson 1987). There were Navajo populations outside the Dinetah much earlier, especially in the mountain districts of the San Juan, San Mateo and Chuska districts. However, the Dinetah became the major center and focus of the Navajo origin myths and other legends (Zolbrod 1984).

During the late 18th century, most of the Navajo pueblito settlements in the Dinetah District were abandoned, perhaps due to continued depredations by the Ute, Comanches, and Hispanic slave raiders. There was a shift of the Dinetah Navajo populations to the south and west into the Chaco and Puerco areas. This shift may have also been stimulated by the need to provide open pasture-lands for sheep and goats which were becoming increasingly important to Navajo economy.

The 1796 Cordero Report listed ten Navajo settlement areas; Sevolleta, Chocoli (Chaco), Cerro Cabezon, Guadalupe, Agua Salada, Cerro Chato, Chuska, Tunicha, Chelle, and Carrizo (Matson and Schroeder 1957:356). The Chuska Mountains were a stronghold of the Navajo during the 18th century (McNitt 1972:35-36). Spanish military activity among the Navajo in the Chaco-Chuska area occurred in 1804-1805 (Brugge 1980:11), and by an expedition lead by Governor Jose Antonio Vizcarra in 1823. The earliest American Military Expedition into the Navajo Country visited the area of Naschitti in August 1849 (McNitt 1964:60).

Some Navajo families escaped the American military during the period of their incarceration at Bosque Redondo from 1863-1868 and likely hid out in the Chuska Mountains. After the release of the Navajo from Bosque Redondo in 1868, many captives from Bosque Redondo returned to their former homes in the Chuska Valley and elsewhere.

The earliest trading posts in the area were informal supply houses maintained by local Hispanic and Anglo ranchers during the early 1870s. However, it was not until the 1880s after the entrance of the railroad across the southern edge of the Navajo country and the establishment of other trading posts in the area that manufactured trade goods were readily available to local Navajo. Navajo sites which date from ca. 1868 to 1880 are often difficult to identify in archaeological survey, since they contain little in the way of dateable artifact material. The earliest trading post at Naschitti was established in 1880 (Linford 2000: 237).

Tohatchi

Tó Haach'i' (Dipping for Water) (Van Valkenburg 1941:158) was probably named after a hand-dug well or rock basin water holes in Tohatchi Arroyo. Tohatchi is located at the southeastern base of the Chuska Mountains (Navajo: *Ch'óshgai* White Spruce) about 13 km southwest of the project. A trading post was established at the site in 1890 by George Sampson (*Hastiin Bai*-Gray Man). An Indian Service day school (Named Little Water) was opened in the community in 1895 and the Tohatchi boarding school (the second built on the Navajo Reservation) opened in 1900. The community was also the former site of the USIS Hospital. (Linford 2000:273).

Nahasheh'idí Bito' (Badger Springs) (Naschitti)

Naschitti is named after nearby Badger Springs (*Nahasheh'idí Bito'*). The Naschitti chapter house and community is located about 11.3 km north of the project. Badger Springs is believed to be the first camp of the American Army in the Chuska area made in August 1849 during the Lt. James H. Simpson Navajo Expedition (McNitt 1964:60). Tom Bryan and Charlie Verden (*Bichjjh Digiz*-Crooked Nose) established a trading post at Naschitti in 1880, which was one of the oldest trading posts on the east front of the Chuska Mountains (Linford 2000:237).

FINDINGS OF THE SURVEY

The cultural resource survey of the proposed project area, access road, and buffer zones identified 1 cultural resource (NM-Q-3-95, LA 181,739) and 3 isolated occurrences (IOs). There are no historic structures within or near the project. The single cultural site consists of the partially disturbed remains of an Anassází BMIII roomblock and artifact scatter. The IOs consist of 2 locations with single and 3 ceramic artifacts, and 1 abandoned two-track road.

Site Description

NM-Q-3-95 (LA 181,739), Site 1
Site Type: Masonry Roomblock
Cultural-Temporal Affinity: Anassází, BMIII Period, ca. 500-600 A.D.

Location: This site is located about 1.25 km northwest of Buffalo Springs on the Navajo Indian Reservation in McKinley County, New Mexico. The site is 315 meters east of U.S. Highway 491 on the open piedmont plains and low north mesa rim. It is about 1.0 km east of the base of the Chuska Mountains.

USGS Quadrangle: Coyote Canyon Northwest, N.M., 1970
Township 20 North, Range 17 West, Section 28, NE ¼
GPS Locus: Zone 12, 711899 Easting by 3980080 Northing
Elevation: 6,000 feet
Land Ownership: Navajo Tribal Trust

Description (Figure 4): This site consists of a small masonry roomblock 6 by 10 meters, and an adjacent artifact scatter that extends over an area 35 meters north-south by 60 meters east-west. The roomblock is partially disturbed by the construction of a gravel pit road down the mesa edge. However, low rock wall alignments are visible and the soil in the area of the block is charcoal stained. This is one of many BMIII components located on the north edge of the mesa further east and west of the project area.

Artifact Assemblage: Artifacts occur in the low 100s. Ceramics are typical of the BMIII period and include Lino Gray and La Plata Black-on-gray materials. Ceramics records include Lino Gray with quartz temper (32 sherds), Lino Gray with black rock temper (8), and La Plata Black-on-Gray (5). Lithics observed include a few flakes and one core of silicified wood.

Site Condition and Research Value: This site has been partly affected by the former construction of a gravel pit access road, which consists of a deep cut in the mesa edge adjacent to the site. It is estimated that about one-half of the roomblock was destroyed by the road construction. Former gravel pit excavations also occur directly north of the site. The section of the site that remains intact still has the potential to yield information useful to understanding Anassází culture and lifeways in the area.

Project Potential Effect and Recommended Treatment: This site is located within the proposed lease area of the materials pit and is thus endangered by the proposed pit construction. Avoidance of the site area is recommended. This might be accomplished by leaving the site as an island within the pit or perhaps modifying the pit boundaries adjacent to, but outside, the site area. The boundaries of the site and protection area are marked in the field with red flagging tape.

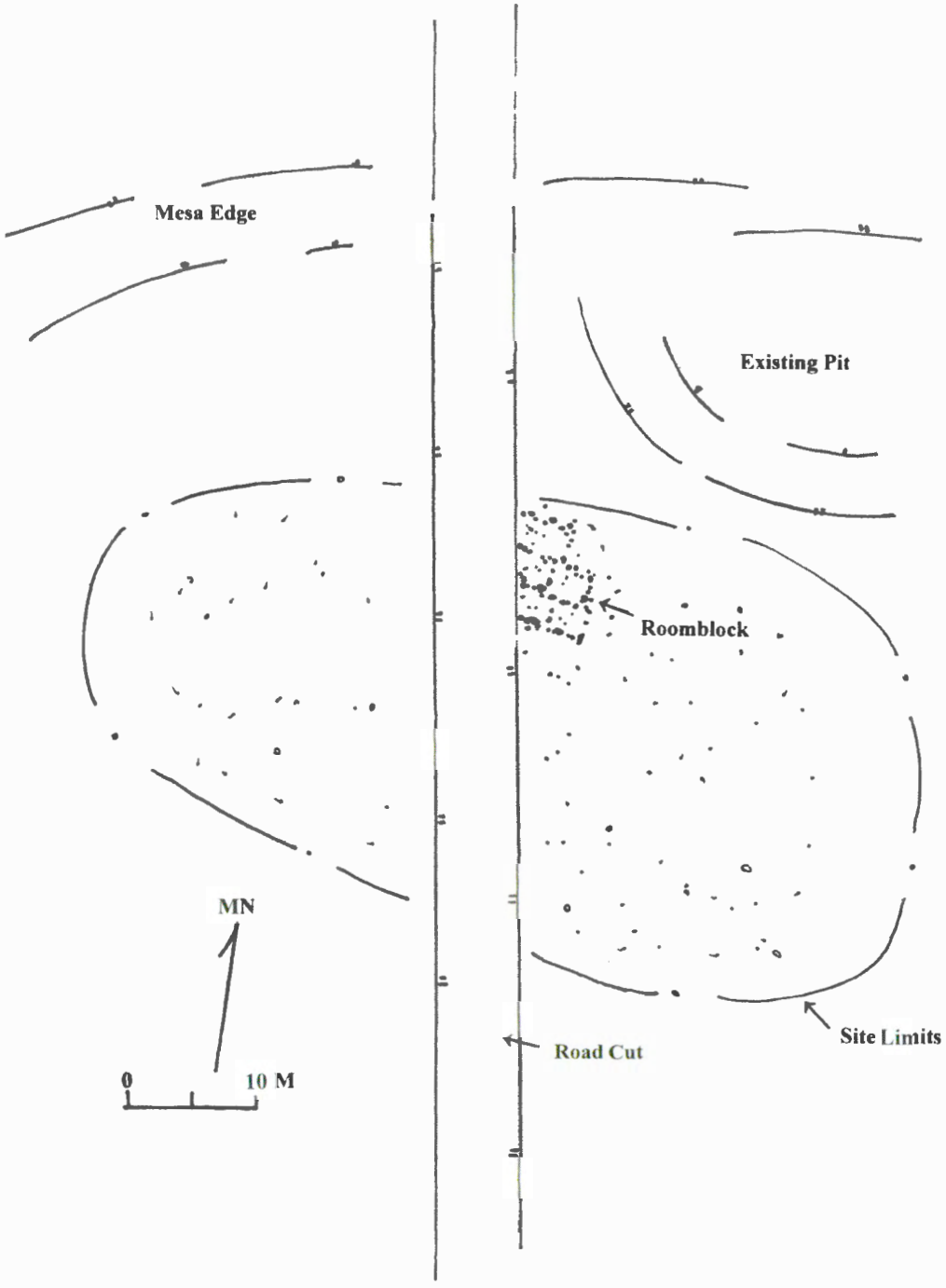

Figure 4. NM-Q-3-95 (LA 181,739) Site Map

Isolated Occurrences

IO # 1. Abandoned Two-Track Road
GPS Locus: Zone 12: 712099 E. by 3980076 N. (NAD 83)

An abandoned two-track road crosses the materials pit project area northeast-southwest. This road is one of many hundreds of similar two-tracks, and there is no evidence to indicate it has any important historic association.

IO # 2. Single Ceramic Artifact
GPS Locus: Zone 12, 711941 E. by 3980061 N. (NAD 83)

A single Lino Gray sherd with black rock temper was found at this location.

IO # 3. Three Ceramic Artifacts
GPS Locus: Zone 12, 711842 E. by 3980071 N. (NAD 83)

Three Lino Gray sherds with quartz temper from a single vessel were found in the west buffer zone of the materials pit.

CULTURAL RESOURCE MANAGEMENT

The cultural resource records search and archaeological survey for the proposed Buffalo Springs materials pit and access road completed under Navajo HPD Permit No. B15138, and resulted in the identification of 1 cultural resource (NM-Q-3-95, LA 181,739) and 3 isolated occurrences. The cultural resource consists of an archaeological site of Anassází BMIII period (ca. 500-600 A.D.) affinity. The isolated occurrences consist of traces of prehistoric ceramic artifacts and a single abandoned two-track road. Only the archaeological site requires further management treatment.

The cultural site (NM-Q-3-95, LA 181,739) is located within the central north section of the proposed materials pit. Previous pit excavations occur directly northeast of the site and the site is partially affected by a former gravel pit road up the north slope of the mesa. It is estimated that a masonry roomblock of about 6 to 10 rooms was present at this site, of which about half has been removed by the gravel pit road. A blanket midden and artifact scatter occurs adjacent to the roomblock, and is scattered over an area 35 by 60 meters.

Despite the former disturbance, the site (NM-Q-3-95, LA 181,739) has the potential to yield information important to understanding early Anassází lifeways and land use in the area. Based on previous survey work in the general project area, it is clear that an early BMIII-PI Anassází community is located in the Buffalo Springs area. This complex is one of a number of Early Developmental Anassází communities in the southeast Chuska District.

Avoidance of NM-Q-3-95 (LA 181,739) is recommended. A 15-meter buffer zone around the site was marked in the field with red flagging tape which defines the archaeological protection area. It is suggested that a temporary fence be built along these boundaries prior to any testing or mining in the pit area. The edges of the fenced boundary should be sloped to prevent bank collapse or erosion from the pit into the site protection area. Given this treatment, the project will have no effect on the cultural resources of the project area.

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EXHIBIT
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MINING AND RECLAMATION PLAN

TOHATCHI/BUFFALO SPRINGS BORROW PIT AND ACCESS ROAD

Section 28, T. 20 N., R. 17 W.
MCKINLEY COUNTY, NEW MEXICO

PREPARED BY:

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop Santa Fe NM 87508 (505) 466 8120

September 2015

Table of Contents

Figures:

1.0 MINING PLAN

1.1 PROJECT DESCRIPTION

Recon Oil Co Inc. (Recon) is proposing to lease and develop a borrow pit to support the US Highway 491 upgrade in the general vicinity of the Project Area. The proposed Project Area is located on Navajo Tribal Trust land totaling approximately 11.65 acres (an 11.4 acre borrow pit and 524.9 feet/0.24 acre access road). This Mine Plan is prepared in accordance with Navajo Nation, Bureau of Indian Affairs (BIA) and Bureau of Land Management (BLM) Farmington Field Office (FFO) directives for processing mineral materials. Contracts and permits and will address the National Environmental Policy Act (NEPA) requirements for sand and gravel/aggregate mining actions on Federal Lands. This Mine Plan will also serve as a guidance document for Recon during development, reclamation, and closure of the mine operations within the Proposed Area.

The Permittee for the Proposed Action Expansion Area is:

Mr. Bruce Nicholson
PO Box 1678
Window Rock, AZ 86515
505-48803314

1.1.1 Background

Recon will partner with Fisher Sand and Gravel-NM to excavate borrow material from an 11.41 acre pit supporting constructing needs of the NMDOT US Highway 491 improvement projects (milepost 15.03 to milepost 37.00).

1.1.2 Location of Project Area

The site can be accessed via New Mexico State 491 (mile marker 32.7) and is located in Section 28 of Township 20 N., Range 17 (Figures 1 and 2). It is within the Bureau of Indian Affairs (BIA) Fort Defiance Agency, Tohatchi Chapter.

Table 1. Project Location, ownership, and map quadrangle.

Project Name	Disturbance Area (Acres)	T.	R.	Sec.	Surface Ownership	County, State	Quad Map
Tohatchi/Buffalo Springs Gravel/Borrow Pit	Pit – 11.41 Road – 0.24 (524.9' x 20') Total – **11.65**	20N	17W	28	Navajo Tribal Trust	McKinley, New Mexico	Coyote Canyon, N.M. 7.5-minute

1.1.3 Administration, Contracts, and Permits

Surface and mineral deposits in the Project Area are owned by the Navajo Nation, and mining of the site would be conducted in accordance with applicable Federal and Tribal regulations. A Navajo Nation Sand and Gravel Lease will be obtained by Recon for the right to extract gravel and borrow material from near surface deposits at the site. Recon will be responsible for obtaining the required permits from Navajo Environmental Protection Agency (Navajo EPA) and Navajo Minerals Department. A Categorical Exclusion was completed by the New Mexico Department of Transportation (NMDOT) in May of 2015 and disclosed no significant impacts (singular or cumulative) on the human or natural environment from this project.

A cultural resource investigation was completed in compliance with the provisions of the National Historic Preservation Act of 1966, as amended through 1992, and applicable regulations. The report is consistent with federal and state standards for cultural resource management. The investigation was completed in compliance with Section 106 of the National Preservation Act and pursuant regulations (36 CFR Part 800). The survey was also completed under the authority and according to the standards of the Navajo Nation Historic Preservation Department. A Cultural Resources Compliance Form (CRCF) was issued by the Navajo Historic Preservation Department July 30, 2015 (Marshall, 2015).

The Navajo Nation Department of Fish and Wildlife – Natural Heritage Program (NNDFW) was consulted regarding Threatened, Endangered, and Special Status Species with potential to occur in the project area. Both a wildlife survey and plant survey were performed at the project area by a qualified wildlife biologist and botanist. A Biological Evaluation was prepared as part of the New Mexico Department of Transportation requirements for a Federally Funded Highway Project (i.e. US 491 Highway improvement). The Biological Evaluation analyzed U.S. Fish and Wildlife and Navajo Nation Department of Fish and Wildlife listed species and their potential to occur at the project area. The Biological Resources Clearance Form (BRCF) was received from Navajo Nation Department of Fish and Wildlife July 7, 2015.

1.1.4 Project Area Planned Mining Activities

Pending approval of this Mine Plan and issuance of a mining permit for the Project Area, Recon proposes to mine southward in the Project Area in three discrete phases (Figure 2). Borow material would consist of undifferentiated gravel, cobbles, and stones that would not be screened to remove any soil material. Topsoil (red silt/sand/clay matrix above the bleached rock deposits) would be mechanically separated and stored at the edges of the Project Area. Initially work in the Project Area would consist of upgrading existing roads to accommodate equipment and haul trucks, creating a turnaround area, and setting up a processing area (load and haul out). Phase 1 mining would begin on October 15, 2015.Reclamation will be discussed further in Section 2.5.4 of this Mine Plan.

1.2 EXISTING ENVIRONMENT

1.2.1 Land Use

The area currently is part of Navajo Nation Tribal Trust lands and is used primarily for grazing on open range. There is little to no ORV, hiking, hunting, or other recreation uses and the area does not fall under any special management status. Existing disturbances include several abandoned roads (which would be obliterated in the mining process and reclaimed following completion of activities) and exploratory test pits for borrow suitability. Overhead powerlines cross close to the Project Area to the east, as does the proposed Navajo-Gallup water pipeline.

1.2.1.1 Existing Area

The total disturbance land area for the Proposed Action is 11.65 acres (11.41 acres for quarry, and 0.24 acres for the access road). The access road would be 524.9 feet long by 20 feet wide (Table 2.1). Site characteristics including topography, geology, soils, flora,

fauna, cultural resources, climate, air, visual, and noise considerations are discussing in the proceeding sections.

1.2.2 Topography, Geology, and Hydrology

The project area is located in the San Juan Basin, a large basin located within northwestern New Mexico, bounded generally on the south by Interstate 40, on the East by the Jemez Mountain Range, on the west by the Defiance Plateau, and on the North by the San Juan River. The San Juan Basin is a structural basin formed from a large downwarp of sedimentary rocks of mostly Mesozoic age. Geologically, the San Juan Basin is noted for its large deposits of oil, coal, natural gas, and uranium. Related topography consists of abrupt sandstone cliffs west of the project area (Defiance Plateau) and hogback ridges as one travels eastward. In general, exposed geologic layers get older to the west and younger to the east (Kelly, 1967).

The project area is generally flat desert shrubland/grassland with alluvial cobble outcroppings, mudstones, sandstones, and shales exposed at the surface. The main surface formation is the Menefee, deposited in the late Cretaceous (NMBGMR, 2003). The project area is located east of the Chuska Mountain foothills on the piedmont plains of the mountains. This pediment surface is cut by arroyo valleys and the project is on an erosional remnant of the alluvial outwash from the mountains. Thus, the substrate in the area consists of cobbles and alluvial debris.

There are no wetlands, riparian areas, or permanent surface waters present within the Proposed (USGS, 2015).

Average annual precipitation in the project areas is 9.62 inches (WRCC, 2015). A review of the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer for the project area indicates that the site is not located within a 100-year floodplain (FEMA, 2015).

There are no perennial streams, rivers, lakes or wetlands, in or near the project area. Surface flows and infiltration associated with ephemeral drainages and water storage are the principle source of groundwater recharge in the area. There are no water wells located in the vicinity of the project area.

In the immediate vicinity of the project area, surface water drains generally northward into a large unnamed wash located approximately 0.3 miles north of the project area. Smaller drains and washes are located within the project area and only flow during significant precipitation events.

Recon will not be accessing wells or pumping any groundwater during mining activities in the Project Area. Any water needed will be trucked in from sources outside the project area

1.2.3 Soils

The soils in the project area are mapped as being in the Mesa family, 1-4% slopes (USDA, 2015). These soils are found on mesas and fan terraces and are well drained. The Mesa family soils are composed of fine sandy loams, gravelly clay sandy loams, very cobbly sandy loam, very cobbly fine sandy loam, and loamy fine sand in descending order of depth. Parent material is fan and slope alluvium. Depth to restrictive feature is more than 80 inches. Ksat (capacity of most limiting layer to transmit water) is moderately high to high. There is no frequency of flooding or ponding, and runoff class is low. On site soil investigations from 16 open exploratory investigation pits in August 2015; from this

documentation, a mean depth of topsoil (soil A horizon) of 23 inches was determined, albeit with great heterogeneity in depth and rock content.

1.2.4 Residential Communities and Businesses

There are a number of homes within 2 miles of Project Area; the closest being within 0.3 miles. The greatest hazards to the general public are from haul trucks traveling roads and unauthorized trespass into the project area. The access road to the mine will have a locking gate installed to limit unauthorized entry to the site. Therefore, significant impacts to public health and safety are not anticipated.

1.2.5 Flora and Fauna

The Tohatchi/Buffalo Springs project area is representative of a Plains and Great Basin Grassland (Brown, 1994). Dominant plants include galleta (*Pleuraphis jamesii*), blue grama (*Bouteloua gracilis*), Greene's rabbitbrush (*Chrysothamnus greenei*), broom snakeweed (*Gutierrezia sarothrae*), and alkali sacaton (*Sporobolus airoides*). Infrequent small, shallow basins are dominated by alkali sacaton. A complete list of plant species can be found in Table 3 in Section 7.2 of Appendix 2.

No plant species on the BIA Navajo Area Noxious Weed List (USDI-OSM 1998) were found during the survey.

Currently there are a total of fifteen Navajo Nation special status and federally listed species that have the potential to occur in or near the project area (NNDFW-NNHP, 2015)(USFWS IPAC, 2015). These species include those that have Navajo cultural or economic significance, those that are protected by Navajo Fish and Wildlife Natural Heritage Program (NNHP), and those that are protected by the Federal Endangered Species Act (ESA), the Eagle Protection Act EPA), and the Migratory Bird Treaty Act (MBTA). Most of the species designated for protection under these acts require specific habitat elements that are unique to the species. In general, most of the species recognized as special status have been impacted by habitat fragmentation or alteration, or have had their numbers reduced across their range due to some other factor, usually human induced.

No Navajo Nation Department of Fish & Wildlife (NNDFW) or U.S. Fish and Wildlife listed species were observed within or adjacent to the project area during biological surveys of the project area in April 2015.

1.2.6 Historical, Archaeological, and Cultural Sites

Cibola Research Consultants surveyed the project area in May 2015. Prior to the survey, a visit to the Tohatchi Chapter House was completed and notification of the proposed survey was discussed with the Chapter secretary The cultural resource survey of the proposed project area, access road, and buffer zones identified 1 cultural resource (NM-Q-3-95, LA 181,739) and 3 isolated occurrences (IOs). There are no historic structures within or near the project. The cultural resources site will be avoided by a buffer of 15 meters (50 feet) (Figure 2).

Recon will comply with Section 106 responsibilities of the National Historic Preservation act. (NHPA). A Cultural Resources Compliance Form was issued by Navajo Historic

Preservation Department July 30, 2015. However, during excavation and operations, it is possible that buried or previously unidentified cultural material may be encountered. In the event of a discovery, all operations in the immediate vicinity would cease and the NNHPD would be contacted for guidance and approval to proceed.

1.2.7 Visual Setting

Typically views are uninterrupted throughout the Navajo Nation with few structures visible except two track routes, barbed wire fencing, the occasional power line in the distance, and infrequent homesites. This leaves one with an impression of space and remoteness. However, along travel routes, intrusions are more numerous and apparent including; signs, highways, dirt roads, power lines, pipeline corridors, industrial buildings, and residences. The project area has been previously disturbed, though natural reclamation of the area has occurred and the area more or less blends in to the surrounding landscape, which is flat to undulating and relatively unmarked by any outstanding visual impact. Existing vertical structures within the project area include barbed wire fences and power lines. A few homes are located within a mile of the project area. Development of the pit will pose a visual distraction to travelers on U.S. 491; however some of the pit will be partially obscured by topography. One home located approximately 0.3 miles southeast of the proposed project area will likely be impacted by visual changes to the landscape as the proposed pit and associated facilities will be in a direct line of site to the residents of the home. Reclamation of the site through restoration of native vegetation and the maintenance of topsoil resources should help ameliorate any visual impacts over the long term.

1.2.8 Air Quality

Air quality in the vicinity of the project area is generally good (NMED, 2015) and is affected by industry in the Four Corners area and natural terrain. The 2014 air quality in the vicinity of the project has an air quality index percentage of 95.93% for "good" and air quality index percentage of 4.07% for "moderate" (EPA, 2014). The closest industry centers, high traffic areas, and commercial development potentially affecting air quality in the region would be Farmington, New Mexico, approximately 35 miles north of the project area.

Particulate matter (PM) emissions would come primarily from fugitive dust during excavation and processing and would depend on moisture content of the mined material as well as climatic factors. Strong winds in the region can contribute to dust plumes and drift, especially during dry periods. The Tohatchi/Buffalo Springs borrow pit will contribute small amounts of particulate matter and vehicle/equipment emissions from removal operations. These emissions are minimal due to the relatively small mining operation represented by Recon and the few employees/equipment operators. A Fugitive Dust Control Permit for the proposed project will be obtained and Recon will use water trucks for dust control abatement as necessary.

The closest industry centers, high traffic areas, and commercial development potentially affecting air quality in the region would be Farmington, New Mexico, approximately 35 miles north of the project area.

1.2.9 Noise Levels

Noise levels in the project area are generally low; there is moderate traffic along Highway 491 and no major noise contributors in the area other than the proposed small mining operation. It is anticipated that neighbors within several miles of the Project Area would be able to hear heavy equipment and processing operations depending on climatic conditions and weather (e.g. cloud cover and wind direction). Noise impacts from heavy equipment and development of the pit will likely impact local residents (the closest being within 0.3 miles). The closest home to the project is 0.3 miles away but mitigation would occur in the form of not operating outside of normal work hours (8 a.m. to 5 p.m.)

Due to the remoteness of the area, NMDOT has determined that a traffic noise analysis is not needed (NMDOT, 2015). There are no existing or permitted noise receptors in the area and the proposed project is not considered Type 1 (as defined by NMDOT's current Design Directive for Abatement of Highway Traffic Noise).

1.3 PROPOSED OPERATIONS

The following sections outline the mining methods and sequence that will be implemented during mining in the Project Area.

Recon Oil in conjunction with Fisher Sand and Gravel intends to operate in the Project Area from October 2015 to October 2017 (or until material supply needs are met for the Highway 491 project. Hours of operation would be (at the earliest) 7 a.m. to no later than 5 p.m., unless otherwise requested. In the event that other operating hours are required, Recon will notify the Navajo Nation prior to changing operating hours. Onsite personnel will include 2 to 4 workers, including equipment operator, and general laborer.

1.4 SITE ACCESS

Primary access to the site will be from Highway 491 and the proposed access route shown in Upgrades will include blading and leveling to a minimum width of 20 feet to accommodate heavy equipment, inserting water bars and/or culverts, applying gravel and creating safety berms). All road work will occur within the existing mine and Project Area and will not require a separate right-of-way. Recon will ensure that all access roads, including entry and egress to Highway 491 are suitably engineered to the most stringent specifications for haul trucks and other heavy equipment associated with mine production.

1.5 MINE OPERATION CONFIGURATION, STAGING, AND STOCKPILING

Recon plans to begin mining in the area of Phase I [Figure 2]. The access will be upgraded and a temporary location for the excavation, loading, and hauling equipment will be created in conjunction with Phase 1. This Processing Area will be approximately 2 acres and will be located on the southern boundary of the project area just below the access road. Most of this area is comprised of valley fill and mixed soils and rock from previous historic mining activity. Recon plans to level and fill this area as needed to accommodate the processing plant, equipment parking, a small maintenance building, and vehicle parking. After the processing Area is set up, mining will then move from north to south in the Phase 1 area.

Once Phase 1 materials are exhausted, excavation of material will begin in the Phase 2 area, located east of Phase 1. Mining will then proceed in Phase 2 from north to south. Phase 3 will follow a similar pattern.

Topsoil and overburden on the bedrock and perched gravel deposits within the Project Area varies in depth from 3 inches of topsoil and to three to six feet of overburden based on surface features (Photo 1). Topsoil will be stripped and conserved for the reclamation that will occur after the borrow material has been exhausted. Stockpiles will be stored at an angle of repose in suitable areas adjacent to active pits or in the Processing Area until they are needed for reclamation (Figure 2).

Mining will be completed using back-hoes, excavators, and bulldozers. No blasting will occur. The Proposed Action involves extracting gravel and borrow materials from the Tohatchi/Buffalo Springs borrow pit using front end loaders and bulldozers. The 11.41 acre pit will be expanded on an as needed basis and sections will be mined from north to south in 3-5 acre parcels beginning with Phase 1 (Figure 2). A culturally significant site located within the Phase 1 area would be avoided by 15 meters (50 feet). Materials from the pit would loaded into trucks and transported to a separate location to be crushed and separated. Prepared materials would then be transferred to U.S. 491 improvement locations via haul trucks. The existing 0.24 acre (524.9' x 20') access road into the proposed pit would be widened and upgraded to accommodate haul trucks and equipment. This method of materials extraction and transfer of materials would occur throughout the life of the project (approximately 2 years). It is estimated that +/-100,000 yards of aggregates and borrow material will be removed from the proposed pit for the U.S. 491 paving project.

During pit operations, Recon will make efforts to avoid any unnecessary disturbance of existing natural resources outside of the pit boundaries. Prior to excavation within the pits, existing vegetation and topsoil will be bladed off the surface and stockpiled. Upon closing of the pits, slopes will be graded to a 3:1 ratio, topsoil will be replaced and spread evenly over excavated areas, and a Navajo Nation approved seed mix would be applied. During excavation and operations, it is possible that buried or previously unidentified cultural material may be encountered. In the event of a discovery, all operations in the immediate vicinity would cease and the NNHPD would be contacted for guidance and approval to proceed.

1.6 TRAFFIC

Traffic will move in a two-way pattern. Haul trucks would enter the Project Area via the existing haul road for the Tohatchi/Buffalo Springs Borrow Pit. An existing two track road would be widened to 20 feet, bermed, and graveled to accommodate trucks and heavy equipment. At least one turn around areas or "loops" would be constructed in conjunction with the road. After being loaded trucks would head down valley to exit the mine the same way they came in, via the newly upgraded access road. Turn outs would be available and truck radios would be used to coordinate entering and exiting trucks.

1.7 FACILITIES/INFRASTRUCTURE

Facilities at the site will be minimal and would include a portable toilet structure and a construction trailer.

1.8 PERSONNEL

Personnel at the site will include 2-3 laborers including a dozer operator, front end loader operator, and a general laborer. Haul trucks would be operated primarily by outside vendors and there would be no more than two load out trucks at a time on site.

1.9 EQUIPMENT LIST

As the nature of the borrow operations is relatively simple (excavate and load, no on-site crushing/sorting), the equipment required will be limited to bulldozers (D-8 or similar), front end loaders, and haul trucks.

Petroleum-based products will be stored at the site will include gasoline, diesel fuel, and oil. Fuels will be stored at a fuel farm that will consist of double walled tanks placed within lined secondary containment areas surrounded by berms.

1.10 SLOPE STABILITY

Slope stabilization will be important at the active mining locations and environs. During times of active mining, the mined 'face' will be kept at a stable slope. New low angle high-walls will be created within the project area during active mining and following excavation. These high walls will taper toward the middle of the pits at a final reclamation slope of no steeper than 1V:3H (one vertical to three horizontal). Active pit slopes will be no steeper than 1V:1H. All other mining faces and operational areas will comply with applicable Mine Safety and Health Administration (MSHA) regulations. Caution will also be exercised during any mine activities that occur beside or beneath steeply sloped areas.

1.11 PILE STABILITY

Stockpile slopes will be at the angle of repose for the material being piled. This applies to topsoil, overburden, unprocessed material, and all marketable products (e.g., pit run, gravel, sand), as well as all unmarketable material (e.g., crusher fines). The angle of repose for the material being mined is estimated to be between 32-35° depending on moisture content and the proportion of fine and coarse material being piled. In general, stockpiles will be stored in the Processing Area; however, some topsoil and overburden stockpiles may be stored closer to pits for use in interim or final reclamation.

1.12 EROSION AND SEDIMENT CONTROL

Erosion and sedimentation will be controlled on stripped mine surfaces in the short-term using Best Management Practices (BMPs). Pits will be excavated to form shallow basins that will drain internally to prevent off-site sedimentation and erosion. During mining, all stormwater will be directed to drain inward toward the center of the pits where it will be held and allowed to evaporate. Once an area of the mine has been excavated and is no longer required for operations, unsalable material will be used to profile the area to create very gentle negative drainage (two to six degrees) to the center. A natural three-foot berm will be left in place as pit perimeters are mined down at a slope of three-to-one to control the flow of stormwater into pits and prevent sedimentation, riling, and gullying immediately outside of the perimeter. This berm will be created prior to any aggregate operations, which will ensure a reasonable distance is maintained from the edge of the perched gravel deposit at all times. The berm will be constructed to MSHA standards and will also provide vehicle protection near the steeply sloped boundaries of the mining areas. Additional berms will be constructed as needed during active mining to direct water into or away from the pits.

Erosion and sedimentation will be controlled in the long-term by contouring slopes to no steeper than 3 (horizontal) to 1 (vertical), spreading topsoil, ripping compacted areas at least 12 inches deep on the contour, and seeding with a seed mix approved by BLM. All haul roads and other ancillary roads within the parcels and across the property will be

similarly reclaimed. A detailed discussion of post mining reclamation and revegetation is provided in the following section of this plan.

All disturbed areas will be harrowed and seeded as described in Section 2.0. The seed bed will be drug with an appropriate implement to cover the seed if the seed is broadcast instead of drilled.

1.13 Water Use

Recon does not plan to use surface water or pump groundwater for mining or washing in the Project Area. Water use will likely be limited to control fugitive dust along the access road and processing areas, and for hydroseeding/hydromulching, as deemed appropriate, during reclamation.

1.14 Storm Water Control

Recon will comply with all U.S. Environmental Protection Agency (EPA), state, and local stormwater regulations for the Tohatchi/Buffalo Spring borrow operations. BMPs will be implemented to control sedimentation, wind and water erosion, and wind deposition. All off-site runoff will be detailed in a Storm Water Pollution Prevention Plan (SWPPP) for the Project Area. The SWPPP will be filed with the EPA prior to commencing work.

1.15 Fire Hazards

The risk potential for a fire at the borrow site is low due to the relatively sparse vegetative cover and the fact that explosives will not be used for mining. However, in the event of a fire, Recon will maintain a safe number of fire extinguishers located on equipment and across the site and will utilize a site specific fire escape plan. This plan requires the notification of appropriate response personnel for emergency situations.

1.16 Hazardous Substances

No hazardous substances would be used in the processing of mined materials. No gravel washing, acids or other chemical treatments will take place during the removal of borrow material. All containers and hazardous substances used for machinery or vehicles will be properly contained, labeled and stored according to Occupational Safety and Health Administration regulations (29 CFR Part 1926 subpart H)[OSHA, 2015] and secondary containment (berms or sumps) will be provided around tanks and at points of transfer. Machinery and infrastructure should be maintained in good condition to prevent leaks and spills, and appropriate spill response equipment and procedures should be identified prior to bringing chemicals on site. Any leaks, spills, or release of any potentially hazardous materials to the environment will be cleaned up immediately.

1.17 Drilling & Blasting

No blasting will occur in the proposed project area.

1.18 Weights and Measures

Haul trucks will be weighed on-site and a truck scale will be inspected and certified annually. Recon Oil will ensure that all access roads and entry to US Highway 491 are suitably engineered for haul trucks and other heavy equipment associated with mine production.

1.19 MINING SEQUENCE AND TIMING

Proposed mining of Project Area will generally be in 3 phases starting with Phase 1. With a parcel prepared (stripped), the mining and hauling of the borrow material will commence. New pits will be bulldozers and hauled to the Processing Area. Excavation of the pits will be to the total depth of the deposit; this has been determined to fall between approximately 10 to 20 feet below the site's existing grade in most locations.

2.0 RECLAMATION AND REVEGETATION

2.1 GENERAL PROCEDURES

The Tohatchi/Buffalo Springs borrow pit will be reclaimed after pit areas have been depleted of saleable material. Once an area is ready to be graded and contoured, previously stockpiled topsoil will be redistributed evenly as a seed bed and seeded in accordance with an approve seed blend. The surfaces of the mined areas will be contoured to the approximate pre-mining topography, with slopes at angles that minimize topsoil erosion and rilling and provide a suitable substrate for seed beds. To the extent that it is practicable, all areas will be contoured to slope internally at a low slope angle to reduce sedimentation and erosion and allow for the collection of precipitation within the perimeter of the project area. Collection of precipitation through this and shallow "pock marking" would aid in the promotion of vegetation success and reduced slope angles would reduce sedimentation down valley.

2.2 TOPSOIL

During development of the Tohatchi/Buffalo Springs borrow pits, a minimum of six inches of topsoil within the will be stripped and stockpiled in locations near new pits or at the Processing Area. Topsoil stockpiles will be stored above grade and interim seeded. All topsoil will be broadcast seeded with the interim seed mix composed of native forbs, grasses, and [1]Regreen™, or other suitable mulching and soil stabilizing material. Interim seeding will help prevent soil loss from erosion and preserve soil fertility until it is used in final reclamation activities. All above grade topsoil stockpiles will include installation of containment berms, straw bales and/or geotextile fencing, or other Best Management Practice around the downhill side of the piles to prevent the off-site movement of soils and seeds. If containment berms are installed around above grade topsoil stockpiles, they will be also be interim seeded in a similar manner as the topsoil stockpiles.

2.3 CONTOURS AND FORM

During active mining of the Project Area site stabilization earthwork will be carried out in the short-term to limit wind and water erosion at each pit location. These practices will include berming the perimeter of each pit with a minimum 3 foot high berm, limiting high wall faces to less than 10 feet, and backfilling with overburden or waste materials to prevent high wall collapse and/or provide slope stability. Interim reclamation practices will minimize undue substrate loss prior to final reclamation efforts and also protect mine workers from unsafe working conditions. All above grade stockpiles placed near mining areas and/or pits will

[1] Regreen™ is a wheat/wheatgrass (*Triticum aestivum/Elytrigia elongata*) hybrid that produces a sterile plant. Regreen™ has a dense, fibrous root system that can stabilize the soil surface but it also has a deep root system that confers drought tolerance, winter hardiness, and adaptability to varying soil and moisture conditions.

include installation of containment berms, straw bales and/or geotextile fencing, or other accepted Best Management Practice around the downhill side of piles to prevent the off-site migration of material.

Once a pit is closed, it will be re-contoured and prepared for topsoil application and seeding. Pit walls will be contoured to slope inward at a no steeper than 3 (horizontal) to 1 (vertical). Compacted areas will be ripped at least 12 inches deep to allow easier root growth and pitting or ripping on the contour will be performed to trap stormwater runoff, deter gullying, and enhance growth. The original contours and drainage patterns of the project area will be replicated as much as possible. If necessary, slopes and banks greater than a 3:1 slope will be stabilized with erosion blankets or any other applicable method using best management practices to reduce the potential for soil erosion by wind and water run-off.

2.3.1 Contours and Drainage Pattern

The original contours and drainage patterns of the Tohatchi/Buffalo Springs borrow pit will be replicated as much as possible. If necessary, slopes and banks will be stabilized with erosion blankets or any other applicable method using best management practices to reduce the potential for soil erosion by wind and water run-off. Given the gentle gradient (mean slope of 4%) and availability of abundant topsoil/A horizon material, maintenance of contours close to the original surface is a highly achievable outcome at the Project Area.

2.4 Site Description and Basis for Seed Selection

The pre-mining communities at the site were described and a species inventory was compiled in April, 2015. This inventory provides information on which to base seed mixes for post disturbance revegetation efforts.

The vegetation community at the Tohatchi/Buffalo Springs project area is desert grassland (Dick-Peddie et al. 1999). This vegetation type was included in the Plains and Great Basin Grassland vegetation type described by Brown (1994) which served to describe communities in the whole southwestern United States rather than only New Mexico. In the description of desert grassland in northwestern New Mexico, the abundance of sagebrush and salt bush shrubs may be such as to be co-dominant with grasses (Dick-Peddie et al. 1999).

Dominant species at the project site include galleta (*Pleuraphis jamesii*), blue grama (*Bouteloua gracilis*), Greene's rabbitbrush (*Chrysothamnus greenei*), and broom snakeweed (*Gutierrezia sarothrae*). Indian ricegrass (*Achnatherum hymenoides*) was common and the shrubs, Bigelow's rabbitbrush (*Ericameria nauseosa* var. *Bigelovii*), winterfat (*Krascheninnikovia lanata*) and Bigelow's sagebrush (*Artemisia bigelovii*) were all occasionally observed. Infrequent small, shallow basins are dominated by alkali sacaton (*Sporobolus airoides*). No noxious weeds were observed at the project site.

2.4.1 Proposed Seed Mix

Reseeding with plant species native to the vegetation communities of the development area isr recognized as an important element for successful revegetation and reclamation and is now part of public policy (Jacobsen et al. 1994, New Mexico Energy, Minerals and Natural Resources Department 1999, New Mexico Regulatory Program 2000, Natural Resources

Conservation Service 2009). Pre-mining percent cover of all species and shrub frequencies will be reviewed when deciding the final seed mix that will be sown during the revegetation phase.

The composition of the currently proposed seed mix is listed in Table 1. The aim of the mix is to include a range of grass types including the most abundant grasses pre-existing at the site, both warm season and cool season and both bunch and sod forming species. A warm season and cool season forb was included to add to diversity and Utah Sweetvetch was included because it is associated with nitrogen-fixing microbes. Seed mixtures of grasses with legumes (members of the Fabaceae such as *Astragalus, Trifolium, Hedysarum* and *Lupinus*) have been shown to improve the rate of microbial and soil structure recovery compared to that of grasses alone. The shrub winterfat was included to enhance browse and wildlife habitat. As these species establish they will provide catchment niches and, by seed rain, other species will eventually colonize the area from the surrounding environs.

A sterile cover crop (Table 2) is useful for temporary stabilization of top soil piles or of areas in need of immediate revegetation. It can be planted in the fall or spring. The seed mix of native species can be sown at the same time or in the stubble of the sterile crop. This sterile crop will establish quickly but will not persist after one growing season. Its roots will hold the soil and after the crop dies it will provide organic matter to the soil.

Final seed species selection and seed mixture specifications will need to be reviewed after mining activities are completed. All seed will be tested for purity by an AOSCA-certified seed laboratory.

Table 1. Proposed seed mix for revegetation

Common name	Scientific name	Suggested variety	Season	Life form	Pure Live Seed (PLS) lbs/acre*
Galleta	*Pleuraphis jamesii*	Viva florets	Warm	Bunch/sod forming grass	3.0
Blue grama	*Bouteloua gracilis*	Alma or Hachita	Warm	Sod forming grass	2.5
Indian ricegrass	*Achnatherum hymenoides*	Paloma or Rimrock	Cool	Bunch grass	4.0
Bottlebrush squirreltail	*Elymus elymoides*	Tusas or VNS	Cool	Bunch grass	3.0
Utah Sweetvetch	*Hedysarum boreale*	VNS	Warm	Forb	0.25
Scarlett globemallow	*Sphaeralcea coccinea*	VNS	Warm	Forb	0.25
Narrow Leaf Penstemon	*Penstemon angustifolius*	VNS	Cool	Forb	0.25
Winterfat	*Krascheninnikovia lanata*	VNS	N/A	Shrub	2.0

** Based on 60 pure live seeds (PLS) per square foot, drill seeded. This rate will be doubled to 120 PLS per square foot if broadcast or hydroseeded.*

2.5 REVEGETATION PLAN AND RECLAMATION TECHNIQUES FOR THE PROJECT AREA

The revegetation plan for the Project Area will follow Procedure B of the FFO Bare Soil Reclamation Procedures (USDI BLM Jan 2013).

2.5.1 Reclamation Techniques for Project Area

2.6 INTERIM RECLAMATION

Contemporaneous, or interim, reclamation will be carried out if the mining activity is such that discrete areas can be excavated, stabilized, reclaimed and can be left undisturbed while the mine is operating. The major benefit of this option is that topsoil does not have to be stored for very long periods and may not need stabilization. The same reclamation methods described for "Final Reclamation" will be employed during interim reclamation.

At the least, concurrent with extraction activities, overburden and other unmarketable material will be used as reclamation backfill to reduce angle and stabilize slopes.

2.7 FINAL RECLAMATION

The following reclamation techniques will be employed in the project area after operations are completed:

- Overburden, crusher fines, waste rock, and other unmarketable material will be used as reclamation backfill to reduce angle and stabilize slopes.

- Pits will be backfilled to follow pre-mine drainage patterns and/or backfilled to provide internal drainage so as to capture water to aid in revegetation.

- The disturbed land will be re-contoured to be consistent with surrounding landforms. Slopes will be no greater than 1:2.5 (that is 1 unit of change vertically for every 2.5 units horizontally). Re-contouring will be such that sheet flow drainage will be maximized as much as possible in order to minimize erosion and maximize the potential for vegetation re-establishment after seeding.

- Topsoil stripping and storage, and replacement: Where possible, the upper six inches of topsoil will be stripped from any ground disturbance and discretely stockpiled separately from other excavated materials. Based on exploratory pit observations, in many cases there will close to 24 inches (2 feet) of A horizon material to store and preserve for reclamation.

- Seedbed preparation and topsoil replacement: Areas receiving considerable heavy machinery traffic or beneath processing areas will be heavily compacted. In this case compacted areas will be ripped to at least a depth of 12 inches and to 18 inches if possible, with a maximum furrow spacing of two feet. Where practicable, ripping will be conducted in two passes at perpendicular directions. Large clumps and clod will not be left. If disking is

necessary, it will be conducted along the contour of any slopes. Once topographic reconstruction and decompaction activities are completed, the topsoil will then be evenly spread on disturbed areas and raked, dragged, or harrowed to create a firm seedbed. However, the number of passes made by the tillage and seeding machinery will be minimized to avoid additional compaction. The soil surface prior to sowing will be roughened to facilitate moisture and seed retention. Roughened surfaces form "habitat niches" that create an environment that promotes seed germination and seedling survival. One problem with reseeding litter-free areas is that there is often insufficient moisture to sustain seedling development. Therefore, some brush/plant fragments from the initial site clearing will be spread evenly over the disturbed areas and mulch will be applied after seeding. A relatively sparse brush/plant fragment cover on the ground will provide natural microhabitat niches that encourage both seed catchment and seedling establishment. Plant fragments and mulch also have the potential for long-term natural decomposition by microbes, macro-fungi, and arthropods, which benefit the soil. One mechanical way of roughing the surface and providing a variation in microclimates is by pitting. Pitting is literally creating pits in the ground surface that will collect litter, seeds, fine dust and precipitation and act as refugia from wind for seed germination and seedling establishment (Bainbridge 1997).

- After topsoil application, the site will be seeded with a seed mix approved by the Navajo Nation representative. It is proposed that seed will be sown using a seed drill. In the event that broadcast or hydro-seeding is utilized as a method of seed distribution, the rate of seed application will be doubled from 60 pure live seeds (PLS) per square foot to 120 PLS per square foot. The seeded area will be mulched.

- Noxious, invasive species will be controlled using a Navajo Nation EPA approved herbicide.
- All seeded areas during interim and final reclamation will be protected by installing straw bales or similar BMP structures at drainage low points to protect seed beds from water erosion.

- Timing of seeding: To the extent practicable, seeding of disturbed areas at the site will be conducted in late fall or early winter (prior to ground freeze, but no more than 90 days following mining completion). With adequate winter moisture, this timing permits germination of both cold and warm season grasses.

2.7.1 Challenges

Low and erratic precipitation, grazing pressures, and soil erosion (wind and/or water) are possible hindrances to the establishment of target vegetation species in the reclamation of this site. Outcompeting weeds during the initial (years 1 through 3) of revegetation will be critical to establishment of the desired target vegetation.

2.7.2 Goals

Reclamation goals for the Tohatchi/Buffalo Spring borrow area should be to maintain or improve current vegetative cover and soil stability. Doing so will ensure the continued viability of current land uses including grazing, as well as ecosystem services and functioning.

2.8 MONITORING AND REPORTING

A pre-disturbance site visit by PWI resource specialists (wildlife, botany, and soils) fully characterized the existing conditions. The following components will be required for the Reclamation under Procedure B:

- Establish monitoring sites after seeding is completed
- Conduct annual monitoring starting two calendar years after seeding is completed
- Evaluate monitoring reports
- Compile and present documentation that percent vegetation cover standards have been attained
- Request concurrence from the FFO or TFO that percent vegetation cover standards have been attained
- FFO or TFO will provide concurrence (or not) that percent vegetation cover standards have been attained
- Develop remedy plans to correct impacts to revegetation that may prevent the revegetated area from attaining per cent vegetation cover standards.
- Conduct long term monitoring after per cent vegetation cover standards have been attained

Minimum monitoring requirements include:

- Initial, annual, and long term photo point monitoring at established locations
- Initial, annual, and long term transect monitoring.
- Vegetation cages.

Monitoring requirements may be conducted and completed by PWI specialists and shared with the project proponent upon request. Quantitative assessment and monitoring of the success of revegetation of the site will be conducted using photo points, transect lines, and vegetation cages (exclosures).

New Mexico 19 NMAC 8.2 2065.B(3) requires "that in areas of less than or equal to 26.0 inches average annual precipitation, the period of liability under the performance bond requirements of Subpart 14 shall continue for not less than 10 full years. Ground cover and productivity shall equal the approved standard for at least two of the last four years..." and "The applicable ... 10 year period of responsibility for revegetation shall commence at the date of initial planting ...."

The average annual precipitation for the area ranges from 5.6 to 10.9 inches (New Mexico Environment Department Undated).Therefore, ground-cover and species frequency will be measured using transect lines and vegetation cages after six years and in each subsequent year until 10 years after the initial seeding has occurred.

Pro-active management indicates that seeding success needs to be monitored prior to 6 years after seeding to confirm that seed did indeed germinate and seedlings established. Therefore photographs and estimates of cover will be made starting two (2) years after seeding so that failures in seed establishment can be remedied.

2.8.1 Schedule:

Prior to commencement of mining activities:

- An inventory of species will be made in the project area and in the reference area.
- Quantitative measurements of ground cover and shrub frequency will be made using transect lines in the project area and in the reference area.
- Photo points will be established across the sites prior to mining activities.
- Two photographs of each transect line will be taken (looking from each stake toward the opposite stake)

Following re-seeding:

- Transect lines and vegetation cages (exclosures) will be established in the project and reference areas.
- Photographs will be taken from each photo point.
- Two photographs of each transect line will be taken (looking from each stake toward the opposite stake)
- A photograph of each vegetation cage will be taken

Annual pro-active monitoring will begin two (2) calendar years after seeding:

- Photographs will be taken from each photo point
- Two photographs of each transect line will be taken (looking from each stake toward the opposite stake)
- A photograph of each vegetation cage will be taken
- Ground cover and shrub frequency will be measured by surveying the transect lines.

Annual monitoring to measure revegetation success will begin six (6) years after seeding

- Photographs will be taken from each photo point
- Two photographs of each transect line will be taken (looking from each stake toward the opposite stake)
- A photograph of each vegetation cage will be taken
- Ground cover and shrub frequency will be measured using transect lines.
- Herbaceous productivity within each vegetation cage will be measured.

3.0 PROACTIVE MANAGEMENT

Starting at the beginning of mining activities, cursory inspections at six monthly intervals will be used as an adaptive management tool to correct problems as they arise. These visual inspections will include considering and remediating these elements:

1) Invasion of noxious weeds;
2) Damage to fences etc., resulting from human or livestock trespass;
3) Presence of other conditions, such as severe erosion, that, if unchecked, will result in failure to meet revegetation success criteria

Actions taken to respond to observations might include mending, or erecting additional, fencing to exclude grazing animals, weed control, and installation of erosion control blankets. An example of proactive weed management may be that if a noxious weed is observed along the access road or within the project site, measures will be taken to eliminate it.

After revegetation seeding has been completed the state of the seeded area needs to be evaluated. All disturbances to reclaimed areas need to be minimized. The seeded areas should be protected from all grazing for at least five years after seeding. Establishing vigorous stands of desirable native plants will limit the opportunity for invasion by noxious weeks.

Visual inspections of the seeded area will include checking and remediating these elements:

1. Bare spots
2. Eroded areas
3. Areas of excessive settlement
4. Wash out areas
5. Areas where initial attempts to establish vegetation were not successful

Follow-up seeding or corrective erosion control measures may be required on areas that experience reclamation failure. Interseeding, secondary seeding, or staggered seeding may be required to accomplish revegetation objectives. If small areas experience being washed out or eroded, local applications of mulch followed by reseeding may be a good way to keep a successful revegetation effort on track. Preventing further erosion and re-seeding small areas in a timely manner is better than having to reseed large acreages after several years have passed.

After two years vegetation cover and shrub frequency will be measured using transect line surveys and species diversity squares to monitor the seeding results in detail. This is distinct from the measurements that will determine success for bond release. Periodic checking in the course of proactive management may remedy localized areas where seeding has obviously failed. During the survey time seedling/small plants will be observed in detail by a botanist. Seeding is often considered a failure when an average of less than one seeded species per square meter is established (Wright et al. undated).

3.1 Reference Area

A Reference Area will be selected prior to mining activity to act as the standard by which to evaluate revegetation success. This area will be of a size similar to, or larger than, the project site, with a similar quantitative and qualitative vegetation cover. It will be relatively near the project area so that it is likely to experience the same environmental perturbations. This area will be undisturbed during the life of the mining project. It will be delineated using GPS technology or by a combination of GPS and physical methods, for example, by using fencing and/or posts at all four corners of the reference area. The methods will be determined in collaboration with the representative from the Navajo Nation.

If there is significant livestock grazing the reference area will be fenced in order to exclude the livestock. Such areas protected from livestock grazing provide a clear indication as to the potential and natural successional trajectory of the native vegetation at the site.

The transect lines within the reference area indicates the potential of the site and successional processes that occur due to environmental conditions. The vegetation cover

and shrub frequency within the reference area provides a means by which to track changes that occur to the vegetation throughout the mining and revegetation phase. They indicate if significant changes occur to the vegetation due to conditions other than mining. For example, lasting impacts of a drought or a storm that would affect vegetation within the project area during the mining or revegetation phases will be reflected in the condition of the vegetation within the reference area. These changes may be reflected in percent cover, shrub frequency, or in the species composition and will help in interpreting the results of the revegetation effort. Although not specific to aggregate and stone mining, New Mexico guidelines for coal and hard rock mining guidelines suggest: "For areas of existing disturbance, the reference areas are selected on the basis of the vegetation that most likely existed prior to disturbance" (New Mexico Energy, Minerals and Natural Resources Department. Undated). The mean and standard deviation of ground cover and shrub frequencies within the reference site and the project area will be calculated and compared.

3.2 STANDARDS

The revegetation percent cover standard for the Plains and Great Basin Grassland vegetation type is ≥ 20 percent, of which ≤ 10 percent allowance of invasive/undesirable species is counted toward meeting the standard (USDI BLM 2013).

3.3 FINAL ABANDONMENT AND RELINQUISHMENT

Final abandonment and relinquishment will be conducted in conformance with the terms outlined in the BLM Farmington Field Office (FFO) Bare Soils Reclamation Standards, Vegetation Reclamation Procedure B (USDI BLM 2013).

Final relinquishment will be requested by Recon once the percent cover standard has been achieved and no additional activity is required at the site. Permits West Inc. will document that the cover standard has been obtained as part of this request.

4.0 REFERENCES

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5.0 PHOTOS OF PROJECT AREA

Photo 1. Pit 14- Topsoil to 10 inches, Gravel/Cobble to 50+ inches Photo 2.

Photo 2. Pit 15 Spoil- Representative Fill Material Photo 3.

Photo 3. Pit 9- Deep Soil Deposit

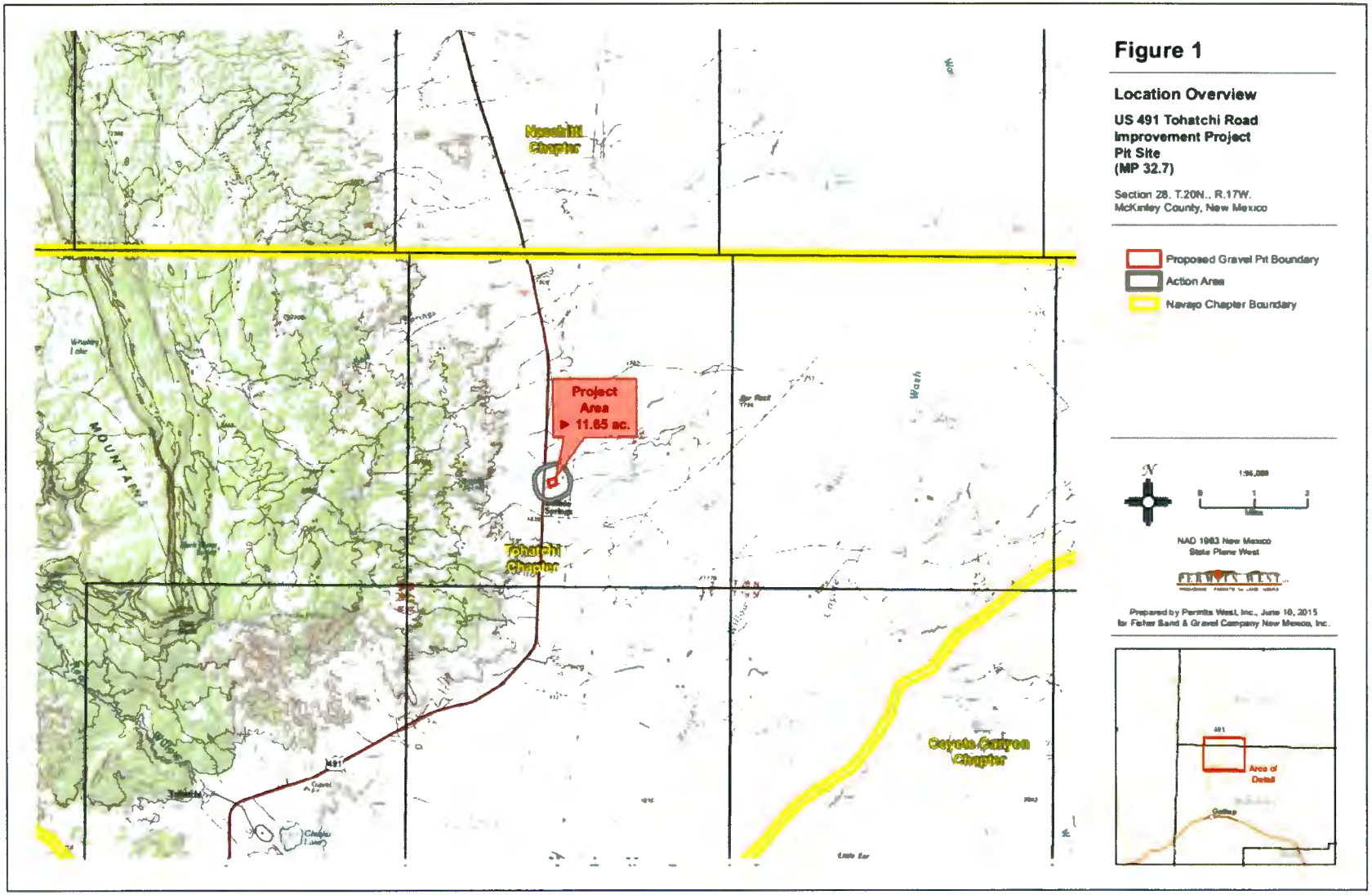


Figure 1. General Location Map

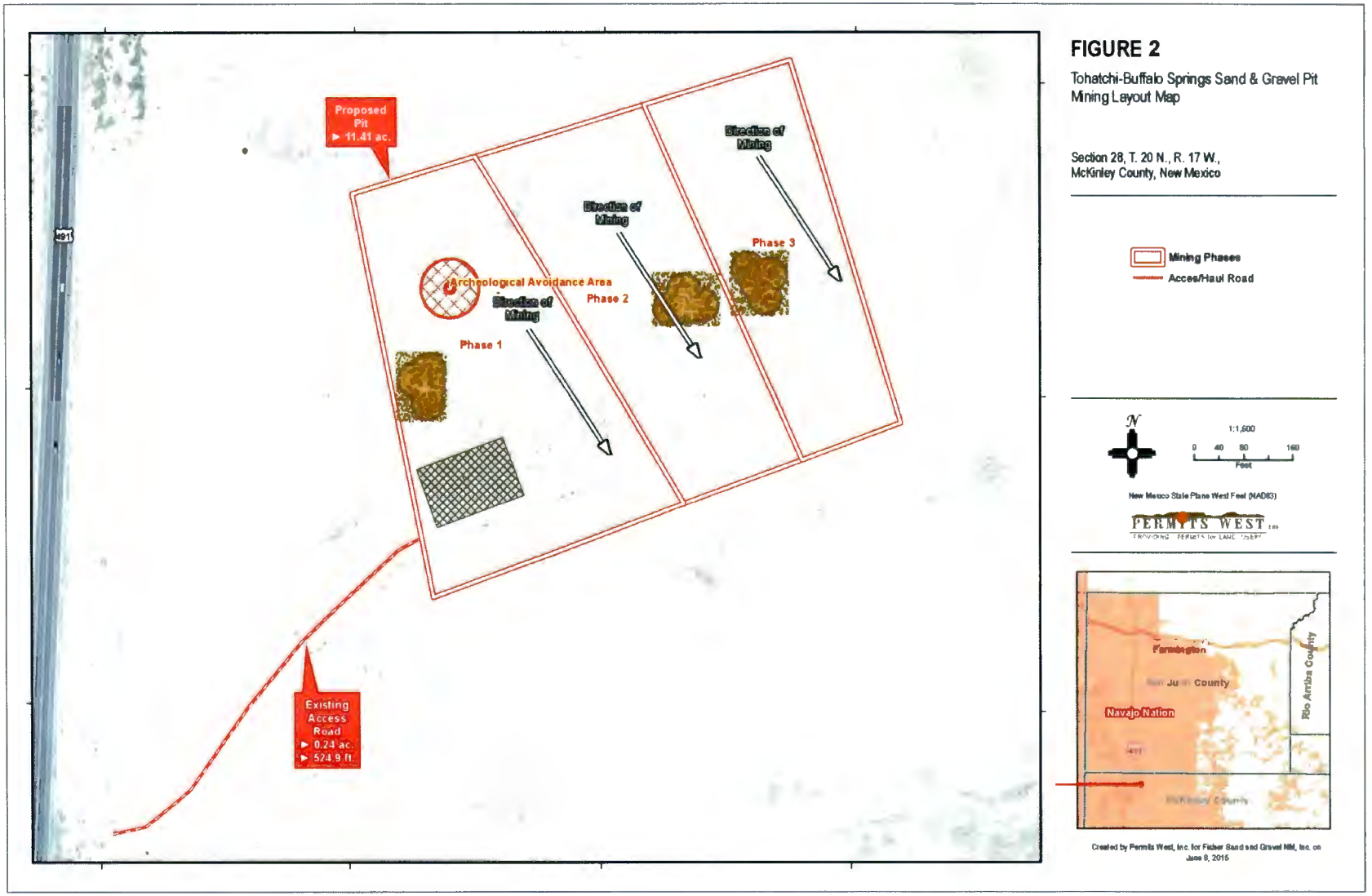
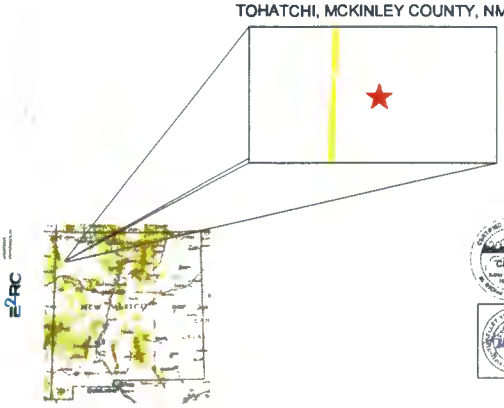


Figure 2. Mining Phases and General Features of the Tohatchi/Buffalo Springs Materials Pit

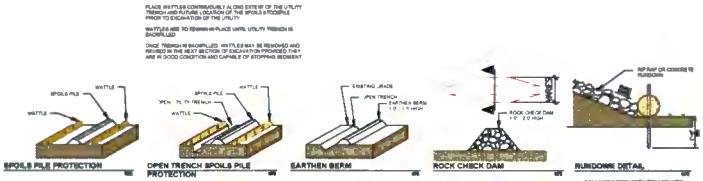
TOHATCHI SAND AND GRAVEL PIT
TEMPORARY SEDIMENT AND EROSION CONTROL DRAWINGS
TOHATCHI, MCKINLEY COUNTY, NM

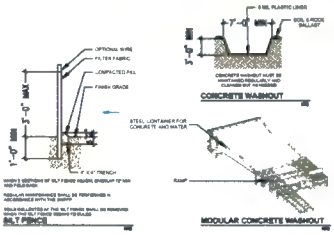
DRAWING INDEX

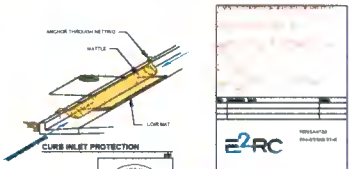
1 COVER SHEET
2 BEST MANAGEMENT PRACTICES
3 BEST MANAGEMENT PRACTICES
4 STORM WATER POLLUTION PREVENTION PLAN



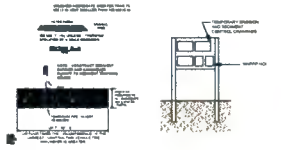
TOHATCHI SAND AND GRAVEL PIT
TOHATCHI, MCKINLEY COUNTY, NM
COVER SHEET
C. DURKIN
09/09/2015
1

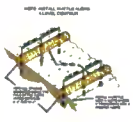


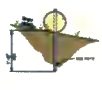


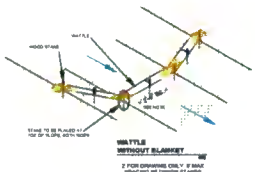


TOHATCHI SAND AND GRAVEL PIT
TOHATCHI, MCKINLEY COUNTY, NM
BEST MANAGEMENT PRACTICES
C. DURKIN
09/09/2015
2

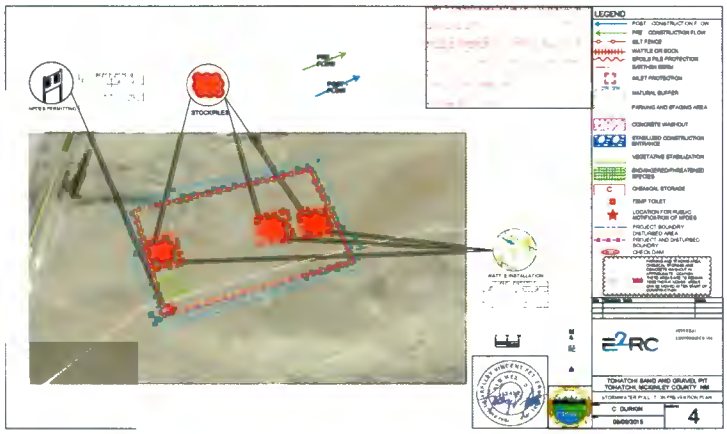








TOHATCHI SAND AND GRAVEL PIT
TOHATCHI, MCKINLEY COUNTY, NM
BEST MANAGEMENT PRACTICES
C. DURKIN
09/09/2015
3



TOHATCHI SAND AND GRAVEL PIT
TOHATCHI, MCKINLEY COUNTY, NM
C. DURKIN
09/09/2015
4

Plan Documentation & Revision Record

Fisher Sand & Gravel of New Mexico, Inc.
Tohatchi Sand and Gravel Pit

Tohatchi, McKinley County, New Mexcio

National Pollution Discharge Elimination System

COMPLIANCE DOCUMENTATION

Stormwater Pollution Prevention Plan & Temporary Erosion Control Plan

September 9, 2015

NPDES PERMIT: AZR120000I NOI - AZR12C01I

E2RC INTEGRATED ENVIRONMENTAL CONSTRUCTION ENGINEERING

Design | Comply | Restore

CERTIFIED PROFESSIONAL IN STORM WATER QUALITY
CPSWQ
Kelley Vincent Fetter
No. 0662

KELLEY VINCENT FETTER NEW MEXICO 23491 REGISTERED PROFESSIONAL ENGINEER

E2RC, LLC
439 S. Hill Road
Bernalillo, NM 87004
505-867-4040 Office
505-867-4044 Fax

Estimated Project Dates:

Project Start Date: 09/23/2015
Project Completion Date: 09/30/2016

Contents

DIVISION 1) INTRODUCTION

This Storm Water Pollution Prevention Plan (SWPPP) provides an engineered design for the operations of **Tohatchi Sand and Gravel Pit.** The plan has been developed as required by the United States Environmental Protection Agency for Phase II of the current National Pollutant Discharge Elimination System (NPDES) General Permit for storm water discharges. It is based in good engineering practices as required by the General Permit and defined by the New Mexico Board of Engineering. The plan is supported by the designer's professional engineering (PE) seal and recognition as a Certified Storm Water Quality Professional (CPSWQ).

This SWPPP recommends appropriate best management practices (BMP'S) and control measures to improve the quality of surface waters by reducing and controlling the amount of pollutants contained in the storm water runoff. The document provides for periodic review and updating of the plan ensuring it complies with the 'living document intent' of the EPA requirements.

This SWPPP documentation:

- Identify potential sources of storm water and non-storm water contamination to the storm water drainage system.
- Design appropriate best management practices to prevent storm water contamination from occurring.
- Recommend management practices to reduce pollutants in contaminated storm water prior to discharge by:
    - *Describing the Structural Practices used during the Construction Phases* (e.g., sediment control barriers, sediment traps, and temporary or permanent sediment basins, etc.),
    - *Describing of Other Controls* (e.g., waste disposal, procedures to minimize off-site vehicle tracking, dust control, etc.),
- Determine the action(s) needed to either bring non-storm water discharges under compliance or to remove the discharges from the storm drainage system using:
    - *Storm Water Management Controls used for Stabilization* (e.g., detention or retention structures, vegetated swales, etc.) to be installed during the construction process to reduce pollutants in storm water discharging from the site after construction has been completed,
    - *Description of Interim and Permanent Stabilization Practices* (e.g., seeding, mulching, etc.) dependent on the phase of the project when the practice is employed,
- Prescribe an implementation schedule to ensure the storm water management procedures and controls designed for the Storm Water Pollution Prevention Plan are carried out and evaluated on a regular basis.

DIVISION 2) RESPONSIBLE PARTY INFORMATION

Lessee: Fisher Sand and Gravel of New Mexico, Inc.
PO Box 2340
Placitas, New Mexico 87043
505-867-2600 office
dolson@fisherind.com email
Contact: Dave Olson, Vice President of Operations

SWPPP Operator: Fisher Sand & Gravel of New Mexico, Inc.
PO Box 2340
Placitas, New Mexico 87043
505-867-2600 office

24-Hour Emergency Contact: Fisher Sand & Gravel of New Mexico, Inc.
Brian Gambral
505-867-2600

DIVISION 3) STORM WATER POLLUTION PREVENTION TEAM

Section 3.01 TEAMS AND RESPONSIBILITY

The storm water pollution prevention team is responsible for developing, implementing, maintaining and revising this SWPPP. The members of the team are familiar with the management and operations of Tohatchi Sand and Gravel Pit.

Fisher Sand & Gravel of New Mexico, Inc. is in charge of all aspects of this SWPPP development and implementation at the site and has requested the origination of this SWPPP. E2RC, LLC, is delegated and authorized to originate and design the SWPPP for NPDES Compliance. The Operator(s) are aware their direction to E2RC, LLC to prepare these documents does not supersede their compliance obligations with the NPDES Requirements. The member(s) of the team and their responsibilities (i.e. implementing, maintaining, record keeping, submitting reports, conducting inspections, employee training, conducting the annual compliance evaluation, monitoring for non-storm water discharges, signing the required certifications) are:

NAME & TITLE	POSITION	RESPONSIBILITY
Fisher Sand and Gravel of New Mexico, Inc.	Vice President of Operations	Lessee
Fisher Sand & Gravel of New Mexico, Inc. 505-867-2600	Vice President of Operations	Operator
E2RC, LLC 505-867-4040	SWPPP Engineer	SWPPP Development Team
E2RC, LLC. 505-867-4040	Site Inspector	Site Inspections and NPDES Compliance Team
E2RC, LLC. 505-867-4040	Foreman	Implementation Team
E2RC, LLC. 505-867-4040	Field Supervisor	Maintenance and Corrections Team

DIVISION 4) SITE INFORMATION AND RECEIVING WATERS

Project Name: Tohatchi Sand and Gravel Pit
Project Number: N/A
Project Location: US 491
City: Tohatchi
County: McKinley
State: New Mexcio
ZIP Code: 87325

GPS Location: 35° 56' 28.45"N Latitude 108° 39' 03.34" W Longitude

Method for determining latitude/longitude:

No GPS

Yes Other: **Google Earth**

Horizontal Reference Datum:

☐ NAD 27 X NAD 83 or WGS 84 ☐ Unknown

Section 4.01 Additional Project Information

Is the project/site located on Indian country lands, or located on a property of religious or cultural significance to an Indian tribe?

Yes

If yes, provide the name of the Indian tribe associated with the area of Indian country (including the name of Indian reservation if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property:

Navajo Nation

If you are conducting earth-disturbing activities in response to a public emergency, document the cause of the public emergency (e.g., natural disaster, extreme flooding conditions), information substantiating its occurrence (e.g., state disaster declaration), and a description of the construction necessary to reestablish effective public services:

N/A

Are you applying for permit coverage as a "federal operator" as defined in Appendix A of the 2012 CGP?

No

Section 4.02 Description of the Project Discharge Location

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)?

No

Are there any surface waters that are located within 50 feet of your construction disturbances?

No

Are any of the surface waters listed Tier 2, 2.5 or 3 by **the regulating authority**?

No.

Section 4.03 Names of Receiving Waters

The name(s) of the first surface water that receives stormwater directly from your site and/or from the MS4 (note: multiple rows are provided where the site has more than one point of discharge that flows to different surface waters). An MS4 is not considered receiving water. The name of the receiving water to which the MS4 discharges is listed in the second identified water if the project discharges to an MS4 before any other water.

1. **Unnamed Stream is 0.10 miles from the site. This is not a discharge point.**

It is important for the reviewer to note whether or not the waters listed are discharge points. If none of the waters are discharge points then **there isn't discharge offsite (waters are kept onsite) and the listing is provided to demonstrate the Lessee and Operator are knowledgeable about the surface waters in proximity of the project. Section 4.04 details the information regarding the surface waters shown in the EPA Watershed Locator Tool.**

Section 4.04 Name of the Watershed, Impairment Status and Tier Designation of the Receiving Waters:

Chaco Watershed (HUC# 14080106)

List the Impaired Waters / TMDLs for each surface water listed in the Receiving Waters Section:

	Is this surface water listed as "impaired"?	What pollutant(s) are causing the impairment?	Has a TMDL been completed?	Title of the TMDL document	Pollutant(s) for which there is a TMDL
1.	No	N/A	N/A	N/A	N/A

What method(s) was used to determine whether or not the project site discharges to an impaired water?

My Waters Mapper and NMED SWQB Mapper

Tier 2, 2.5, or 3 Waters Designation for each listed in Receiving Waters

	Is this surface water designated as a Tier 2, Tier 2.5, or Tier 3 water?	If you answered yes, specify which Tier (2, 2.5, or 3) the surface water is designated as?
1.	No	N/A

DIVISION 5) PROJECT DESCRIPTION

Tohatchi Sand and Gravel Pit will consist of the development of access, infrastructure, permanent drainage, surfacing and permanent stabilization for the construction of a borrow pit.

Soil Disturbing Activities will include but are not necessarily limited to: Clearing and grubbing, rough grading, installation of perimeter controls as well as other erosion and sediment management control measures, construction of infrastructure or permanant drainage and construction of permanent sections for the construction of a borrow pit.

Section 5.01 Project Area and Area of Soil Disturbance

Tohatchi Sand and Gravel Pit

The project site area is approximately 12 gross acres with an approximate disturbed area of 11.5 acres for construction. The maximum area of disturbance at any one time will consist of 11.5 acres. The project will have disturbance in each phase and will be constructed in one phase(s).

Most of the major earth moving and soil disturbing activities are expected to occur during the initial portion of each phase of construction activities. The activities will continue throughout the selected areas of construction with minor amounts of earth moving and soil disturbance occurring during later phasing sequences. The appropriate control measures, practices and implementation schedules have been considered and will be implemented to prevent pollutants and sediments from discharging from the disturbed area into identified drainage reaches and channels during the related construction activities.

For this project the removal of vegetation (area of soil disturbance) is that area which will be designated for grading, excavation and permanent stabilization.

Section 5.02 Design Requirements

Stormwater flow characteristics, design requirements and the affects of each are engineering activities managed by the registration and licensing requirements developed by the controlling state agency. Agencies and reviewers should be alert to the specific requirements of the controlling agency for such work.

The temporary stormwater controls and practices are designed around the **two year - 24 hour event. The individual storm event duration is 30 minutes.** The data is based on the latitude and longitude of the site and it is derived from NOAA PFDS reporting. The site specific data supports the RUSLE calculation protocol and output generated from the latest version of NRCS RUSLE programming. The project design hydraulic conditions are significantly greater, likely, from the design hydraulics used for temporary stormwater control development.

The nature of the surface flow, its direction and the factors affecting the flow rates is captured in the RUSLE analysis for the site. Drainage features and flow management devices are included in the design and noted when appropriate.

The soil particle size, erodibility and historical vegetative data are included in the NRCS Soil Report for the project location. This information is derived from data gathered by the NRCS to support the tools utilized to manage lands of the US.

The information specific to the site is found in the 'RUSLE, Engineering, Storm & Soil Data' Section of the SWPPP Document.

Section 5.03 Pollutants from Support Activities

Support Activity	Location	Contact for Activity
Concrete Plant	Offsite	Fisher Sand & Gravel of New Mexico, Inc.
Asphalt Plant	Offsite	Fisher Sand & Gravel of New Mexico, Inc.
Equipment Staging/Parking Area	Onsite	Fisher Sand & Gravel of New Mexico, Inc.
Material Storage Area	Onsite	Fisher Sand & Gravel of New Mexico, Inc.
Excavated Material Disposal Area	Onsite	Fisher Sand & Gravel of New Mexico, Inc.
Borrow Area	Onsite	Fisher Sand & Gravel of New Mexico, Inc.

DIVISION 6) SEQUENCE OF SOIL DISTURBING ACTIVITITIES

The general construction schedule will consist of:

Construction Activity Phase	Date Completed
Begin Project 09/23/2015	See Contractor's Site Schedule
Installation of BMP'S – Sediment transport barriers, entrances, washouts, posting boards	See Contractor's Site Schedule
Clearing and grubbing	See Contractor's Site Schedule
Rough Grading	See Contractor's Site Schedule
Infrastructure	See Contractor's Site Schedule
Concrete (as required)	See Contractor's Site Schedule
Final Grading	See Contractor's Site Schedule
Temporary Stabilization (**MUST Commence** immediately once it is known work will cease for 14 days or more)	See Contractor's Site Schedule
Paving	See Contractor's Site Schedule
Site Clean-Up	See Contractor's Site Schedule

Permanent Stabilization Phase	Date Controls Initiated
Landscaping, planting, seeding or final stabilization	
End Project 09/30/2016 (Approximate date)	

The 'Date Completed' schedule in the nearby table will constitute the initiation date of the succeeding activity. This plan shall be amended by E2RC, LLC as directed by the site operator or pollution prevention team should any major changes of sequence requiring additional BMP'S or the deletion or modification of designed BMP'S. The Lessee, Operator and Contractors will ensure the appropriate practices and measures are taken to keep pollutants and sediment onsite by following the recommended BMP'S and installation practices described within this SWPPP.

Major soils disturbing activities will likely occur at the same time however; construction is a fluid process. Some activities may be performed out of sequence and others presently unidentified may occur depending on site-specific needs. The Operator and Contractors will utilize additional source area controls and appropriate Best Management Practices on a temporary, as required basis, when it's necessary to maintain compliance with the global intent of the SWPPP (e.g., (compost) mulch socks used around temporary spoil piles at excavation locations, temporary earth berms for runoff management and sediment capture in areas where the time of disturbance is limited).

DIVISION 7) Allowable Non-Storm Water Discharges

The following are authorized non-storm water discharges, provided this component of the discharge is in compliance with Non-Storm Water Discharge Management of the 2012 CGP:

Non-Storm Water Discharge	Expected on Project	Control Measure
Discharges from fire fighting activities	Yes	Natural Buffer
Fire hydrant flushing – the activity requires controls to be used at each location flushed to prevent offsite discharge containing pollutants or chemicals that may be harmful. Note the date of flushing on the Site Plan at the appropriate location.	No	Natural Buffer
Waters without detergents to wash vehicles	No	Natural Buffer
Water used to control dust in accordance with Non-Storm Water Discharge Management	Yes	Natural Buffer
Potable water including uncontaminated water line flushing	No	Natural Buffer
Pavement wash waters without detergents (e.g. waters used in sweeping activities) providing spills or leaks of toxic or hazardous materials haven't occurred or removed if an occurrence has happened	No	Natural Buffer
Uncontaminated air conditioning or compressor condensate	No	Natural Buffer
Uncontaminated, non-turbid discharges of ground water or spring water	No	Natural Buffer
Re-vegetation or landscape irrigation	No	Natural Buffer
Foundation and footing drains* *applies only if expected on project	No	Natural Buffer
Construction Dewatering	No	Natural Buffer

*Foundation and footing drains where a filtering media is attached to the drain outlet or used in a temporary storm water quality unit to capture process materials, solvents, detergents or similar materials. **The media must be inspected during each inspection cycle to ensure it is able to perform adequate absorption through the succeeding inspection. The media must be replaced if it is unable to perform adequate absorption through the next inspection.**

Non-Stormwater Discharges (not allowed under this permit) will not occur. However; if it becomes necessary to discharge a substance not covered by this permit, a separate NPDES permit will be obtained.

Section 7.01 Limitations on Non-Stormwater Discharge(s)

The Lessee, Operators and subcontractors acknowledge by their signature that this plan has coverage limitations on Non-Stormwater Discharges. Limitations include:

1. Post-Construction Discharges

    a. Discharges originating from the site after final stabilization has been acknowledged and documented. An example of post-construction discharge is roof drainage channeled to a stabilized pond.

2. Discharges covered by an individual permit or an alternative permit. An example of this type of discharge is imported deposition from a separate project under construction that is upstream from the site covered by this plan.

Discharges determined by EPA to exceed an applicable water quality standard providing EPA has made its designation prior to the authorization of the 2012 CGP. If EPA identifies discharges that exceed an applicable water quality standard coverage may be extended under the 2012 CGP if appropriate controls, implementation procedures and supporting mechanisms have been developed to comply with the new water quality standard.

DIVISION 8) LOCATION MAP(S), SITE PLANS AND DRAWINGS

Section 8.01 PLANS INCORPORATED BY REFERENCE

The following plan(s) or document(s) is/are incorporated into the SWPPP or by reference:

- General Construction Drawings
- Temporary Erosion and Sediment Control Measures and Drawings reviewed/developed by E2RC, LLC
- Specifications per E2RC, LLC including all references:
    - Code of Federal Regulations (CFR)
    - New Mexico Administrative Code (NMAC)
    - American Association of Highway Transportation Officials (AASHTO)
    - American Society of Testing Materials (ASTM)

  i.e. Occupational Safety and Health Administration (OSHA) Emergency Action Plan (29 CFR 1910) Spill Controls and Countermeasures Requirement (40 CFR 112) etc.

The engineered and construction drawing prepared by E2RC, LLC. and reviewed by E2RC, LLC, have provisions for flow channelization, detention, and general drainage layout to bring the storm water net yields to acceptable levels. Please refer to the drawing(s) for further information. The drawing(s) are incorporated by reference and are the permanent construction plans.

Section 8.02 SITE SEDIMENT AND EROSION MANAGEMENT DRAWINGS

FRONT OF BINDER

Posting Board
Stabilized Construction Entrance – if required
Concrete Washouts – if required
Site Specific BMP'S
Stabilization Practices

DIVISION 9) ENDANGERED OR THREATENED SPECIES

Criterion A, per Appendix D of the Permit, is utilized under the application for permitting purposes to support this documentation.

Measures were taken to determine the potential effects of potential storm water runoff and construction related activities on federally listed endangered or threatened species as required by Addendum D of the General Permit. Formal contact, if required by a determination of the USFWS Critical Habitat Mapping Tool – http://criticalhabitat.fws.gov/crithab/, was made with:

Ecological Services Field Office
US Fish and Wildlife
2105 Osuna NE
Albuquerque, NM 87113

Supporting Documentation

The Endangered Species and Cultural Properties Section of the Plan includes the documentation required to support the selected Criterion. The requirements for each applicable eligibility criterion available from the listing in Appendix D are:

For criterion A, indicate the basis for your determination that no federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's action area (as defined in Appendix A of the permit). Check the applicable source of information you relied upon:

_ Specific communication with staff of the U.S. Fish & Wildlife Service or National Marine Fisheries Service. E2RC contacted U.S. Fish & Wildlife Service, New Mexico Ecological Field Services to assist with this determination.

X Publicly available species list. Documentation is found in the Protected Entities Section of this Binder.

X Other source: http://criticalhabitat.fws.gov/crithab/, a copy of the map for the area is included in the Protected Entities Section of this Binder.

For criterion B, provide the Tracking Number from the other operator's notification of permit authorization:

N/A.

If this selection is used a brief summary of the basis used by the other operator for selecting criterion A, B, C, D, E, or F is required to be included. The previous operator made their determination of the by - this criterion was not selected.

For criterion C, provide the following information:

- **Mexican Spotted Owl; 37.49 miles separate the project site and the habitat area identified in the research.**

The basis used for this selection to support the choice that the site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat is: U.S. Fish and Wildlife Service Critical Habitat Portal, IPaC Trust Resource Report.

For criterion D, E, or F, copies of any letters or other communication between E2RC and the U.S. Fish & Wildlife Service or National Marine Fisheries Service concluding consultation or coordination activities will be found in the Protected Entities Section of the Binder.

Criterion not chosen.

For reference purposes, the eligibility criteria listed in Appendix D are:

Criterion A. No federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's "action area" as defined in Appendix A of this permit.

Criterion B. The construction site's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your action area under eligibility Criterion A, C, D, E, or F and there is no reason to believe that federally-listed species or federally-designated critical habitat not considered in the prior certification may be present or located in the "action area". To certify your eligibility under this Criterion, there must be no lapse of NPDES permit coverage in the other operator's certification. By certifying eligibility under this Criterion, you agree to comply with any effluent limitations or conditions upon which the other operator's certification was based. You must include in your NOI the tracking number from the other operator's notification of authorization under this permit. If your certification is based on another operator's certification under Criterion C, you must provide EPA with the relevant supporting information required of existing dischargers in Criterion C in your NOI form.

Criterion C. Federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near your site's "action area," and your site's discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat. This determination may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and discharge-related activities are not likely to adversely affect listed species and critical habitat. To make this certification, you must include the following in your NOI: 1) any federally listed species and/or designated habitat located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles). You must also include a copy of your site map with your NOI.

Criterion D. Coordination between you and the Services has been concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in a written concurrence from the relevant Service(s) that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion E. Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has been concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat. The result of this consultation must be either:

1. a biological opinion that concludes that the action in question (taking into account the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or
2. written concurrence from the applicable Service(s) with a finding that the site's discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated habitat.

You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion F. Your construction activities are authorized through the issuance of a permit under section 10 of the ESA, and this authorization addresses the effects of the site's discharges and discharge-related activities on federally-listed species and federally-designated critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

DIVISION 10) PRESERVATION OF HISTORICAL SITES

It is important for the operators to recall the intent of the NPDES program is to prevent degradation of the Waters of the US. Lessees and Operators are expected to maintain and improve, if possible, the quality of the surface Waters of the US. Additionally, it is important to ensure locations designated as historically valuable are protected and preserved during the construction process.

Appendix E of the Permit lists specific requirements to determine the effect of in ground storm water controls on a historic property. This is a 'screening process' intended to identify if 'ground disturbing storm water controls' will be used. **If the site will not contain any ground disturbing storm water controls then the reader is directed review the listing of sites in McKinley County placed in the Historic Register provided in the Endangered Species and Cultural Properties section.**

The screening process stops at the successful completion of the appropriate step in the procedure.

Step 1

Are any of the following stormwater controls installed at the site?

Yes.

Dike – No
Berm – Yes
Catch Basin – No
Pond – No
Stormwater Conveyance Channel (e.g., ditch, trench, perimeter drain, swale, etc.) – Yes
Culvert – No
Other type of ground-disturbing stormwater control: N/A.

If **none** of the controls shown in the list have been selected the screening process is complete.

Step 2

Have prior surveys or evaluations conducted on the site already determined that historic properties do not exist, or that prior disturbances at the site have precluded the existence of historic properties?

No

- If yes, no further documentation is required.
- If no, proceed to Appendix E, Step 3.

Step 3

Has a determination been made that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? Yes, a determination has been made.

What is the documentation of the basis for your determination? E2RC utilized the New Mexico State Historic Preservation Office web utility. Additional consultation was made with Tamara Billie, Senior Archaeologist. The supporting information from the identified sources is included in the Protected Entities Section of this Binder.

Step 4 of the procedure must be utilized if no determination has been made at this Step of the procedure.

Step 4

Navajo Nation Historic Preservation Office is the name of the controlling office for Historic Preservation used for this determination? The office has not replied to our request within 15 calendar days indicating whether the subsurface earth disturbances caused by the installation of the stormwater controls would affect historic properties?

If no reply was received then no further documentation is required. The procedure has been completed.

If yes, describe the nature of their response:

No written indication that adverse effects to historic properties from the installation of stormwater controls can be mitigated by egreed upon actions has been received.

No agreement has been reached regarding measures to mitigate effects to historic properties from the installation of stormwater controls.

X other supporting information has been used since neither written indication has been provided nor an agreement has been made.

DIVISION 11) SAFE DRINKING WATER ACT REQUIREMENTS

The Safe Drinking Water Act has requirements for **controlling injections of storm water into the ground and groundwater.** The rule requires identification of the controls and documented contact between the Lessee/Operator and the EPA/Responsible State Agency to ensure installation compliance occurs. The process requires identification and selection of the controls that are intended to be used and then contact with the appropriate agency. If none of the controls in the list are designed for use in the project then nothing further is required for compliance.

– **The state contact for Underground Injection Controls is found at:** http://water.epa.gov/type/groundwater/uic/whereyoulive.cfm.

No Underground controls are designed into the project for storm water management.

No - Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

No - Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow

No - Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

A copy of the contact between the appropriate agency and the applicants under this permit is included in the Engineering Section of this Plan if any of the controls are employed on the project.

DIVISION 12) EROSION AND SEDIMENT CONTROLS

Section 12.01 Natural Buffers or Equivalent Sediment Controls

The EPA considers a naturally vegetated 50 foot distance between the site's construction activities and the surface waters as sufficient to filter the potential sediment from the discharge point. The goal for the Lessee and Operator is to have the sediment reduction delivered by the 50 foot natural barrier or design an equivalent barrier with controls to deliver the same sediment reduction. Lessees and Operators are reminded the regulation requires the buffer or the establishment of controls supported by calculations to create an equivalent buffer for ***any section*** of the project that is closer than 50 feet to the surface water.

It is possible the project may have exceptions to the regulation. It is a requirement to provide documentation supporting the exception if an exception is noted.

Section 12.02 Buffer Compliance and Compliance Alternatives

Are there any surface waters within 50 feet of the project's earth disturbances?

No

The compliance alternative for the site is:

X: Surface waters ***are not*** within 50 feet of the project's earth disturbances. Additional engineering beyond the RUSLE calculations are not required. The Site Map indicates the boundary line.

Not Chosen: Surface waters are nearby. The Lessee and Operator will provide and maintain a 50-foot undisturbed natural buffer.

The Site Map will show:

1. The 50-foot boundary line of the natural buffer on the site map and,
2. The method all of the discharges from the construction disturbances through the natural buffer area will first be treated by the site's erosion and sediment controls. Velocity dissipation devices, if used to prevent erosion within the natural buffer area are noted.

Not chosen: Surface waters can be found within 50 feet of earth disturbing activities. The Operator will provide and maintain an undisturbed natural buffer that is less than 50 feet. It is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

The Site Map will show:

1. the boundary line of the natural buffer and,
2. The method all of the discharges from the construction disturbances through the natural buffer area will first be treated by the site's erosion and sediment controls. Velocity dissipation devices, if used to prevent erosion within the natural buffer area are noted.

The reader is directed to the Engineering Section of the Plan to review the data specific to the selection of this Compliance Alternative.

Not chosen: Surface waters can be found within 50 feet of earth disturbing activities. It is infeasible to provide and maintain an undisturbed natural buffer of any size.

The Operator will implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

The reader is directed to the Engineering Section of the Plan to review the data specific to the selection of this Compliance Alternative.

Section 12.03 Buffer Exceptions

The EPA acknowledges exceptions to the buffer requirement may exist. Specific information is necessary to support the selection of an exception to the requirement.

The site **will** qualify for one of the exceptions in Part 2.1.2.1.e of the CGP. An affirmative selection is supported by a condition chosen in the following list.

X: Discharge of the site's stormwater to the surface water that is located 50 feet from my construction disturbances ***does not occur.*** Additional engineering beyond the RUSLE calculations are not required.

Not chosen: A natural buffer does not exist on the site due to preexisting development disturbances. The development disturbances occurred prior to the initiation of planning for this project.

1. Additional engineering beyond the RUSLE calculations are not required.

OR

2. A partial natural buffer exists, but portions of the area within 50 feet of the surface water are occupied by development disturbances that existed prior to the project's commencement. Complying with one of the CGP Part 2.1.2.1.a compliance alternatives is required.

Not chosen: For a "linear project", (e.g., a road, bridge or other project defined by a long, narrow area), site constraints (e.g., limited right-of-way) make it infeasible for me to meet any of the CGP Part 2.1.2.1.a compliance alternatives.

Does not apply.

Not chosen: The project qualifies as "small residential lot" construction (defined in the 2012 CGP, Part 2.1.2.1.e.iv and in Appendix A).

Alternative 1 (Appendix G, Part G.2.3.2.a) is a direct and simple approach to establishing controls to comply with the permit's requirements:

- N/A
- N/A
- N/A

Alternative 2 (Appendix G, Part G.2.3.2.b) is a tailored approach for compliance based on the location of the lot, the surface soil of the lot and the average slope of the lot. The controls utilized for sediment capture are based on the risk assessment previously mentioned.

Alternative 2 will likely deliver enhanced sediment removal and increases the success rate of compliance for the Operator:

- The site is assigned risk level N/A based on N/A
- N/A
- N/A

Not chosen: Buffer disturbances are authorized under a CWA Section 404 permit.

A copy of the 404 Permit specific to the location is included in the Engineering Section of the Plan if this option is selected.

1. If this exception applies, no further documentation is required.
2. This exception only applies to the limits of disturbance authorized under the Section 404 Permit, and does not apply to any upland portion of the construction project.)

Not chosen: Buffer disturbances will occur for the construction of a water-dependent structure or water access area (e.g., pier, boat ramp, and trail). The buffer disturbances in the buffer zone are N/A. No further documentation is required if this option is selected.

Section 12.04 Description of Site Controls and BMP Selections

The use of best management practices designed to prevent storm water from becoming contaminated by the 11.5 acres of disturbed area will be used to the maximum extent practical. Storm water management controls, best management practices (BMP'S), will be implemented to reduce the amount of pollutants in storm water discharged from Tohatchi Sand and Gravel Pit as defined in this SWPPP and the Erosion and Sediment Control Drawing located in the of the plan.

Control or Practice (Source – 100)	Contractor	Implementation Schedule (est.)
Posting Board	E2RC, LLC	See Schedule Note
Sanilet Protection	Fisher Sand and Gravel of New Mexico, Inc.	"
See the Contractor's Schedule for exact dates for all activities. Alternatively, the installation dates for BMP'S may be found on the SWPPP Site Map, in the Inspection Report or Project Log Section.		

POSTING BOARD

OBJECTIVE

- To provide constructive notice of soil disturbance activities.

SITE SELECTION

OBJECTIVE

- To ensure the public has access to soil disturbance information for the project.
- To communicate appropriate information to site personnel.
- To maintain compliance documentation for aspects of the project.

GENERAL SCOPE – POSTING BOARD

The posting board must be large enough to contain information about the project and all notification activities and postings. The posting board must contain all soil disturbance notifications (NOI) and directive to the SWPPP location.

SANILET FACILITIES

OBJECTIVE

- To provide OSHA compliant personal waste facilities for site personnel.
- To ensure proper collection, disposal and prevention of runoff of waste products.

SITE SELECTION

OBJECTIVE

- To allow convenient access for site personnel needs and acceptable access for maintenance equipment.

GENERAL SCOPE – SANILET FACILITES

Sanilet Facilities are provided for OHSA compliance to site personnel. Installing Sanilet Facilities not only prevents pollution but also is a matter of good housekeeping at your construction site.

OPERATION

Inspection

Check all sanilet facilities daily to determine if they have been filled to 50 percent capacity, which is when materials need to be removed. Sanilets should be inspected daily to ensure that plastic structures are intact and have not been damaged by construction activities, vandalism and weather. Inspectors should also note whether the facilities are being used regularly, if containment measures (e.g. compost sock or earth berm) are in place for damage and that cleaning occurs to ensure sanitary and habitable conditions exist.

Material Removal

Sanilets are designed to promote safe and sanitary use. However, if stored liquids have not been removed and the sanilet is nearing capacity, vacuum and dispose of them in an approved manner - check with the local sanitary sewer authority to determine if there are special disposal requirements.

Section 12.05 Perimeter Controls

SEDIMENT BARRIER

OBJECTIVE

- To reduce or prevent site sediment discharge
- To prevent sediment from entering perennial streams.
- To trap and slowly meter sediment release through the system.
- To decrease water velocity and reduce accelerated stream channel down cutting.

SITE SELECTION

- General area where sediment transport barriers can be effective:
  - Locations of highly erodible and sensitive soils.
  - Areas with threats of sedimentation causing problems to downstream quality.

- Specific individual site locations (Indicated on enclosed drawing)
- Below discharge area from site
- Locations where the slope gradient has increased, resulting in increased sediment flow from side slopes.
- Areas that have no natural sediment catch basins, such as small depressions
- Areas with no available native material such as rocks and logs.

(A) Specification For Perimeter Controls

PRODUCTS

Wattles/Socks

Core Material - Woodchips: The Material must be 100% untreated wood chip and free of inorganic debris, such as plastic, glass, metal, etc. Manufacturer shall certify that the material is free of noxious weeds. Woodchip size shall not be smaller than 1 inch and shall not exceed 3 inches in diameter; shavings shall not be more than 5% of the total mass.

Core Material - Composted Mulch: Furnish and place composted mulch as shown on the plans and in accordance with the criteria as described below. Composted mulch provider must be registered with or permitted by the New Mexico Environment Department Solid Waste Bureau and must be in compliance with 20 NMAC 9.1. Composted mulch is defined as the product of a controlled aerobic thermophilic biological decomposition process that meets the quality requirements in Table 632.2.5:1, "Quality Requirements for Composted Mulch." Raw materials used in producing composted mulch may include green waste, animal manure, animal bedding, paper waste, food waste, biosolids or other non-toxic organic matter, but shall not include animal mortalities.

Core Material – Straw: Cylinders of recycled, compressed, 100% agricultural straw, Straw Wattles are wrapped in photodegradable synthetic netting.

Containment Mesh: Furnish a containment mesh that is 100% biodegradable, photodegradable such as burlap, twine, UV photodegradable plastic, polyester, or other acceptable material as directed by the Project Manager. The mesh opening should not exceed ½". Provide biodegradeble or photodegradable containment mesh when the socks will remain in place as part of the permanent or temporary vegetative plan. The containment mesh shall be greater than 9 inches in height after being packed and it shall be densely packed so that the socks do not deform beyond a 'mushroom' shape. The Project Manager will determine the maximum allowable height for containment mesh if it is not defined in the project specifications.

APPLICABILITY

Mulch socks are applicable to construction sites or other disturbed areas where stormwater runoff occurs as sheet flow. Common industry practice for compost mulch devices is that drainage areas do not exceed 0.25 acre per 100 feet of device length and flow does not exceed one cubic foot per second (see Siting and Design Considerations). Mulch socks can be used on steeper slopes with faster flows if they are spaced more closely, stacked beside and/or on top of each other, made in larger diameters, or used in combination with other stormwater BMPs such as compost blankets.

Design: Mulch socks are round to oval – mushroom shaped - in cross section; they are assembled by tying a knot in one end of the mesh sock, filling the sock with the core material, then knotting the other end once the desired length is reached. A mulch sock the length of the

slope is normally used to ensure that stormwater does not break through at the intersection of socks placed end-to-end. In cases where this is not possible, the socks are placed end-to-end along a slope and the ends are overlapped. The diameter of the mulch sock used will vary depending upon the grade and length of the slope. The minimum diameter of the containment sock is 9" regardless of the core materials.

Location and Placement: Although mulch socks are usually placed along a contour perpendicular to sheet flow, in areas of concentrated flow they are sometimes placed in an inverted V going up the slope, to reduce the velocity of water running down the slope. The project engineer may also consider placing compost mulch socks at the top and base of the slope or placing a series of mulch socks every 15 to 25 feet along the vertical profile of the slope. These slope interruption devices slow down sheet flow on a slope or in a watershed. Larger diameter mulch socks are recommended for areas prone to high rainfall or sites with severe grades or long slopes. Coarser compost products are generally used in regions subject to high rainfall and runoff conditions.

EXECUTION

Mulch socks are generally placed along the perimeter of a site, or at intervals along a slope, to capture and treat stormwater that runs off as sheet flow. Mulch socks are flexible and can be filled in place or filled and moved into position, making them especially useful on steep or rocky slopes where installation of other erosion control tools is not feasible. There is greater surface area contact with soil than typical sediment control devices, thereby reducing the potential for runoff to create rills under the device and/or create channels carrying unmulched sediment.

Additionally, they can be laid adjacent to each other, perpendicular to stormwater flow, to reduce flow velocity and soil erosion. Mulch socks can also be used on pavement as inlet protection for storm drains and to slow water flow in small ditches. Mulch socks used for erosion control are usually 9 inches in diameter, although 12 inch, 18 inch, and 24 inch diameter socks are used in some applications. The smaller, 9 inch diameter mulch socks are commonly used as stormwater inlet protection and as temporary containment for spoil piles and stockpiled backfill materials onsite.

No trenching is required; therefore, soil is not disturbed upon installation. Trenching reduces the effectiveness of the sock by:

- Decreasing the exposed height of the sock preventing its ability to intercept flow and capture sediment from storms greater than 0.25".
- Increasing the velocity at the interface between the BMP and the ground. Soil dislodges with increased velocity and localized failures in intimate contact between the BMP and ground occur from trenching socks.
- Creating disturbed soil at the location designed to prevent discharge to waters of the US thus INCREASING BMP failure and fine potential from the failed BMP.

Once the mulch sock is filled and put in place, it should be anchored to the slope. The preferred anchoring method is to drive stakes through the center of the sock at regular intervals; alternatively, stakes can be placed on the downstream side of the sock. The ends of the mulch

sock should be directed upslope, to prevent stormwater from running around the end of the sock. The mulch sock may be vegetated by incorporating seed into the compost prior to placement in the mulch sock or seed may be broadcast onto the sock by mechanical methods. Compost mulch socks do not have to be trenched into the ground; they can be installed on frozen ground or even cement.

LOCATION PREPARATION

A. Proper site preparation is essential to ensure complete contact of the sediment retention device ((compost) mulch sock) with the soil.

B. The slope should be prepared to receive the surface mulching/re-vegetation treatment prior to installation of the Erosion Control and Sediment Retention (compost) mulch socks.

C. Remove all rocks, clods, vegetation or other obstructions so that the installed (compost) mulch socks will have direct contact with the soil.

SIMPLE INSTALLATION

A. Install the (compost) mulch socks in the trench, insuring that no gaps exist between the soil and the bottom of the (compost) mulch sock. The ends of adjacent (compost) mulch socks should be tightly abutted so that no opening exists for water or sediment to pass through. Alternately; (compost) mulch socks may be lapped in a shingled fashion, 6" minimum, to prevent sediment passing through the field joint.

B. Wooden stakes should be used to fasten the (compost) mulch socks to the soil. When conditions warrant; a straight metal bar can be used to drive a "pilot hole" through the (compost) mulch sock and into the soil.

C. Wooden stakes should be placed 6" from the (compost) mulch sock end angled towards the adjacent (compost) mulch sock and spaced at 6 foot centers with at least 2" of stake exposed above the (compost) mulch sock. Alternately, stakes may be placed on each side of the (compost) mulch sock tying across with a natural fiber twine or staking in a crossing manner ensuring direct soil contact at all times. (See staking details).

D. Terminal ends of (compost) mulch socks may be 'dog-legged' up slope to ensure containment and prevent channeling of sedimentation.

E. Backfill the upslope length of the (compost) mulch sock with the excavated soil and compact.

F. Care shall be taken during installation so as to avoid damage occurring to the (compost) mulch sock as a result of the installation process. Should the (compost) mulch sock be damaged during installation, a stake shall be placed either side of the damaged area terminating the log segment treating the damaged area as an end noted in 'A'.

G. Field monitoring shall be performed to verify that the placement does not damage the (compost) mulch sock.

H. Any (compost) mulch sock damaged during placement shall be replaced as directed by the Engineer, at the contractor's expense.

COMPOSITE INSTALLATION WITH EROSION CONTROL BLANKETS

A. Trench and prepare slope per blanket manufacturer's recommendations.

B. Prepare (compost) mulch sock installation trench at intermediate slope location (see entrenchment detail).

C. Install blankets using manufacturer's recommended anchoring procedure.

D. Anchor blanket in prepared (compost) mulch sock anchor trench.

E. After blanket installation is complete, install (compost) mulch socks as recommended in the Simple Installation section nearby.

COMPOSITE INSTALLATION WITH TRACKWALKING

A. Track-walk slope in accordance with Resident Engineer's instruction and/or plan specifications producing track indentations parallel to the horizon up the surface of the slope.

B. After track-walking procedure is complete, install (compost) mulch socks as recommended in Simple Installation section.

C. Care shall be taken to minimize damage to track-walked area.

COMPOSITE INSTALLATION WITH HYDROSEEDING

A. Install (compost) mulch socks as described in the Simple Installation section.

B. Hydroseed per manufacturer's recommendations after (compost) mulch sock installation is complete.

INSPECTION AND MAINTENANCE

A. The (compost) mulch socks shall be inspected after installation to insure that they are trenched-in and that no gaps exist under the (compost) mulch socks or between adjacent ends of the (compost) mulch socks.

B. (compost) mulch socks shall be inspected after significant rainfall events. Rills or gullies upslope of the (compost) mulch sock and any undercutting will be repaired.

C. Sediment deposits that impair the filtration capability of the (compost) mulch sock shall be removed when the sediment reaches one half (1/2) of the (compost) mulch sock's functional freeboard height. Removed sediment shall be deposited within the project in such a way that the sediment is not subject to erosion by wind or water, or as directed by the Engineer.

D. Installed (compost) mulch socks shall be removed and/or replaced as required to adapt to changing conditions.

(COMPOST) MULCH SOCKS IN A TEMPORARY EROSION CONTROL APPLICATION

A. When no longer required for the intended purpose, as determined by the Engineer, temporary (compost) mulch socks shall be removed from the site. As an option, the (compost) mulch socks may be sliced down the length of the netting, and the core material may be used on slopes or other areas, as designated by the Engineer. The netting shall be gathered and disposed of in regular means as it is non-hazardous, inert material.

B. Trenches, depressions or any other ground disturbances caused by the removal of the temporary (compost) mulch socks shall be backfilled and repaired with the excess sediment captured by the (compost) mulch sock prior to spreading the straw or other final erosion control protection.

(COMPOST) MULCH SOCKS IN A PERMENANT EROSION CONTROL APPLICATION

Leave (compost) mulch socks as installed to photo degrade or biodegrade over time as native and applied vegetation ultimately stabilize the repaired site.

CONSTRUCTION ENTRANCE – OFFSITE TRACKING

OBJECTIVE

- To minimize the amount of sediment leaving the area as mud and sediment attached to vehicles.
- To stabilize a construction entrance.
- To reduce the amount of rutting caused by vehicle tires.

Stabilized construction entrances allow dirt to be removed from tire treads and collected as trucks leave construction sites

SITE SELECTION

OBJECTIVE

- To ensure the site egress is stabilized for construction traffic.
- To prevent site sediment tracking onto an existing paved road.
- To improve both the appearance and the public perception of the construction project.

GENERAL SCOPE – CONSTRUCTION ENTRANCES

The EPA suggests this directive as a minimum performance guideline. "At a minimum, you must provide for maintenance that meets the following requirement in CGP Part 2.1.2.3.d: Where sediment has been tracked-out from your site onto the surface of off-site streets, other paved areas, and sidewalks, you must remove the deposited sediment by the end of the same work day in which the track-out occurs or by the end of the next work day if track-out occurs on a non-work day. You must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water."

An effective approach to Track Out Management is the Operator's recognition that the site access point is a place of concentrated, loose sediment. The Entrance can utilize several types of controls to capture sediment and prevent its movement offsite. Specifically, rumble mats and round stone approximately 4" in diameter have proven themselves as effective dry approaches. Wash stations are effective wet solutions although the expense and maintenance of this method is significantly greater than a dry method.

INSTALLATION – CONSTRUCTION ENTRANCES

Stabilize all entrances to a site before construction and further site disturbance begin. Make sure the stabilized site entrances are long and wide enough to allow the largest construction vehicle that will enter the site to fit through with room to spare. If many vehicles are expected to use an entrance in any one day, make the site entrance wide enough for two vehicles to pass at the same time with room on either side of each vehicle. If a site entrance leads to a paved road, make the end of the entrance flared so that long vehicles do not leave the stabilized area when they turn onto or off the paved roadway. If a construction site entrance crosses a stream, swale, or other depression, provide a bridge or culvert to prevent erosion from unprotected banks. Make sure stone and gravel used to stabilize the construction site entrance are large enough so that they are not carried offsite by vehicles. Avoid sharp-edged stone to reduce the possibility of puncturing tires. Install stone or gravel at a depth of at least 6 inches for the entire length and width of the stabilized construction entrance.

REFERENCES

Corish, K. 1995. *Clearing and Grading Strategies for Urban Watersheds*. Metropolitan Washington Council of Governments, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 1992. *Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices*. EPA 832-R-92-005. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 1993. *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. EPA 840-B-92-002. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

STOCKPILED SEDIMENT PRODUCERS

General

Stockpiles of soil, portland cement concrete (PCC), asphalt concrete (AC)/hot mix asphalt cement (HMAC), and rubble are potential storm water pollutants if not properly managed.

General Requirements

Eliminate the stockpile whenever possible. Elimination of stockpiles is the surest control measure available to prevent discharge of sediment. The following are requirements that apply to all stockpiles regardless of season or material if elimination is not possible:

- Locate stockpiles away from drainage courses, drain inlets or concentrated flows of stormwater.
- For wind erosion control, apply water or other dust palliative to stockpiles.
- Smaller stockpiles may be covered as an alternative.
- Place bagged materials on pallets under cover.

Soil Stockpiles

Dust control measures can be used to prevent dust from being transported by wind (Source: Dust Pro, Inc., no date)

Soil stockpiles will be contained within temporary perimeter sediment barriers, such as wattles, dikes, silt fences. The description of the structural practice employed is included in the Perimeter Control section of this document. The design, installation and maintenance requirements are included in the description. A soil stabilization measure may be used in lieu of a perimeter control when active use of the stockpile ceases for short periods. Year-round, active soil stockpiles are to be protected with temporary linear sediment barriers prior to the onset of rain.

Paving Material/Waste Stockpiles

Stockpiles of PCC, AC/HMAC, aggregate base course, aggregate subgrade materials, or rubble are to be managed as follows:

- Either cover non-active stockpiles or protect them with temporary perimeter sediment barriers prior to rain.
- Year-round, protect active stockpiles with temporary linear sediment barriers prior to the onset of rain.

Asphalt Stockpiles

During the non-rainy season, place non-active stockpiles of asphalt on plastic or a comparable material and cover the stockpile prior to the onset of rain. During the rainy season, place asphalt stockpiles on plastic and cover at all times. Year-round, active asphalt stockpiles are to be placed on plastic and covered prior to rain.

Inspection and Maintenance

Inspect stockpiles as part of the routine storm water inspection. Require the contractor to repair or replace perimeter controls and covers to ensure proper function.

References

California Construction Storm Water Pollution Prevention Bulletin, February 2002.

MINIMIZATION OF DUST

A truck applies chemical stabilizers to reduce soil erosion where vegetation can not be planted (Source: Terra Firma Industries, 1999)

Description

Dust control BMPs reduce surface activities and air movement that causes dust to be generated from disturbed soil surfaces. Construction sites can generate large areas of soil disturbance and

open space for wind to pick up dust particles. Limited research at construction sites has established an average dust emission rate of 1.2 tons/acre/month for active construction (WA Dept. of Ecology, 1992).

Airborne particles pose a dual threat to the environment and human health. First, dust can be carried offsite, thereby increasing soil loss from the construction area and increasing the likelihood of sedimentation and water pollution. Second, blowing dust particles can contribute to respiratory health problems and create an inhospitable working environment.

Applicability

Dust control measures are applicable to any construction site where there is the potential for air and water pollution from dust traveling across the landscape or through the air. Dust control measures are especially important in arid or semiarid regions, where soil can become extremely dry and vulnerable to transport by high winds.

Implement dust control measures on all construction sites where there will be major soil disturbances or heavy equipment construction activity such as clearing, excavation, demolition, or excessive vehicle traffic. Earthmoving activities are the major source of dust from construction sites, but traffic and general disturbances can also be major contributors (WA Dept. of Ecology, 1992). The dust control measures that are implemented at a site will depend on the topography and land cover of the site and its soil characteristics and expected rainfall.

Siting and Design Considerations

When designing a dust control plan for a site, the amount of soil exposed will dictate the quantity of dust generation and transport. Therefore, construction sequencing and disturbing only small areas at a time can greatly reduce problematic dust from a site. If land must be disturbed, consider using temporary stabilization measures *before* disturbance. A number of methods can be used to control dust from a site but not all will be applicable to a site.

Determining which practices accommodate their needs according to specific site and weather conditions. The following lists some control measures and design criteria:

- Sprinkling/Irrigation. Sprinkling the ground surface with water until it is moist is an effective dust control method for haul roads and other traffic routes (Smolen et al., 1988). This practice can be applied to almost any site.
- Vegetative Cover. In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetative cover provides coverage to surface soils and slows wind velocity at the ground surface, thus reducing the potential for dust to become airborne.
- Mulch. Mulching can be a quick and effective means of dust control for a recently disturbed area (Smolen et al., 1988).
- Wind Breaks. Wind breaks are barriers (either natural or constructed) that reduce wind velocity through a site and, therefore, reduce the possibility of suspended particles. Wind breaks can be trees or shrubs left in place during site clearing or constructed

barriers such as a wind fence, snow fence, tarp curtain, hay bale, crate wall, or sediment wall (USEPA, 1992).

- Tillage. Deep tillage in large open areas brings soil clods to the surface where they rest on top of dust, preventing it from becoming airborne.
- Stone. Stone can be an effective dust deterrent for construction roads and entrances or as a mulch in areas where vegetation cannot be established.
- **Spray-on Chemical Soil Treatments (palliatives).** Chemical palliatives should be used only on mineral soils. When considering chemical application to suppress dust, determine whether the chemical is biodegradable or water-soluble and what effect its application could have on the surrounding environment, including waterbodies and wildlife. Examples of palliatives include:
  - Guar
  - M-Binder
  - Resin

Limitations

Applying water to exposed soils can be time intensive, and if done to excess, could result in excess runoff from the site or vehicles tracking mud onto public roads. Use chemical applications sparingly and only on mineral soils (not muck soils) because their misuse can create additional surface water pollution from runoff or contaminate ground water. Chemical applications might also present a health risk if excessive amounts are used.

Maintenance Considerations

Because dust controls are dependent on specific site and weather conditions, inspection and maintenance requirements are unique for each site. Generally, however, dust control measures involving application of either water or chemicals require more monitoring than structural or vegetative controls to remain effective. If structural controls are used, inspect them regularly for deterioration to ensure that they are still achieving their intended purpose.

Effectiveness

- Spray-on Chemical Soil Treatments (palliatives). Effectiveness of polymer stabilization methods range from 70 percent to 90 percent, according to limited research.
- Mulch. Can reduce wind erosion by up to 80 percent.
- Wind Breaks/Barriers. For each foot of vertical height, an 8- to 10-foot deposition zone develops on the leeward side of the barrier. The permeability of the barrier will change its effectiveness at capturing windborne sediment.
- Tillage. Roughening the soil can reduce soil losses by approximately 80 percent in some situations.

- Stone. The size of the stones can affect the amount of erosion to take place. In areas of high wind, small stones are not as effective as 20 cm stones.

References

Smolen, M.D., D.W. Miller, L.C. Wyatt, J. Lichthardt, and A.L. Lanier. 1988. Erosion and Sediment Control Planning and Design Manual. North Carolina Sedimentation Control Commission; North Carolina Department of Environment, Health, and Natural Resources; and Division of Land Resources, Land Quality Section, Raleigh, NC.

USEPA (U.S. Environmental Protection Agency). 1992. Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices. EPA 832-R-92-005. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 1992. Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices. EPA 832-R-92-006. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

Washington State Department of Ecology. 1992. Stormwater Management Manual for the Puget Sound Basin. Washington State Department of Ecology, Olympia, WA.

MINIMIZE THE DISTURBANCE OF STEEP SLOPES

The project **does not have** steep slope areas. This section will not apply if the project does not have a steep slope.

Steep slopes have many definitions. Generally, slopes that are steeper than 2.5:1 are slopes that meet the requirements of the 2012 CGP. The methods of compliance are linked with the phase of construction.

(B) Temporary Construction

Products

Use a palliative as described in the Minimization of Dust section for steep slopes when they are encountered in this phase.

Installation

The palliative will be applied by hydraulic methods. The application may be executed with a spray truck (hydroseeder). The data sheets for the products used are included in the Product Data Section of this document.

Maintenance Requirements

The palliative must be inspected after each rain event (0.25") and reapplied if there is evidence of sediment subsidence at the toe of the slope.

(C) Permanent Construction

Permanent methods for stabilization will be employed where steep slopes exist at the end of construction. The installation and maintenance of these controls will be listed in the project contract documents.

Topsoil

This project **does not have** extensive paving, concrete or other impervious structures.

Topsoil, if the project is not highly impervious, will be stockpiled in an area of the project where it can be preserved by sediment barriers at the base of the pile combined with the mitigation measures described in the Minimization of Dust section in nearby sections of the document. Alternatively, the topsoil pile can be covered with geotextile or other impenetrable barrier to preserve the material in the pile.

Maintenance Requirements for the topsoil pile will follow those listed in the Stockpile discussion included in the document.

Soil Compaction

General

Soil compaction should be minimized in areas where vegetation is the final stabilization method or where infiltration practices (e.g. porous pavement) are employed. It may seem obvious that vehicle and equipment use should be minimized in these areas.

Where vegetation or engineered infiltration practices are the stabilization methods and compaction has occurred it is necessary to condition the area to accept the practice. The determination of compaction is a site specific activity. The area to be vegetated should be marked to prevent traffic and to notify site employees to avoid the area until the vegetation activities have taken place.

If the conditioning method is not listed in the documents the specification for installation of vegetative means or infiltrations practices will be provided by the provider. The specifications are included in the Product Data section of this document if available.

STORM DRAIN INLETS

GENERAL SCOPE – DROP INLET

Drop Inlet Protection devices are structures designed to reduce flow and capture sediment from runoff entering the structure. Drop Inlets are most effective when used in combination with pavement sweeping programs and maintenance activities focused on ensuring sediment removal at the structure.

PRODUCTS

MATERIALS

Conventional Drop Inlet Protection consists of wire-backed silt fence (see specification herein) covering the inlet opening for sediment capture held in place with 1" – 2" round, washed stone for velocity reduction of flow. An alternative for stone covering is a wattle placed across the opening of the inlet or around its perimeter held in place with bags containing washed stone. The rock-filled bags must act as a complete barrier around the entire perimeter of the grated area to interrupt flow and allow sediment to be deposited. A final alternative is a natural fiber product cut to fit the opening and attached with a 'zip tie' mechanism.

EXECUTION

PREPARATION

A. The curb and gutter approaches to the inlet must be clean of sediment.

B. Remove all rocks, trash, sediment, and vegetation along the curb and around the inlet structure.

C. Ensure the grate and frame is in place.

D. Ensure the inlet opening is free from obstruction.

INSTALLATION

A. Ensure the curb and opening area has been prepared as described in the Preparation section.

B. Cover the grate opening with wire-backed silt fence extending beyond the frame:

   a. If gravel is used, 2' into the roadway area

   b. If a wattle and rock filled bags are used, the bags should be placed outside of the grate frame around its entire perimeter with wire backed silt fence extending to the outer edge of the bag.

C. If a manufactured product is used it should be installed according to manufacturer's recommendations AND complying with the project specifications. The project specifications will control unless revised by project management.

D. The inlet opening should be covered:

   a. If gravel is used; wire backed silt fence must cover the entire opening and extend over the inlet top 6" fully covered by gravel.

   b. If a wattle and rock filled bags are used; the wattle will cover the inlet opening and will be held in place by at least one rock filled bag on each side of the opening.

   c. Manufactured products should cover the opening as prescribed by the product recommendations.

INSPECTION AND MAINTENANCE

A. Inspect the inlet during each inspection cycle, after each rainfall event and each maintenance activity to ensure the structure is able to perform according to the specifications.

B. If gravel is used and it is filled with sediment to 33% of the height of the opening or pile:

   a. The stone must be removed and washed to eliminate the captured sediment.

   b. Replace the stone with washed, sediment free material.

C. If a wattle and rock filled bags are used and the sediment is 50% of the height of the bag:

   a. The bags must be removed from around the structure and inspected for damage.

   b. Damaged bags must be replaced with new material.

   c. Bags that are not damaged should be cleaned to free captured sediment from the surface and re-set around the structure.

   d. The bags must be reset around the structure to ensure compliance with the specification and deliver designed performance.

   e. The wattle should be inspected and cleaned if sediment has accumulated on its surface. The wattle can be re-used if the netting or fabric has minor damage.

   f. Minor damage to netting is a cut or tear 4 strands or less 'in a row'.

   g. Minor damage to fabric is a cut or tear 2" or less.

   h. Wattles having more damage than described as minor damage should be discarded and replaced.

D. The wire backed silt fence should be cleaned from collected sediment. If the material is damaged – punctured/torn – then it should be replaced.

Material damage will be the decision of the Project Engineer. Replacement of damaged materials is considered incidental to the project.

DIVISION 13) CONSTRUCTED STORMWATER CONVEYANCES

GENERAL

Well developed engineering design practice is demonstrated when conveyance channels are incorporated into a project. It is equally important to include velocity dissipation measures to ensure:

- The velocity gradient in the channel is moderated
- The geometry of the channel is maintained
- Pollutants are controlled and,
- Sediment is capture and retained onsite.

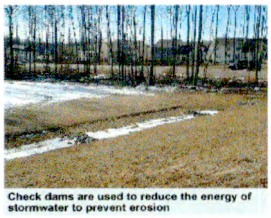
Control methods must address prevention of channel deterioration to ensure the channel does not contribute to sedimentation and pollution of waters of the US.

Section 13.01 Channel Controls

CHECK DAMS

OBJECTIVE

- Check Dams slow the velocity of concentrated water flows



Check dams are used to reduce the energy of stormwater to prevent erosion

SITE SELECTION

- Swales or channels where it is impractical to implement other flow-control practices (such as lining the channel) (USEPA, 1993).
- Small channels with a contributing drainage area of two to 10 acres. Multiple check dams, spaced at appropriate intervals, can be effective.
- Dams used in a series should be spaced so that the base of the upstream dam is at the same elevation as the top of the next downstream dam (VDCR, 1995).

DESIGN

Check dams are relatively small, temporary structures constructed across a swale or channel. As stormwater runoff flows through the structure, the check dam catches sediment from the channel itself or from the contributing drainage area. However, check dams should not be used as a substitute for other sediment-trapping and erosion-control measures. Check dams are typically constructed out of silt fence (NMDOT Type I), gravel or rock (NMDOT Type II), or wattles. They are most effective when used with other stormwater, erosion, and sediment-control measures.

EXECUTION

When using rock, the material diameter should be two to 15-inches. Silt Fence should be at least 24" in exposed height from trenching.

A check dam should not be more than three-feet high, and the center of the dam should be at least six-inches lower than its edges. This design creates a weir effect that helps to channel flows away from the banks and prevent further erosion. Dams can be made more steble by implanting the material approximately six-inches into the sides and bottom of the channel (VDCR, 1995). When installing a series of check dams in a channel, install outlet stabilization measures below the finet dam in the series. Because this area is likely to be vulnerable to further erosion, the use of other stabilization measures like riprap or reinforced turf reinforcement blankets are recommended.

MAINTENANCE CONSIDERATIONS

- Inspect check dams after each storm event to ensure their structural integrity. The center of a check dam should always be lower than its edges.
  - Additional stone may have to be added to maintain the correct height.
- During inspection, remove large debris, trash, and leaves.
- When the sediment has reached a height of approximately one-half the original height of the dam (measured at the center), remove accumulated sediment from the upstream side of the dam.
- When check dams are removed, care must be taken to remove all dam materials to ensure proper flow within the channel.

- If erosion or heavy flows cause the edges of a dam to fall to a height equal to or below the height of the center, repair it immediately.
- Before removing a check dam, remove all accumulated sediment.
- Remove a check dam only after the contributing drainage area has been completely stabilized.

STABILIZATION

- Use permanent vegetation to stabilize the area from which the dam material is removed.

REFERENCES

Brown and Schueler, 1997. The Economics of Stormwater BMPs in the Mid-Atlantic Region. Prepared for the Chesapeake Research Consortium. Edgewater, MD by the Center for Watershed protection, Ellicott City, MD.

USEPA (U.S. Environmental Protection Agency). 1992. Stormwater Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices. EPA 832-R-92-005. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (U.S. Environmental Protection Agency). 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. EPA 840-B-92-002. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

VDCR (Virginia Department of Conservation and Recreation). 1995. Virginia Erosion & Sediment Control Field Manual. 2nd ed. Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation, Richmond, VA.

Washington State Department of Ecology. 2005. 2005 Stormwater Management Manual for Western Washington: Volume II – Construction Stormwater Pollution Prevention Stormwater Management Manual for the Puget Sound Basin. Technical Manual. Washington State Department of Ecology, Olympia, WA.

SEDIMENT BASINS

Sediment Basins or Traps will not be installed as a control in the project.

DRAINAGE SWALES, SEDIMENT TRAPS OR TEMPORARY SEDIMENT BASINS

OBJECTIVE

- To capture runoff and sediment on a larger scale than small BMP'S (wattles or silt fence) are sized to handle for large storms or drainage areas
- To provide an area to capture sediment while permitting controlled return of surface water in dewatering situations
- To provide collection points for sediment at the perimeter of site discharge locations meeting the requirements of ELG regulations.

Sediment traps are used to collect sediment-laden runoff from disturbed areas on construction sites

SITE SELECTION

Sediment traps are commonly used at:

- channels
- slope drains
- construction site entrance wash racks
- dewatering locations
- or any other runoff the outlets of stormwater diversion structures
- conveyance that discharges waters containing sediment and debris.

GENERAL SCOPE – SEDIMENT TRAP OR BASIN

Sediment traps are small impoundments that allow sediment to settle out of construction runoff. They are usually installed in a drainage way or other point of discharge from a disturbed area. Temporary diversions can be used to direct runoff to the sediment trap (USEPA, 1993). Sediment traps detain sediments in stormwater runoff to protect receiving streams, lakes, drainage systems, and the surrounding area. The traps are formed by excavating an area or by placing an earthen embankment across a low area or drainage swale. An outlet or spillway is often constructed using large stones or aggregate to slow the release of runoff (USEPA, 1992).

Do not use sediment traps for drainage areas greater than 5 acres (USEPA, 1993). The effective life span of these structures is usually limited to 24 months (Smolen et al., 1988). Although sediment traps allow eroded soils to settle, their detention periods are too short for removing fine particles like silts and clays.

Siting and Design Considerations

Sediment traps can simplify stormwater management on a construction site by trapping small amounts of sediment at multiple spots (USEPA, 1992). Note the natural drainage patterns, and place

the traps in areas with the highest erosion potential. Design alternative diversion pathways to accommodate potential overflows.

Design a sediment trap to maximize the surface area for infiltration and sediment settling. This increases the effectiveness of the trap and decreases the likelihood of backup during and after periods of high runoff intensity. Site conditions dictate specific design criteria. The volume of a natural sediment trap can be approximated using the following equation (Smolen et al., 1988):

Volume (cf) = 0.4 x surface area (sf) x maximum pool depth (ft). The calculated volume must ensure it will accommodate the runoff from the 2-year, 24-hour storm event or 3,600 cf/AC drained as minimum requirements. Design details will be found in the supporting notes of the Site Drawings or the RUSLE, Engineering and Soil Data Section of the document.

INSTALLATION

Proper location allows for periodic inspection and maintenance.

When excavating an area for a sediment trap, make sure the side slopes are no steeper than 2:1 and the embankment height no more than 5 feet from the original ground surface.

Ensure stability of side walls, mounds and barriers by Machine-compacting all embankments. If the trap is created above grade it should be lined with well-graded stone to reduce flow rate from the trap the outlet.

The spillway weir for each temporary sediment trap should be at least 4 feet long for a 1-acre drainage area and increase by 2 feet for each additional drainage acre added, up to a maximum drainage area of 5 acres.

OPERATION

Inspection

Inspect the sediment trap after each rainfall event to ensure that the trap is draining properly. Remove sediments when the basin reaches about 50 percent sediment capacity. Check the structure for damage from erosion by reviewing the depth of the spillway and maintain it at a minimum of 1.5 feet below the low point of the trap embankment.

Take care to situate sediment traps for easy access by maintenance crews.

Maintenance Considerations

The primary maintenance consideration for temporary sediment traps is removing accumulated sediment. Do this periodically to ensure that the trap continues to operate effectively. Recompaction of side walls, mounds and barriers should be performed after extended periods of water retention to ensure the each remains competent and able to accept future flows.

References

Smolen, M.D., D.W. Miller, L.C. Wyatt, J. Lichthardt, and A.L. Lanier. 1988. Erosion and Sediment Control Planning and Design Manual. North Carolina Sedimentation Control Commission; North Carolina Department of Environment, Health, and Natural Resources; and Division of Land Resources, Land Quality Section, Raleigh, NC.

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USEPA (U.S. Environmental Protection Agency). 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. EPA 840-B-92-002. U.S. Environmental Protection Agency, Office of Water, Washington, DC.

DIVISION 14) CHEMICAL TREATMENT

Chemical treatment is not employed as a BMP on this project.

DIVISION 15) DEWATERING PRACTICES

Dewatering is not required on the project.

DIVISION 16) SITE STABILIZATION

The Site is located in an arid, semi-arid or drought stricken area.

Section 16.01 Stabilization – Initiating Timeframe

'You must initiate soil stabilization measures immediately whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site.'

The CGP provides clarification and definition to assist Lessees and Operators with determining whether the area has work that is permanently or temporarily ceased:

Earth-disturbing activities have permanently ceased when clearing and excavation within any area of your construction site that will not include permanent structures has been completed.

Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future. The 14 calendar day timeframe above begins counting as soon as you know that construction work on a portion of your site will be temporarily ceased. In circumstances where you experience unplanned or unanticipated delays in construction due to circumstances beyond your control (e.g., sudden work stoppage due to unanticipated problems associated with construction labor, funding, or other issues related to the ability to work on the site; weather conditions rendering the site unsuitable for the continuation of construction work) and you do not know at first how long the work stoppage will continue, your requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for 14 or more additional calendar days. At that point, you must comply with Parts 2.2.1.1 and 2.2.1.2.

Section 16.02 Stabilization –Stoppage *Exceeding 14 Consecutive Days*

If work ceases for a continuous 14 day period, but will resume in the future, the site's disturbed areas will be stabilized with a means shown in the list nearby. Locations where construction has implemented permanent stabilization or construction has not begun will not be included in the disturbed area calculation for the quantity of tackifier required to complete stabilization. Locations where permanent stabilization practices and controls have been implemented will conform to the design specifications for each or the Stabilization Practices – Post Construction listed herein.

The 2012 CGP (p18) provides the following as a guide:

1. prepping the soil for vegetative or non-vegetative stabilization;
2. applying mulch or other non-vegetative product to the exposed area (e.g. temporary soil stabilizer);
3. seeding or planting the exposed area;
4. starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and

5. finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization in Parts 2.2.1.2 and 2.2.1.3.

This list of examples is not exhaustive.

Note: The term "immediately" is used to define the deadline for initiating stabilization measures. In the context of this provision, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

Site Stabilization Practice for Temporarily Ceased Activities

Stabilization Practice (ESC13)	Vegetative or Non-Vegetative	Implementation Schedule (est.)	Convert to Permanent?
Sprayed Water	Non-Vegetative	See Contractor's Site Schedule	No

Description of the Stabilization Mechanism and Maintenance protocol for Non-Vegetative Controls is founded in the Best Management Practices section of this document. The description of the Stabilization Mechanism and Maintenance protocol for Vegetative Practices is found in the Site Stabilization for Permanent Stabilization Practices section.

Section 16.03 Permanent Stabilization – Post Construction

The removal of vegetation (area of soil disturbance) is that area which will be designated for excavation, grading, concrete, paving, vertical construction or landscaping for this project and must be addressed in the design of the entire project.

Stabilization is more than establishing of vegetation. Site stabilization is coverage of the disturbed area with a constructed element (e.g. a building or stabilized channel) or a natural element (e.g. seeding or planted vegetation). It is important for the reviewer to acknowledge sites include both constructed and natural elements that can deliver stabilization equivalent to the 'pre-construction condition'. A representative site evaluation will recognize an appropriately stabilized area prevents the transport of sediment off the site. Prevention of sediment transport is attainable though constructed elements as well as natural elements. The site around which this plan is developed incorporating the contract documents for constructed elements, permanent erosion control or other stabilization means.

If the contract documents do not detail permanent stabilization practices then permanent stabilization will follow the methods listed in this SWPPP.

It is the intent of the Lessee, Operator and Contractors to provide and comply with permitted coverage requirements until 70% of the natural vegetated state (prior to disturbance) is achieved.

Projects in New Mexico, except those in Indian Country, are required to meet additional regulations noted in Section 9.4.1.3 of the 2012 CGP.

The criteria for final stabilization in Part 2.2.2.1a is a "uniform vegetation (e.g., evenly distributed without large bare areas), which provides 70 percent or more of the density of coverage that was provided by vegetation prior to commencing earth-disturbing activities." The adjustment to allow for less than 100 % native vegetative cover (e.g., 50 % native vegetative cover x 70% = 35 %) is acceptable.

Many Operators or Lessees considering filing an NOT for sites without confirming the 70 percent threshold has been met are required to perform these additional activities:

'Permittees can only use the criteria for final stabilization in Part 2.2.2.1b ("The area you have seeded or planted must within 3 years provide established vegetation that covers 70 percent or more of the density of vegetation prior to commencing earth-disturbing activities; and in addition to seeding or planting the area to be vegetatively stabilized, to the extent necessary to Construction General Permit (CGP) prevent erosion on the seeded or planted area, you must select, design, and install non-vegetative erosion controls that provide cover for at least 3 years without active maintenance by you") as a method for final vegetative stabilization for purposes of filing a Notice of Termination (NOT) under the following conditions:

If this option is selected, you must notify NMED at the address listed in Part 9.4.1.5 at the time the NOT is submitted to EPA. The information to be submitted includes:

- A copy of the NOT;
- Contact information, including individual name or title, address, and phone number for the party responsible for implementing the final stabilization measures; and
- The date that the permanent vegetative stabilization practice was implemented and the projected timeframe that the 70 % native vegetative cover requirements are expected to be met. (Note that if more than three years is required to establish 70 percent of the natural vegetative cover, this technique cannot be used or cited for fulfillment of the final stabilization requirement – you remain responsible for establishment of final stabilization).

NMED also requires that operators periodically (minimum once/year) inspect and properly maintain the area until the criteria for final stabilization, as specified in Part 2.2 of the CGP, have been met. Operators must prepare an inspection report documenting the findings of these inspections and signed in accordance with Appendix I, Part I.11. This inspection record must be retained along with the SWPPP for three years after the NOT is submitted for the site and additionally submitted to NMED at the address listed in Part 9.4.1.5. The inspections at a minimum must include the following:

- Observations of all areas of the site disturbed by construction activity;
- Best Management Practices (BMPs)/post-construction storm water controls must be observed to ensure they are effective;
- An assessment of the status of vegetative re-establishment; and
- Corrective actions required to ensure vegetative success within three years, and control of pollutants in stormwater runoff from the site, including implementation dates.

9.4.1.5 Copies of all documents submitted to EPA in non-electronic format must be sent to the following address:

Program Manager
Point Source Regulation Section
Surface Water Quality Bureau
New Mexico Environment Department
P.O. Box 5469
Santa Fe, New Mexico 87502'

Compliance with '9.4.1.4' will be achieved by

a. hydromulch mixed with a site specific seed mix applied according to manufacturer's recommendations AND supported by a watering schedule to confirm germination occurs or,

b. A degradable rolled erosion product with 100% coconut elements bound by degradable netting on each side of the blanket. Fully synthetic mats (TRM) may be substituted for the degradable product. The product will be installed according to the manufacturer's recommendations.

A sample specification and installation guide is included in the RUSLE Analysis and Soil Report section of the plan.

Site Stabilization Practice for Permanently Ceased Activities

Native Vegetation	Vegetative	See Contractor's Site Schedule	No

DIVISION 17) POTENTIAL SOURCES OF POLLUTION

Every site has sources of pollution. Obvious sources of pollution include paving operations, stucco, painting, trash and others. Activities that are pollution sources, naturally, have identifiable pollutants and types of pollutants requiring control.

Proper stormwater management includes listing of the activities, pollutants and locations on the site where special attention must be paid to ensure compliance. The nearby list shows the elements of Potential Pollutions Sources specific to the site at the time the plan was generated.

Equipment Activity	Oils, grease and other distillates	Entire Site
Material Stockpiling and Handling	Sediment	Staging Area
Excavation	Sediment	Borrow Pit

DIVISION 18) SPILL PREVENTION AND RESPONSE

The discharge or spill of hazardous substances is not expected to occur due to or during construction activities. The project and its activities are not expected to use any substance in a manner or quantity that might require the reporting of a release in excess of reportable quantities. Substances and reportable values include:

Engine Oil, fuel, hydraulic and brake fluids	Land	25 Gallons
Engine Oil, fuel, hydraulic and brake fluids	Water	Visible Sheen
Antifreeze, battery acid, gasoline, engine degreasers, radiator fluid	Air, Land or Water	100 lbs or 13 Gallons
Paints, solvents and thinners	Land	100 lbs or 13 Gallons
Freon	Air	1 lb

When an incident (spill of hazardous material in excess of reportable quantities) occurs within the project during construction activities, the following measures will be employed:

Stop the source of the spill	Immediate	Project Manager
Contain the spill utilizing (compost) mulch socks or soil berms	Immediate	Project Manager
Clean up the spill	Once Spill is Contained	Project Manager
Dispose of material contaminated by the spill in an approved disposal site	Within 24 Hours	Project Manager
Notify both the National Response Center (1-866-428-6535) and the New Mexico Environment's Hazardous and Radioactive Materials Bureau (1-505-827-4300) providing a release of hazardous materials in excess of reportable quantities has occurred.	Within 24 Hours	Project Manager
Submit a description of the incident to the appropriate authorities (SWQB)	14 Calendar Days	Project Manager
Modify SWPPP, if appropriate, and identify prevention measures.	14 Calendar Days	E2RC, LLC.

Sanitation: providing temporary facilities (such as portable restrooms) to ensure that the site sanitation requirements comply with federal, stats and local regulations.

This site does not require a Spill Prevention Control and countermeasure (SPCC) plan. If a plan is required it will be found in a separate binder at the construction site office.

DIVISION 19) FUELING AND MAINTENANCE

Purpose: To minimize or eliminate the discharge of fuel spills and other pollutants into the storm water management system on construction sites.

Application:

- All construction sites where storage and maintenance of heavy equipment and vehicles occurs on-site.
- Fueling areas on all construction sites.

Limitations:

- Fuel vehicles on-site only when off-site fueling is impractical.
- Comply with local codes regarding fluid disposal and on-site equipment maintenance.

Standards and Specifications:

- Spill cleanup kits should be available in fueling areas and on fueling trucks. Proper disposal is required.
- A drip pan or absorbent pad should be used unless fueling or maintenance activities occur over an impervious surface.
- When a vehicle is located over a water body (dock, barge) and is planned to be idle for more than one hour, a drip pan or sheet should be placed under the vehicle.
- Fueling areas should be:
  - Located at least 100 feet from waterways, channels and storm drains.
  - Protected from run-on or runoff.
  - Located on a level-graded area.
  - Attended at all times during fueling.
  - Fueling equipment should be equipped with an automatic shut-off nozzle to contain drips.
  - Fuel tanks should not be "topped-off".
  - Avoid mobile fueling.
  - Observe federal, state, and local requirements relating to any stationary aboveground storage tanks. Double containment mechanisms should be employed whenever possible.
  - Do not dump fuels and lubricants onto the ground.
  - Do not bury used tires.
  - Do not dispose of oil in a dumpster or pour it down the storm drain.

- Properly dispose of used batteries.
- Conduct washing, fueling, and major maintenance off-site whenever possible.
- Inspect vehicles for leaky hoses, gaskets, or other problems.
- Locate vehicle services areas away from waterways, storm drains, gutters, and curbs.
- Use berms, sand bags, or other barriers to contain areas.
- Do not use detergents, solvents, degreasers, or other chemical products to do on-site cleaning.
- Use a drip pan or drip cloth if fluids will be drained and replaced on-site.
- Collect all used fluids, store in separate labeled containers, and either recycle or dispose of properly.

Inspection and Maintenance:

- Inspect on all containment structures.
- Maintain waste fluid containers in a leak proof condition.
- Service sumps associated with wash areas regularly.
- Inspect daily for leaks on vehicles and equipment.
- Keep an ample supply of spill cleanup materials available on-site.
- Clean up spills immediately and dispose of waste properly.
- Prevent boil-overs by regularly cleaning equipment radiators.

References: General Site Management. City of Elko, NV, 2005.

DIVISION 20) WASHING OF EQUIPMENT AND VEHICLES

Purpose: To minimize or eliminate the discharge of pollutants entering the storm drain system from vehicle and equipment cleaning operations on construction sites.

Application:

All construction sites where vehicle cleaning occurs.

Limitations:

Wash water discharges may need to be pretreated before release into the sanitary sewer.

Standards and Specifications:

- On-site vehicle and equipment washing is discouraged.
- Do not clean vehicles and equipment with detergent, solvents or steam on the project site.
- Contain wash water away from storm drain inlets or waterways for evaporative drying or percolation.
- Off-site cleanings are encouraged for all vehicles and equipment that regularly enter and leave the construction site.
- Conduct washing, fueling, and major maintenance off-site whenever possible.
- In the event that on-site, outside cleaning must occur:
  - Locate cleaning area away from storm drain inlets, drainage facilities, or waterways.
  - Perform the washing in a paved area with concrete or asphalt utilizing a berm to contain wash waters and prevent run-on or runoff.
  - Install a sump to collect wash water.
  - Do not discharge wash waters to storm drains or waterways.
  - Use only when necessary.
- When cleaning vehicles with water:
  - Consider using a high-pressure sprayer or a positive shut-off valve to reduce water usage.

Inspection and Maintenance:

- Minimum once per week inspection of the control measure.
- Monitor employees and subcontractors to ensure that proper practices are being implemented.

- Regular inspection and maintenance of the sump. Remove sediments and liquids as needed.

References: General Site Management. City of Elko, NV, 2005.

Building Products are found on the site per CGP Part 2.3.3.3.a. Section 22.0 Construction and Domestic Waste describes the practices utilized for this area.

Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials are not found on the site per CGP Part 2.3.3.3.b. Section 20.0 Diesel Fuel, Oil, Hydraulic Fluids, Other Petroleum Products and Other Chemicals and Section 21.0 Hazardous and Toxic Waste describes the practices utilized for this area.

DIVISION 21) FUELS, OILS, HYDRAULIC FLUIDS, OTHER PETROLEUM PRODUCTS AND CHEMICALS

Purpose: To minimize or eliminate the discharge of hazardous or non-hazardous materials to storm drains, watercourses, or drainage channels.

Application:

- All construction sites that have delivery and storage of:
  - Fuel, oil, grease
  - Herbicides, pesticides, fertilizers
  - Asphalt, concrete and their components
  - Acids, curing and form compounds
  - Other hazardous materials

Limitations:

- All temporary storage buildings must meet building codes.
- Storage must meet fire codes.
- All secondary containment structures and materials should be removed from the site upon completion of the project and disposed of according to regulations.

Standards and Specifications:

- Designate a storage area that is not near a storm drain or watercourse.
- Follow manufacturers' instructions on application, storage and disposal of materials.
- Store on-site only the amount of material necessary for the job.
- Use non-hazardous and environmentally friendly products.
- Provide indoor storage or cover stockpiled materials and wastes with a tarp.
- Provide covered storage for secondary containment of hazardous materials.
- Use secondary storage to prevent soil contamination.
- Monitor employees and subcontractors to ensure that proper practices are being implemented.
- Keep all material in original containers.
- Label all stored materials according to state, local and federal regulations.
- Do not store incompatible materials together.
- Keep adequate supply of cleanup materials on site at all times.
- Report all spills.
- Do not apply hazardous chemicals during wet or windy conditions.

Inspection and Maintenance:

- Inspect storage areas weekly to ensure neatness.
- Post proper storage instructions and Material Safety Data Sheets (MSDS) for all currently stored materials.
- Repair and replace damaged secondary containment facilities.
- Remove all empty containers and packaging from site.
- Store materials with adequate clearances for access and emergency response.

References: General Site Management. City of Elko, NV, 2005.

DIVISION 22) HAZARDOUS OR TOXIC WASTE

Purpose: To minimize or eliminate the discharge of hazardous wastes from construction sites to storm drains, gutters, watercourses and drainage channels.

Application:

- Petroleum products
- Asphalt products
- Concrete products
- Herbicides and pesticides
- Acids for cleaning masonry
- Soil stabilization chemicals
- Septic wastes
- Paints, solvents, stains and wood preservatives
- Materials that were used to treat or adsorb other wastes
- Hazardous construction wastes such as lead, asbestos, or lead paint

Limitations:

- Does not address preexisting contamination or site assessments.
- Large spills or other serious hazardous wastes require immediate response from specialists.
- Contractor is required to follow all federal, state and local laws regarding handling, storing, and transporting waste materials.

Standards and Specifications:

- Waste containers shall be constructed of a suitable material and properly labeled according to regulations. Labels must include type of material, time of collection and site location.
- Temporary containment for stored materials should be sized at 1.5 times the volume of the stored material. Materials must be stored in sealed drums.
- Temporary containment areas shall be free of accumulated storm water and spills.
- Temporary containment areas shall have room between containers for emergency response and cleanup.
- Incompatible materials shall be stored separately.
- Do not store different materials in the same container.

- Do not locate temporary containment areas near storm drains, gutters, watercourses or drainage channels.
- Provide adequate access to temporary containment areas.
- Store containers on pallets under a covered, protected area unless containers are watertight.
- Do not dispose of liquid waste in dumpsters or other solid waste containers.
- Collect water from decontamination procedures, treat it and dispose of it at an appropriate disposal site.
- Educate employees and subcontractors in waste storage and disposal. Ensure that proper procedures are followed.
- Immediately repair all dikes and liners used for storage or containment.
- Recycle materials if appropriate.

Inspection and Maintenance:

- Ensure that all wastes are properly labeled and stored.
- Verify that all hazardous wastes are disposed of properly.
- Hazardous wastes must be collected, labeled and disposed of at authorized disposal sites.
- Keep supplies on-site for cleanup of spills.
- Post MSDS sheets for all materials stored on-site.
- Immediately repair all dikes and liners used for storage or containment.

References: General Site Management. City of Elko, NV, 2005.

DIVISION 23) CONSTRUCTION AND DOMESTIC WASTE

Description

Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for stormwater runoff to mobilize construction site wastes and contaminate surface or ground water.

Applicability

The proper management and disposal of wastes should be practiced at every construction site to reduce stormwater runoff. Use waste management practices to properly locate refuse piles, to cover materials that might be displaced by rainfall or stormwater runoff, and to prevent spills and leaks from hazardous materials that were improperly stored.

Siting and Design Considerations

Solid Wastes:

- Designate a waste collection area on the site that does not receive a substantial amount of runoff from upland areas and does not drain directly to a waterbody.
- Ensure that containers have lids so they can be covered before periods of rain, and keep containers in a covered area whenever possible.
- Schedule waste collection to prevent the containers from overfilling.
- Clean up spills immediately. For hazardous materials, follow cleanup instructions on the package. Use an absorbent material such as sawdust or kitty litter to contain the spill.
- During the demolition phase of construction, provide extra containers and schedule more frequent pickups.
- Collect, remove, and dispose of all construction site wastes at authorized disposal areas. Contact a local environmental agency to identify these disposal sites.

To ensure the proper disposal of contaminated soils that have been exposed to and still contain hazardous substances, consult with state or local solid waste regulatory agencies or private firms. Some landfills might accept contaminated soils, but they require laboratory tests first.

Paint and dirt are often removed from surfaces by sandblasting. Sandblasting grits are the byproducts of this procedure and consist of the sand used and the paint and dirt particles that are removed from the surface. These materials are considered hazardous if they are removed from older structures because they are more likely to contain lead-, cadmium-, or chrome-based paints. Ensure proper disposal of sandblasting grits by contracting with a licensed waste management or transport and disposal firm.

Detergents:

Phosphorous and nitrogen containing detergents are used in wash water for cleaning vehicles. Excesses of these nutrients can be a major source of water pollution. Use detergents only as recommended, and limit their use on the site. Do not dump wash water containing detergents into the storm drain system; direct it to a sanitary sewer or contain it so that it can be treated at a wastewater treatment plant.

Limitations

An effective waste management system requires training and signage to promote awareness of the hazards of improper storage, handling, and disposal of wastes. The only way to be sure that waste management practices are being followed is to be aware of worker habits and to inspect storage areas regularly. Extra management time may be required to ensure that all workers are following the proper procedures.

Maintenance Considerations

Inspect storage and use areas and identify containers or equipment that could malfunction and cause leaks or spills. Check equipment and containers for leaks, corrosion, support or foundation failure, or other signs of deterioration, and test them for soundness. Immediately repair or replace any that are found to be defective.

Reference

USEPA Web listing of BMPS

DIVISION 24) SANITARY WASTE

Purpose: To minimize or eliminate the discharge of sanitary wastes from construction sites to storm drains, gutters, watercourses and drainage channels.

Application:

Applies to construction sites that have portable or temporary sanitary waste systems.

Limitations:

- To dispose of wastes to the sanitary sewer, the leasing company must be permitted.
- On-site disposal systems must comply with all local, and state regulations.
- Temporary connections to the sanitary sewer should meet codes and regulations.

Standards and Specifications:

- Locate toilets and disposal systems where accidental discharge cannot flow to storm drains, gutters, watercourses and drainage channels.
- Anchor portable toilets so they do not overturn during high winds.
- All sanitary wastes shall eventually be discharged to a sanitary sewer.
- Employ licensed sanitary services to ensure facilities are in working order at all times.

Inspection and Maintenance:

- Monitor employees and subcontractors to ensure that proper practices are being implemented.
- Sanitary storage and disposal should be inspected at least once per week. Units should be properly maintained, repaired, or replaced.

References: General Site Management. City of Elko, NV, 2005.

DIVISION 25) CLEANING PAINT APPLICATORS, CONTAINERS, CONCRETE OR OTHER MATERIALS

The EPA has produced a comprehensive discussion of washout management. A consolidated discussion regarding washout management is listed in this section.

CONCRETE WASHOUT (Incorporated only if contractor is unable to washout offsite)

OBJECTIVE

- To contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery.
- To consolidate solids for easier disposal and prevent runoff of liquids.

SITE SELECTION

OBJECTIVE

- To allow convenient access for concrete trucks, preferably near the area where the concrete is being poured.

GENERAL SCOPE – CONCRETE WASHOUT

Concrete washouts are used to contain concrete and liquids when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after delivery. The washout facilities consolidate solids for easier disposal and prevent runoff of liquids. The wash water is alkaline and contains high levels of chromium, which can leach into the ground and contaminate groundwater. It can also migrate to a storm drain, which can increase the pH of area waters and harm aquatic life. Solids that are improperly disposed of can clog storm drain pipes and cause flooding. Installing concrete washout facilities not only prevents pollution but also is a matter of good housekeeping at your construction site.

REFERENCES

California Stormwater Quality Association (CASQA). 2003. *Stormwater Best Management Practice Handbook: Construction*. May 8, 2006.

OPERATION

Inspection

Check all concrete washout facilities daily to determine if they have been filled to 75 percent capacity, which is when materials need to be removed. Washouts should be inspected daily to ensure that plastic linings are intact and sidewalls have not been damaged by construction activities. Inspectors should also note whether the facilities are being used regularly; if drivers have washed out their chutes or hoppers in other locations, place additional washouts in more convenient locations.

Material Removal

Concrete washouts are designed to promote evaporation where feasible. However, if stored liquids have not evaporated and the washout is nearing capacity, vacuum and dispose of them in an approved manner - check with the local sanitary sewer authority to determine if there are special disposal requirements for concrete wash water.

- Remove liquids or cover the structures before predicted rainstorms to prevent overflows.
- Remove hardened solids whole or break them up depending on available equipment for removal and local regulations.
- Upon material removal; build a new structure or, if the previous structure is still intact, inspect the structure for signs of weakening or damage and make any necessary repairs.

Each time concrete removal is performed; line the structure with new plastic that is free of holes or tears and replace signage if necessary.

DIVISION 26) FERTILIZERS

Fertilizer is not planned for use on the project.

DIVISION 27) OTHER POLLUTION PREVENTION PRACTICES

Unique activities requiring pollution prevention practices do not exist on this project.

DIVISION 28) INSPECTION AND CORRECTIVE ACTION

Section 28.01 Inspection Personnel and Procedures

Successful SWPPP compliance includes regular control inspection, preventive maintenance, and SWPPP plan review. These inspections will help to uncover conditions that might lead to a release of discharges and non-compliance violations. Planned maintenance should prevent discharges and violations. Revisions to the plan ensure it is viable and effective for the life of the project. The following activities and supporting procedures will be included in the preventive maintenance program:

Section 28.02 General Site Awareness

The Operator shall continuously (during scheduled and unscheduled specific site visits) monitor the implemented erosion and sediment control measures during site specific (and project) construction activities to ensure the effectiveness and operation condition of the measures. If changes or repairs are needed to improve the effectiveness and operation of a sediment control measure they will be implemented as soon as practicable and in no case greater than seven (7) days after the discovery of the needed corrective action.

Section 28.03 Specific Compliance Inspection

The Operator or his designee' (qualified personnel) will inspect disturbed areas and structures for erosion and sediment control effectiveness and for the potential of pollutants entering the drainage system. All erosion and sediment control measures not including final stabilization will be inspected and observed to ensure proper operation. Discharge locations will be inspected to assure effectiveness. Inspections will document effectiveness of measures and potential impacts to receiving waters.

All erosion and sediment control structures, measure and practice locations, and site vehicle access (enter and exit) points will be inspected either weekly – removing the rain event requirement - or every fourteen (14) days and within 24 hours after a storm water event of 0.25 inches or greater. Inspectors will review all BMP'S installed onsite and listed in the current plan.

Inspectors will document BMP performance and recommend corrective measures be implemented ONLY for listed BMP'S requiring maintenance or in a failed condition. BMP'S exhibiting acceptable performance (BMP'S that do not require maintenance or are not in a failed (upset) condition) will not be specifically listed in the inspection report and will be considered compliant with the CGP and specific SWPPP documents. Inspectors will document sediment accumulation and if necessary recommend that corrective measures be implemented immediately. Also, if emergency repairs and measures are needed after a significant rainfall (greater than 0.25 inches), such measures and repairs will be performed and completed immediately, and before the next significant rainfall event (if weather, supplies/materials and site conditions will permit).

Final stabilized areas and sites will be inspected every fourteen days per the NPDES requirements effective with the project start date until the "NOT" is submitted. Inspectors will ensure control measures are maintained in good operating condition. The inspector will sign the inspection report and must comply with the signatory requirements set forth in the General Construction Permit (GCP). All NPDES documents associated with this project will be kept for three years after the date on the Notice of Termination ("NOT").

Section 28.04 Rain Gauge Location

A rain gauge is located on the posting board for the project.

Section 28.05 Personnel Responsible for Inspections

Inspector Name	Certification	Company
Fidel Villalobos	ACNM	E2RC
Kenya Chavez	CISEC	E2RC
Marco Garcia	ACNM	E2RC
Gabriel Holguin	CISEC	E2RC
Kelley Fetter	P.E., CPSWQ, CISEC	E2RC
Sydney Fetter	ACNM	E2RC
Cassandra Durkin	ACNM	E2RC
Derek Gallegos	ACNM	E2RC

The certification information for the E2RC personnel is found in the Authorization and Inspector Qualification section of the plan.

Note: All personnel conducting inspections must be considered a "qualified person." CGP Part 4.1.1 clarifies that a "qualified person" is a person knowledgeable in the principles and practices of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

E2RC encourages inspectors to be certified by AGC, Envirocert International or CISEC. Each of these providers has developed an instruction platform supported by an examination to ensure the inspector is able to perform inspections according to the listed requirements.

Section 28.06 INSPECTION SCHEDULE

(A) Specific Inspection Frequency

Inspection will occur on a fourteen day basis. Rain events at 0.25" will be inspected as they occur. Inspections will occur only during the project's normal working hours as described in Part 4.1.2.2 of the CGP. **If the site discharges to sediment or nutrient-impaired water or a 'Tier Designated' water the inspection frequency must occur according to a protocol (Part 4.1.3 of the CGP):**

- **Once every 7 calendar days**
- **Within 24 hours of the occurrence of a storm event measuring 0.25" or greater**

(B) Reductions in Inspection Frequency

A reduction in the inspection frequency is available only after a portion or phase of the project has been stabilized. The reduction in inspections from the format noted in the Specific Inspection Frequency will be made through an addendum to the plan.

Section 28.07 Inspection Report Forms

A copy of the inspection form is included in the Completed Inspection section of the plan.

DIVISION 29) CORRECTIVE ACTION

Corrective actions for the site BMPS are noted on each inspection report. The corrective actions should be initiated 'immediately'. Immediately is defined by EPA as a requirement of operators to initiate all reasonable steps to minimize or prevent the discharge of pollutants until a permenent solution is installed and made operational. This includes cleaning up any contaminated surfaces to prevent discharges from subsequent events.

The EPA has specific directions for operators with respect to corrective actions:

'For any of the following conditions on your site, you must install a new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery. If it is infeasible to complete the installation or repair within 7 calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7 calendar day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as practicable after the 7-day timeframe.

5.2.1.1 A required storm water control was never installed, was installed incorrectly, or not in accordance with the requirements in Parts 2 and/or 3; or

5.2.1.2 You become aware that the storm water controls you have installed and are maintaining are not effective enough for the discharge to meet applicable water quality standards or applicable requirements in Part 3.1. In this case, you must notify your EPA Regional Office by the end of the next work day. You are required to submit your notification through EPA's electronic NOI system, or "eNOI", at www.epa.gov/npdes/cgpenoi; or

5.2.1.3 One of the prohibited discharges in Part 2.3.1 is occurring or has occurred.'

Section 29.01 Required Corrective Action Log

Completing a corrective action report/log is required by EPA. **A log is included in the Site Housekeeping section of this plan.** The operator or Lessee will utilize the Inspection Report to identify the areas where corrective actions are required. The Inspection Report will list the condition of the site, nature of the condition identified for correction and the date and time of the identification.

Corrections must occur within 24 hours of an item listed in 5.2.1. A report must be completed within 7 days after discovery of a triggering event as shown in 5.2.1, detailing:

5.4.2.1 Any follow-up actions taken to review the design, installation, and maintenence of stormwater controls, including the dates such actions occurred;

5.4.2.2 A summary of stormwater control modifications taken or to be taken, including a schedule of activities necessary to implement changes, and the date the modifications are completed or expected to be completed; and

5.4.2.3 Notice of whether SWPPP modifications are required as a result of the condition identified or corrective action.

The personnel on site are required to sign the corrective action log once the correction has occurred.

Section 29.02 Personnel Responsible for Corrective Actions

Dave Olson is the person responsible for coordinating corrective action activities.

DIVISION 30) DELEGATION OF AUTHORITY

The EPA accepted delegation of authority letter(s) is included in the **Authorizations and Inspection Qualifications** section of the plan.

DIVISION 31) TRAINING

Employee training is a major component in ensuring the success of the project's SWPPP. The more knowledgeable all employees are about the project's SWPPP and what is expected of them, the greater the potential that the plan is successful.

The succeeding section from the CGP 2012 Final Fact Sheet is included for clarity in the requirement and application of the rule regarding training:

'Part 6 of the 2012 CGP describes the training requirements for all members of the stormwater team ***prior*** to the commencement of earth-disturbing or pollutant-generating activities to ensure that they understand the permit requirements and their specific responsibilities with respect to those requirements. The requirements to conduct training prior to commencing earth-disturbing or pollutant-generating activities do not apply to emergency-related construction activities that are eligible for permit coverage under Part 1.2; however for such activities, training must be conducted prior to NOI submission.

Part 6 requires the following members of the stormwater team to receive training:

- Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention measures);
- Personnel responsible for the application and storage of treatment chemicals (if applicable);
- Personnel who are responsible for conducting inspections as required in Part 4.1.1; and
- Personnel who are responsible for taking corrective actions as required in Part 5.

Part 6 specifies that the content and extent of training must be tailored to match the stormwater team member's duties and responsibilities related to the permit's requirements. At a minimum, personnel must be trained to understand the following if related to the scope of their job duties:

- The location of all stormwater controls on the site required by this permit, and how they are to be maintained;
- The proper procedures to follow with respect to the permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions.

Purpose: The purpose of the staff training requirements in Part 6 is to ensure that each member of the stormwater team understands the requirements of the permit and his or her particular responsibilities relating to complying with those requirements.'

The permit requires training to have occurred '**prior to the commencement of earth-disturbing activities or pollutant-generating activities**, whichever occurs first, you must ensure that the personnel understand the requirements of this permit and their specific responsibilities...' The permit requires training of new employees who begin working activities on the project after it has started and as their responsibilities relate to the CGP.

The permit DOES NOT require a training protocol other than that quoted from the 2012 CGP or the CGP 2012 Final Fact Sheet in the aforementioned. Additional training activities required by Lessees or agencies may exceed the requirements of the rule.

All employees should review the '**BMP Field Training and Use Guide**' included in the BMP Section of the SWPPP and sign to confirm their familiarity with the requirements of this project.

Training can be provided by E2RC, AGC, (Associated General Contractors) ACNM, (Associated Contractors of New Mexico) IECA, (International Erosion Control of America) or Envirocert International.

STORM WATER POLLUTION PREVENTION PLAN

I verify, under penalty of law, this document and all attachments were prepared at the request of the operator(s) under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The Stormwater Pollution Prevention Plan prepared by:

E2RC, LLC

Sealed: _____ **Date:** _____

Kelley V. Fetter, P.E., CPSWQ
E2RC, LLC
439 S. Hill Road
Bernalillo, NM 87004
505-867-4040

By my signature, E2RC, LLC is delegated and authorized to originate and develop this Storm Water Pollution Protection Plan (SWPPP) for Tohatchi Sand and Gravel Pit to meet the National Pollution Discharge Elimination System (NPDES) compliance requirements.

SITE OPERATOR – EXECUTION OF DAILY ACTIVITIES (e.g. Contractors)

Fisher Sand & Gravel of New Mexico, Inc.

Site Operator: _____ **Date:** _____

By: Dave Olson, Vice President of Operations

SITE OPERATOR – PLAN CONTROL AND DIRECTION (e.g. Agencies, Engineers, Lessees)

Fisher Sand and Gravel of New Mexico, Inc.

Lessee: _____ **Date:** _____

By: Dave Olson, Vice President of Operations

Disclaimer

The decisions of operational control and implementation of BMP'S by the Operator(s) of the project, Tohatchi Sand and Gravel Pit and components of the construction are the responsibility of the listed operators. E2RC, LLC and the Engineer are not liable for the operational decisions of the Operator(s) or the failure of the same to follow the recommendations outlined in the SWPPP documentation. The operator(s) agree to hold E2RC, LLC or the Engineer harmless for any potential violations the Operator(s) may receive for violations from regulatory agencies such as federal governments, city governments, the State or EPA. E2RC, LLC offers to answer inquiries on the preparation and recommendations made therein including the defense of such recommendations or preparations to any regulatory agencies.

By accepting this SWPPP, the operator(s) accept the disclaimer and its conditions

REVISIONS TO THE STORM WATER POLLUTION PREVENTION PLAN		
Date	Description of Revision	Authorized Signature

Delegation of Authority

I, **Dave Olson**, hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the **Tohatchi Sand and Gravel Pit** construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

E2RC Site Inspector, Operations Manager or Engineer
E2RC, LLC
439 S. Hill Road
Bernalillo, NM 87004
505-867-4040

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA's Construction General Permit (CGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Dave Olson

Fisher Sand & Gravel of New Mexico, Inc.

Vice President of Operations

Signature: _____

September 9, 2015

Delegation of Authority

I, **Dave Olson**, hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the **Tohatchi Sand and Gravel Pit** construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA's Construction General Permit (CGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Dave Olson

Fisher Sand & Gravel of New Mexico, Inc.

Vice President of Operations

Signature: _____

September 9, 2015

Storm Water Pollution Prevention Plan
Qualification List

Tohatchi Sand and Gravel Pit

Tohatchi, NM

the Project

Name	Certificate Number	Expiration Date
Kelley V. Fetter, P.E.	CPSWQ 0682 NM PE 13450	March 2, 2016 December 31, 2016
Kenya Chavez	CISEC 0664	June 30, 2017
Fidel Villalobos	ACNM-TTCP No: 228078	June 18, 2019
Gabriel Holguin	CISEC 1495	January 24, 2017
Marco Garcia	ACNM-TTCP No: 229850	June 19, 2018
Sydney Fetter	ACNM-TTCP No: 228149	June 5, 2019
Cassandra Durkin	ACNM-TTCP No: 230510	July 23, 2019
Derek Gallegos	ACNM-TTCP No: 230509	July 23, 2019

State of New Mexico
The New Mexico Board of Licensure for
Professional Engineers & Professional Surveyors
2550 Cerrillos Rd., Santa Fe, NM 87505

This is to certify that

Kelley Vincent Fetter License No. 13450

Having given evidence of the necessary qualification, as required by Sections 61-23 [illegible] NMSA (1978),
has been duly licensed and is hereby authorized to practice in the State of New Mexico as a

Professional Engineer

Issue Date: 02/12/1997 Expiration Date: 12/31/2016

THIS CERTIFICATE IS FOR DISPLAY PURPOSES ONLY.

ENVIROCERT

Kelley Fetter

CPSWQ

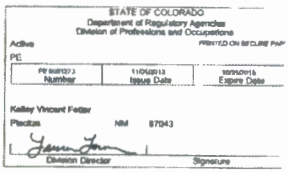
Certified Professional in Storm Water Quality

682 3/2/2016

STATE OF NEW MEXICO

EMIC LLC

3/31/2016



STATE OF COLORADO
Department of Regulatory Agencies
Division of Professions and Occupations

Active

PE

Number	Issue Date	Expire Date
[illegible]	11/04/2013	10/31/2015

Kelley Vincent Fetter

Placitas NM 87043

Division Director Signature

CISEC, Inc.
Board of Directors

certifies that

Kelley V. Fetter

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 10th day of June 2011

CISEC, Inc. President

CISEC, Inc. Board of Director

0721
Certification Number

CISEC, Inc.

Board of Directors

certifies that

Kenya Chavez

has demonstrated satisfactory evidence of sediment and erosion control inspections skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 8th Day of April 2013

CISEC, Inc. President | *CISEC, Inc. Board of Director*

0664

Certification Number

CISEC, Inc.

Board of Directors

certifies that

Gabriel Holguin

has demonstrated satisfactory evidence of sediment and erosion control inspection skills and successfully passed the certification examination and therefore, as required by CISEC, Inc., is authorized to use the title of

Certified Inspector of Sediment and Erosion Control

Given this 6th day of June, 2014

CISEC, Inc. President

CISEC, Inc. Board of Director

1495

Certification Number

CISEC, Inc.
Board of Directors
certifies that

Konya Chavez

Certified Inspector of Sediment and Erosion Control

Certificate of Completion

This certificate acknowledges that

Sydney Fetter

Has satisfactorily completed training in

STORM WATER QUALIFIED PERSON

Date: June 5, 2015
Expiration Date: June 5, 2019
Hours of Instruction: 8

Training & Safety Director

Executive Director

ACNM - TTCP No.: 228149

An Equal Employment Opportunity Program

CISEC, Inc.
Board of Directors
certifies that
Gabriel Holguin

Certified Inspector of Sediment and Erosion Control

1496

Certificate of Completion

This certificate acknowledges that

Marco Garcia

Has satisfactorily completed training in

STORM WATER QUALIFIED PERSON

Date: June 19, 2014
Expiration Date: June 19, 2018
Hours of Instruction: 8

Training & Safety Director

Executive Director

ACNM - TTCP No.: 229850

An Equal Employment Opportunity Program

Certificate of Completion

This certificate acknowledges that

Fidel Villalobos

Has satisfactorily completed training in

STORM WATER QUALIFIED PERSON

Date: June 18, 2015
Expiration Date: June 18, 2019
Hours of Instruction: 8

Training & Safety Director

Executive Director

ACNM - TTCP No.: 228078

An Equal Employment Opportunity Program

Certificate of Completion

This certificate acknowledges that

Cassandra Durkin

Has satisfactorily completed training in

STORM WATER QUALIFIED PERSON

Class Date: July 23,2015
Expiration Date: July 23,2019
Hours of Instruction: 8

Training & Safety Director

Executive Director

ACNM - TTCP No.: 230510

An Equal Employment Opportunity Program

Certificate of Completion

This certificate acknowledges that

Ray Torres

Has satisfactorily completed training in

STORM WATER QUALIFIED PERSON

Date: April 16, 2015
Expiration Date: April 16, 2019
Hours of Instruction: 8

Training & Safety Director

Executive Director

ACNM - TTCP No.: 230353

An Equal Employment Opportunity Program

Certificate of Completion

This certificate acknowledges that

Derek Gallegos

Has satisfactorily completed training in

STORM WATER QUALIFIED PERSON

Class Date: July 23,2015
Expiration Date: July 23,2019
Hours of Instruction: 8

ACNM - TTCP No. 230509

Training & Safety Director

Executive Director

An Equal Employment Opportunity Program

NOI & Additional Operators

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

September 9, 2015

Tohatchi Sand And Gravel Pit

Operator(s):

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

E2RC Site Inspector, Operations Manager or Engineer
E2RC, LLC
439 S. Hill Road
Bernalillo, NM 87004
505-867-4040

Type of construction service to be provided:

Stormwater Pollution Prevention Plan, BMP Installation, Maintenance and Inspections.

Signature:

Title: President

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

September 9, 2015

Tohatchi Sand and Gravel Pit

Operator(s):

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company:

Address:

Telephone Number:

Type of construction service to be provided:

Signature:

Title:

Date:

Company: Fisher Sand and Gravel of New Mexico, Inc.
ATTN: Dave Olson
PO Box 2340
Placitas NM 87043

Project/Site: Tohatchi Sand and Gravel Pit
US 491 9 miles north of Tohatchi
Tohatchi NM 87325

Permit Tracking Number: AZR12CO1I

Thank you for using the eNOI system to prepare your Construction General Permit (CGP) Notice of Intent (NOI).

The CGP NOI with permit tracking number AZR12CO1I is pending certification by the certifying official you listed on the form. The CGP NOI is not considered complete until it has been certified by the certifying official and submitted to EPA.

If you have any questions, please call the EPA NOI Processing Center at 1-866-352-7755 (toll free) or send an email to noi@avanticorporation.com.

EPA NOI Processing Center
Operated by Avanti Corporation
1200 Pennsylvania Ave., NW
Mail Code: 4203M
Washington, DC 20460

NPDES FORM 3510-9	EPA	UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460 NOTICE OF INTENT (NOI) FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER AN NPDES GENERAL PERMIT	Form Approved. OMB Nos. 2040-0004

Submission of this Notice of Intent (NOI) constitutes notice that the operator identified in Section II of this form requests authorization to discharge pursuant to the NPDES Construction General Permit (CGP) permit number identified in Section I of this form. Submission of this NOI also constitutes notice that the operator identified in Section II of this form meets the eligibility requirements of Parts 1.1 and 1.2 of the CGP for the project identified in Section III of this form. Permit coverage is required prior to commencement of construction activity until you are eligible to terminate coverage as detailed in Part 8 of the CGP. To obtain authorization you must submit a complete and accurate NOI form. Discharges are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage. Refer to the instructions at the end of the form.

I. Approval to Use Paper NOI Form

Have you been given approval from the Regional Office to use this paper NOI form?* ☐ Yes ☐ No

If yes, provide the reason you need to use this paper form, the name of the EPA Regional Office staff person who approved your use of this form, and the date of approval:

Reason for using paper form:

Name of EPA staff person:

Date approval obtained:

*** Note: You are required to obtain approval from the applicable Regional Office prior to using this paper NOI form.**

II. Permit Information: Tracking Number (EPA Use Only) AZR12CO1I

Permit Number: AZR12000I (see Appendix B of the CGP for the list of eligible permit numbers)

III. Operator Information

Name: Fisher Sand and Gravel of New Mexico, Inc.

Phone: 505-867-2600 Fax (Optional): 505-867-1609

Email: dolson@fisherind.com

IRS Employer Identification Number (EIN):

Point of Contact (First Name, Middle Initial, Last Name): Dave Olson

Mailing Address

Street: PO Box 2340

City: Placitas State: NM Zip: 87043

NOI Preparer (Complete if NOI was prepared by someone other than the certifier):

Prepared by (First Name, Middle Initial, Last Name): Kenya Chavez

Organization: E2RC, LLC

Phone: 505-867-4040 Fax (Optional): 505-867-4044

E-mail: enoicertify@e2rc.com

IV. Project/Site Information

Project/Site Name: Tohatchi Sand and Gravel Pit

Project/Site Address:

Street/Location: US 491.9 miles north of Tohatchi

City: Tohatchi State: NM Zip: 87325

County or similar government subdivision: Mckinley

For the project/site for which you are seeking permit coverage, provide the following information:

Latitude/Longitude (Use one of three possible formats, and specify method)

Latitude 1.	35.3939	N(degrees, minutes, seconds)	Longitude 1.	108.3913	W(degrees, minutes, seconds)
2.		N(degrees, minutes, decimal)	2.		W(degrees, minutes, decimal)
3.		N(degrees, decimals)	3.		W(degrees, decimals)

Latitude/Longitude Data Source: ☐ U.S.G.S. topographical map ☐ EPA Web Site ☐ GPS ☑ Other: Google Earth

If you used a U.S.G.S. topographic map, what was the scale?

Horizontal Reference Datum: ☐ NAD 27 ☑ NAD 83 or WGS 84 ☐ Unknown

Is your project located in Indian Country lands? ☑ Yes ☐ No

If yes, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property: *Navajo Reservation Lands*

Are you requesting coverage under this NOI as a "federal operator" as defined in Appendix A? ☐ Yes ☑ No

Estimated Project Start Date: 09/23/2015 Estimated Project Completion Date: 09/30/2016

Estimated Area to be Disturbed (to the nearest quarter acre): 11.5

Have earth-disturbing activities commenced on your project/site? ☐ Yes ☑ No

If yes, is your project an emergency-related project? ☐ Yes ☑ No

Have stormwater discharges from your project/site been covered previously under an NPDES permit? ☐ Yes ☑ No

If yes, provide the Tracking Number if you had coverage under EPA's CGP or the NPDES permit number if you had coverage under an EPA individual permit:

V. Discharge Information

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☑ No

Are there any surface waters within 50 feet of your project's earth disturbances? ☐ Yes ☑ No

Receiving Waters and Wetlands Information: (Attach a separate list if necessary)

Surface water(s) to which discharge	Impaired Water	Listed Water Pollutant(s)	Tier 2, 2.5 or 3	Source	TMDL Name and Pollutant
Unnamed Stream	No		No	EPA My Waters Mapper and SWQB Mapper	

Describe the methods you used to complete the above table. Please refer to the Source(s) in the above table.

VI. Chemical Treatment Information

Will you use polymers, flocculants, or other treatment chemicals at your construction site? ☐ Yes ☑ No

If yes, will you use cationic treatment chemicals* at your construction site? ☐ Yes ☐ No

If yes, have you been authorized to use cationic treatment chemicals by your applicable EPA Regional Office in advance of filing your NOI*? ☐ Yes ☐ No

If you have been authorized to use cationic treatment chemicals by your applicable EPA Regional Office, attach a copy of your authorization letter and include documentation of the appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

Please indicate the treatment chemicals that you will use:

* Note: You are ineligible for coverage under this permit unless you notify your applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

VII. Stormwater Pollution Prevention Plan (SWPPP) Information

Has the SWPPP been prepared in advance of filing this NOI? ☑ Yes ☐ No

SWPPP Contact Information:

First Name, Middle Initial, Last Name: Kelley Fetter P.E., CPSWQ

Organization: E2RC, LLC

Phone: 505-867-4040 Fax (Optional): 505-867-4044

E-mail: kfetter@e2rc.com

VIII. Endangered Species Protection

Using the instructions in Appendix D of the CGP, under which criterion listed in Appendix D are you eligible for coverage under this permit (only check 1 box)?

☑ A ☐ B ☐ C ☐ D ☐ E ☐ F

Provide a brief summary of the basis for criterion selection listed in Appendix D (e.g., communication with U.S. Fish and Wildlife Service or National Marine Fisheries Service, specific study) U.S. FWS Critical Habitat Portal, IPaC Trust Resources Report

If you select criterion B, provide the Tracking Number from the other operator's notification of authorization under this permit:

If you select criterion C, you must attach a copy of your site map (see Part 7.2.5 of the permit), and you must answer the following questions:

What federally-listed species or federally-designated critical habitat are located in your "action area":

What is the distance between your site and the listed species or critical habitat (miles):

If you select criterion D, E, or F, attach copies of any letters or other communications between you and the U.S. Fish and Wildlife Service or National Marine Fisheries Service.

IX. Historic Preservation

Is your project/site located on a property of religious or cultural significance to an Indian tribe? ☑ Yes ☐ No

If yes, provide the name of the Indian tribe associated with the property: Navajo Reservation Lands

Are you installing any stormwater controls as described in Appendix E that require subsurface earth disturbance? (Appendix E, Step 1) ☐ Yes ☑ No

If yes, have prior surveys or evaluations conducted on the site have already determined historic properties do not exist, or that prior disturbances have precluded the existence of historic properties? (Appendix E, Step 2) ☐ Yes ☐ No

If no, have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? (Appendix E, Step 3) ☐ Yes ☐ No

If no, did the SHPO, THPO, or other tribal representative (whichever applies) respond to you within the 15 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties? (Appendix E, Step 4) ☐ Yes ☐ No

If yes, describe the nature of their response.

- ☐ Written indication that adverse effects to historic properties from the installation of stormwater controls can be mitigated by agreed upon actions
- ☐ No agreement has been reached regarding measures to mitigate effects to historic properties from the installation of stormwater controls
- ☐ Other:

X. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name: Dave Olson

Title: VP of Operations

Signature: Date:

E-mail: dolson@fishersnd.com

EPA Form 3510-9 Status: Pending Certification Page: 4 of 4

EPA NPDES
Storm Water Program

The following information is posted in compliance with Part3.12.B. of the NPDES Region 6 Storm Water Construction General Permit [68 Fed. Reg. 39087]. This form should be posted in a conspicuous place accessible by the public at the entrance of the facility. All parties that either individually, or taken together, meet the definition of "operator," must be permitted. Each party should complete and post a separate form. Each of these parties must have separate and distinct NPDES permit numbers (e.g. a separate permit is typically needed for each Owner/Developer, General Contractor, and/or Builder). If you do not know your NPDES Permit Number, contact the NOI Processing Center at (866)352-7755. EPA's Region 6 storm water hotline phone number is (214)665-8060. If you have mailed your NOI application form and have not received a permit number, you must post a copy of the NOI application form next to this document until you receive your permit number. This form was prepared as an example and it is not a required form for use with the permit. This information may be displayed in alternative form or formats within guidelines set forth in the permit. Additional information regarding the NPDES Region 6 storm water program may be found on the Internet at http://www.epa.gov/region6/sw/. Any person with a complaint about the operation of this facility in regards to this permit should contact EPA Region 6 at (214)665-8060.

Permit Number	AZR12C011
Contact Name	Kelley V. Fetter, P.E.
Contact Phone	505-867-4040
Project Description	Tohatchi Sand and Gravel Pit will consist of the development of access, infrastructure, utilities, permanent drainage and permanent stabilization for the construction of a borrow pit.
SWPPP Location (Only necessary if the site is inactive or does not have an on-site location to store the plan.)	Fisher Sand and Gravel of NM, Inc. Project Site: Brian Gambrel 505-867-2600 Fisher Sand and Gravel of NM, Inc. Main Office: 505-867-2600 E2RC, LLC Main Office: 505-867-4040

http://www.epa.gov/region6/6en/w/sw/sign.pdf Revision 5, July 29, 2003

NOAA Atlas 14, Volume 1, Version 5
Location name: Tokatchi, New Mexico, US*
Latitude: 35.3412°, Longitude: -108.6509°
Elevation: 6048 ft*
* source: Google Maps

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.163 (0.138–0.192)	0.206 (0.177–0.246)	0.288 (0.239–0.332)	0.339 (0.287–0.401)	0.421 (0.354–0.499)	0.488 (0.407–0.577)	0.560 (0.463–0.663)	0.636 (0.521–0.754)	0.748 (0.596–0.886)	0.834 (0.663–0.995)
10-min	0.244 (0.210–0.292)	0.317 (0.270–0.378)	0.426 (0.363–0.506)	0.514 (0.437–0.610)	0.649 (0.539–0.769)	0.742 (0.620–0.878)	0.852 (0.705–1.01)	0.968 (0.792–1.15)	1.13 (0.912–1.35)	1.27 (1.01–1.51)
15-min	0.305 (0.260–0.362)	0.382 (0.335–0.465)	0.529 (0.450–0.626)	0.638 (0.542–0.756)	0.804 (0.668–0.941)	0.920 (0.768–1.09)	1.06 (0.874–1.25)	1.20 (0.982–1.42)	1.41 (1.13–1.67)	1.57 (1.25–1.86)
30-min	0.410 (0.350–0.487)	0.528 (0.451–0.626)	0.712 (0.606–0.844)	0.859 (0.730–1.02)	1.07 (0.899–1.27)	1.24 (1.04–1.47)	1.42 (1.18–1.68)	1.62 (1.32–1.92)	1.89 (1.52–2.25)	2.12 (1.68–2.53)
60-min	0.508 (0.433–0.603)	0.654 (0.558–0.775)	0.881 (0.750–1.04)	1.06 (0.903–1.26)	1.32 (1.11–1.57)	1.53 (1.28–1.81)	1.76 (1.46–2.08)	2.00 (1.64–2.37)	2.34 (1.89–2.79)	2.62 (2.09–3.13)
2-hr	0.600 (0.515–0.711)	0.768 (0.659–0.910)	1.02 (0.872–1.21)	1.23 (1.05–1.45)	1.53 (1.29–1.80)	1.78 (1.49–2.09)	2.05 (1.70–2.41)	2.35 (1.91–2.75)	2.77 (2.22–3.26)	3.12 (2.46–3.66)
3-hr	0.649 (0.563–0.756)	0.822 (0.713–0.962)	1.07 (0.929–1.25)	1.28 (1.10–1.49)	1.58 (1.35–1.83)	1.82 (1.54–2.12)	2.09 (1.75–2.43)	2.38 (1.96–2.78)	2.81 (2.28–3.28)	3.15 (2.53–3.70)
6-hr	0.758 (0.670–0.870)	0.948 (0.836–1.09)	1.28 (1.08–1.36)	1.42 (1.24–1.62)	1.73 (1.50–1.97)	1.97 (1.70–2.25)	2.24 (1.91–2.55)	2.52 (2.13–2.87)	2.93 (2.43–3.35)	3.27 (2.67–3.75)
12-hr	0.875 (0.763–0.993)	1.10 (0.976–1.24)	1.38 (1.22–1.55)	1.60 (1.42–1.79)	1.90 (1.68–2.13)	2.14 (1.87–2.40)	2.38 (2.08–2.67)	2.66 (2.29–2.98)	3.03 (2.58–3.42)	3.36 (2.82–3.80)
24-hr	0.993 (0.812–1.02)	1.14 (1.02–1.29)	1.45 (1.29–1.63)	1.70 (1.51–1.91)	2.05 (1.82–2.29)	2.33 (2.05–2.60)	2.62 (2.30–2.93)	2.93 (2.55–3.26)	3.34 (2.89–3.73)	3.68 (3.15–4.11)
2-day	1.01 (0.906–1.13)	1.26 (1.13–1.42)	1.59 (1.42–1.77)	1.85 (1.65–2.06)	2.20 (1.95–2.45)	2.47 (2.19–2.75)	2.75 (2.43–3.07)	3.04 (2.68–3.38)	3.43 (3.00–3.82)	3.73 (3.24–4.17)
3-day	1.10 (0.992–1.23)	1.38 (1.24–1.53)	1.72 (1.55–1.91)	2.00 (1.79–2.22)	2.36 (2.12–2.62)	2.65 (2.37–2.94)	2.95 (2.62–3.27)	3.24 (2.87–3.58)	3.64 (3.20–4.04)	3.96 (3.45–4.39)
4-day	1.18 (1.06–1.32)	1.49 (1.35–1.65)	1.85 (1.68–2.05)	2.14 (1.94–2.37)	2.53 (2.29–2.80)	2.83 (2.54–3.12)	3.14 (2.81–3.47)	3.44 (3.07–3.80)	3.85 (3.41–4.26)	4.17 (3.66–4.61)
7-day	1.36 (1.23–1.50)	1.69 (1.53–1.87)	2.10 (1.90–2.31)	2.43 (2.19–2.68)	2.83 (2.56–3.11)	3.15 (2.83–3.46)	3.48 (3.11–3.80)	3.77 (3.37–4.15)	4.18 (3.71–4.60)	4.48 (3.96–4.94)
10-day	1.54 (1.38–1.69)	1.92 (1.74–2.11)	2.38 (2.16–2.60)	2.73 (2.47–2.98)	3.18 (2.88–3.48)	3.53 (3.18–3.85)	3.86 (3.46–4.21)	4.19 (3.76–4.58)	4.61 (4.12–5.06)	4.92 (4.39–5.40)
20-day	1.93 (1.75–2.13)	2.41 (2.19–2.66)	2.99 (2.71–3.30)	3.44 (3.12–3.78)	4.03 (3.64–4.42)	4.46 (4.03–4.90)	4.90 (4.41–5.39)	5.33 (4.76–5.86)	5.89 (5.26–6.49)	6.36 (5.60–6.94)
30-day	2.35 (2.11–2.58)	2.91 (2.64–3.22)	3.60 (3.26–3.97)	4.12 (3.72–4.53)	4.78 (4.32–5.26)	5.26 (4.74–5.79)	5.74 (5.15–6.32)	6.20 (5.56–6.83)	6.77 (6.05–7.46)	7.19 (6.40–7.96)
45-day	2.86 (2.59–3.13)	3.57 (3.24–3.92)	4.48 (4.09–4.83)	5.01 (4.55–5.49)	5.79 (5.25–6.33)	6.34 (5.75–6.93)	6.87 (6.22–7.50)	7.36 (6.66–8.04)	7.96 (7.18–8.70)	8.36 (7.55–9.15)
60-day	3.19 (2.90–3.50)	3.99 (3.62–4.37)	4.88 (4.44–5.35)	5.54 (5.04–6.06)	6.37 (5.78–6.94)	6.95 (6.31–7.58)	7.51 (6.81–8.19)	8.02 (7.26–8.75)	8.64 (7.82–9.42)	9.06 (8.18–9.88)

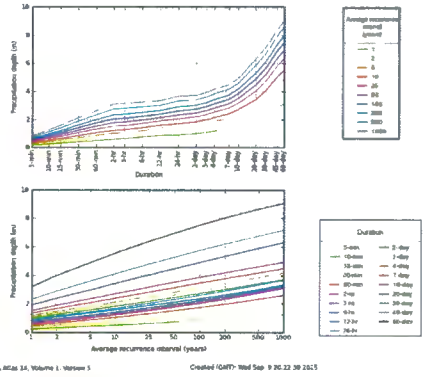
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 35.3412°, Longitude: -108.6509°



NOAA Atlas 14, Volume 1, Version 5 — Created (GMT): Wed Sep 9 20:22:39 2015

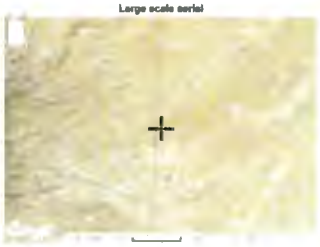
Maps & aerials

Small scale terrain

Large scale terrain

Large scale map

Large scale aerial



Back to Top

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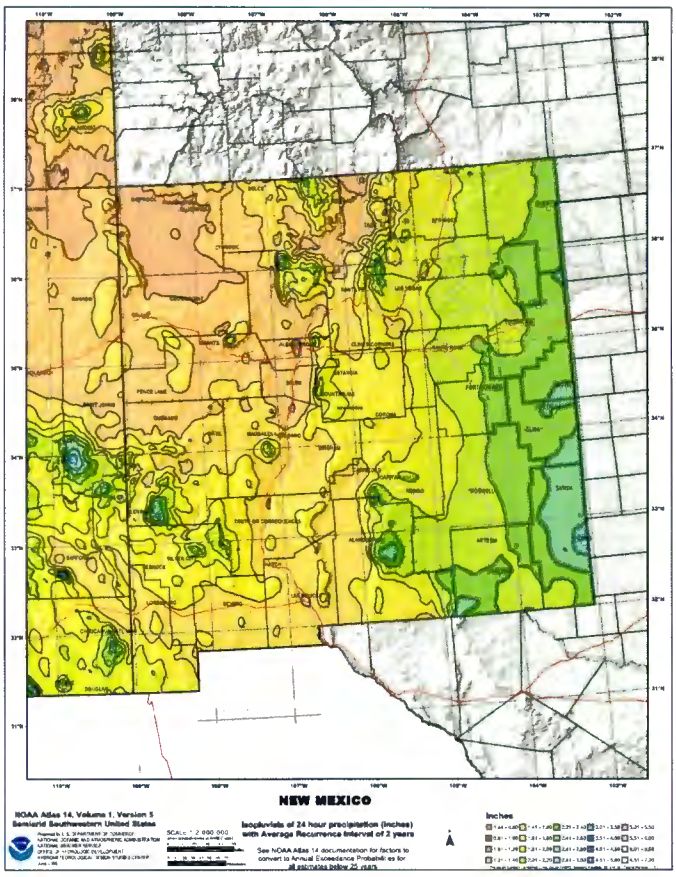


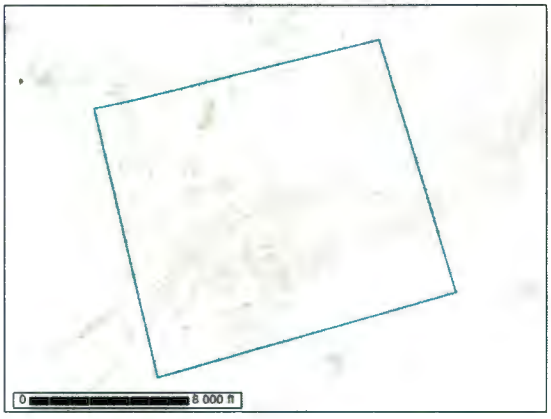
USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico

Tohatchi Sand and Gravel Pit



September 10, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms *or landform* segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

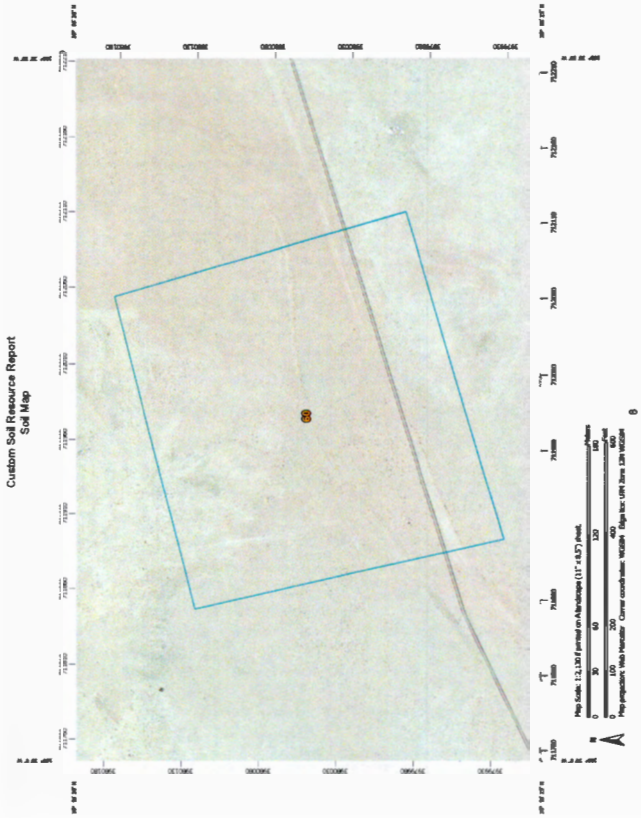
While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico
Survey Area Data: Version 13, Sep 20, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 25, 2010—Apr 2, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico (AZ715)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
60	Mesa family, 1 to 4 percent slopes	10.9	100.0%
Totals for Area of Interest		10.9	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico

60—Mesa family, 1 to 4 percent slopes

Map Unit Setting
National map unit symbol: 2qsyj
Elevation: 5,800 to 6,400 feet
Mean annual precipitation: 8 to 10 inches
Mean annual air temperature: 51 to 54 degrees F
Frost-free period: 130 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition
Mesa family and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mesa Family

Setting
Landform: Mesas, fan terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Fan and slope alluvium

Typical profile
A - 0 to 5 inches: fine sandy loam
Bt - 5 to 11 inches: gravelly sandy clay loam
2Bk1 - 11 to 22 inches: very cobbly sandy loam
2Bk2 - 22 to 40 inches: very cobbly fine sandy loam
3C - 40 to 60 inches: loamy fine sand

Properties and qualities
Slope: 1 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Gypsum, maximum in profile: 2 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: B
Ecological site: Loamy Upland 8-10" p.z. (R035XB210AZ)

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

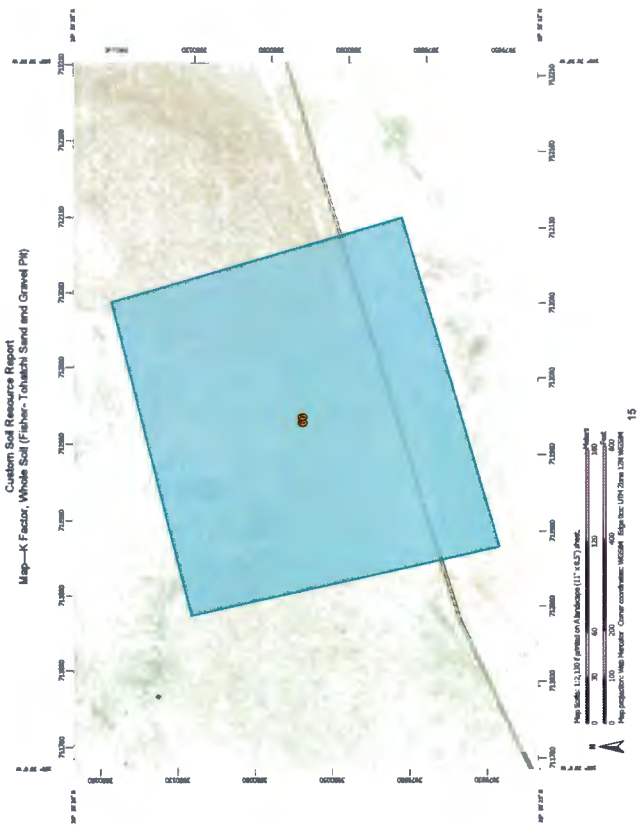
Soil Erosion Factors

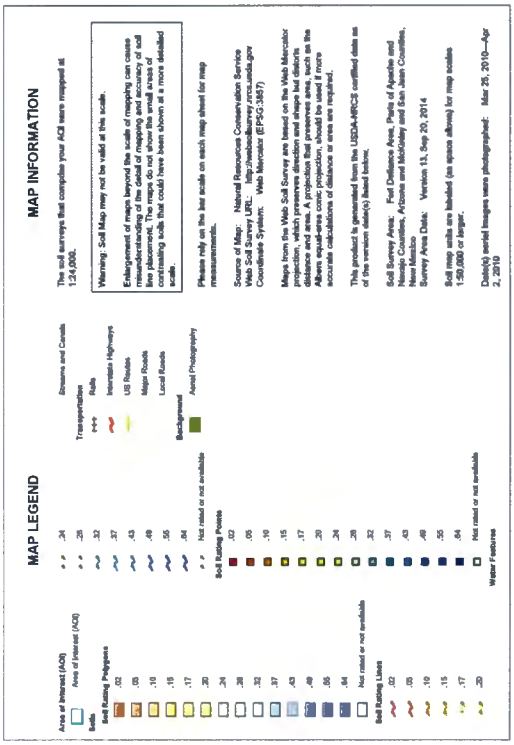
Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis. T factor, wind erodibility group and wind erodibility index.

K Factor, Whole Soil (Fisher- Tohatchi Sand and Gravel Pit)

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.





Table—K Factor, Whole Soil (Fisher- Tohatchi Sand and Gravel Pit)

K Factor, Whole Soil—Summary by Map Unit — Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico (AZ715)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
60	Mesa family, 1 to 4 percent slopes	.37	10.9	100.0%
Totals for Area of Interest			10.9	100.0%

Rating Options—K Factor, Whole Soil (Fisher- Tohatchi Sand and Gravel Pit)

Aggregation Method: Dominant Condition

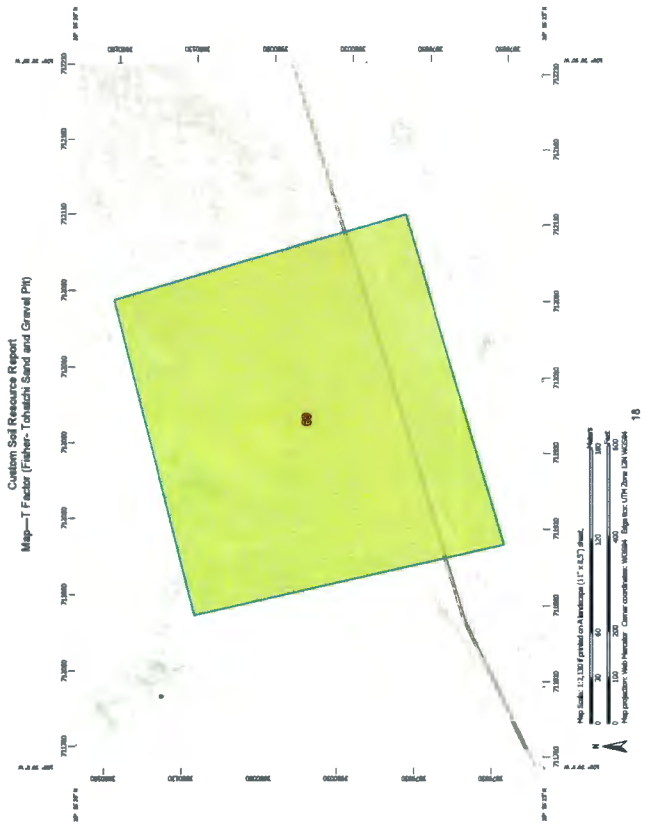
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

T Factor (Fisher- Tohatchi Sand and Gravel Pit)

The T factor is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.



Table—T Factor (Fisher- Tohatchi Sand and Gravel Pit)

T Factor— Summary by Map Unit — Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico (AZ718)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
80	Mesa family, 1 to 4 percent slopes	4	10.9	100.0%
Totals for Area of Interest			10.9	100.0%

Rating Options—T Factor (Fisher- Tohatchi Sand and Gravel Pit)

Units of Measure: tons per acre per year

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Wind Erodibility Group (Fisher- Tohatchi Sand and Gravel Pit)

A wind erodibility group (WEG) consists of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: https://websoilsurvey.sc.egov.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico
Survey Area Data: Version 13, Sep 26, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2010—Apr 2, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

MAP LEGEND

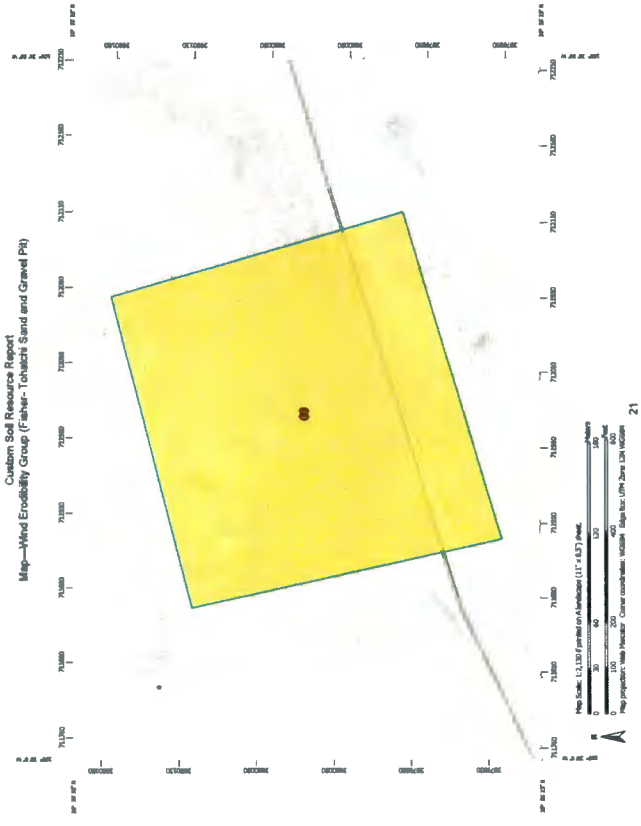
Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Rating Polygons
  - 1
  - 2
  - 3
  - 4
  - 5
  - Not rated or not available
- Soil Rating Lines
  - 1
  - 2
  - 3
  - 4
  - 5
  - Not rated or not available
- Soil Rating Points
  - 1
  - 2
  - 3
  - 4
  - 5
  - Not rated or not available

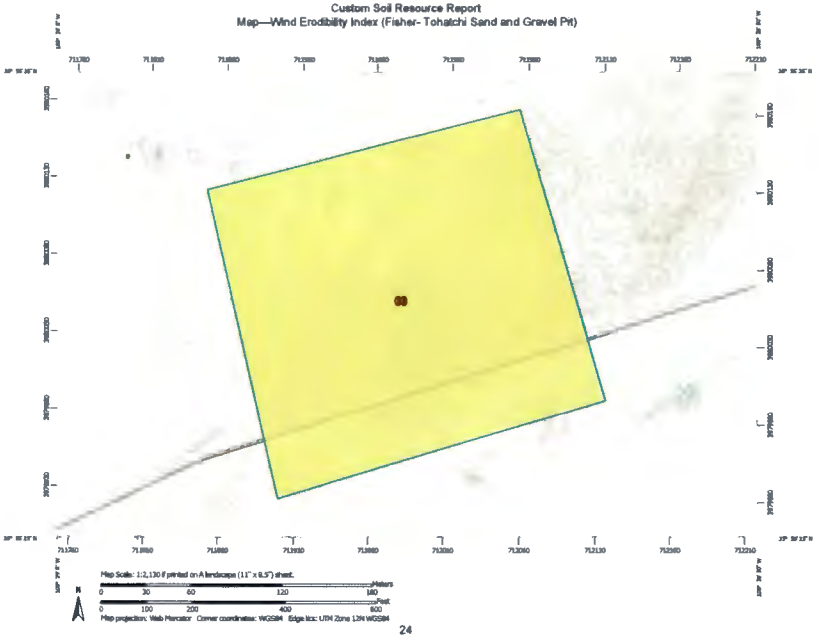
Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography



Map—Wind Erodibility Index (Fisher- Tohatchi Sand and Gravel Pit)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Rating Polygons: 1, 2, 3, 4, 4L, 5, 6, 7, 8, Not rated or not available
- Soil Rating Lines: 1, 2, 3, 4, 4L, 5, 6, 7, 8, Not rated or not available
- Soil Rating Points: 1, 2, 3, 4, 4L, 5, 6, 7, 8, Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico
Survey Area Data: Version 13, Sep 20, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 25, 2010—Apr 2, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Wind Erodibility Group (Fisher- Tohatchi Sand and Gravel Pit)

Wind Erodibility Group— Summary by Map Unit — Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico (AZ716)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
60	Mesa family, 1 to 4 percent slopes	3	10.8	100.0%
Totals for Area of Interest			10.8	100.0%

Rating Options—Wind Erodibility Group (Fisher- Tohatchi Sand and Gravel Pit)

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Lower

Wind Erodibility Index (Fisher- Tohatchi Sand and Gravel Pit)

The wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Rating Polygons: 0, 38, 46, 56, 86, 134, 160, 180, 220, 250, 310, Not rated or not available
- Soil Rating Lines: 0, 38, 46, 56, 86, 134, 160, 180, 220, 250, 310, Not rated or not available
- Soil Rating Points: 0, 38, 46, 56, 86, 134, 160, 180, 220, 250, 310, Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico
Survey Area Data: Version 13, Sep 20, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 25, 2010—Apr 2, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Wind Erodibility Index (Fisher- Tohatchi Sand and Gravel Pit)

Wind Erodibility Index— Summary by Map Unit — Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico (AZ715)				
Map unit symbol	Map unit name	Rating (tons per acre per year)	Acres in AOI	Percent of AOI
60	Mesa family, 1 to 4 percent slopes	86	10.9	100.0%
Totals for Area of Interest			10.9	100.0%

Rating Options—Wind Erodibility Index (Fisher- Tohatchi Sand and Gravel Pit)

Units of Measure: tons per acre per year

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Erosion

This folder contains a collection of tabular reports that present soil erosion factors and groupings. The reports (tables) include all selected map units and components for each map unit. Soil erosion factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

RUSLE2 Related Attributes (Fisher- Tohatchi Sand and Gravel Pit)

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. .

Report—RUSLE2 Related Attributes (Fisher- Tohatchi Sand and Gravel Pit)

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

RUSLE2 Related Attributes--Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
60—Mesa family, 1 to 4 percent slopes								
Mesa family	85	298	B	.37	4	68.5	21.5	10.0

Windbreaks and Environmental Plantings (Fisher- Tohatchi Sand and Gravel Pit)

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

This table shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Report—Windbreaks and Environmental Plantings (Fisher- Tohatchi Sand and Gravel Pit)

Windbreaks and Environmental Plantings--Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico					
Map symbol and soil name	Trees having predicted 20-year average height of—				
	8 feet or less	>8 to 16 feet	>16 to 26 feet	>26 to 36 feet	>36 feet
60—Mesa family, 1 to 4 percent slopes					
Mesa family	—	—	—	—	—

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Engineering Properties (Fisher- Tohatchi Sand and Gravel Pit)

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs.

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit,

and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Absence of an entry indicates that the data were not estimated. The asterisk,'*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba).

Engineering Properties–Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico																				
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct. Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				Pct	Pct					Pct	
80—Mesa family, 1 to 4 percent slopes														
Mesa family	85	B	0-5	Fine sandy loam	SC-SM	A-4	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	86-91-96	37-42-47	20-25 -30	4-5 -7
			5-11	Gravelly sandy clay loam	SC	A-6	0- 0- 0	0- 0- 0	64-76-100	80-87-100	49-58-82	27-33-55	25-30 -35	10-15-20
			11-22	Very cobbly sandy loam	GC-GM	A-4	0- 0- 0	0-47- 47	38-88-100	33-87-100	24-68-82	11-35-46	20-25 -30	4-5 -7
			22-40	Very cobbly fine sandy loam	GC-GM	A-2	0- 0- 0	0-47- 47	38-88-100	33-87-100	28-79-96	12-37-47	20-25 -30	4-5 -7
			40-60	Loamy fine sand	SM	A-2	0- 0- 0	0- 0- 0	100-100 -100	100-100 -100	95-95-100	35-35-40	15-15 -20	NP-3 -4

Particle Size and Coarse Fragments (Fisher- Tohatchi Sand and Gravel Pit)

This table shows estimates of particle size distribution and coarse fragment content of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Total fragments is the content of fragments of rock and other materials larger than 2 millimeters in diameter on volumetric basis of the whole soil.

Fragments 2-74 mm refers to the content of coarse fragments in the 2 to 74 millimeter size fraction.

Fragments 75-249 mm refers to the content of coarse fragments in teh 75 to 249 millimeter size fraction.

Fragments 250-599 mm refers to the content of coarse fragments in the 250 to 599 millimeter size fraction.

Fragments >=600 mm refers to the content of coarse fragments in the greater than or equal to 600 millimeter size fraction.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Particle Size and Coarse Fragments–Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico										
Map symbol and soil name	Horizon	Depth	Sand	Silt	Clay	Total fragments	Fragments 2-74 mm	Fragments 75-249 mm	Fragments 250-599 mm	Fragments >=600 mm
		In	L-RV-H Pct	L-RV-H Pct	L-RV-H Pct	RV Pct	RV Pct	RV Pct	RV Pct	RV Pct
80—Mesa family, 1 to 4 percent slopes										
Mesa family	A	0-5	-68-	-22-	5-10- 15	—	—	—	—	
	Bt	5-11	-57-	-18-	20-25- 30	20	—	—	—	
	2Bk1	11-22	-67-	-23-	5-10- 15	40	5	35	—	
	2Bk2	22-40	-68-	-22-	5-10- 15	40	5	35	—	
	3C	40-60	-79-	-18-	5- 5- 10	—	—	—	—	

Physical Soil Properties (Fisher- Tohatchi Sand and Gravel Pit)

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion.

There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Physical Soil Properties–Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*	*Kw*	*Kf*	*T*		
60—Mesa family, 1 to 4 percent slopes														
Mesa family	0-5	-48-	-22-	5-10- 15	1.45-1.50-1.55	14.00-28.00-42.00	0.13-0.14-0.16	0.0- 1.0- 2.9	0.0- 0.2- 0.5	.37	.37	4	3	86
	5-11	-57-	-18-	20-25- 30	1.30-1.36-1.40	4.29-9.00-14.10	0.11-0.12-0.13	3.0- 4.0- 5.9	0.0- 0.2- 0.5	.16	.24			
	11-22	-47-	-23-	5-10- 15	1.45-1.50-1.55	14.10-28.00-42.30	0.09-0.10-0.11	0.0- 1.0- 2.9	0.0- 0.2- 0.5	.10	.28			
	22-40	-48-	-22-	5-10- 15	1.45-1.50-1.55	14.10-28.00-42.30	0.10-0.11-0.12	0.0- 1.0- 2.9	0.0- 0.2- 0.5	.10	.32			
	40-60	-79-	-16-	5- 5- 10	1.45-1.50-1.55	42.35-92.00-141.60	0.08-0.09-0.10	0.0- 1.0- 2.9	0.0- 0.2- 0.5	.32	.32			

Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Soil Features (Fisher- Tohatchi Sand and Gravel Pit)

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel

or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Features--Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico

Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		Low-Hi-High	*Range*		*Low-High*	*Low-High*			
		In	*In*		*In*	*In*			
80—Mesa family, 1 to 4 percent slopes									
Mesa family		—	—		—	—	Low	Moderate	Low

Vegetative Productivity

This folder contains a collection of tabular reports that present vegetative productivity data. The reports (tables) include all selected map units and components for each map unit. Vegetative productivity includes estimates of potential vegetative production for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture and rangeland. In the underlying database, some states maintain crop yield data by individual map unit component. Other states maintain the data at the map unit level. Attributes are included for both, although only one or the other is likely to contain data for any given geographic area. For other land uses, productivity data is shown only at the map unit component level. Examples include potential crop yields under irrigated and nonirrigated conditions, forest productivity, forest site index, and total rangeland production under of normal, favorable and unfavorable conditions.

Forestland Productivity (Fisher- Tohatchi Sand and Gravel Pit)

This table can help forestland owners or managers plan the use of soils for wood crops. It shows the potential productivity of the soils for wood crops.

Potential productivity of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National Forestry Manual.

Report—Forestland Productivity (Fisher- Tohatchi Sand and Gravel Pit)

Forestland Productivity--Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico				
Map unit symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site Index	Volume of wood fiber	
			Cu ft/ac	
80—Mesa family, 1 to 4 percent slopes				
Mesa family	—	—	—	—

Forestland Productivity with Site Index Base (Fisher-Tohatchi Sand and Gravel Pit)

This table is designed to assist forestland owners or managers plan the use of soils for wood crops. It provides the potential productivity of the soils for wood crops.

Potential productivity of merchantable or *common trees* on a soil is expressed as a site index and as a volume growth rate number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. *Common trees* are those that forestland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *Base Age* is the age of trees in years on which the site index is based. "TA" indicates total age. "BH" indicates breast height age. "N/A" indicates that base age is not applicable.

The *Site Index Curve Number* is listed in the National Register of Site Index Curves. It identifies the site index curve used to determine the site index.

The *Volume Growth Rate* is the maximum wood volume growth rate likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Reference.
United States Department of Agriculture, Natural Resources Conservation Service, National Forestry Manual.

Forestland Productivity with Site Index Base--Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico						
Map unit symbol and soil name	Common trees	Site Index	Base Age	Site Index Curve Number	Volume Growth Rate (CMAI)	
		ft	*yrs*		*cu ft/ac/yr*	
80—Mesa family, 1 to 4 percent slopes						
Mesa family						

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition (Fisher- Tohatchi Sand and Gravel Pit)

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

This table shows, for each soil that supports vegetation, the ecological site, plant association, or habitat type; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in the table follows.

An *ecological site*, *plant association*, or *habitat type* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process, a characteristic hydrology, particularly infiltration and runoff that has developed over time, and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site, plant association, or habitat type is typified by an association of species that differs from that of other ecological sites, plant associations, or habitat types in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service (NRCS). Descriptions of plant associations or habitat types are available from local U.S. Forest Service offices.

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation (the grasses, forbs, shrubs, and understory trees that make up most of the potential natural plant community on each soil) is listed by common name. Under *rangeland composition and forest understory*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The percentages are by dry weight for rangeland. Percentages for forest understory are by either dry weight or canopy cover. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland

ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of NRCS or on the Internet.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Reference.
United States Department of Agriculture, Natural Resources Conservation Service, National range and pasture handbook.

Rangeland and Forest Vegetation Classification, Productivity, and Plant Composition–Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico											
Map unit symbol and soil name	Ecological Site, Plant Association, or Habitat Type	Total dry-weight production			Characteristic rangeland or forest understory vegetation	Composition					
		Favorable yield	Normal year	Unfavorable yield		Rangeland	Forest understory	Forest understory	Forest understory		
		Lb/ac	Lb/ac	Lb/ac		Pct dry wt	Pct dry wt	Pct cover			
60—Mesa family, 1 to 4 percent slopes											
Mesa family	Loamy Upland 8-10" p.z. (R035XB310AZ)	550	450	350	galleta	25	—	—			
					blue grama	10					
					bottlebrush squirreltail	5					
					fourwing saltbush						
					Indian ricegrass						
					Sporobolus						
					winterfat						

Rangeland Productivity (Fisher- Tohatchi Sand and Gravel Pit)

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

This table shows, for each soil that supports rangeland vegetation, the ecological site and the potential annual production of vegetation in favorable, normal, and unfavorable years. An explanation of the column headings in the table follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of a site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service (NRCS).

Total dry-weight production is the amount of vegetation that can be expected to grow annually on well managed rangeland that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Range management requires knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of NRCS or on the Internet.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National range and pasture handbook.

Report—Rangeland Productivity (Fisher- Tohatchi Sand and Gravel Pit)

Rangeland Productivity–Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico				
Map unit symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		Lb/ac	Lb/ac	Lb/ac
60—Mesa family, 1 to 4 percent slopes				
Mesa family	Loamy Upland 8-10" P.z.	550	450	350

Rangeland Productivity and Plant Composition (Fisher-Tohatchi Sand and Gravel Pit)

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

This table shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in the table follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service (NRCS).

Total dry-weight production is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make

growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Characteristic vegetation (the grasses, forbs, and shrubs that make up most of the potential natural plant community on each soil) is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in the "National Range and Pasture Handbook," which is available in local offices of NRCS or on the Internet.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service, National range and pasture handbook.

Rangeland Productivity and Plant Composition–Fort Defiance Area, Parts of Apache and Navajo Counties, Arizona and McKinley and San Juan Counties, New Mexico

Map unit symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation		Rangeland composition
		Favorable year	Normal year	Unfavorable year			
		Lb/ac	*Lb/ac*	*Lb/ac*			*Pct*
60—Mesa family, 1 to 4 percent slopes							
Mesa family	Loamy Upland 6-10" P.Z.	550	450	350	Galleta	25	
					Indian ricegrass	10	
					Fourwing saltbush	10	
					Blue grama	10	
					Bottlebrush squirreltail	10	
					Winterfat	5	
					Sprucetops	5	

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Tohatchi Sand and Gravel Pit

Watershed & TMDL
Documentation

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_121	Middle Ponil Creek (South Ponil Creek to headwaters)	temperature	TMDL for Temperature on Middle Ponil Creek	July 10, 2001	September 21, 2001
				turbidity	TMDL for Turbidity in Middle Ponil Creek and Ponil Creek		
Arkansas-White-Red Rivers Basin	11080004	NM-2305.A_00	Mora River (USGS gage east of Shoemaker to Hwy 434)	nutrients	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007
Arkansas-White-Red Rivers Basin	11080004	NM-2306.A_000	Mora River (Hwy 434 to headwaters)	sedimentation, specific conductance	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_060	Moreno Creek (Eagle Nest Lake to headwaters)	fecal coliform	TMDL for Fecal Coliform in Six-Mile, Cieneguilla and Moreno Creeks in the Canadian River Basin (Cimarron)	January 13, 2004	May 19, 2004
				turbidity	TMDL for Turbidity, Stream Bottom Deposits, and Total Phosphorus in Canadian Basin (Cimarron)		
				temperature, plant nutrients	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_110	North Ponil Creek (South Ponil Creek to McCrystal Creek)	stream bottom deposits, turbidity, total phosphorus	TMDL for Turbidity, Stream Bottom Deposits, and Total Phosphorus in the Canadian Basin (Cimarron)	January 13, 2004	May 19, 2004
				temperature	TMDL for Temperature on North Ponil Creek	November 9, 1999	December 17, 1999
				E. coli	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	1108002	NM-2306.A_100	Ponil Creek (Cimarron River to confluence of North and South Ponil	temperature,	TMDL for Temperature on Ponil Creek	July 10, 2001	September 21, 2001
				turbidity	TMDL for Turbidity in Middle Ponil Creek and Ponil Creek	July 10, 2001	September 21, 2001
				chronic aluminum	TMDL for Metals (Chronic Aluminum) in Ponil Creek		

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_100	Ponil Creek (Cimarron River to US 64)	E. coli	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_101	Ponil Creek (US 64 to confl of North and South Ponil)	E. coli, plant nutrients	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	1108002	NM-2306.A_051	Rayado Creek (Miami Lake Diversion to headwaters)	E. coli, temperature	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2305.A_80	Rayado Creek (Cimarron River to Miami Lake Diversion)	stream bottom deposits	TMDL for Stream Bottom Deposits in Rayado Creek and Metals (Chronic Aluminum) in the Cimarron River	December 12, 2000	February 16, 2001
				plant nutrients	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080004	NM-2305.3.A_20	Sapello River (Mora River to Manuelitas Creek)	sedimentation	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_064	Sixmile Creek (Eagle Nest Lake to headwaters)	fecal coliform	TMDL for Fecal Coliform in Six-mile, Cieneguilla, and Moreno Creeks in the Canadian River Basin (Cimarron)	January 13, 2004	May 19, 2004
				turbidity	TMDL for Turbidity, Stream Bottom Deposits, and Total Phosphorus in the Canadian River Basin (Cimarron)	January 13, 2004	May 19, 2004
				E. coli, temperature, plant nutrients	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_120	South Ponil Creek (Ponil Creek to Middle Ponil)	temperature	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_068	Ute Creek (Cimarron River to headwaters)	arsenic, E. coli, temperature	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080001	NM-2305.A_220	Vermejo River (Rail Canyon to York Canyon)	specific conductance, temperature	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Arkansas-White-Red Rivers Basin	11080001	NM-2306.A_151	Caliente Canyon (Vermejo River to headwaters)	specific conductance	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_065	Cieneguilla Creek (Eagle Nest Lake to headwaters)	chronic aluminum	TMDL for Metals (Chronic Aluminum) in Cieneguilla Creek	January 13, 2004	May 19, 2004
				fecal coliform	TMDL for Fecal Coliform in Six-Mile, Cieneguilla, and and Moreno Creeks		
				turbidity, stream bottom deposits, total phosphorus	TMDL for Turbidity, Stream Bottom Deposits, and Total Phosphorus in the Canadian River Basin (Cimarron)		
				E. coli, plant nutrients, temperature	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2305.1.A_10	Cimarron River (Canadian River to Cimarron Village)	plant nutrients	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_040	Cimarron River (Cimarron Village to Turkey Creek)	arsenic, temperature	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080002	NM-2306.A_130	Cimarron River (Turkey Creek to Eagle Nest Lake)	arsenic, plant nutrients	TMDL for the Cimarron River Watershed (Canadian River to headwaters)	August 10, 2010	September 3, 2010
Arkansas-White-Red Rivers Basin	11080004	NM-2306.A_020	Coyote Creek (Mora River to Black Lake)	specific conductance, temperature	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007
Arkansas-White-Red Rivers Basin	11080004	NM-2306.A_024	Little Coyote Creek (Black Lake to headwaters)	nutrients	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Lower Colorado River Basin	15040004	NM-2603.A_40	Tularosa River (San Francisco R to Apache Creek)	conductivity	TMDL for Conductivity on the Tularosa River	November 13, 2001	April 5, 2002
Lower Colorado River Basin	15040004	NM-2603.A_10	Whitewater Creek (San Francisco River to White-water Campgrd)	turbidity	TMDL for Temperature on Whitewater Creek	November 13, 2001	April 12, 2002
				chronic aluminum	TMDL for Chronic Aluminum on Whitewater Creek	December 11, 2001	
Lower Rio Grande Basin	13030102	NM-2101_00	Rio Grande (International Mexico boundary to Leasburg Dam)	E. coli	TMDL for the Main Stem of the Lower Rio Grande (from the International boundary with Mexico to Elephant Butte Dam)	May 8, 2007	June 11, 2007
Lower Rio Grande Basin	13030102	NM-2101_10	Rio Grande (Leasburg Dam to Percha Dam)	E. coli	TMDL for the Main Stem of the Lower Rio Grande (from the International boundary with Mexico to Elephant Butte Dam)	May 8, 2007	June 11, 2007
Middle Rio Grande Basin	13020102	NM-2113_50	Abiquiu Creek (Rio Chama to headwaters)	dissolved oxygen	TMDLs for the Lower Chama Watershed (Below El Vado Reservoir to the confluence with the Rio Grande)	June 8, 2004	September 3, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_010	Cañones Creek (Abiquiu Reservoir to headwaters)	chronic aluminum, fecal coliform, turbidity	TMDLs for the Lower Chama Watershed (Below El Vado Reservoir to the confluence with the Rio Grande)	June 8, 2004	September 3, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_081	Chavez Creek (Rio Brazos to headwaters)	temperature	TMDLs for the Upper Chama Watershed (El Vado Reservoir to Colorado border)	September 9, 2003	March 4, 2004

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Arkansas-White-Red Rivers Basin	11080001	NM-2305.A_230	Vermejo River (York Canyon to headwaters)	temperature	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007
Arkansas-White-Red Rivers Basin	11080001	NM-2306.A_153	York Canyon (Vermejo Park to headwaters)	specific conductance	TMDL for the Canadian River Watershed-Part One (Mora River to Colorado border)	August 14, 2007	September 21, 2007
Arkansas-White-Red Rivers Basin	11040001	NM-2701_00	Dry Cimarron River (perennial reaches OK bnd to Long Canyon)	sulfate, total dissolved solids	TMDL for the Dry Cimarron River Watershed	April 14, 2009	June 2, 2009
Arkansas-White-Red Rivers Basin	11040001	NM-2701_02	Dry Cimarron River (Long Canyon to Oak Creek)	E.coli, total dissolved solids	TMDL for the Dry Cimarron River Watershed	April 14, 2009	June 2, 2009
Arkansas-White-Red Rivers Basin	11040001	NM-2701_20	Long Canyon (perennial reaches above Dry Cimarron)	E.coli, selenium	TMDL for the Dry Cimarron River Watershed	April 14, 2009	June 2, 2009
Arkansas-White-Red Rivers Basin	11040001	NM-2701_10	Oak Creek (Dry Cimarron to headwaters)	nutrients, E. coli	TMDL for the Dry Cimarron River Watershed	April 14, 2009	June 2, 2009
Lower Colorado River Basin	15040001	NM-2503_21	Black Canyon Creek (East Fork Gila River to headwaters)	temperature	TMDL for Temperature on Black Canyon Creek	November 13, 2001	April 5, 2002
Lower Colorado River Basin	15040001	NM-2503_43	Canyon Creek (Middle Fork Gila River to headwaters)	plant nutrients	TMDL for Plant Nutrients for Canyon Creek	December 11, 2001	April 10, 2002
				turbidity	TMDL for Turbidity for Canyon Creek		
Lower Colorado River Basin	15040004	NM-2603.A_50	Centerfire Creek (San Francisco R to headwaters)	conductivity	TMDL for Conductivity on Centerfire Creek	November 13, 2001	April 16, 2002
				plant nutrients	TMDL for Plant Nutrients on Centerfire Creek	December 11, 2001	
Lower Colorado River Basin	15040001	NM-2503_20	Gila River (East Fork)	chronic aluminum	TMDL for Metals (Chronic Aluminum) for the East Fork of the Gila River and Taylor Creek	November 13, 2001	April 15, 2002

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Middle Rio Grande Basin	13020102	NM-2116.A_023	Poleo Creek (Rio Puerco de Chama to headwaters)	turbidity	TMDLs for the Lower Chama Watershed (Below El Vado Reservoir to the confluence with the Rio Grande)	June 8, 2004	September 3, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_011	Polvadera Creek (Cañones Creek to headwaters)	temperature	TMDLs for the Lower Chama Watershed (Below El Vado Reservoir to the confluence with the Rio Grande)	June 8, 2004	September 3, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_080	Rio Brazos (Rio Chama to Chavez Creek)	temperature	TMDLs for the Upper Chama Watershed (El Vado Reservoir to Colorado border)	September 9, 2003	March 4, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_001	Rio Chama (Rio Brazos to Little Willow Creek)	temperature	TMDLs for the Upper Chama Watershed (El Vado Reservoir to Colorado border)	September 9, 2003	March 4, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_110	Rio Chamita (Rio Chama to CO border)	chronic aluminum	TMDLs for the Upper Chama Watershed (El Vado Reservoir to Colorado border)	September 9, 2003	March 4, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_110	Rio Chamita (Rio Chama to CO border)	total ammonia, total phosphorus, fecal coliform	TMDL for the Rio Chamita from the confluence of the Rio Chama to the NM-CO border	August 10, 1999	September 30, 1999
				temperature	TMDL for Temperature on the Rio Chamita	November 9, 1999	December 17, 1999
Middle Rio Grande Basin	13020102	NM-2116.A_060	Rio Nutras (Rio Chama to headwaters)	turbidity	TMDLs for the Lower Chama Watershed (Below El Vado Reservoir to the confluence with the Rio Grande)	June 8, 2004	September 3, 2004
Middle Rio Grande Basin	13020102	NM-2112.A_00	Rio Vallecitos (Rio Tusas to headwaters)	chronic aluminum, temperature, turbidity	TMDLs for the Lower Chama Watershed (Below El Vado Reservoir to the confluence with the Rio Grande)	June 8, 2004	September 3, 2004
Middle Rio Grande Basin	13020102	NM-2116.A_070	Rito de Tierra Amarilla (Rio Chama to HWY 64)	stream bottom deposits, temperature, turbidity	TMDLs for the Upper Chama Watershed (El Vado Reservoir to Colorado border)	September 9, 2003	March 4, 2004

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Lower Colorado River Basin	15040003	NM-2502.A_21	Mangas Creek (Gila River to Mangas Springs)	plant nutrients	TMDL for Plant Nutrients on Mangas Creek	December 11, 2001	April 16, 2002
Lower Colorado River Basin	15040001	NM-2503_02	Mogollon Creek (Perennial reaches abv USGS gage)	chronic aluminum	TMDL for Metals (Chronic Aluminum) on Mogollon Creek	November 13, 2001	April 5, 2002
Lower Colorado River Basin	15040004	NM-2603.A_43	Negrito Creek (South Fork)	temperature	TMDL for Temperature on the South Fork of Negrito Creek from the Confluence with the North Fork to the Headwaters	November 13, 2001	April 5, 2002
Lower Colorado River Basin	15040004	NM-2602_20	San Francisco River (Centerfire Creek to AZ border)	temperature	TMDL for Temperature on the San Francisco River from Centerfire Creek to the New Mexico/Arizona Border	November 13, 2001	April 12, 2002
				plant nutrients	TMDL for Plant Nutrients on the San Francisco River from Centerfire Creek upstream to the New Mexico/Arizona Border	December 11, 2001	August 5, 2002
Lower Colorado River Basin	15040001	NM-2503_04	Sapillo Creek (Gila River to Lake Roberts)	total organic carbon	TMDL for Total Organic Carbon (TOC) on Sapillo Creek	December 11, 2001	April 12, 2002
				turbidity	TMDL for Turbidity on Sapillo Creek		
Lower Colorado River Basin	15040001		Taylor Creek (Beaver Creek to Wall Lake)	chronic aluminum	TMDL for Metals (Chronic Aluminum) for the East Fork of the Gila River and Taylor Creek	November 13, 2001	April 15, 2002
				temperature	TMDL for Temperature on Taylor Creek		August 5, 2002

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Middle Rio Grande Basin	13020202	NM-2106.A_40	Rio de las Vacas (Rio Cebolla to Rito de las Palomas)	temperature, total organic carbon	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2106.A_30	Rio Guadalupe (Jemez River to confl with Rio Cebolla)	chronic aluminum	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
				stream bottom deposits, turbidity	TMDL for Turbidity and Stream Bottom Deposits for the Jemez River and the Rio Guadalupe	June 8, 2004	July 30, 2004
				temperature	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009
Middle Rio Grande Basin	13020202	NM-2106.A_43	Rito de las Palomas (Rio de las Vacas to headwaters)	temperature, sedimentation	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009
Middle Rio Grande Basin	13020202	NM-2106.A_42	Rito Penas Negras (Rio de las Vacas to headwaters)	stream bottom deposits, temperature, total	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
				nutrients	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009
Middle Rio Grande Basin	13020202	NM-2106.A_20	San Antonio Creek (East Fork Jemez River to headwaters)	temperature, turbidity	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2106.A_20	San Antonio Creek (East Fork Jemez to VCNP bnd)	arsenic	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Middle Rio Grande Basin	13020201	NM-2110_00	Santa Fe River (Cochiti Pueblo bnd to Santa Fe WWTP)	chlorine, stream bottom deposits	TMDL for the Santa Fe River from the Cochiti Pueblo to the Santa Fe Wastewater Treatment Plant for Chlorine and Stream Bottom Deposits	January 11, 2000	March 20, 2000
				dissolved oxygen, pH	TMDL for the Santa Fe River for Dissolved Oxygen and pH	December 12, 2000	January 11, 2001
Middle Rio Grande Basin	13020202	NM-2106.A_54	Clear Creek (Rio de las Vacas to San Gregio Lake)	total organic carbon, turbidity	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2106.A_10	Jemez River (East Fork)	turbidity	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2106.A_10	East Fork Jemez (East Fork Jemez to headwaters)	temperature	TMDL for the Jemez River Watershed (Valles Caldera National Preserve boundaries to headwaters)	August 8, 2006	October 11, 2006
Middle Rio Grande Basin	13020202	NM-2106.A_13	East Fork Jemez River (San Antonio Creek to VCNP boundary)	temperature, arsenic	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009
Middle Rio Grande Basin	13020202	NM-2106.A_00	Jemez River (HWY 4 near Jemez Springs to East Fork)	stream bottom deposits, turbidity	TMDL for Turbidity and Stream Bottom Deposits for the Jemez River and Rio Guadalupe	June 8, 2004	July 30, 2004
				chronic aluminum	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2105.5_10	Jemez River (Rio Guadalupe to HWY 4 nr Jemez Springs)	stream bottom deposits, turbidity	TMDL for Turbidity and Stream Bottom Deposits for the Jemez River and Rio Guadalupe	June 8, 2004	July 30, 2004
				chronic aluminum	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2105_75	Jemez River (Zia Pueblo bnd to Jemez Pueblo bnd)	arsenic, boron	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Middle Rio Grande Basin	13020202	NM-2106.A_22	Sulphur Creek (Redondo Creek to headwaters)	conductivity, pH	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020207	NM-2107.A_01	Bluewater Creek (Bluewater Reservoir to headwaters)	temperature, nutrients	TMDL for the Rio Puerco Watershed-Part Two	August 14, 2007	September 21, 2007
Middle Rio Grande Basin	13020207	NM-2107.A_00	Bluewater Creek (non-tribal Rio San Jose to Bluewater Rsrv)	temperature, nutrients	TMDL for the Rio Puerco Watershed-Part Two	August 14, 2007	September 21, 2007
Middle Rio Grande Basin	13020204	NM-2107.A_46	La Jara Creek (perennial reaches above Arroyo San Jose)	chronic aluminum	TMDL for the Rio Puerco Watershed-Part Two	August 14, 2007	September 21, 2007
Middle Rio Grande Basin	13020203	NM-2105.1_00	Rio Grande (non-Pueblo Alameda to Angostura Diversion)	E. coli	TMDL for the Middle Rio Grande Watershed	April 13, 2010	June 30, 2010
Middle Rio Grande Basin	13020203	NM-2105.1_00	Rio Grande (Alameda Bridge to Santa Ana Pueblo bnd)	fecal coliform	Middle Rio Grande TMDL for Fecal Coliform	November 13, 2001	May 3, 2002
Middle Rio Grande Basin	13020203	NM-2105_50	Rio Grande (Isleta Pueblo boundary to Alameda bridge)	E. coli	TMDL for the Middle Rio Grande Watershed	April 13, 2010	June 30, 2010
				fecal coliform	Middle Rio Grande TMDL for Fecal Coliform	November 13, 2001	May 3, 2002
Middle Rio Grande Basin	13020203	NM-2105_40	Rio Grande (Rio Puerco to Isleta Pueblo boundary)	E. coli	TMDL for the Middle Rio Grande Watershed	April 13, 2010	June 30, 2010
Middle Rio Grande Basin	13020203	NM-2105_10	Rio Grande (San Marcial at USGS gage to Rio Puerco)	aluminum, E. coli	TMDL for the Middle Rio Grande Watershed	April 13, 2010	June 30, 2010
Middle Rio Grande Basin	13020207	NM-2107.A_10	Rio Moquino (Laguna Pueblo to Seboyeita Creek)	temperature, nutrients	TMDL for the Rio Puerco Watershed-Part Two	August 14, 2007	September 21, 2007

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Middle Rio Grande Basin	13020202	NM-2105.7.1	Jemez River (Jemez Pueblo bnd to Rio Guadalupe)	arsenic, boron	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009
Middle Rio Grande Basin	13020202	NM-2105.5_10	Jemez River (Rio Guadalupe to Soda Dam nr Jemez Springs)	arsenic, boron, temperature, nutrients	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009
Middle Rio Grande Basin	13020202	NM-2106.A_00	Jemez River (Soda Dam nr Jemez Springs to East Fork)	arsenic	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009
Middle Rio Grande Basin	13020202	NM-2106.A_21	Redondo Creek (Sulphur Creek to headwaters)	total phosphorus	TMDL for Total Phosphorus for Redondo Creek	October 12, 1999	December 2, 1999
				temperature, turbidity	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2106.A_12	Jaramillo Creek (VCNP boundary to headwaters)	temperature, turbidity	TMDL for the Jemez River Watershed (Valles Caldera National Preserve boundaries to headwaters)	August 8, 2006	October 11, 2006
Middle Rio Grande Basin	13020202	NM-2106.A_52	Rio Cebolla (Fenton Lake to headwaters)	stream bottom deposits, temperature	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2106.A_50	Rio Cebolla (Rio de las Vacas to Fenton Lake)	stream bottom deposits	TMDL Report for the Jemez River Watershed	December 16, 2002	June 3, 2003
Middle Rio Grande Basin	13020202	NM-2106.A_40	Rio de las Vacas (Rio Cebolla to Clear Creek)	nutrients	TMDL for the Jemez River Watershed (from San Ysidro to headwaters excluding the waters in the Valles Caldera National Preserve)	August 11, 2009	September 15, 2009

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Upper Rio Grande Basin	13020101	NM-2120.A_602	Rio Hondo (South Fork of Rio Hondo to Lake Fork Creek)	total phosphorus, Total Nitrogen	TMDL for the Rio Hondo (South Fork of Rio Hondo to Lake Fork Creek)	June 14, 2005	September 14, 2005
Upper Rio Grande Basin	13020101	NM-2119_30	Rio Pueblo de Taos (Arroyo del Alamo to Rio Grande del Rancho)	stream bottom deposits, temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2120.A_511	Rio Pueblo de Taos (Rio Grande del Rancho to Taos Pueblo boundary)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2119_20	Rio Pueblo de Taos (Rio Grande to Arroyo del Alamo)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13010005	NM-2120.A_901	Rio San Antonio (Montoya Canyon to headwaters)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2120.A_419	Rio Santa Barbara (Picuris Pueblo boundary to USFS boundary)	turbidity	TMDL for the Upper Rio Grande Watershed Part 2 (Cochiti Reservoir to Pilar, NM)	April 12, 2005	June 2, 2005
Pecos River Basin	13060001	NM-2214.A_091	Bull Creek (Cow Creek to headwaters)	temperature	TMDL for the Pecos Headwaters Watershed (Ft. Sumner Reservoir to headwaters)	August 9, 2005	September 13, 2005

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Middle Rio Grande Basin	13020204	NM-2107.A_40	Rio Puerco (Arroyo Chijuilla to Northern Boundary Cuba)	sedimentation	TMDL for the Rio Puerco Watershed-Part One	November 14, 2006	August 10, 2007
				chronic aluminum, nutrients	TMDL for the Rio Puerco Watershed-Part Two	August 14, 2007	September 21, 2007
Upper Rio Grande Basin	13020101	NM-2120.A_705	Bitter Creek (Red River to headwaters)	stream bottom deposits, acute aluminum	TMDL for the Red River Watershed (Rio Grande River to headwaters)	January 10, 2006	March 17, 2006
Upper Rio Grande Basin	13020101	NM-2120.A_827	Comanche Creek (Costilla Creek to Little Costilla Creek)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2120.A_823	Cordova Creek (Costilla Creek to headwaters)	stream bottom deposits, total phosphorus, turbidity	TMDL for Turbidity, Stream Bottom Deposits, and Total Phosphorus for Cordova Creek	November 9, 1999	December 17, 1999
Upper Rio Grande Basin	13020101	NM-2120.A_820	Costilla Creek (diversion above Costilla to Comanche Creek)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2118.A_34	Embudo Creek (Rio Grande to Canada de Ojo Sarco)	stream bottom deposits, turbidity	TMDL for the Upper Rio Grande Watershed Part 2 (Cochiti Reservoir to Pilar, NM)	April 12, 2005	June 2, 2005
Upper Rio Grande Basin	13020101	NM-2118.A_34	Little Tesuque (Rio Tesuque to headwaters)	chronic aluminum	TMDL for the Upper Rio Grande Watershed Part 2 (Cochiti Reservoir to Pilar, NM)	April 12, 2005	June 2, 2005

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Pecos River Basin	13060001	NM-2214.A_102	Cow Creek (Bull Creek to headwaters)	temperature, turbidity	TMDL for the Pecos Headwaters Watershed (Ft. Sumner Reservoir to headwaters)	August 9, 2005	September 13, 2005
Pecos River Basin	13060001	NM-2214.A_090	Cow Creek (Pecos River to Bull Creek)	temperature, turbidity	TMDL for the Pecos Headwaters Watershed (Ft. Sumner Reservoir to headwaters)	August 9, 2005	September 13, 2005
Pecos River Basin	13060001	NM-2212_00	Gallinas River (Las Vegas diversion to headwaters)	temperature	TMDL for the Pecos Headwaters Watershed (Ft. Sumner Reservoir to headwaters)	August 9, 2005	September 13, 2005
Pecos River Basin	13060001	NM-2214.A_002	Pecos River (Alamitos Canyon to Willow Creek)	turbidity	TMDL for the Pecos Headwaters Watershed (Ft. Sumner Reservoir to headwaters)	August 9, 2005	September 13, 2005
Pecos River Basin	13060001	NM-2214.A_003	Pecos River (Canon de Manzanita to Alamitos Canyon)	temperature, turbidity	TMDL for the Pecos Headwaters Watershed (Ft. Sumner Reservoir to headwaters)	August 9, 2005	September 13, 2005
Pecos River Basin	13060008	NM-2209.A_22	Carrizo Creek (Rio Ruidoso to Mescalero Apache boundary)	bacteria	TMDL for the Rio Hondo Watershed (Lincoln County) (Pecos River to Headwaters)	January 10, 2006	February 10, 2006
Pecos River Basin	13060008	NM-2209.A_10	Rio Bonito (Angus Canyon to headwaters)	bacteria	TMDL for the Rio Hondo Watershed (Lincoln County) (Pecos River to Headwaters)	January 10, 2006	February 10, 2006

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Upper Rio Grande Basin	13020101	NM-2120.A_706	Placer Creek (Red River to headwaters)	acute aluminum	TMDL for the Red River Watershed (Rio Grande River to headwaters)	January 10, 2006	March 17, 2006
Upper Rio Grande Basin	13020101	NM-2119_10	Red River (Rio Grande to Placer Creek)	acute aluminum	TMDL for the Red River Watershed (Rio Grande River to headwaters)	January 10, 2006	March 17, 2006
Upper Rio Grande Basin	13010005	NM-2120.A_900	Rio de los Pinos (Colorado border to headwaters)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2120.A_512	Rio Fernando de Taos (Rio Pueblo de Taos to headwaters)	specific conductance, temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2111_12	Rio Grande (non-pueblo Santa Clara to Embudo Creek)	turbidity	TMDL for the Upper Rio Grande Watershed Part 2 (Cochiti Reservoir to Pilar, NM)	April 12, 2005	June 2, 2005
Upper Rio Grande Basin	13020101	NM-2119_05	Rio Grande (Red River to NM-CO border)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2120.A_501	Rio Grande del Rancho (Rio Pueblo de Taos to Hwy 518)	specific conductance	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004
Upper Rio Grande Basin	13020101	NM-2120.A_600	Rio Hondo (Rio Grande to USFS boundary)	temperature	TMDL for the Upper Rio Grande Watershed Part 1 (Pilar, NM to CO border)	November 9, 2004	December 17, 2004

List of Approved TMDLs in New Mexico

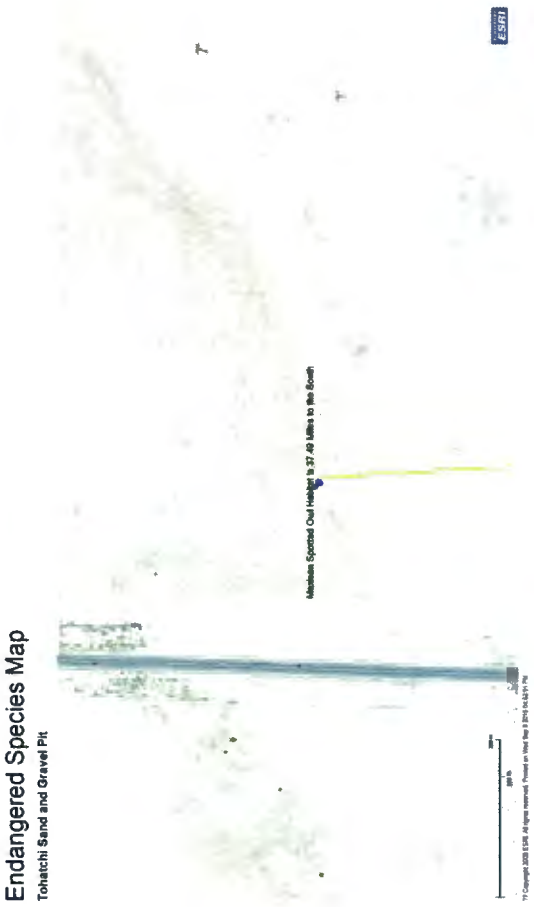
Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
Pecos River Basin	13060008	NM-2208_30	Rio Hondo (Perennial Reaches Pecos to headwaters)	bacteria	TMDL for the Rio Hondo Watershed (Lincoln County) (Pecos River to Headwaters)	January 10, 2006	February 10, 2006
Pecos River Basin	13060008	NM-2208_20	Rio Ruidoso (Rio Bonito to US Highway 70)	total nitrogen, total phosphorus	TMDL for the Rio Hondo Watershed (Lincoln County) (Pecos River to Headwaters)	January 10, 2006	February 10, 2006
Pecos River Basin	13060008	NM-2209.A_20	Rio Ruidoso (US Highway 70 Mescalero Apache boundary)	temperature, turbidity	TMDL for the Rio Hondo Watershed (Lincoln County) (Pecos River to Headwaters)	January 10, 2006	February 10, 2006
San Juan River Basin	14080104	NM-2403.A_00	Animas River (San Juan River to Estes Arroyo)	fecal coliform	TMDL for the San Juan River Watershed Part One (Navajo Nation Boundary at the Hogback to Navajo Dam)	June 14, 2005	August 26, 2005
				total nitrogen, total phosphorus	TMDL for the San Juan River Watershed Part Two (Navajo Nation Boundary at the Hogback to Navajo Dam)	December 13, 2005	January 17, 2006
San Juan River Basin	14080101	NM-9000.A_060	Gallegos Canyon (San Juan to Navajo Boundary)	selenium	TMDL for the San Juan River Watershed Part One (Navajo Nation Boundary at the Hogback to Navajo Dam)	June 14, 2005	August 26, 2005

List of Approved TMDLs in New Mexico

Appendix B - Water Quality Management Plan and Continuing Planning Process

Watershed	HUC	AU_ID	Waterbody	TMDL Parameter	Document Name	WQCC Approval	EPA Approval
San Juan River Basin	14080105	NM-2402.A_01	La Plata River (McDermott Arroyo to Colorado Border)	fecal coliform	TMDL for the San Juan River Watershed Part One (Navajo Nation Boundary at the Hogback to Navajo Dam)	June 14, 2005	August 26, 2005
				dissolved oxygen	TMDL for the San Juan River Watershed Part Two (Navajo Nation Boundary at the Hogback to Navajo Dam)	December 13, 2005	January 17, 2006
San Juan River Basin	14080105	NM-2403.A_00	La Plata River (San Juan River to McDermott Arroyo)	fecal coliform, stream bottom deposits	TMDL for the San Juan River Watershed Part One (Navajo Nation Boundary at the Hogback to Navajo Dam)	June 14, 2005	August 26, 2005
San Juan River Basin	14080105	NM-2401_10	San Juan River (Navajo Boundary at Hogback to Animas River)	fecal coliform	TMDL for the San Juan River Watershed Part One (Navajo Nation Boundary at the Hogback to Navajo Dam)	June 14, 2005	August 26, 2005
San Juan River Basin	14080101	NM-2401_00	San Juan River (Animas River to Canon Largo)	fecal coliform, stream bottom deposits	TMDL for the San Juan River Watershed Part One (Navajo Nation Boundary at the Hogback to Navajo Dam)	June 14, 2005	August 26, 2005



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 OSUNA ROAD NE
ALBUQUERQUE, NM 87113
PHONE: (505)346-2525 FAX: (505)346-2542
URL: www.fws.gov/southwest/es/NewMexico/;
www.fws.gov/southwest/es/ES_Lists_Main2.html

Consultation Code: 02ENNM00-2015-SLI-0727 September 09, 2015
Event Code: 02ENNM00-2015-E-00861
Project Name: Tohatchi Sand and Gravel Pit

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with the Service will be necessary. Through the consultation process, we will analyze information

contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program: www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Tohatchi Sand and Gravel Pit

Official Species List

Provided by:

New Mexico Ecological Services Field Office
2105 OSUNA ROAD NE
ALBUQUERQUE, NM 87113
(505) 346-2525
http://www.fws.gov/southwest/es/NewMexico/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

Consultation Code: 02ENNM00-2015-SLI-0727
Event Code: 02ENNM00-2015-E-00861

Project Type: TRANSPORTATION

Project Name: Tohatchi Sand and Gravel Pit
Project Description: 11.5 acre borrow pit for a highway project.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: Tohatchi Sand and Gravel Pit

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-108.65172743797302 35.94232717570317, -108.64925444126129 35.94296994848921, -108.64863216876984 35.94128483034267, -108.65108907222748 35.94058992579804, -108.65172743797302 35.94232717570317)))

Project Counties: McKinley, NM

United States Department of Interior
Fish and Wildlife Service

Project name: Tohatchi Sand and Gravel Pit

Endangered Species Act Species List

There are a total of 5 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	Status	Has Critical Habitat	Condition(s)
Mexican Spotted owl *(Strix occidentalis lucida)* Population: Entire	Threatened	Final designated	
Southwestern Willow flycatcher *(Empidonax traillii extimus)* Population: Entire	Endangered	Final designated	
Yellow-Billed Cuckoo *(Coccyzus americanus)* Population: Western U.S. DPS	Threatened	Proposed	
Fishes			
Zuni Bluehead Sucker *(Catostomus discobolus yarrowi)*	Endangered	Proposed	
Flowering Plants			
Zuni fleabane *(Erigeron rhizomatus)*	Threatened		

United States Department of Interior
Fish and Wildlife Service

Project name: Tohatchi Sand and Gravel Pit

Critical habitats that lie within your project area

There are no critical habitats within your project area.

INTEGRATED ENVIRONMENTAL CONSTRUCTION ENGINEERING

De Comply R store

September 9, 2015

Tamara Billie
Senior Archaeologist
Navajo Nation Historic Preservation Office
PO Box 4950
Window Rock, AZ 86515
FAX: 928-871-7886

RE: Historic Properties and Archeological Sites

Project: Tohatchi Sand and Gravel Pit
GPS Coordinates: 35.941236, -108.650926

Dear Ms. Billie,

We are in the process of preparing a Storm Water Pollution Prevention Plan (SWPPP) for the Tohatchi Sand and Gravel Pit project located in Tohatchi, NM. The project will consist of the development of access, infrastructure, utilities, permanent drainage and permanent stabilization for the construction of a borrow pit. With Respect to the General Construction Permit, would you please send any specific information on Historic Properties and Archeological sites that may exist or be affected by this project? Please find attached a map with project location.

Please send your reply via e-mail at admin@e2rc.com or fax at 505-867-4044.

If you would like future correspondence via e-mail please let me know.

Please feel free to contact me at 505-867-4040 with any questions.

Thank You,

Kenya Chavez
Operations Manager

www.e2rc.com ■ 505-867-4040 ■ 439 South Hill Road, Bernalillo, NM 87004 ■ Fax: 505-867-4044

License #350871

U.S. Fish & Wildlife Service

Tohatchi Sand and Gravel Pit

IPaC Trust Resource Report

Generated September 09, 2015 04:46 PM MDT

US Fish & Wildlife Service

IPaC Trust Resource Report

Project Description

NAME

Tohatchi Sand and Gravel Pit

PROJECT CODE

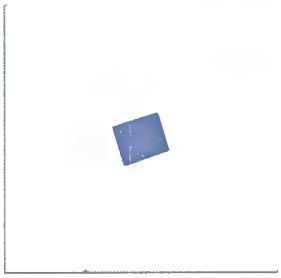
YZDEI-J63SF-CB5EC-HABBK-22CKPI

LOCATION

McKinley County, New Mexico

DESCRIPTION

11.5 acre borrow pit for a highway project.



U.S. Fish & Wildlife Contact Information

Species in this report are managed by:

New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Endangered Species

Proposed, candidate, threatened, and endangered species that are managed by the Endangered Species Program and should be considered as part of an effect analysis for this project.

This unofficial species list is for informational purposes only and does not fulfill the requirements under Section 7 of the Endangered Species Act which states that Federal agencies are required to "request of the Secretary of Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action " This requirement applies to projects which are conducted, permitted or licensed by any Federal agency

A letter from the local office and a species list which fulfills this requirement can be obtained by returning to this project on the IPaC website and requesting an Official Species List from the regulatory documents section

Birds

Mexican Spotted Owl Strix occidentalis lucida

CRITICAL HABITAT
There is **final** critical habitat designated for this species

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B074

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered

CRITICAL HABITAT
There is **final** critical habitat designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B094

Yellow-billed Cuckoo Coccyzus americanus

CRITICAL HABITAT
There is **proposed** critical habitat designated for this species

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B06R

Fishes

Zuni Bluehead Sucker Catostomus discobolus yarrowi — Endangered

CRITICAL HABITAT
There is **proposed** critical habitat designated for this species

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E063

Flowering Plants

Zuni Fleabane Erigeron rhizomatus

CRITICAL HABITAT
No critical habitat has been designated for this species.

https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=Q1W4

Critical Habitats

Potential effects to critical habitat(s) within the project area must be analyzed along with the endangered species themselves.

There is no critical habitat within this project area

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

You are responsible for complying with the appropriate regulations for the protection of birds as part of this project. This involves analyzing potential impacts and implementing appropriate conservation measures for all project activities.

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008

Bendire's Thrasher Toxostoma bendirei — Bird of conservation concern
Season: Breeding

Brewer's Sparrow Spizella breweri — Bird of conservation concern
Season: Migrating
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0HA

Burrowing Owl Athene cunicularia — Bird of conservation concern
Season: Breeding

Cassin's Finch Carpodacus cassinii — Bird of conservation concern
Year-round

Flammulated Owl Otus flammeolus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DK

Golden Eagle Aquila chrysaetos — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0DV

Grace's Warbler Dendroica graciae — Bird of conservation concern
Season: Breeding

Gray Vireo Vireo vicinior — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0G5

Juniper Titmouse Baeolophus ridgwayi — Bird of conservation concern
Year-round

Lewis's Woodpecker Melanerpes lewis — Bird of conservation concern
Year-round

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FY

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FU

Pinyon Jay Gymnorhinus cyanocephalus — Bird of conservation concern
Year-round

Prairie Falcon Falco mexicanus — Bird of conservation concern
Year-round
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0ER

Swainson's Hawk Buteo swainsoni — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B070

Williamson's Sapsucker Sphyrapicus thyroideus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0FX

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B0F6

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. If your project overlaps or otherwise impacts a Refuge, please contact that Refuge to discuss the authorization process

There are no refuges within this project area

Wetlands

Impacts to NWI wetlands and other aquatic habitats from your project may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

Project proponents should discuss the relationship of these requirements to their project with the Regulatory Program of the appropriate U.S. Army Corps of Engineers District.

DATA LIMITATIONS
The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted Metadata should be consulted to determine the date of the source imagery used and any mapping problems

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

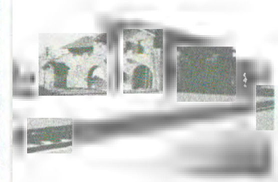
DATA EXCLUSIONS
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS
Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

There are no wetlands identified in this project area

New Mexico's Rich Cultural Heritage

Listed State and National Register Properties XƵIĮŎZ



March 2012

Pictured clockwise: Acoma Curio Shop, Cibola County (1934); Belen Harvey House, Valencia County (868); Gate, Fence, and Hollow Tree Shelter Designed by Dionicio Rodriguez for R.C. Freeman, Union County (1327); and Lyceum Theater, Curry County (1037).

HPD	County	City	Name Of Property	SR Date	NR Date
1885	McKinley	Bluewater, vic. O	Bowlin's Old Crater Trading Post	12/5/2005	3/21/2006
1951	McKinley	Borrego	Borrego Pass Trading Post Historic District	10/15/2010	11/22/2011
1884	McKinley	Chi Chil Tah, vic.	Cousins, Bros. Trading Post	12/2/2005	3/22/2006
1678	McKinley	Continental Divid	State maint. Route 66: Milan to Continental Divide	5/9/1997	11/19/1997
679	McKinley	Coolidge	Coolidge Archeological District (LA 17280)	7/28/1978	
669	McKinley	Coyote	Grey Hill Spring Archeological District (LA 18244)	7/28/1978	
665	McKinley	Coyote Canyon	Peach Springs Archeological District	7/28/1978	
667	McKinley	Crownpoint	Casa de Estrella Archeological Site (Section 8 Ruin)	7/28/1978	10/10/1980
677	McKinley	Crownpoint	Indian Creek Archeological District (LA 17081)	7/28/1978	
675	McKinley	Crownpoint	Muddy Water Archeological District (LA 10959)	7/28/1978	
681	McKinley	Crownpoint	Standing Rock Archeological District (LA 18232)	7/28/1978	
882	McKinley	Dalton Pass	Dalton Pass Archeological Site	7/28/1978	10/10/1980
403	McKinley	Fort Wingate	Fort Wingate Historic District	8/22/1975	5/26/1978
685	McKinley	Fort Wingate	Fort Wingate Ruin (LA 2690)	7/28/1978	10/10/1980

HPD	County	City	Name Of Property	SR Date	NR Date
1815	McKinley	Fort Wingate	Southwestern Sheep-Breeding Lab Historic District	6/2/2002	5/30/2003
1183	McKinley	Gallup	Atchison, Topeka & Santa Fe Railway Depot (Gallup)	9/20/1985	
1726	McKinley	Gallup	Chief Theater	11/17/2000	5/16/1988
1726	McKinley	Gallup	Chief Theater		5/16/1988
1179	McKinley	Gallup	Cotton, C. N. Warehouse	9/20/1985	1/14/1988
491	McKinley	Gallup	Cotton, C. N., House (REMOVED SR & NR)	2/25/1977	7/10/1979
1182	McKinley	Gallup	Drake Hotel	9/20/1985	1/14/1988
1187	McKinley	Gallup	El Morro Theater	9/20/1985	5/16/1988
1190	McKinley	Gallup	El Rancho Hotel	9/20/1985	1/14/1988
1184	McKinley	Gallup	Grand Hotel (Ricca's Mercantile)	9/20/1985	5/16/1988
537	McKinley	Gallup	Harrison House	12/9/1977	
1185	McKinley	Gallup	Harvey Hotel	9/20/1985	5/16/1988
1724	McKinley	Gallup	Historic Resources of Downtown Gallup	9/20/1985	5/16/1988
1188	McKinley	Gallup	Lebanon Lodge #22	9/20/1985	2/14/1989

NPS	County	City	Name Of Property	SR Date	NR Date
1580	McKinley	Gallup	Log Cabin Motel (REMOVED SR & NR)	9/17/1993	11/22/1993
1191	McKinley	Gallup	McKinley County Courthouse	9/20/1985	2/15/1989
1376	McKinley	Gallup	Mentmore Meadows Archeological Site	5/15/1987	
1181	McKinley	Gallup	Palace Hotel - Gallup	9/20/1985	5/16/1988
1592	McKinley	Gallup	Peggy's Pueblo	7/7/1994	8/16/1994
1685	McKinley	Gallup	Redwood Lodge	5/9/1997	2/13/1998
1180	McKinley	Gallup	Rex Hotel	9/20/1985	1/14/1988
1189	McKinley	Gallup	US Post Office (Old) (Clay Feltz Agency)	9/20/1985	5/25/1988
1186	McKinley	Gallup	White Cafe	9/20/1985	1/14/1988
492	McKinley	Gamerco	Gamerco Mine Smokestack	2/25/1977	
672	McKinley	Haystack	Haystack National Register Archaeological District	7/28/1978	10/10/1980
1291	McKinley	Manuelito	Atsee Nitsaa	9/12/1986	
1294	McKinley	Manuelito	Big House (LA 1379)	9/12/1986	
1290	McKinley	Manuelito	Kin Hocho'i (LA 6541)	9/12/1986	

NPS	County	City	Name Of Property	SR Date	NR Date
239	McKinley	Manuelito	Manuelito Complex NHL	3/13/1972	10/15/1966
1295	McKinley	Manuelito	Naat'a'anii Bikin (LA 1502)	9/12/1986	
1292	McKinley	Manuelito	Stepping Stone House (LA 2340)	9/12/1986	
1293	McKinley	Manuelito	Wolye A'din (LA 49505)	9/12/1986	
440	McKinley	Marquez	Canon de Juan Tafoya	5/7/1978	
1581	McKinley	Mentmore	State maint. Route 66: Manuelito to the AZ border.	9/17/1993	11/22/1993
1800	McKinley	Multiple	LA 125774 Checkerboard Land Exchange (L-Bar)	2/16/2001	
1811	McKinley	Multiple	Neon Signs Along Route 66 in New Mexico	4/5/2002	2/17/2003
691	McKinley	Prewitt	Andrews National Register Archeological District	7/28/1978	5/17/1979
423	McKinley	Prewitt	Casa Mero Ruin (Casamero) (LA 779)	12/19/1975	
688	McKinley	Prewitt	Casamero Archeological District LA 8779)	7/28/1978	
680	McKinley	Prewitt	Coyotes Sing Here Archeological District (LA 18754)	7/28/1978	
1725	McKinley	Pueblo Pintado	Chaco Mesa Pueblo III		8/2/1985
1132	McKinley	Pueblo Pintado	LA 15278	3/8/1985	8/2/1985

NPS	County	City	Name Of Property	SR Date	NR Date
1163	McKinley	Pueblo Pintado	LA 45780	3/8/1985	8/2/1985
1164	McKinley	Pueblo Pintado	LA 45781	3/8/1985	8/2/1985
1165	McKinley	Pueblo Pintado	LA 45782	3/8/1985	8/2/1985
1166	McKinley	Pueblo Pintado	LA 45784	3/8/1985	8/2/1985
1167	McKinley	Pueblo Pintado	LA 45785	3/8/1985	8/2/1985
1188	McKinley	Pueblo Pintado	LA 45786	3/8/1985	8/2/1985
1169	McKinley	Pueblo Pintado	LA 45789	3/8/1985	8/2/1985
1130	McKinley	Pueblo Pintado	LA 50000	3/8/1985	8/2/1985
1131	McKinley	Pueblo Pintado	LA 50001	3/8/1985	8/2/1985
1133	McKinley	Pueblo Pintado	LA 50013	3/8/1985	8/2/1985
1134	McKinley	Pueblo Pintado	LA 50014	3/8/1985	8/2/1985
1135	McKinley	Pueblo Pintado	LA 50015	3/8/1985	8/2/1985
1136	McKinley	Pueblo Pintado	LA 50016	3/8/1985	8/2/1985
1137	McKinley	Pueblo Pintado	LA 50017	3/8/1985	8/2/1985

NPS	County	City	Name Of Property	SR Date	NR Date
1138	McKinley	Pueblo Pintado	LA 50018	3/8/1985	8/2/1985
1139	McKinley	Pueblo Pintado	LA 50019	3/8/1985	8/2/1985
1140	McKinley	Pueblo Pintado	LA 50020	3/8/1985	8/2/1985
1141	McKinley	Pueblo Pintado	LA 50021	3/8/1985	8/2/1985
1142	McKinley	Pueblo Pintado	LA 50022	3/8/1985	8/2/1985
1143	McKinley	Pueblo Pintado	LA 50023	3/8/1985	8/2/1985
1144	McKinley	Pueblo Pintado	LA 50024	3/8/1985	8/2/1985
1145	McKinley	Pueblo Pintado	LA 50025	3/8/1985	8/2/1985
1146	McKinley	Pueblo Pintado	LA 50026	3/8/1985	8/2/1985
1147	McKinley	Pueblo Pintado	LA 50027	3/8/1985	8/2/1985
1148	McKinley	Pueblo Pintado	LA 50028	3/8/1985	8/2/1985
1149	McKinley	Pueblo Pintado	LA 50030	3/8/1985	8/2/1985
1150	McKinley	Pueblo Pintado	LA 50031	3/8/1985	8/2/1985
1151	McKinley	Pueblo Pintado	LA 50033	3/8/1985	8/2/1985

MPS	County	City	Name Of Property	SR Date	NR Date
1152	McKinley	Pueblo Pintado	LA 50034	3/8/1985	8/2/1985
1153	McKinley	Pueblo Pintado	LA 50035	3/8/1985	10/9/1985
1154	McKinley	Pueblo Pintado	LA 50036	3/8/1985	8/2/1985
1155	McKinley	Pueblo Pintado	LA 50037	3/8/1985	8/2/1985
1156	McKinley	Pueblo Pintado	LA 50038	3/8/1985	8/2/1985
1157	McKinley	Pueblo Pintado	LA 50044	3/8/1985	8/2/1985
1158	McKinley	Pueblo Pintado	LA 50071	3/8/1985	8/2/1985
1159	McKinley	Pueblo Pintado	LA 50072	3/8/1985	8/2/1985
1160	McKinley	Pueblo Pintado	LA 50074	3/8/1985	8/2/1985
1161	McKinley	Pueblo Pintado	LA 50077	3/8/1985	8/2/1985
1162	McKinley	Pueblo Pintado	LA 50080	3/8/1985	8/2/1985
1374	McKinley	Ramah	Ashcroft-Merrill Historic District	5/15/1987	7/27/1990
1609	McKinley	Ramah	Bond, Joseph Alright Boot, House	2/10/1995	
1509	McKinley	Ramah	Vogt, Evon Zartman Ranch House	8/4/1989	2/4/1993

MPS	County	City	Name Of Property	SR Date	NR Date
1683	McKinley	Rehobeth	State maint. Route 66: Iyanbito to Rehobeth	5/9/1997	11/19/1997
687	McKinley	San Mateo	Kin Nizhoni Archeological District	7/28/1978	
666	McKinley	Seven Lakes	Bee Burrow Archeological District	7/28/1978	12/10/1984
671	McKinley	Seven Lakes	Greenlee Archeological Site	7/28/1978	10/10/1980
683	McKinley	Seven Lakes	Upper Kin Klizhin Archaeological Site	7/28/1978	10/10/1980
57	McKinley	Thoreau	Chaco Culture National Historical Park	5/21/1971	10/15/1966
1579	McKinley	Thoreau	Herman's, Roy T., Garage and Service Station	9/17/1993	11/22/1993
123	McKinley	Tohatchi	Tohatchi Village Site	9/12/1969	
673	McKinley	Two Grey Hills	Skunk Springs-Crumbled House Archaeological Dist.	7/28/1978	
1721	McKinley	Zuni	Anasazi Comms. in Cibolan Cult. Area W. Cent. NM	9/12/1986	
889	McKinley	Zuni	LA 38011	10/1/1982	
10	McKinley	Zuni Pueblo	Hawikuh Ruin NHL		10/15/1966
286	McKinley	Zuni Pueblo	Kyakima Ruin	6/29/1973	
288	McKinley	Zuni Pueblo	Mata'a:kya Ruin	6/29/1973	

MPS	County	City	Name Of Property	SR Date	NR Date
797	McKinley	Zuni Pueblo	Ojo Pueblo	2/27/1962	
290	McKinley	Zuni Pueblo	Village of the Great Kivas	6/29/1973	
582	McKinley	Zuni Pueblo	Zuni Dam	1/20/1978	
169	McKinley	Zuni Pueblo	Zuni Mission Church, Restored	3/20/1970	
255	McKinley	Zuni Pueblo	Zuni, Pueblo of	7/28/1972	2/10/1975
374	McKinley	Zuni Pueblo	Zuni-Cibola Complex NHL	2/26/1975	12/2/1974

Corrective Action Report Form

Section A – Initial Report (CGP Part 5.4.1)
(Complete this section within 24 hours of discovering the condition that triggered corrective action)

Date problem first discovered:

Time discovered:

Name and contact information of individual completing this form:

What site conditions triggered the requirement to conduct corrective action *(check the box that applies)*:

- ☐ A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Part 2 and/or 3
- ☐ The stormwater controls that have been installed and maintained are not effective enough for the discharge to meet applicable water quality standards or applicable requirements in Part 3.1 of the permit
- ☐ A Part 2.3.1 prohibited discharge has occurred or is occurring
- ☐ EPA requires corrective action as a result of permit violations found during an EPA inspection carried out under Part 4.2

Provide a description of the problem:

Deadline for completing corrective action:

If your estimated date of completion falls after the 7-day deadline, explain (1) why you believe it is infeasible to complete work within 7 days, and (2) why the date you have established for making the new or modified stormwater control operational is the soonest practicable timeframe:

Section B – Corrective Action Progress (CGP Part 5.4.2)
(Complete this section no later than 7 calendar days after discovering the condition that triggered corrective action)

Section B.1 – Why the Problem Occurred

Cause(s) of Problem (insert additional rows if applicable)	How This Was Determined and the Date You Determined the Cause
1	
2.	

Section B.2 – Stormwater Control Modifications to be Implemented to Correct the Problem

List of Stormwater Control Modification(s) Needed to Correct Problem (insert additional rows if applicable)	Date of Completion	SWPPP Update Necessary?	Notes
1.		☐ Yes ☐ No (if yes specify date SWPPP modified)	
2.		☐ Yes ☐ No (if yes specify date SWPPP modified)	

Section C – Certification and Signature (CGP Part 5.4.3)

Section C.1 – Certification and Signature by Contractor or Subcontractor

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Contractor or Subcontractor: ______________________ **Date:** ______________

Printed Name and Affiliation: ______________________________

Section C.2 – Certification and Signature by Permittee

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Permittee or
"Duly Authorized Representative": ______________________ **Date:** ______________

Printed Name and Affiliation: ______________________

BMP Maintenance Log

Project	Tohatchi Sand and Gravel Pit		Date	
BMP Location	Action Performed	Date Performed	Inspection Report	Signature
Notes				

BMP Maintenance Log

Project	Tohatchi Sand and Gravel Pit		Date	
BMP Location	Action Performed	Date Performed	Inspection Report	Signature
Notes				

Rain Event Log

Project:	**Tohatchi Sand and Gravel Pit**		
Date	Time Start	Time Stopped	Rain Gauge Reading (inches)
Notes			

Rain Event Log

Project	**Tohatchi Sand and Gravel Pit**		
Date	Time Start	Time Stopped	Rain Gauge Reading (inches)
Notes			

Sweeping Log

Project:	**Tohatchi Sand and Gravel Pit**		
Date	Location	Time Duration	Preformed By

Sweeping Log

Project:	**Tohatchi Sand and Gravel Pit**		
Date	Location	Time Duration	Performed By

Watering Schedule

Project:	Tohatchi Sand and Gravel Pit		
Date	Location	Time Duration	Performed By

Watering Schedule

Project:	Tohatchi Sand and Gravel Pit		
Date	Location	Time Duration	Performed By

BMP Measures &
Product Details

BMP Field Training and Use Guide

BMP'S utilized on this site include:

1. Posting Board
2. Stabilized Construction Entrance(s)
3. Sanilet Spillage Protection
4. Concrete Washout(s)
5. Compost Wattles (used at open trenches and spoil piles)

Expectations of Site Personnel

All site personnel should pay attention to the condition of the BMP'S to make sure they are performing. This is a simple task. Notify your supervisor if you see:

1. The posting board damaged.
   a. This includes any postings – make sure they are able to be read.
2. The Construction Entrances are filled.
   a. Is the rock filled with dirt?
   b. Can you see more than half of the rock? If not, tell your supervisor.
3. The Sanilets leaking or are overturned.
   a. The wattles are not around the Sanilet.
4. The Concrete Washouts are more than half filled.
5. The Compost Wattles are 'leaking' or are out of place.

Requirements of Site Personnel

- ALL DRIVERS MUST ENTER AND EXIT USING THE ENTRANCES
- KEEP ALL BMP'S IN PLACE UNLESS YOUR SUPERVISOR ASKS YOU TO MOVE THEM
- KEEP THE SEDIMENT ON THE SITE – USE THE BMP'S

Your assistance with these items will assure our site is compliant and meets the specifications of the project.

I have familiarized myself with the requirements of this BMP and understand its usage on the project.

X________________________ Print Name________________________

BMP Field Training and Use Guide

BMP'S utilized on this site include:

1. Posting Board
2. Stabilized Construction Entrance(s)
3. Sanilet Spillage Protection
4. Concrete Washout(s)
5. Compost Wattles (used at open trenches and spoil piles)

Expectations of Site Personnel

All site personnel should pay attention to the condition of the BMP'S to make sure they are performing. This is a simple task. Notify your supervisor if you see:

1. The posting board damaged.
   a. This includes any postings – make sure they are able to be read.
2. The Construction Entrances are filled.
   a. Is the rock filled with dirt?
   b. Can you see more than half of the rock? If not, tell your supervisor.
3. The Sanilets leaking or are overturned.
   a. The wattles are not around the Sanilet.
4. The Equipment is leaking.
   a. What is the color of the fluid?
   b. Is there a spill on the ground
5. Containers holding chemicals of compounds are leaking.
   a. What Color is the fluid?
   b. Is there a spill on the ground?
6. The Concrete Washouts are more than half filled.
7. The Compost Wattles are 'leaking' or are out of place.

Requirements of Site Personnel

- ALL DRIVERS MUST ENTER AND EXIT USING THE ENTRANCES
- KEEP ALL BMP'S IN PLACE UNLESS YOUR SUPERVISOR ASKS YOU TO MOVE THEM
- KEEP THE SEDIMENT ON THE SITE – USE THE BMP'S

Your assistance with these items will assure our site is compliant and meets the specifications of the project.

I have familiarized myself with the requirements of this BMP and understand its usage on the project.

x Gabriel Holguin Print Name Gabriel Holguin

x Fidel Print Name Fidel Villalobos

x Marco Print Name Marco Garcia

NEW MEXICO DEPARTMENT OF TRANSPORTATION

July 2, 2013

Silver Dollar Racing & Shavings
316 Whiteley Road, RR1, Box 18D
Maxwell, NM 87728

RE: Contractor Prequalification

Dear Ms. Deines:

This letter is to inform you that your company's Contractor Prequalification has been approved with the New Mexico Department of Transportation (NMDOT). You were approved on 06/26/13 and now qualify to work on any NMDOT construction project or compete in the bidding process. Prequalification expires exactly one year from original approval date. Therefore, renewal will be required on 06/26/14.

If you have any questions, concerns or require additional information regarding Contractor Prequalification, please do not hesitate to call me at (505) 476-0901. Thank you.

Sincerely,

Charla Montoya

Charla Montoya
Investigations and Special Inquiries Bureau
Office of Inspector General

Silver Dollar Racing & Shavings
Cody and Kathy Deines
316 Whiteley Rd. Route 1, Box 18B
Maxwell, NM 87728
(575) 375-2636
Cell (505) 918-8863

April 15, 2014

E2RC formerly StormCo, LLC
VIA E-Mail: Kenya Chavez

Dear Kenya,

Thank you for the order. All wattles sold by Silver Dollar Racing & Shavings conform to the DOT Material Certification specifications. Our products are made in the USA and are on the December 2013 DOT Approved Products List.

If you need anything further, please don't hesitate to call.

Thank you,

Kathy Deines
Silver Dollar Racing & Shavings
Phone (575) 375-2636

NMDOT Approved Products List (APL)
DECEMBER 2013

Product Name	Product Description	Spec #	Manufacturer Name
Soiltac	Soil Stabilization and Dust Control	603.2	Soilworks, LLC
Filtrexx SiltSoxx	Erosion / Sediment Control (Containment)	603.2	Filtrexx International
Filtrexx DitchChexx	Erosion / Sediment Control (Containment)	603.2	Filtrexx International
Filtrexx InletSoxx	Erosion / Sediment Control (Containment)	603.2	Filtrexx International
Enviroshield Bonded Fiber Matrix	Erosion / Sediment Control	603.2	United States Gypsum Co.
Geofilter (Erosion and Sediment Control)	Erosion and Sediment Control	603.2	Geofiltry, LLC
Bottomless Wattles	Erosion / Sediment Control (Storm Drain Inlet Protection)	603.2	Patriot Environmental Products
The Sweet (Oil-water Debris Separator)	Oil H2O Debris Separator	603.2	Best Management Products, Inc.
Excel PPS-10	Erosion / Sediment Control	603.2	Western Excelsior
Vortex	Inlet Protection	603.2	Enviroscape ECM, Ltd.
C350 Composite Turf Re-enforcement Mat	Erosion / Sediment Control	603.2	North American Green
C125 Long-term Erosion Control Blanket	Erosion / Sediment Control (Blanket)	603.2	North American Green
Excel SD-3	Erosion / Sediment Control	603.2	Western Excelsior
Excel S-2	Erosion / Sediment Control	603.2	Western Excelsior
Diamond Post Stabilizer	Erosion / Sediment Control	603.2	Erosion Control Products, Inc.
Excel R-1	Erosion / Sediment Control	603.2	Western Excelsior
Flexterra HP-FGM	Erosion Control	603.2	Profile Products
Excel PPS-12	Erosion / Sediment Control	603.2	Western Excelsior
Geo-Ridge The Original Patented Ditch Berm	Erosion / Sediment Control (Temporary)	603.2	Nilex Corp.
Erosion Control Logs-Wood Worms	Inlet Protection & Bank Stabilization	603.2	Silver Dollar Racing & Shavings
Aspen Excelsior Logs	Erosion / Sediment Control (Channels / Inlets)	603.2	Western Excelsior
Excel SR-2	Erosion / Sediment Control (Slopes / Channels)	603.2	Western Excelsior
Aspen Excelsior Logs	Erosion / Sediment Control (Channels / Inlets)	603.2	Western Excelsior
Mat Fiber	Erosion Control	603.2	Mat, Inc
Hydro Blanket Bonded Fiber Matrix	Erosion Control	603.2	Profile Products
WF-RS2 Erosion Control Blanket	Erosion / Sediment Control	603.2	Western Fiber Products
Excel PPS-6	Erosion / Sediment Control	603.2	Western Excelsior
Slope Growth	Erosion Control & Stabilization	603.2	Slope Growth USBOX - USA
P300 (Turf Re-inforcement Mat)	Erosion / Sediment Control	603.2	North American Green
P550 Composite Turf Re-inforcement Mat	Erosion / Sediment Control	603.2	North American Green
Excel CC-4	Erosion / Sediment Control	603.2	Western Excelsior
Excel CS-3	Erosion / Sediment Control	603.2	Western Excelsior
S75 BN, Single-Net (Short-term Bio-degradable)	Erosion / Sediment Control (Blanket)	603.2	North American Green
SC150 BN (Double-net, Extended-term)	Erosion / Sediment Control (Blanket)	603.2	North American Green

Wednesday, December 18, 2013 — Page 13 of 31

Apr 17 2009 3:08PM NMSU SEED CERTIFICATION 5056468137 p.1

Cooperative Extension Service
College of Agriculture and Home Economics
NMSU Seed Certification
Department of Extension Plant Sciences, MSC 3AE
New Mexico State University
P.O. Box 30003
Las Cruces, NM 88003-8003
Tel: 575-646-4125, Fax: 575-646-8137

Memo

To:	Silver Dollar Racing and Shavings
From:	Tracey Carrillo, Director, NMSU Seed Certification
Subject:	2009 Analysis of sample wood shavings material
Date:	April 17, 2009

****

The sample that you sent in for analysis by New Mexico Department of Agriculture has passed inspection. No crop seeds, common or noxious weed seed were found in the sample of 124 grams. I will follow up with a site inspection later this spring. These findings verify that this lot of material can be used as certified weed free mulch but must retain a certified tag as evidence of certification on each bag or super. Lab # 2741.

If you have any questions or concerns, please let us know.

Sincerely,

Tracey Carrillo

67338

North American Weed Free Forage Certification Program

Certified to the North American Standards
NMSU Seed Certification
P.O. Box 30003 MSC 3AE Las Cruces, NM 88003
(575) 646-4216

TITAN

A REAL SOUTHWEST SOURCE

ECO LOG

Wood Chip Compost Wattles

Titan ECO LOGS are used as an effective and economical alternative to silt fence and straw bales for sediment control on newly constructed or disturbed areas. Titan ECO LOGS are manufactured by tightly packing wood chip compost media into a durable, photodegradable 9 inch diameter netting, typically in 25 foot lengths. Additional sizes include 12 inch diameter in 15 foot lengths and 18 inch diameter in 10 foot lengths. Other diameters and lengths can be manufactured upon request.

Titan ECO LOGS Exceed New Mexico Department of Transportation Specification Section 603.2.6 for Mulch Socks and Compost Mulch Socks.

One advantage of compost media used in Titan ECO LOGS is the heavy unit weight of this material, which insures intimate contact of the wattle with the ground along with resisting the forces of water. A typical installation includes four wood stakes per 25 foot length, which help keep the wattle in place during its service life.

Another advantage of the compost media is it serves as an effective filter to allow the flow of water through the wattle while capturing sediment. This captured sediment can provide a site for vegetative growth behind the wattle. Finally when the service life of the wattle is complete, the media can be left in place without the need for removal and disposal.

If you have erosion challenges on your site, while wattles control the sediment caused by erosion or stormwater runoff, you may also to consider the use of erosion control products. Such products would include temporary and permanent blankets and even turf reinforcement mats. Titan carries a full line of these products for various types of applications.

30 C Frontage Rd. East
Placitas, NM 87043
Ph: 505-771-3399
Fx: 505-771-3388

titanecp.com

TITAN titanecp.com

Corrugated Metal Pipe
High Density Polyethylene Pipe
Polyvinyl Chloride Pipe
& HDPE End Sections

Storm Dr n Pip
Cu p
D R
D Co Se

Compost
Straw W
ent Logs
Reinforced Silt Fenc
Rolled Product
Hy ily Appli Products

A
Turf Re M
Perm Bl
Ph Bl
Bl
Pl

GlasGrid
GlasPave

Pl m Re
P
Cr R

Bi xial Geogrids
Uni ax Geogrids
Rigid & Flexible Geogrids
Design & Consultation Service

Ba Co
Subgr
Reta
f

No Fabrics
Wov Fabrics
Monofilament Fabrics
Cu Sp F

Filtr
P
W

PVC & HDPE Liners

Ped Bridge
Tru Bridg

P
Pl

Culvert Clean
S tur Cleaning

R

30 C Frontage Rd. East
Placitas, NM 87043
Ph: 505-771-3399
Fx: 505-771-3388

3420 E. Shea Blvd, Suite 200
Phoenix, AZ 85028
Ph: 602-229-8900
Fx: 602-229-8901

MEMBER NCSPA

DISTRIBUTOR

GLASGRID DISTRIBUTOR GLASPAVE

Thrace-LINQ DISTRIBUTOR

MEMBER IECA

9" Straw Wattles/Straw Logs/Restoration Logs

Used as a sediment filter barrier on slopes and erosion-prone areas. When installed they reduce surface sheet flow erosion and capture sediment

SPECIFICATIONS

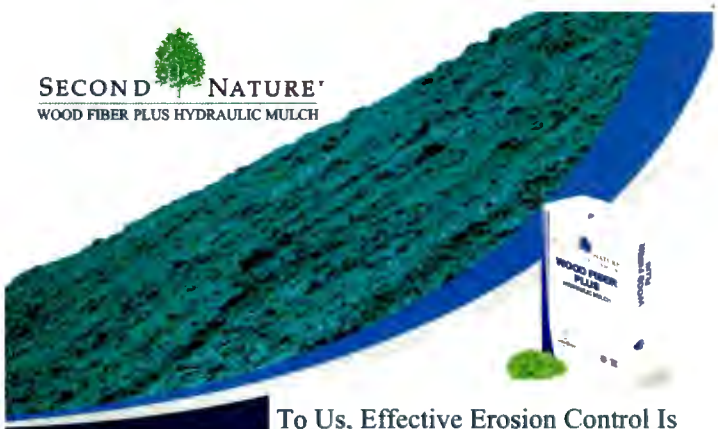
LENGTH:	25' STANDARD (OTHER LENGTHS CAN BE SPECIAL ORDERED)
DIAMETER:	9" (+/- 10%)
CORE	AGRICULTURE, CERTIFIED NOXIOUS WEED FREE STRAW
NETTING TYPE	UV STABILIZED/PHOTODEGRADABLE
NETTING WEIGHT	HEAVY DUTY: 94% HIGH-DENSITY POLYETHYLENE WITH 6% UV INHIBITOR
NETTING THICKNESS	STRAND THICKNESS OF 0.03", KNOT THICKNESS OF 0.055"
NETTING WEIGHT	0.35-OUNCE PER FOOT (+/- 10%)
NETTING COLOR:	BLACK (OTHER COLORS CAN BE SPECIAL ORDERED)
ROLL WEIGHT:	AVERAGE 35 LBS (+/- 10%)
WEIGHT PER LF	NO LESS THAN 1.4 LBS (+/- 10%)

Our Sediment Control Products are used in a multitude of applications, providing benefits such as:

- Better filtering of runoff waters
- Preventing check dam blowouts
- Protecting water from going around check dams
- Preventing the spread of non-native vegetation
- Ease of use. Easier to handle and install than straw bales

4/9/2008

SECOND NATURE®
WOOD FIBER PLUS HYDRAULIC MULCH



To Us, Effective Erosion Control Is SECOND NATURE®

QUALITY INGREDIENTS
Non-Toxic and fully biodegradable; Produced using only 100% virgin wood fiber, **Thermo-Mechanically Processed** and pre-blended with a **Premium Organic Polymer Based Tackifier** for added protection.

SIMPLE APPLICATION
Accelerated water absorption creates a consistent slurry for **Even Seed Dispersal** and the pre-blended tackifier **Eliminates the Mess of Field-Mixing**.

TOP CHOICE
Meets or exceeds all requirements for Wood Fiber Hydraulic Mulch and comes packaged in convenient 50 pound **Vinyl/UV/Weather-Resistant** bags.

MOISTURE RESERVOIR
Excellent Water Holding Capacity provides enhanced blending with seed and fertilizer for superior turf establishment.

PROFESSIONAL RESULTS
Vibrant green color provides a **Professional** look as well as an easy visual guide for **Accurate Metering**

central fiber
Dependable. Smart. Naturally
800.654.6117
www.centralfiber.com

SECOND NATURE®
WOOD FIBER PLUS HYDRAULIC MULCH

TECHNICAL DATA

Second Nature Wood Fiber PLUS Hydraulic Mulch (HM) is manufactured from thermo-mechanically processed 100% virgin wood chips. An organic polymer tackifier is premixed during the manufacturing process. It is non-toxic, 100% biodegradable and contaminant free. Applying the HM forms a porous bond with the soil surface, enhancing seed germination and growth.

Mixing

Mix Second Nature Wood Fiber PLUS Hydraulic Mulch with approximately 100 gallons of water per 50 pound bag. Seed, fertilizer, and soil amendments may be added at specified rates for a one-step installation of hydro seeding and erosion control projects. Loading rates should be per the machine manufacturer's guidelines.

Application

Second Nature Wood Fiber PLUS Hydraulic Mulch can be applied after adding seed and fertilizer or as a separate application. Good soil preparation is essential. Slurry containing seed and fertilizer is best applied from the hose by pointing the nozzle (fan-type / 50° tip recommended) straight down to drive the material into the soil. The application should then be finalized by allowing the material to "rain" on the surface to achieve approximately 75% coverage. Use cross-directional application of material to achieve optimal surface coverage.

Recommended Application Rates*		
Slope Gradient	US	Metric
Moderate	1500lbs / Acre	1700kg / Ha
41 to 31	2000lbs / Acre	2300kg / Ha

Equipment

Second Nature Wood Fiber PLUS Hydraulic Mulch is mixed and applied with a standard hydro seeding machine. *Note:* A mechanically agitated hydro seeding machine is recommended. Follow equipment manufacturer's installation instructions and recommendations.

Product Composition / Property Values

Thermo-Mechanically Processed Virgin Wood Fiber	97% (minimum)
Organic Polymer Tackifier	3% (±1%)
Moisture Content	12% (±3%)
EcoToxicity	Non-Toxic (EPA 821/R-02/012)
Water Holding Capacity	1200% (minimum)
Applied Color	Green
Functional Longevity	Up to 3 Months
Biodegradability	100%

Packaging and Shipping

Bag Dimensions, Net Weight	18" x 10" x 26", 50lbs *(UV/Weather-Resistant Plastic)*
Pallet Dimensions, Quantity	46" x 46" x 101", 40 Bags *(UV/Weather-Resistant Stretch-Wrap)*
Full Truckload	22 pallets, 880 Bags

Technical Assistance

Technical Department: (800) 654-8117

Distributed By:

central fiber
Dependable. Smart. Naturally.

ECWP01

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Replaces Blown Straw | Uniform Coverage | Wood Mulch Replacement
Saves Money & Time | Faster Loading & Application Times | Get More Per Tank Load

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Profile

Conwed Fibers® Hydro Mulch® 1000 with TriFlo™

Hydraulic Mulch — Wood

GREEN DESIGN ENGINEERING

Description

Conwed Fibers® Hydro Mulch® 1000 with TriFlo™ is a fully biodegradable, Hydraulic Mulch (HM) composed of 100% recycled Thermally Refined™ wood fibers. The HM is phyto-sanitized, free from plastic netting, and upon application forms an intimate bond with the soil surface to create a porous and absorbent layer that enhances germination and plant growth.

Recommended Applications

- Erosion control and revegetation for moderate slopes (≤2H:1V)
- Rough graded slopes
- Enhancement of vegetation establishment

Technical Data

Physical Properties*	Test Method	Units	Minimum Value
Water Holding Capacity	ASTM D7367	%	1100
Material Color	Observed	n/a	Green
Performance Properties*	**Test Method**	**Units**	**Value**
Cover Factor[1]	Large Scale[2]	n/a	0.55 maximum
Percent Effectiveness[3]	Large Scale[2]	%	45 minimum
Environmental Properties*	**Test Method**	**Units**	**Typical Value**
Functional Longevity[4]	ASTM D5338	n/a	Up to 3 months
Ecotoxicity	EPA 2021.0	%	96-hr LC50 > 100%
Biodegradability	ASTM D5338	%	100
Product Composition			**Typical Value**
Thermally Processed Wood Fiber[5]			100%
TriFlo			< 1%

* When uniformly applied at a rate of 2000 pounds per acre (2250 kilograms/hectare) under laboratory conditions. 1. Cover Factor is calculated as soil loss ratio of treated surface versus an untreated control surface. 2. Large scale testing conducted at Utah Water Research Laboratory. For specific testing information please contact a Profile technical service representative at 888-325-6060. 3. % Effectiveness = One minus Cover Factor multiplied by 100%. 4. Functional Longevity is the estimated time period, based upon ASTM D5338 testing and field observations, that a material can be anticipated to provide erosion control and agronomic benefits as influenced by composition, as well as site-specific conditions including, but not limited to: temperature, moisture, light conditions, soils, biological activity, vegetative establishment and other environmental factors. 5. Heated within a pressurized vessel to a temperature greater than 380 degrees Fahrenheit (193 degrees Celsius) for 5 minutes at a pressure greater than 90 psi (345 kPa) in order to be Thermally Refined™ /Processed and to achieve phyto-sanitization.

Packaging Data

Properties	Test Method	Units	Nominal Value
Bag Weight	Scale	kg (lb)	22.7 (50)
Bags per Pallet	Observed	#	40

UV and weather-resistant plastic bags. Pallets are weather-proof stretch wrapped with UV resistant pallet cover.

Profile Products
750 Lake Cook Road, Ste. 440
Buffalo Grove, IL 60089
800-508-8681
www.profileproducts.com

M-BINDER

MULCH TACKIFIER / SOIL STABILIZER

A Naturally Perfect Tackifier

M-Binder is a botanical glue used as an aid in hydroseeding, to stabilize soils, and for dust control. M-Binder is unsurpassed as a tackifier setting the standard for the industry since the early 1970's. It is 100% organic, made from the plantago (Plantago insularis) plant. The material used to make the glue is the protective coating of the plantago seed, known as psyllium. This outer coating's purpose in nature is to stick the seed to the soil to improve germination. M-Binder is composed of the finely ground outer coating of this seed. It works perfectly as a tackifier, doing exactly the job that nature intended.

Where to use M-Binder

M-Binder may be used anywhere you need to tack straw or mulch, or control dust and erosion, such as for highway, mine and pipeline reclamation, for revegetation and restoration projects, fire rehabilitation, landscaping and beautification.

Application

M-Binder may be applied as a dry powder or as a wet slurry to dry or wet surfaces. It may even be applied during rain. It does not require set-up or drying time because when it is wet it is a heavy mucilaloid material and when dry it is a firm but rewettable membrane.

M-binder may be used at varying rates depending on factors such as slope, porosity of the soil and wind conditions. We have found that a good general rate is 150 lb./acre.

- To tack straw: Apply M-Binder at 150-200 lbs./acre. We also recommend mixing with wood fiber at a rate of 200-300 lbs. per acre (to help keep tackifier on top of straw) and sufficient water to produce good slurry flow.
- For use with mulch: Apply M-Binder at 100-200 lbs./acre and wood fiber or paper mulch as specified.
- For use in dust control: Apply M-Binder at 100-200 lbs./acre depending on site conditions.

Cost Effective

Increases plant density and seed retention.

Easy...

to handle, to apply and easy to clean up.

Versatile

Used for dust abatement, hydroseeding, straw and fiber tacking.

Improves...

slurry suspension and slurry flow.

Durable

Forms a firm, resilient, rewettable membrane which fastens seed to soil surface.

Safe

All organic, non-toxic, non-corrosive, safe for animals and plants.

Technical Specifications

Protein content	*1.62*
Ash content	*2.70*
Fiber	*4.00*
pH of 1% solution	*6.80*
Settleable solids	*5.00*

M-Binder is distributed by

granite SEED

1697 West 2100 North, Lehi, UT 84043 • (801) 768 4422 • Fax (801) 768-3957 • granite@graniteseed.com

Inlet Filter

Inlet Filter offers performance and flexibility.

- Attach in minutes without removing grate
- Fits flat, roll curb, vertical and beehive inlets
- Cut with shears or utility knife for in-field fit
- Pads or rolls fit 100's of grate styles and sizes
- Sweep surface and sides to remove built-up silt and allow water to flow
- Vehicle traffic will not damage or dislodge
- Not a hazard for pedestrians

Now there is NO reason to get hit with fines!

How it Works:

Stormwater runoff flows as it flows through the media, allowing sediment to drop out. Filtration further reduces sediment load. Filtered water enters sewer system.

Installation:

1. Remove sediment, debris, ice and snow from the inlet grate surface and surrounding area.

2. Fit to grate by placing filter over inlet grate to ensure the inlet filter extends at least one inch beyond the front and both curb ends. This overlap allows water flow over the lip, filtering sediment and debris before water drops into the inlet.

3. Position the zip. Place inlet filter on grate with the net side down. Push in the back zips and extending beyond the grate opening on the front and both sides. Run zip ties attach inlet filter to the inlet grate cover WITH BUT LIFTING THE GRATE COVER.

4. Free zip ties. Lift inlet filter slightly to enable you to see the first grate bar from the edge of the grate cover. Push the zip tie down through the inlet filter and loop under the grate bar. Insert the pointed end of the zip tie about 2" away from the free zip tie penetrations and push back up through the filter.

Push the pointed end of the zip tie onto the remaining and pull enough to hold mats loosely. LEAVE ZIP TIES LOOSE UNTIL ALL TIES ARE LOOPED THROUGH THE MAT AND AROUND THE GRATES. Repeat Step 4 until all zip ties are installed loosely.

5. Tighten the ties. After attaching all of the zip ties, re-position inlet filter to completely cover and overlap the grate. Pull free end of plastic head tight to another inlet filter or the grate. Cut off free end of zip tie to leave a 1" tail. Remove sediment, debris, ice and snow from the inlet grate surface and surrounding area.

Maintenance:

Inlet Filter will collect a lot of sediment. Clean Inlet Filter while mounted on the grate, even if ponded water surrounds the inlet. This unique feature ensures all water entering the grate is filtered. Sweep sides and top of inlet Filter to remove sediment and debris after each rain event.

1. Remove sediment. Hose the debris off the filter by sweeping away from inlet Filter.

2. Replace sediment. Hose the dirt off the filter by sweeping off of inlet Filter.

Inlet Filter is prepared for the next rain event.

Specifications

ERO15X27X55FTB	15' x 27' x 55	1 roll
ERO15X27X30B	15' x 27' x 30'	10 pads

Other pad and roll sizes are available upon request. Cartons sized to ship by UPS.

The Company

Blocksom & Co. is a diversified manufacturer of a wide variety of natural fiber products. These products are marketed throughout the continental United States and Canada to supply the demands of industries including roofing, heating and air-conditioning, furniture, U.S. government and military, construction and aquaculture.

Our products are manufactured at Company owned facilities located in Michigan City, Indiana. We have been manufacturing and distributing quality natural fiber products continuously since 1918.

Physical Properties:

Test material	Sand sieved through No. 18 sieve
Filtering Efficiency (%)	98.1
Flow Rate (liters/minute)	198
MD-Maximum Load (ppi)	14.6
TD-Maximum Load (ppi)	10.7
MD-Elongation at Max Load (%)	10.3
TD-Elongation at Max Load (%)	37.7
MD-Maximum Load (ppi)	16.2
TD-Maximum Load (ppi)	13.5
MD-Elongation at Max Load (%)	16.9
TD-Elongation at Max Load (%)	16.5
Maximum Burn Distance (in)	0.79

BLOCKSOM & CO.
Natural Fiber Products

Blocksom & Co.
P.O. Box 3067
459 St. John Road, Suite 710
Michigan City, IN 46360
Phone: (888) 745-1488
Fax: (219) 874-3752
Email: gpictor@blocksom.com

BLOCKSOM & CO.
Natural Fiber Products

General Permit

EPA/NPDES

National Pollutant Discharge
Elimination System

General Permit for Storm Water Discharges from Construction Activities

United States Environmental Protection Agency

Washington, DC 20460

EPA Region 6

Contact: Brent Larson (214) 665-7523

National Pollutant Discharge Elimination System
General Permit for Discharges from
Construction Activities

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et. seq., (hereafter CWA or the Act), as amended by the Water Quality Act of 1987, P.L. 100-4, "operators" of construction activities (defined in Part 1.1.a and Appendix A) that meet the requirements of Part 1.1 of this National Pollutant Discharge Elimination System (NPDES) general permit, are authorized to discharge pollutants in accordance with the effluent limitations and conditions set forth herein. Permit coverage is required from the "commencement of earth-disturbing activities" (see Appendix A) until "final stabilization" (see Part 2.2).

This permit becomes effective on **February 16, 2012.** For the State of Idaho (except for Indian country), this permit becomes effective on **April 9, 2012**. For areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, this permit becomes effective on **April 13, 2012.** For projects located in the following areas, this permit becomes effective on **May 9, 2012:** Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin.

This permit and the authorization to discharge expire at midnight, **February 16, 2017**.

Signed and issued this 16th day of February, 2012

H. Curtis Spalding
Regional Administrator, Region 1

Signed and issued this 16th day of February, 2012

William K. Honker, P.E.
Acting Director, Water Quality Protection Division, Region 6

Signed and issued this 16th day of February, 2012

John Filippelli
Director, Division of Environmental Planning & Protection, Region 2

Signed and issued this 16th day of February, 2012

Karen Flournoy
Director, Wetlands and Pesticides Division, Region 7

Signed and issued this 16th day of February, 2012

José C. Font
Acting Division Director, Caribbean Environmental Protection Division, Region 2, Caribbean Office

Signed and issued this 16th day of February, 2012

Melanie L. Pallman
Acting Assistant Regional Administrator, Office of Partnerships and Regulatory Assistance, Region 8

Signed and issued this 16th day of February, 2012

Catherine A. Libertz
Assistant Director, Water Protection Division, Region 3

Signed and issued this 16th day of February, 2012

Nancy Woo
Deputy Director, Water Division, Region 9

Signed and issued this 16th day of February, 2012

James D. Giattina
Director, Water Protection Division, Region 4

Signed and issued this 16th day of February and 9th day of April, 2012

Michael J. Lidgard
Acting Director, Office of Water and Watersheds, Region 10

Signed and issued this 16th day of February and 9th day of May, 2012

Tinka G. Hyde
Director, Water Division, Region 5

Signed and issued this 13th day of April, 2012

Christine Psyk
Associate Director, Office of Water and Watersheds, Region 10

The signatures are for the permit conditions in Parts 1 through 9 and Appendices A through K.

CONTENTS

1. HOW TO OBTAIN PERMIT COVERAGE UNDER THE CGP.

To be covered under this permit, you must meet the eligibility conditions and follow the requirements for applying for permit coverage in this Part.

1.1. ELIGIBILITY CONDITIONS REQUIRED OF ALL PROJECTS.

Only those projects that meet all of the following eligibility conditions may be covered under this permit:

a. You are an "operator" of the construction project for which discharges will be covered under this permit;

Note: For the purposes of this permit, an "operator" is any party associated with a construction project that meets either of the following two criteria:

1. *The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or*
2. *The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit).*

Subcontractors generally are not considered operators for the purposes of this permit.

Note: Where there are multiple operators associated with the same project, all operators are required to obtain permit coverage. The following applies in these situations:

1. *If one operator has control over plans and specifications and a different operator has control over activities at the project site, they may divide responsibility for compliance with the terms of this permit as long as they develop a group SWPPP (see Part 7.1.1), which documents which operator has responsibility for each requirement of the permit.*
2. *If an operator only has operational control over a portion of a larger project (e.g., one of four homebuilders in a subdivision), the operator is responsible for compliance with all applicable effluent limits, terms, and conditions of this permit as it relates to the activities on their portion of the construction site, including protection of endangered species, critical habitat, and historic properties, and implementation of control measures described in the SWPPP in the areas under their control.*
3. *You must ensure either directly or through coordination with other permittees, that your activities do not render another party's pollutant discharge controls ineffective.*
4. *If the operator of a "construction support activity" (see Part 1.3.c) is different than the operator of the main construction site, that operator is also required to obtain permit coverage.*

b. Your project:

i. Will disturb 1 or more acres of land, or will disturb less than 1 acre of land but is part of a common plan of development or sale that will ultimately disturb 1 or more acres of land; or

ii. Your project's discharges have been designated by EPA as needing a permit under § 122.26(a)(1)(v) or § 122.26(b)(15)(i);

c. Your project is located in an area where EPA is the permitting authority (see Appendix B);

d. Discharges from your project are not:

i. Already covered by a different NPDES permit for the same discharge; or

ii. In the process of having coverage under a different NPDES permit for the same discharge denied, terminated, or revoked.[1, 2]

e. You are able to demonstrate that you meet one of the criteria listed in Appendix D with respect to the protection of species that are federally-listed as endangered or threatened under the Endangered Species Act (ESA) or federally-designated critical habitat;

f. You have completed the screening process in Appendix E relating to the protection of historic properties and places; and

g. You have complied with all requirements in Part 9 imposed by the applicable state, Indian tribe, or territory in which your construction activities will occur.

1.2. ELIGIBILITY CONDITIONS THAT APPLY DEPENDING ON TYPE OF PROJECT.

You must also satisfy, if applicable, the conditions in Parts 1.2.1 through 1.2.4 in order to obtain coverage under this permit.

1.2.1. Eligibility for Emergency-Related Construction Activities.

If you are conducting earth-disturbing activities in response to a public emergency *(e.g., natural disaster, widespread disruption in essential public services)*, and the related work requires immediate authorization to avoid imminent endangerment to human health, public safety, or the environment, or to reestablish essential public services, you are authorized to discharge on the condition that a complete and accurate NOI is submitted within 30 calendar days after commencing earth-disturbing activities (see Table 1) establishing that you are eligible under this permit. You are also required to provide documentation in your SWPPP to substantiate the occurrence of the public emergency.

1.2.2. Water Quality Standards – Eligibility for New Sources.

If you are a "new source" (as defined in Appendix A), you are not eligible for coverage under this permit for discharges that EPA, prior to authorization under this permit, determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. Where such a determination is made prior to authorization, EPA may notify you that an individual permit application is necessary in accordance with Part 1.4.5. However, EPA may authorize your coverage under this permit after you have included appropriate controls and implementation procedures designed to bring your discharge into compliance with water quality standards. In the absence of information demonstrating otherwise, EPA expects that compliance with the stormwater control requirements of this permit, including the requirements applicable to such discharges in Part 3.2, will result in discharges that will not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

[1] Parts 1.1.d.i and 1.1.d.ii do not include sites currently covered under the 2003 or 2008 CGPs, which are in the process of obtaining coverage under this permit, and sites covered under this permit, which are transferring coverage to a different operator.

[2] Notwithstanding a project being made ineligible for coverage under this permit because it falls under the description of Parts 1.1.d.i or 1.1.d.ii, above, EPA may waive the applicable requirement after specific review if it determines that coverage under this permit is appropriate.

1.2.3. Discharging to Waters with High Water Quality – Eligibility for New Sources.

If you are a "new source" (as defined in Appendix A), you are eligible to discharge to a Tier 2, Tier 2.5, or Tier 3 water only if your discharge will not lower the water quality of the applicable water. In the absence of information demonstrating otherwise, EPA expects that compliance with the stormwater control requirements of this permit, including the requirements applicable to such discharges in Part 3.3.2, will result in discharges that will not lower the water quality of the applicable water. See list of Tier 2, Tier 2.5, and Tier 3 *waters in Appendix F.*

Note: Your project will be considered to discharge to a Tier 2, Tier 2.5, or Tier 3 water if the first surface water to which you discharge is identified by a state, tribe, or EPA as a Tier 2, Tier 2.5, or Tier 3 water. For discharges that enter a storm sewer system prior to discharge, the first surface water to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

1.2.4. Use of Cationic Treatment Chemicals.

If you plan to use cationic treatment chemicals (as defined in Appendix A), you are ineligible for coverage under this permit, unless you notify your applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

1.3. Types of Discharges Authorized Under the CGP.

The following is a list of discharges that are allowed under the permit provided that appropriate stormwater controls are designed, installed, and maintained:

a. Stormwater discharges, including stormwater runoff, snowmelt runoff, and surface runoff and drainage, associated with construction activity under 40 CFR § 122.26(b)(14) or § 122.26(b)(15)(i);

b. Stormwater discharges designated by EPA as needing a permit under 40 CFR § 122.26(a)(1)(v) or § 122.26(b)(15)(ii);

c. Stormwater discharges from construction support activities *(e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas)* provided:

i. The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;

ii. The support activity is not a commercial operation, nor does it serve multiple unrelated construction projects;

iii. The support activity does not continue to operate beyond the completion of the construction activity at the project it supports; and

iv. Stormwater controls are implemented in accordance with Part 2 and, if applicable, Part 3, for discharges from the support activity areas.

d. The following non-stormwater discharges from your construction activity, provided that, with the exception of water used to control dust and to irrigate areas to be vegetatively stabilized, these discharges are not routed to areas of exposed soil on your site and you comply with any applicable requirements for these discharges in Part 2:

i. Discharges from emergency fire-fighting activities;

ii. Fire hydrant flushings;

iii. Landscape irrigation;

iv. Water used to wash vehicles and equipment, provided that there is no discharge of soaps, solvents, or detergents used for such purposes;

v. Water used to control dust;

vi. Potable water including uncontaminated water line flushings;

vii. Routine external building washdown that does not use detergents;

viii. Pavement wash waters provided spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used. You are prohibited from directing pavement wash waters directly into any surface water, storm drain inlet, or stormwater conveyance, unless the conveyance is connected to a sediment basin, sediment trap, or similarly effective control;

ix. Uncontaminated air conditioning or compressor condensate;

x. Uncontaminated, non-turbid discharges of ground water or spring water;

xi. Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated ground water; and

xii. Construction dewatering water that has been treated by an appropriate control under Part 2.1.3.4; and

e. Discharges of stormwater listed above in Parts a, b, and c, or authorized non-stormwater discharges in Part d above, commingled with a discharge authorized by a different NPDES permit and/or a discharge that does not require NPDES permit authorization.

1.4. SUBMITTING YOUR NOTICE OF INTENT (NOI).

To be covered under this permit, you must submit to EPA a complete and accurate NOI prior to commencing construction activities. The NOI certifies to EPA that you are eligible for coverage according to Part 1.1 and 1.2, and provides information on your construction operation and discharge.

Note: All "operators" (as defined in Appendix A) associated with your construction project, who meet the Part 1.1 eligibility requirements, and who elect to seek coverage under this permit, are required to submit an NOI.

Note: There are two exceptions to the requirement to submit the NOI prior to the commencement of construction activities: (1) for emergency-related projects, and (2) for new projects scheduled to commence construction activities on or after February 16, 2012, but no later than March 1, 2012.[3] For these two types of projects, the NOI

[3] For new projects in the State of Idaho (except Indian country), if you are scheduled to commence construction activities on or after April 9, 2012, but no later than May 9, 2012, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities. For new projects in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, if you are scheduled to commence construction activities on or after April 13, 2012, but no later than May 13, 2012, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities. For new projects in the following areas, if you are schedule to commence construction activities on or after May 9, 2012, but no later than June 8, 2012, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin.

must be submitted within 30 calendar days after the commencement of earth-disturbing activities (see Part 1.4.2).

Note: You must complete the development of a Stormwater Pollution Prevention Plan (SWPPP) consistent with Part 7 prior to submitting your NOI for coverage under this permit.

1.4.1. How to Submit Your NOI.

You are required to use EPA's electronic NOI system, or "eNOI system", to prepare and submit your NOI. Go to www.epa.gov/npdes/stormwater/cgpenoi to access the eNOI system and file an NOI. If you have a problem with the use of the eNOI system, contact the EPA Regional Office that corresponds to the location of your site. If you are given approval by the EPA Regional Office to use a paper NOI, and you elect to use it, you must complete the form in Appendix J.

1.4.2. Deadlines for Submitting Your NOI and Your Official Date of Permit Coverage.

Table 1 provides the deadlines for submitting your NOI and your official start date of permit coverage, which differ depending on when you commence construction activities. The following terms are used in Table 1 to establish NOI deadlines:

a. New project – a construction project that commences construction activities on or after February 16, 2012, or or April 9, 2012 for the State of Idaho (except for Indian country), or April 13, 2012 for areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, or May 9, 2012 for projects located in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin.

b. Existing project – a construction project that commenced construction activities prior to February 16, 2012, or April 9, 2012 for the State of Idaho (except for Indian country), or April 13, 2012 for areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, or May 9, 2012 for projects located in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin.

c. New operator of a new or existing project – an operator that through transfer of ownership and/or operation replaces the operator of an already permitted construction project.

Table 1 NOI Submittal Deadlines and Official Start Date for Permit Coverage.

Type of Construction Project	Deadlines for Operators to Submit NOI	Official Start Date for Permit Coverage
New project	You must submit your NOI at least 14 calendar days prior to commencing earth-disturbing activities. *Exception:* If your project qualifies as an "emergency-related project" under Part 1.2.1, you must submit your NOI by no later than 30 calendar days after commencing	You are considered covered under this permit 14 calendar days after EPA has acknowledged receipt of your NOI on the Agency's website (www.epa.gov/npdes/stormwater/cgpnoisearch), unless EPA notifies you that your authorization has been delayed or denied. *Exception:* If your project qualifies as

Type of Construction Project	Deadlines for Operators to Submit NOI	Official Start Date for Permit Coverage
	earth-disturbing activities. *Exception:* If you are scheduled to commence construction activities on or after February 16, 2012, but no later than March 1, 2012, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities.[4]	an "emergency-related project" under Part 1.2.1, you are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA has acknowledged receipt of your NOI, unless EPA notifies you that your authorization has been delayed or denied. *Exception:* If you are scheduled to commence construction activities on or after February 16, 2012, but no later than March 1, 2012, you are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA has acknowledged receipt of your NOI, unless EPA notifies you that your authorization has been delayed or denied.[5]

[4] For new projects in the State of Idaho (except Indian country), if you are scheduled to commence construction activities on or after April 9, 2012, but no later than May 9, 2012, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities. For new projects in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, if you are scheduled to commence construction activities on or after April 13, 2012, but no later than May 13, 2012, you must submit your NOI by no later than 30 calendar days after commencing earth-disturbing activities. For new projects located in the following areas, if you are scheduled to commence construction activities on or after May 9, 2012, but no later than June 8, 2012, you must submit your NOI by no later than 30 days after commencing earth-disturbing activities: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin.

[5] For new projects in the State of Idaho (except Indian country), if you are scheduled to commence construction activities on or after April 9, 2012, but no later than May 9, 2012, you are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA has acknowledged receipt of your NOI, unless EPA notifies you that your authorization has been delayed or denied. For new projects in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, if you are scheduled to commence construction activities on or after April 13, 2012, but no later than May 13, 2012, you are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA has acknowledged receipt of your NOI, unless EPA notifies you that your authorization has been delayed or denied. For new projects located in the following areas, if you are scheduled to commence construction activities on or after May 9, 2012, but no later than June 8, 2012, you are considered provisionally covered under the terms and conditions of this permit immediately, and fully covered 14 calendar days after EPA has acknowledged receipt of your NOI, unless EPA notifies you that your authorization has been delayed or denied: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin.

Type of Construction Project	Deadlines for Operators to Submit NOI	Official Start Date for Permit Coverage
Existing project	You must submit your NOI by no later than May 16, 2012.[4] However, if you have not previously obtained coverage under an NPDES permit, you must submit your NOI immediately.	You are considered covered under this permit 14 calendar days after EPA has acknowledged receipt of your NOI on the Agency's website (www.epa.gov/npdes/stormwater/cgpnoisearch), unless EPA notifies you that your authorization has been delayed or denied.[5]
New operator of a new or existing project	You must submit your NOI at least 14 calendar days before the date the transfer to the new operator will take place.	You are considered covered under this permit 14 calendar days after EPA has acknowledged receipt of your NOI on the Agency's website (www.epa.gov/npdes/stormwater/cgpnoisearch), unless EPA notifies you that your authorization has been delayed or denied.

Note: If you have missed the deadline to submit your NOI, any and all discharges from your construction activities will continue to be unauthorized under the Clean Water Act until they are covered by this or a different NPDES permit. EPA may take enforcement action for any unpermitted discharges that occur between the commencement of earth-disturbing activities and discharge authorization.

Note: Discharges are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage.

1.4.3. Your Official End Date of Permit Coverage

Once covered under this permit, your coverage will last until the date that:

- You terminate permit coverage consistent with Part 8; or
- Your discharges are permitted under a different NPDES permit or a reissued or replacement version of this permit after expiring on February 16, 2017; or
- For existing projects that continue after this permit has expired, the deadline has passed for the submission of an NOI for coverage under a reissued or replacement version of this permit and you have failed to submit an NOI by the required deadline.

1.4.4. Continuation of Coverage for Existing Permittees After the Permit Expires.

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedure Act and

[4] For existing projects located in the State of Idaho (except Indian country), NOIs must be submitted by no later than July 8, 2012. For existing projects located in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, NOIs must be submitted by no later than July 12, 2012. For existing projects located in the following areas, NOIs must be submitted no later than August 7, 2012: the Fond Du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac Du Flambeau Band of Lake Superior Chippewa in Wisconsin.

[5] Note that if you are currently covered under the 2003 or 2008 CGP, this coverage continues until your coverage under this permit begins, provided you have submitted an NOI by the deadline.

remain in force and effect for discharges that were covered prior to expiration. If you were granted permit coverage prior to the expiration date, you will automatically remain covered by this permit until the earliest of:

- Your authorization for coverage under a reissued or replacement version of this permit following your timely submittal of a complete and accurate NOI requesting coverage under the new permit; or

  Note: If you fail to submit a timely NOI for coverage under the reissued or replacement permit, your coverage will terminate on the date that the NOI was due.

- Your submittal of a Notice of Termination; or
- Issuance or denial of an individual permit for the project's discharges; or
- A final permit decision by EPA not to reissue a general permit, at which time EPA will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will terminate at the end of this time period.

EPA reserves the right to modify or revoke and reissue this permit under 40 CFR 122.62 and 63, in which case you will be notified of any relevant changes or procedures to which you may be subject.

1.4.5. Procedures for Denial of Coverage.

Following your submittal of a complete and accurate NOI, you may be notified in writing by EPA that you are not covered, and that you must either apply for and/or obtain coverage under an individual NPDES permit or an alternate general NPDES permit. This notification will include a brief statement of the reasons for this decision and will provide application information. Any interested person may request that EPA consider requiring an individual permit under this paragraph.

If you are already a permittee with coverage under this permit, the notice will set a deadline to file the permit application, and will include a statement that on the effective date of the individual NPDES permit or alternate general NPDES permit, as it applies to you, coverage under this general permit will terminate. EPA may grant additional time to submit the application if you request it. If you are covered under this permit and fail to submit an individual NPDES permit application or an NOI for an alternate general NPDES permit as required by EPA, then the applicability of this permit to you is terminated at the end of the day specified by EPA as the deadline for application submittal. EPA may take appropriate enforcement action for any unpermitted discharge. If you submit a timely permit application, then when an individual NPDES permit is issued to you or you are provided with coverage under an alternate general NPDES permit, your coverage under this permit is terminated on the effective date of the individual permit or date of coverage under the alternate general permit.

1.5. REQUIREMENT TO POST A NOTICE OF YOUR PERMIT COVERAGE.

You must post a sign or other notice conspicuously at a safe, publicly accessible location in close proximity to the project site. At a minimum, the notice must include the NPDES Permit tracking number and a contact name and phone number for obtaining additional project information. The notice must be located so that it is visible from the public road that is nearest to the active part of the construction site, and it must use a font large enough to be readily viewed from a public right-of-way.

2. EFFLUENT LIMITATIONS APPLICABLE TO ALL DISCHARGES FROM CONSTRUCTION SITES

You are required to comply with the following effluent limitations in this Part for discharges from your site and/or from construction support activities (see Part 1.3.c).

Note: If your project is an "existing project" (see Part 1.4.2.b) or if you are a "new operator of an existing project" (see Part 1.4.2.c), and it is infeasible for you to comply with a specific requirement in this Part because (1) the requirement was not part of the permit you were previously covered under (i.e., the 2003 or 2008 CGP), and (2) because you are prevented from compliance due to the nature or location of earth disturbances that commenced prior to February 16, 2012 (or prior to April 9, 2012 for projects in the State of Idaho (except for Indian country), or prior to April 13, 2012 for projects in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, or prior to May 9, 2012 for projects located in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin), or because you are unable to comply with the requirement due to the manner in which stormwater controls have already been installed or were already designed prior to February 16, 2012 (or prior to April 9, 2012 for projects in the State of Idaho (except for Indian country), or prior to April 13, 2012 for projects in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, or prior to May 9, 2012 for projects located in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin), you are required to document this fact in your SWPPP and are waived from complying with that requirement. This flexibility applies only to the requirements in Parts 2.1 and 2.3.3 through 2.3.5 (except for Parts 2.3.3.1, 2.3.3.2.b, 2.3.3.3.c.i, and 2.3.3.4). This only applies to those portions of your site that have already commenced earth-disturbing activities or where stormwater controls implemented in compliance with the previous permit have already been installed.

Part 2 includes the following types of requirements:

- Erosion and Sediment Control Requirements (Part 2.1)
- Stabilization Requirements (Part 2.2)
- Pollution Prevention Requirements (Part 2.3)

2.1. EROSION AND SEDIMENT CONTROL REQUIREMENTS.

You must design, install, and maintain erosion and sediment controls that minimize the discharge of pollutants from earth-disturbing activities. To meet this requirement, you must comply with the following provisions.

2.1.1. General Requirements Applicable to All Construction Sites.

2.1.1.1 ***Area of Disturbance.*** You are required to minimize the amount of soil exposed during construction activities. You are also subject to the deadlines for temporarily and/or permanently stabilizing exposed portions of your site pursuant to Part 2.2.

2.1.1.2 ***Design Requirements.***

a. You must account for the following factors in designing your stormwater controls:

   i. The expected amount, frequency, intensity, and duration of precipitation;

   ii. The nature of stormwater runoff and run-on at the site, including factors such as expected flow from impervious surfaces, slopes, and site drainage features. If any stormwater flow will be channelized at your site, you must design stormwater controls to control both peak flowrates and total stormwater volume to minimize erosion at outlets and to minimize downstream channel and streambank erosion; and

   iii. The range of soil particle sizes expected to be present on the site.

b. You must direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers established under Part 2.1.2.1, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.

2.1.1.3 ***Installation Requirements.***

a. **Complete installation of stormwater controls by the time each phase of earth-disturbance has begun, unless infeasible.** By the time earth-disturbing activities in any given portion of your site have begun, unless infeasible, you must install and make operational any downgradient sediment controls (e.g., buffers or equivalent sediment controls, perimeter controls, exit point controls, storm drain inlet protection) that control discharges from the initial site clearing, grading, excavating, and other land-disturbing activities.

   Note: Where it is infeasible to install stormwater controls prior to the initial earth disturbance, it is EPA's expectation that it will be a rare circumstance that will prevent the operator from installing such controls immediately following the initial earth disturbance.

   Following the installation of these initial controls, all other stormwater controls planned for this portion of your site and described in your SWPPP must be installed and made operational as soon as conditions on the site allow.

   Note: The requirement to install stormwater controls prior to earth-disturbance for each phase of the project does not apply to the earth disturbance associated with the actual installation of these controls.

b. **Use good engineering practices and follow manufacturer's specifications.** You must install all stormwater controls in accordance with good engineering practices, including applicable design specifications.

   Note: Design specifications may be found in manufacturer specifications and/or in applicable erosion and sediment control manuals or ordinances. Any departures from such specifications must reflect good engineering practice and must be explained in your SWPPP.

2.1.1.4 ***Maintenance Requirements.***

a. You must ensure that all erosion and sediment controls required in this Part remain in effective operating condition during permit coverage and are protected from activities that would reduce their effectiveness.

b. You must inspect all erosion and sediment controls in accordance with the applicable requirements in Part 4.1, and document your findings in accordance with Part 4.1.7. If you find a problem (e.g., erosion and sediment controls need to be replaced, repaired, or maintained), you must make the necessary repairs or modifications in accordance with the following schedule:

i. Initiate work to fix the problem immediately after discovering the problem, and complete such work by the close of the next work day, if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance.

ii. When installation of a new erosion or sediment control or a significant repair is needed, you must install the new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery where feasible. If it is infeasible to complete the installation or repair within 7 calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7-day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as practicable after the 7-day timeframe. Where these actions result in changes to any of the stormwater controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within 7 calendar days of completing this work.

2.1.2. Erosion and Sediment Control Requirements Applicable to All Sites.

2.1.2.1 **Provide Natural Buffers or Equivalent Sediment Controls.** (These requirements only apply when a surface water is located within 50 feet of your project's *earth disturbances*).

Note: EPA does not consider stormwater control features (e.g., stormwater conveyance channels, storm drain inlets, sediment basins) to constitute "surface waters" for the purposes of triggering the requirement to comply with this Part.

Note: Areas that you do not own or that are otherwise outside your operational control may be considered areas of undisturbed natural buffer for purposes of compliance with this part.

You must ensure that any discharges to surface waters through the area between the disturbed portions of the property and any surface waters located within 50 feet of your site are treated by an area of undisturbed natural buffer and/or additional erosion and sediment controls in order to achieve a reduction in sediment load equivalent to that achieved by a 50-foot natural buffer. Refer to Appendix G (Buffer Guidance) for information to assist you in complying with this requirement, and to Part 2.1.2.1e for exceptions to this requirement.

a. **Compliance Alternatives.** You can comply with this requirement in one of the following ways:

i. *Provide and maintain a 50-foot undisturbed natural buffer; or*

Note: If your earth disturbances are located 50 feet or further from a surface water, then you have complied with this alternative.

ii. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or

iii. If it is infeasible to provide and maintain an undisturbed natural buffer of any size, you must implement erosion and sediment

controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

Note: For the compliance alternatives in Parts 2.1.2.1a.i and 2.1.2.1a.ii, you are not required to enhance the quality of the vegetation that already exists in the buffer, or provide vegetation if none exists (e.g., arid and semi-arid areas). You only need to retain and protect from disturbance the natural buffer that existed prior to the commencement of construction. Any preexisting structures or impervious surfaces are allowed in the natural buffer provided you retain and protect from disturbance the natural buffer area outside the preexisting disturbance. Similarly, for alternatives 2.1.2.1a.ii and 2.1.2.1a.iii, you are required to implement and maintain sediment controls that achieve the sediment load reduction equivalent to the undisturbed natural buffer that existed on the site prior to the commencement of construction. In determining equivalent sediment load reductions, you may consider naturally non-vegetated areas and prior disturbances. See Appendix G for a discussion of how to determine equivalent reductions.

You must document the compliance alternative you have selected in your SWPPP, and comply with the applicable additional requirements described in Parts 2.1.2.1b and 2.1.2.1c below.

The compliance alternative selected above must be maintained throughout the duration of permit coverage, except that you may select a different compliance alternative during your period of permit coverage, in which case you must modify your SWPPP to reflect this change.

b. **Additional Requirements for the Compliance Alternatives in Parts 2.1.2.1a.i and 2.1.2.1a.ii.** If you choose either of the compliance alternatives in Parts 2.1.2.1a.i or 2.1.2.1a.ii above, throughout your period of coverage under this permit, you must comply with the following additional requirements:

i. Ensure that all discharges from the area of earth disturbance to the natural buffer are first treated by the site's erosion and sediment controls, and use velocity dissipation devices if necessary to prevent erosion caused by stormwater within the buffer;

ii. Document in your SWPPP the natural buffer width retained on the property, and show the buffer boundary on your site plan; and

iii. Delineate, and clearly mark off, with flags, tape, or other similar marking device all natural buffer areas.

c. **Additional Requirements for the Compliance Alternatives in Parts 2.1.2.1a.ii and 2.1.2.1a.iii.** If you choose either of the compliance alternatives in Parts 2.1.2.1a.ii and 2.1.2.1a.iii, you must document in your SWPPP the erosion and sediment control(s) you will use to achieve an equivalent sediment reduction, and any information you relied upon to demonstrate the equivalency.

d. **Additional Requirement for the Compliance Alternative in Part 2.1.2.1a.iii.** If you choose the compliance alternative in Part 2.1.2.1a.iii, you must also

include in your SWPPP a description of why it is infeasible for you to provide and maintain an undisturbed natural buffer of any size.

e. **Exceptions.**

i. If there is no discharge of stormwater to surface waters through the area between your site and any surface waters located within 50 feet of your site, you are not required to comply with the requirements in this Part. This includes situations where you have implemented control measures, such as a berm or other barrier, that will prevent such discharges.

ii. Where no natural buffer exists due to preexisting development disturbances (e.g., *structures, impervious surfaces*) that occurred prior to the initiation of planning for the current development of the site, you are not required to comply with the requirements in this Part, unless you will remove portions of the preexisting development.

Where some natural buffer exists but portions of the area within 50 feet of the surface water are occupied by preexisting development disturbances, you are required to comply with the requirements in this Part. For the purposes of calculating the sediment load reduction for either Part 2.1.2.1a.ii or 2.1.2.1a.iii above, you are not expected to compensate for the reduction in buffer function from the area covered by these preexisting disturbances. See Appendix G for further information on how to comply with the compliance alternatives in Part 2.1.2.1a.ii or 2.1.2.1a.iii above.

If during your project, you will disturb any portion of these preexisting disturbances, the area disturbed will be deducted from the area treated as natural buffer.

iii. For "linear construction projects" (see Appendix A), you are not required to comply with the requirements in this Part if site constraints (e.g., *limited right-of-way*) prevent you from meeting any of the compliance alternatives in Part 2.1.2.1a, provided that, to the extent practicable, you limit disturbances within 50 feet of the surface water and/or you provide supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the surface water. You must also document in your SWPPP your rationale as to why it is infeasible for you to comply with the requirements in Part 2.1.2.1a, and describe any buffer width retained and/or supplemental erosion and sediment controls installed.

iv. For "small residential lot" construction (i.e., *a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1* acre), you have the option of complying with the requirements in Appendix G (Part G.2.3).

v. The following disturbances within 50 feet of a surface water are exempt from the requirements in this Part:

- Construction approved under a CWA Section 404 permit; or
- Construction of a water-dependent structure or water access area (e.g., *pier, boat ramp, trail*).

You must document in your SWPPP if any of the above disturbances will occur within the buffer area on your site.

2.1.2.2 ***Install Perimeter Controls.***

a. **Installation Requirements:** You must install sediment controls along those perimeter areas of your site that will receive stormwater from earth-disturbing activities.[8]

For linear projects with rights-of-way that restrict or prevent the use of such perimeter controls, you must maximize the use of these controls where practicable and document in your SWPPP why it is impracticable in other areas of the project.

b. **Maintenance Requirements:** You must remove sediment before it has accumulated to one-half of the above-ground height of any perimeter control.

2.1.2.3 ***Minimize Sediment Track-Out.*** You must minimize the track-out of sediment onto off-site streets, other paved areas, and sidewalks from vehicles exiting your construction site. To comply with this requirement, you must:

a. Restrict vehicle use to properly designated exit points;

b. Use appropriate stabilization techniques[9] at all points that exit onto paved roads so that sediment removal occurs prior to vehicle exit;

c. Where necessary, use additional controls[10] to remove sediment from vehicle tires prior to exit; and

d. Where sediment has been tracked-out from your site onto the surface of off-site streets, other paved areas, and sidewalks, you must remove the deposited sediment by the end of the same work day in which the track-out occurs or by the end of the next work day if track-out occurs on a non-work day. You must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. You are prohibited from hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.

Note: EPA recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such "staining" is not a violation of Part 2.1.2.3.

2.1.2.4 **Control Discharges from Stockpiled Sediment or Soil.** For any *stockpiles* or land clearing debris composed, in whole or in part, of sediment or soil, you must comply with the following requirements:

[8] Examples of perimeter controls include, but are not limited to, filter berms, silt fences, and temporary diversion dikes.

[9] Examples of appropriate stabilization techniques include the use of aggregate stone with an underlying geotextile or non-woven filter fabric, or turf mats.

[10] Examples of additional controls to remove sediment from vehicle tires include, but are not limited to, wheel washing, rumble strips, and rattle plates.

Note: For the purposes of this permit, sediment or soil stockpiles are defined as the storage for multiple days of soil or other sediment material to be used in the construction project.

a. Locate the piles outside of any natural buffers established under Part 2.1.2.1a and physically separated from other stormwater controls implemented in accordance with Part 2.1;

b. Protect from contact with stormwater (including run-on) using a temporary perimeter sediment barrier;[11]

c. Where practicable, provide cover or appropriate temporary stabilization to avoid direct contact with precipitation or to minimize sediment discharge;

d. Do not hose down or sweep soil or sediment accumulated on pavement or other impervious surfaces into any stormwater conveyance (unless connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water; and

e. Unless infeasible, contain and securely protect from wind.

2.1.2.5 ***Minimize Dust.*** In order to avoid pollutants from being discharged into surface waters, to the extent feasible, you must minimize the generation of dust through the appropriate application of water or other dust suppression techniques.

2.1.2.6 ***Minimize the Disturbance of Steep Slopes.*** You must minimize the disturbance of "steep slopes" (see definition in Appendix A).

Note: The permit does not prevent or prohibit disturbance on steep slopes. For some projects, disturbance on steep slopes may be necessary for construction (e.g., a road cut in mountainous terrain). If a disturbance to steep slopes is required for the project, EPA would recognize that it is not economically achievable to avoid the disturbance to steep slopes. However, in cases where steep slope disturbances are required, minimizing the disturbances to steep slopes consistent with this requirement can be accomplished through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances to these areas and using stabilization practices designed to be used on steep grades.

2.1.2.7 ***Preserve Topsoil.*** You must preserve native topsoil on your site, unless infeasible.

Note: Some projects may be designed to be highly impervious after construction, and therefore little or no vegetation is intended to remain. In these cases, preserving topsoil at the site would not be feasible. Some sites may not have space to stockpile topsoil on site for later use, in which case, it may also not be feasible to preserve topsoil.

Note: Stockpiling of topsoil at off-site locations, or transfer of topsoil to other locations, is an example of a practice that is consistent with the requirements in this Part.

2.1.2.8 ***Minimize Soil Compaction.*** In areas of your site where final vegetative stabilization will occur or where infiltration practices will be installed, you must either:

[11] Examples include berms, dikes, fiber rolls, silt fences, sandbag, gravel bags, or straw bale.

a. **Restrict vehicle / equipment use.** Restrict vehicle and equipment use in these locations to avoid soil compaction; or

b. **Use soil conditioning techniques.** Prior to seeding or planting areas of exposed soil that have been compacted, use techniques that condition the soils to support vegetative growth, if necessary and feasible.

2.1.2.9 ***Protect Storm Drain Inlets.*** If you discharge to any storm drain inlet that carries stormwater flow from your site directly to a surface water (and it is not first directed to a sediment basin, sediment trap, or similarly effective control), and you have authority to access the storm drain inlet, you must:

a. **Installation Requirements.** Install inlet protection measures[12] that remove sediment from your discharge prior to entry into the storm drain inlet.

Note: Inlet protection measures can be removed in the event of flood conditions or to prevent erosion.

b. **Maintenance Requirements.** Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, you must remove the deposited sediment by the end of the same work day in which it is found or by the end of the following work day if removal by the same work day is not feasible.

2.1.3. Requirements Applicable Only to Sites Using These Specific Stormwater Controls.

You are required to comply with the following requirements if you will install any of the following stormwater controls at your site:

2.1.3.1 ***Constructed Stormwater Conveyance Channels.*** Design stormwater conveyance channels to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. Minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of erosion controls and velocity dissipation devices[13] within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

2.1.3.2 ***Sediment Basins.*** If you install a sediment basin , you must comply with the following:

a. **Design requirements.**

i. Provide storage for either (1) the calculated volume of runoff from a 2-year, 24-hour storm (see Appendix H), or (2) 3,600 cubic feet per acre drained;

ii. When discharging from the sediment basin, utilize outlet structures that withdraw water from the surface in order to minimize the discharge of pollutants, unless infeasible;

[12] Examples of inlet protection measures include fabric filters, sandbags, concrete blocks, and gravel barriers.

[13] Examples of velocity dissipation devices include check dams, sediment traps, riprap, or grouted riprap at outlets.

Note: EPA believes that the circumstances in which it is infeasible to design outlet structures in this manner are rare. Exceptions may include areas with extended cold weather, where surface outlets may not be feasible during certain time periods (although it is expected that they would be used during other periods). If you have determined that it is infeasible to meet this requirement, you must provide documentation in your SWPPP to support your determination.

iii. Prevent erosion of (1) the sediment basin using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet using erosion controls and velocity dissipation devices; and

iv. Sediment basins must be situated outside of surface waters and any natural buffers established under Part 2.1.2.1a, and must be designed to avoid collecting water from wetlands.

b. **Maintenance requirements.** Keep in effective operating condition and remove accumulated sediment to maintain at least ½ of the design capacity of the sediment basin at all times.

2.1.3.3 ***Use of Treatment Chemicals.*** If you are using polymers, flocculants, or other treatment chemicals at your site, you must comply with the following minimum requirements:

a. **Use conventional erosion and sediment controls prior to and after the application of treatment chemicals.** Use conventional erosion and sediment controls prior to chemical addition to ensure effective treatment. Chemicals may only be applied where treated stormwater is directed to a sediment control (e.g., sediment basin, perimeter control) prior to discharge.

b. **Select appropriate treatment chemicals.** Chemicals must be selected that are appropriately suited to the types of soils likely to be exposed during construction and discharged to locations where chemicals will be applied, and to the expected turbidity, pH, and flow rate of stormwater flowing into the chemical treatment system or area.

c. **Minimize discharge risk from stored chemicals.** Store all treatment chemicals in leak-proof containers that are kept under storm-resistant cover and surrounded by secondary containment structures (e.g., spill berms, decks, spill containment pallets), or provide equivalent measures, designed and maintained to minimize the potential discharge of treatment chemicals in stormwater or by any other means (e.g., storing chemicals in covered area or having a spill kit available on site).

d. **Comply with state/local requirements.** Comply with relevant state and local requirements affecting the use of treatment chemicals.

e. **Use chemicals in accordance with good engineering practices and specifications of the chemical provider/supplier.** You must also use treatment chemicals and chemical treatment systems in accordance with good engineering practices, and with dosing specifications and sediment removal design specifications provided by the provider/supplier of the applicable chemicals, or document specific departures from these practices or specifications and how they reflect good engineering practice.

f. **Ensure proper training.** Ensure that all persons who handle and use treatment chemicals at the construction site are provided with appropriate, product-specific training. Among other things, the training must cover proper dosing requirements.

g. **Comply with additional requirements for the approved use of cationic chemicals.** If you have been authorized to use cationic chemicals at your site pursuant to Part 1.2.4, and the authorization is conditioned on your compliance with additional requirements necessary to ensure that the use of such chemicals will not cause an exceedance of water quality standards, you are required to comply with all such requirements.

h. **Provide proper SWPPP documentation.** You must include documentation in your SWPPP consistent with Parts 7.2.6.9 and 7.2.10.2 on the specific chemicals and chemical treatment systems you will use, and how you will comply with the requirements in this Part.

2.1.3.4 ***Dewatering Practices.*** You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults, or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls.[14] Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

a. **Discharge requirements.**

i. Do not discharge visible floating solids or foam;

ii. Use an oil-water separator or suitable filtration device (such as a cartridge filter) that is designed to remove oil, grease, or other products if dewatering water is found to contain these materials;

iii. To the extent feasible, utilize vegetated, upland areas of the site to infiltrate dewatering water before discharge. In no case will surface waters be considered part of the treatment area;

iv. At all points where dewatering water is discharged, comply with the velocity dissipation requirements of Part 2.1.3.1;

v. With backwash water, either haul it away for disposal or return it to the beginning of the treatment process; and

vi. Replace and clean the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturer's specifications.

b. **Treatment chemical restrictions.** If you are using polymers, flocculants, or other treatment chemicals to treat dewatering water, you must comply with the requirements in Parts 2.1.3.3.

2.2. STABILIZATION REQUIREMENTS.

You are required to stabilize exposed portions of your site in accordance with the requirements of this Part.

[14] Examples of appropriate controls include, but are not limited to, sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems (e.g., bag or sand filters) that are designed to remove sediment.

Note: For the purposes of this permit, "exposed portions of your site" means areas of exposed soil that are required to be stabilized. Note that EPA does not expect that temporary or permanent stabilization measures to be applied to areas that are intended to be left unvegetated or unstabilized following construction (e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, or materials).

2.2.1. Deadlines for Initiating and Completing Stabilization.

2.2.1.1 ***Deadline to Initiate Stabilization.*** You must initiate soil stabilization measures immediately whenever earth-disturbing activities have permanently or *temporarily ceased on any portion of the site.*

Note: Earth-disturbing activities have permanently ceased when clearing and excavation within any area of your construction site that will not include permanent structures has been completed.

Note: Earth-disturbing activities have temporarily ceased when clearing, grading, and excavation within any area of the site that will not include permanent structures will not resume (i.e., the land will be idle) for a period of 14 or more calendar days, but such activities will resume in the future.

The 14 calendar day timeframe above begins counting as soon as you know that construction work on a portion of your site will be temporarily ceased. In circumstances where you experience unplanned or unanticipated delays in construction due to circumstances beyond your control (e.g., sudden work stoppage due to unanticipated problems associated with construction labor, funding, or other issues related to the ability to work on the site; weather conditions rendering the site unsuitable for the continuation of construction work) and you do not know at first how long the work stoppage will continue, your requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for 14 or more additional calendar days. At that point, you must comply with Parts 2.2.1.1 and 2.2.1.2.

Note: For the purposes of this permit, EPA will consider any of the following types of activities to constitute the initiation of stabilization:

1. *prepping the soil for vegetative or non-vegetative stabilization;*
2. *applying mulch or other non-vegetative product to the exposed area;*
3. *seeding or planting the exposed area;*
4. *starting any of the activities in # 1 – 3 on a portion of the area to be stabilized, but not on the entire area; and*
5. *finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization in Parts 2.2.1.2 and 2.2.1.3.*

This list of examples is not exhaustive.

Note: The term "immediately" is used to define the deadline for initiating stabilization measures. In the context of this provision, "immediately" means as soon as practicable, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

2.2.1.2 ***Deadline to Complete Stabilization Activities.*** As soon as practicable, but no later than 14 calendar days after the initiation of soil stabilization measures consistent with Part 2.2.1.1[15], you are required to have completed:

[15] EPA may determine, based on an inspection carried out under Part 4.2 and corrective actions required under Part 5.3, that the level of sediment discharge on the site makes it necessary to require a faster schedule for completing stabilization. For instance, if sediment discharges from an area of exposed soil

a. For vegetative stabilization, all activities[16] necessary to initially seed or plant the area to be stabilized; and/or

b. For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

2.2.1.3 ***Exceptions to the Deadlines for Initiating and Completing Stabilization.***

a. *Deadlines for projects occurring in arid or semi-arid areas, or drought-stricken areas.* These requirements apply if (1) your site is located in an arid area, a semi-arid area, or a drought-stricken area, as these terms are defined in Appendix A, (2) construction will occur during the seasonally dry period or during a period in which drought is predicted to occur, and (3) you are using vegetative cover for temporary or permanent stabilization. You may also comply with the deadlines in Part 2.2.1.1 instead. The deadlines for these types of projects are as follows:

i. Immediately initiate, and within 14 calendar days of a temporary or permanent cessation of work in any portion of your site complete, the installation of temporary non-vegetative stabilization measures to the extent necessary to prevent erosion;

ii. As soon as practicable, given conditions or circumstances on your site, complete all activities necessary to initially seed or plant the area to be stabilized; and

iii. If construction is occurring during the seasonally dry period, indicate in your SWPPP the beginning and ending dates of the seasonally dry period and your site conditions. You must also include the schedule you will follow for initiating and completing vegetative stabilization.

b. *Deadlines for projects that are affected by circumstances beyond the control of the permittee that delay the initiation and/or completion of vegetative stabilization as required in Parts 2.2.1.1 and/or 2.2.1.2.* If you are unable to meet the deadlines in Parts 2.2.1.1 and/or 2.2.1.2 due to circumstances beyond your control[17], and you are using vegetative cover for temporary or permanent stabilization, you may comply with the following stabilization deadlines instead:

i. Immediately initiate, and within 14 calendar days complete, the installation of temporary non-vegetative stabilization measures to prevent erosion;

ii. Complete all soil conditioning, seeding, watering or irrigation installation, mulching, and other required activities related to the planting and initial establishment of vegetation as soon as conditions or circumstances allow it on your site; and

that is required to be stabilized are compromising the performance of existing stormwater controls, EPA may require stabilization to correct this problem.

[16] For example, such activities might include, but are not limited to, soil conditioning, application of seed or sod, planting of seedlings or other vegetation, application of fertilizer, and, as deemed appropriate, watering.

[17] Examples include problems with the supply of seed stock or with the availability of specialized equipment, unsuitability of soil conditions due to excessive precipitation and/or flooding.

Note: You are required to have stabilized the exposed portions of your site consistent with Part 2.2.2 prior to terminating permit coverage under Part 8.2.

iii. Document the circumstances that prevent you from meeting the deadlines required in Parts 2.2.1.1and/or 2.2.1.2 and the schedule you will follow for initiating and completing stabilization.

c. *Deadlines for sites discharging to sensitive waters.* For any portion of the site that discharges to a sediment or nutrient-impaired water (see Part 3.2) or to a water that is identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes (see Part 3.3), you are required to complete the stabilization activities specified in Parts 2.2.1.2a and/or 2.2.1.2b within 7 calendar days after the temporary or permanent cessation of earth-disturbing activities.

Note: If you qualify for the deadlines for initiating and completing stabilization in Part 2.2.1.3a or b, you may comply with the stabilization deadlines in Part 2.2.1.3a or b for any portion of your site that discharges to a sensitive water.

2.2.2. Criteria for Stabilization.

To be considered adequately stabilized, you must meet the criteria below depending on the type of cover you are using, either vegetative or non-vegetative.

2.2.2.1 ***Vegetative Stabilization.***

a. ***For all sites, except those located in arid or semi-arid areas or on agricultural lands.***

i. If you are vegetatively stabilizing any exposed portion of your site through the use of seed or planted vegetation, you must provide established uniform vegetation (e.g., *evenly distributed without large bare areas*), which provides 70 percent or more of the density of coverage that was provided by vegetation prior to commencing earth-disturbing activities. You should avoid the use of invasive species;

ii. For final stabilization, vegetative cover must be perennial; and

iii. Immediately after seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded or planted area, you must select, design, and install non-vegetative erosion controls that provide cover (*e.g., mulch, rolled erosion control products*) to the area while vegetation is becoming established.

b. ***For sites located in arid or semi-arid areas, or drought-stricken areas.*** If you are located in an arid or semi-arid area, or a drought-stricken area, as these terms are defined in Appendix A, you are considered to have completed final stabilization if both of the following criteria are met:

i. The area you have seeded or planted must within 3 years provide established vegetation that covers 70 percent or more of the density of vegetation prior to commencing earth-disturbing activities; and

ii. In addition to seeding or planting the area to be vegetatively stabilized, to the extent necessary to prevent erosion on the seeded

or planted area, you must select, design, and install non-vegetative erosion controls that provide cover for at least 3 years without active maintenance by you.

c. ***For sites located on land used for agriculture.*** Disturbed areas on land used for agricultural purposes (*e.g., pipelines across crop or range land, staging areas for highway construction*) that are restored to their pre-construction agricultural use are not subject to these final stabilization criteria. Areas disturbed that were not previously used for agricultural activities, and areas that are not being returned to preconstruction agricultural use, must meet the conditions for stabilization in this Part.

2.2.2.2 ***Non-Vegetative Stabilization.*** If you are using non-vegetative controls to stabilize exposed portions of your site, or if you are using such controls to temporarily protect areas that are being vegetatively stabilized, you must provide effective non-vegetative cover[18] to stabilize any such exposed portions of your site.

2.3. POLLUTION PREVENTION REQUIREMENTS.

You are required to design, install, and maintain effective pollution prevention measures in order to prevent the discharge of pollutants. Consistent with this requirement, you must:

- Eliminate certain pollutant discharges from your site (see Part 2.3.1);
- Properly maintain all pollution prevention controls (see Part 2.3.2); and
- Comply with pollution prevention standards for pollutant-generating activities that occur at your site (see Part 2.3.3).

These requirements apply to all areas of your construction site and any and all support activities covered by this permit consistent with Part 1.3.c.

2.3.1. Prohibited Discharges.

You are prohibited from discharging the following from your construction site:

2.3.1.1 Wastewater from washout of concrete, unless managed by an appropriate control as described in Part 2.3.3.4;

2.3.1.2 Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials, unless managed by an appropriate control as described in Part 2.3.3.4;

2.3.1.3 Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;

2.3.1.4 Soaps, solvents, or detergents used in vehicle and equipment washing; and

2.3.1.5 Toxic or hazardous substances from a spill or other release.

2.3.2. General Maintenance Requirements.

You must ensure that all pollution prevention controls installed in accordance with this Part remain in effective operating condition and are protected from activities that would reduce their effectiveness. You must inspect all pollutant-generating activities and

[18] For temporary stabilization, examples of temporary non-vegetative stabilization methods include, but are not limited to, hydromulch and erosion control blankets. For final stabilization, examples of permanent non-vegetative stabilization methods include, but are not limited to, riprap, gabions, and geotextiles.

pollution prevention controls in accordance with your inspection frequency requirements in Parts 4.1.2 or 3.2.2.1 to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater discharges to receiving waters, and must document your findings in accordance with Part 4.1.7. If you find that controls need to be replaced, repaired, or maintained, you must make the necessary repairs or modifications in accordance with the following:

2.3.2.1 Initiate work to fix the problem immediately after discovering the problem, and complete such work by the close of the next work day, if the problem does not require significant repair or replacement, or if the problem can be corrected through routine maintenance.

2.3.2.2 When installation of a new pollution prevention control or a significant repair is needed, you must install the new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery. If it is infeasible to complete the installation or repair within 7 calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7 calendar day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as practicable after the 7 calendar day timeframe. Where these actions result in changes to any of the pollution prevention controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within 7 calendar days of completing this work.

2.3.3. Pollution Prevention Standards.

You are required to comply with the pollution prevention standards in this Part if you conduct any of the following activities at your site or at any construction support activity areas covered by this permit (see Part 1.3.c):

- Fueling and maintenance of equipment or vehicles;
- Washing of equipment and vehicles;
- Storage, handling, and disposal of construction materials, products, and wastes; and
- Washing of applicators and containers used for paint, concrete, or other materials.

The pollution prevention standards are as follows:

2.3.3.1 ***Fueling and Maintenance of Equipment or Vehicles.*** If you conduct fueling and/or maintenance of equipment or vehicles at your site, you must provide an effective means of eliminating the discharge of spilled or leaked chemicals, including fuel, from the area where these activities will take place.[19]

To comply with the prohibition in Part 2.3.1.3, you must:

a. If applicable, comply with the Spill Prevention Control and Countermeasures (SPCC) requirements in 40 CFR 112 and Section 311 of the CWA;

b. Ensure adequate supplies are available at all times to handle spills, leaks, and disposal of used liquids;

[19] Examples of effective controls include, but are not limited to, locating activities away from surface waters and stormwater inlets or conveyances, providing secondary containment *(e.g., spill berms, decks, spill containment pallets)*and cover where appropriate, and/or having spill kits readily available.

c. Use drip pans and absorbents under or around leaky vehicles;

d. Dispose of or recycle oil and oily wastes in accordance with other federal, state, tribal, or local requirements;

e. Clean up spills or contaminated surfaces immediately, using dry clean up measures where possible, and eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge; and

f. Do not clean surfaces by hosing the area down.

2.3.3.2 ***Washing of Equipment and Vehicles.***

a. You must provide an effective means of minimizing the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other types of washing;[20] and

b. To comply with the prohibition in Part 2.3.1.4, for storage of soaps, detergents, or solvents, you must provide either (1) cover (e.g., *plastic sheeting or temporary roofs*) to prevent these detergents from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas.

2.3.3.3 ***Storage, Handling, and Disposal of Construction Products, Materials, and Wastes.*** You must minimize the exposure to stormwater of any of the products, materials, or wastes specified below that are present at your site by complying with the requirements in this Part.

Note: These requirements do not apply to those products, materials, or wastes that are not a source of stormwater contamination or that are designed to be exposed to stormwater.

To ensure you meet this requirement, you must:

a. *For building products*[21]: In storage areas, provide either (1) cover (e.g., *plastic sheeting or temporary roofs*) to prevent these products from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas.

b. *For pesticides, herbicides, insecticides, fertilizers, and landscape materials:*

i. In storage areas, provide either (1) cover (e.g., *plastic sheeting or temporary roofs*) to prevent these chemicals from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas; and

ii. Comply with all application and disposal requirements included on the registered pesticide, herbicide, insecticide, and fertilizer label.

c. *For diesel fuel, oil, hydraulic fluids, other petroleum products, and other chemicals:*

[20] Examples of effective controls include, but are not limited to, locating activities away from surface waters and stormwater inlets or conveyances and directing wash waters to a sediment basin or sediment trap, using filtration devices, such as filter bags or sand filters, or using other similarly effective controls.

[21] Some examples of building products that are typically stored at construction sites include, but are not limited to, asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures.

i. To comply with the prohibition in Part 2.3.1.3, store chemicals in water-tight containers, and provide either (1) cover *(e.g., plastic sheeting or temporary roofs)* to prevent these containers from coming into contact with rainwater, or (2) a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., spill kits)*, or provide secondary containment *(e.g., spill berms, decks, spill containment pallets)*; and

ii. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a continuation of an ongoing discharge.

d. *For hazardous or toxic waste*[22]:

i. Separate hazardous or toxic waste from construction and domestic waste;

ii. Store waste in sealed containers, which are constructed of suitable materials to prevent leakage and corrosion, and which are labeled in accordance with applicable Resource Conservation and Recovery Act (RCRA) requirements and all other applicable federal, state, tribal, or local requirements;

iii. Store all containers that will be stored outside within appropriately-sized secondary containment *(e.g., spill berms, decks, spill containment pallets)* to prevent spills from being discharged, or provide a similarly effective means designed to prevent the discharge of pollutants from these areas *(e.g., storing chemicals in covered area or having a spill kit available on site)*;

iv. Dispose of hazardous or toxic waste in accordance with the manufacturer's recommended method of disposal and in compliance with federal, state, tribal, and local requirements; and

v. Clean up spills immediately, using dry clean-up methods where possible, and dispose of used materials properly. Do not clean surfaces or spills by hosing the area down. Eliminate the source of the spill to prevent a discharge or a furtherance of an ongoing discharge.

e. *For construction and domestic waste*[23]: Provide waste containers *(e.g., dumpster or trash receptacle)* of sufficient size and number to contain construction and domestic wastes. In addition, you must:

(1) On work days, clean up and dispose of waste in designated waste containers; and

(2) Clean up immediately if containers overflow.

[22] Examples of hazardous or toxic waste that may be present at construction sites include, but are not limited to, paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids.

[23] Examples of construction and domestic waste include, but are not limited to, packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.

f. *For sanitary waste:* Position portable toilets so that they are secure and will not be tipped or knocked over.

2.3.3.4 **Washing of Applicators and Containers used for Paint, Concrete, or Other Materials.** To comply with the prohibition in Parts 2.3.1.1 and 2.3.1.2, you must provide an effective means of eliminating the discharge of water from the washout and cleanout of stucco, paint, concrete, form release oils, curing compounds, and other construction materials. To comply with this requirement, you must:

a. Direct all washwater into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation;

b. Handle washout or cleanout wastes as follows:

i. Do not dump liquid wastes in storm sewers;

ii. Dispose of liquid wastes in accordance with applicable requirements in Part 2.3.3.3; and

iii. Remove and dispose of hardened concrete waste consistent with your handling of other construction wastes in Part 2.3.3.3; and

c. Locate any washout or cleanout activities as far away as possible from surface waters and stormwater inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas.

2.3.4. Emergency Spill Notification

You are prohibited from discharging toxic or hazardous substances from a spill or other release, consistent with Part 2.3.1.5. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 occurs during a 24-hour period, you must notify the National Response Center (NRC) at (800) 424-8802 or, in the Washington, DC metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 as soon as you have knowledge of the discharge. You must also, within 7 calendar days of knowledge of the release, provide a description of the release, the circumstances leading to the release, and the date of the release. State, tribal, or local requirements may necessitate additional reporting of spills or discharges to local emergency response, public health, or drinking water supply agencies.

2.3.5. Fertilizer Discharge Restrictions.

You are required to minimize discharges of fertilizers containing nitrogen or phosphorus. To meet this requirement, you must comply with the following requirements:

2.3.5.1 Apply at a rate and in amounts consistent with manufacturer's specifications, or document departures from the manufacturer specifications where appropriate in Part 7.2.7.2 of the SWPPP;

2.3.5.2 Apply at the appropriate time of year for your location, and preferably timed to coincide as closely as possible to the period of maximum vegetation uptake and growth;

2.3.5.3 Avoid applying before heavy rains that could cause excess nutrients to be discharged;

2.3.5.4 Never apply to frozen ground;

2.3.5.5 Never apply to stormwater conveyance channels with flowing water; and

2.3.5.6 Follow all other federal, state, tribal, and local requirements regarding fertilizer application.

3. WATER QUALITY-BASED EFFLUENT LIMITATIONS.

3.1. GENERAL EFFLUENT LIMITATION TO MEET APPLICABLE WATER QUALITY STANDARDS

Your discharge must be controlled as necessary to meet applicable water quality standards. You must also comply with any additional requirements that your state or tribe requires you to meet in Part 9.

In the absence of information demonstrating otherwise, EPA expects that compliance with the conditions in this permit will result in stormwater discharges being controlled as necessary to meet applicable water quality standards. If at any time you become aware, or EPA determines, that your discharge is not being controlled as necessary to meet applicable water quality standards, you must take corrective action as required in Part 5.2.1, and document the corrective actions as required in Part 5.2.2 and Part 5.4.

EPA will also impose additional water quality-based limitations on a site-specific basis, or require you to obtain coverage under an individual permit, if information in your NOI, or from other sources indicates that your discharges are not controlled as necessary to meet applicable water quality standards. This includes situations where additional controls are necessary to comply with a wasteload allocation in an EPA established or approved TMDL.

3.2. DISCHARGE LIMITATIONS FOR IMPAIRED WATERS

If you discharge to a surface water that is impaired for (1) sediment or a sediment-related parameter, such as total suspended solids (TSS) or turbidity, and/or (2) nutrients, including impairments for nitrogen and/or phosphorus, you are required to comply with the requirements in Part 3.2.2.

Note: For the purposes of this Part, "impaired waters" are waters identified as impaired on the appropriate CWA Section 303(d) list, or waters with an EPA-approved or established TMDL. Your construction site will be considered to discharge to an impaired water if the first surface water to which you discharge is identified by a state, tribe, or EPA pursuant to Section 303(d) of the CWA as not meeting an applicable water quality standard, or is included in an EPA-approved or established total maximum daily load (TMDL). For discharges that enter a storm sewer system prior to discharge, the first surface water to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

If you discharge to an impaired water that is impaired for a parameter other than a sediment-related parameter or nutrients, EPA will inform you if any additional limits or controls are necessary for your discharge to be controlled as necessary to meet water quality standards, including for it to be consistent with the assumptions of any available wasteload allocation in any applicable TMDL, or if coverage under an individual permit is necessary in accordance with Part 1.4.5.

If during your coverage under a previous permit, you were required to install and maintain stormwater controls specifically to meet the assumptions and requirements of an EPA-approved or established TMDL (for any parameter) or to otherwise control your discharge to meet water quality standards, you must continue to implement such controls as part of this permit.

3.2.1. Identify If You Discharge To An Impaired Water.

If you discharge to an impaired water, you must provide the following information in your NOI:

- A list of all impaired waters to which you discharge;
- The pollutant(s) for which the surface water is impaired; and

- Whether a TMDL has been approved or established for the waters to which you discharge.

3.2.2. Requirements for Discharges to Sediment or Nutrient-Impaired Waters.

If you discharge to a surface water that is impaired for (1) sediment or a sediment-related parameter *(e.g., total suspended solids (TSS) or turbidity)* and/or (2) nutrients *(e.g., nitrogen and/or phosphorus)*, including impaired waters for which a TMDL has been approved or established for the impairment, you are required to comply with the following stormwater control requirements, which supplement the requirements applicable to your site in other corresponding parts of the permit

3.2.2.1 ***Frequency of Site Inspection.*** You must conduct inspections at the frequency specified in Part 4.1.3.

3.2.2.2 ***Deadline to Complete Stabilization.*** You must comply with the deadlines for completing site stabilization as specified in Part 2.2.1.3c.

3.2.2.3 ***State and Tribal Requirements.*** You must comply with any additional state or tribal impairment-related requirements included in Part 9.

EPA will also impose additional water quality-based limitations on a site-specific basis, or require you to obtain coverage under an individual permit, if it is determined that the controls in the Part will not be sufficient to control discharges consistent with the assumptions and requirements of an applicable wasteload allocation of an approved or established TMDL or to prevent the site from contributing to the impairment.

3.3. DISCHARGES TO WATERS IDENTIFIED AS TIER 2, TIER 2.5, OR TIER 3.

3.3.1. Identify If You Discharge to a Tier 2, Tier 2.5, or Tier 3 Water.

If you discharge to a water identified by a state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 water, you must provide on your NOI a list of waters identified as Tier 2, Tier 2.5, or Tier 3 to which you discharge. See Appendix F for a list of Tier 2 and 3 waters.

Note: For the purposes of this permit, you are considered to discharge to a Tier 2, Tier 2.5, or Tier 3 water if the first surface water to which you discharge is identified by a state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3. Tiers 2, 2.5 and 3 refer to waters either identified by the state as high quality waters or Outstanding National Resource Waters under 40 CFR §131.12(a)(2) and (3). For discharges that enter a storm sewer system prior to discharge, the surface water to which you discharge is the first surface water that receives the stormwater discharge from the storm sewer system.

3.3.2. Requirements for New Projects Discharging to Tier 2, Tier 2.5, or Tier 3 Waters.

For new projects, if you will discharge to a Tier 2, Tier 2.5, or Tier 3 water, you are required to comply with the requirements in Parts 4.1.3 (inspection frequencies) and 2.2.1.3c (stabilization deadlines), and, if applicable, Part 9 (relevant state or tribal requirements). In addition, on a case-by-case basis, EPA may notify operators of such new projects or operators of existing projects with increased discharges that additional analyses, stormwater controls, or other permit conditions are necessary to comply with the applicable antidegradation requirements, or notify you that an individual permit application is necessary in accordance with Part 1.4.5.

4. INSPECTIONS.

4.1. SITE INSPECTIONS.

4.1.1. Person(s) Responsible for Inspecting Site.

The person(s) inspecting your site may be a person on your staff or a third party you hire to conduct such inspections. You are responsible for ensuring that the person who conducts inspections is a "qualified person."

Note: A "qualified person" is a person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

4.1.2. Frequency of Inspections.

At a minimum, you must conduct a site inspection in accordance with one of the two schedules listed below, unless you are subject to Part 4.1.3 or Part 4.1.4:

4.1.2.1 At least once every 7 calendar days; or

4.1.2.2 Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches or greater. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.1.7.1d.

Note: Inspections are only required during the project's normal working hours.

Note: You are required to specify in your SWPPP which schedule you will be following.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly in accordance with Part 4.1.2.2 and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

4.1.3. Increase in Inspection Frequency for Sites Discharging to Sensitive Waters.

For any portion of the site that discharges to a sediment or nutrient-impaired water (see Part 3.2) or to a water that is identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 for antidegradation purposes (see Part 3.3), instead of the inspection frequency specified in Part 4.1.2, you must conduct inspections in accordance with the following inspection frequencies:

4.1.3.1 Once every 7 calendar days; and

4.1.3.2 Within 24 hours of the occurrence of a storm event of 0.25 inches or greater. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that

measures 0.25 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.1.7.1d.

Note: Inspections are only required during the project's normal working hours.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

Note: If you qualify for any of the reduced inspection frequencies in Part 4.1.4, you may conduct inspections in accordance with Part 4.1.4 for any portion of your site that discharges to a sensitive water.

4.1.4. Reductions in Inspection Frequency.

Your inspection frequency may be reduced as follows:

4.1.4.1 ***For Stabilized Areas.*** You may reduce the frequency of inspections to once per month in any area of your site where the stabilization steps in Parts 2.2.1.2a and 2.2.1.2b have been completed. If construction activity resumes in this portion of the site at a later date, the inspection frequency immediately increases to that required in Parts 4.1.2 or 4.1.3, if applicable. You must document the beginning and ending dates of this period in your records.

4.1.4.2 ***For Arid, Semi-Arid, or Drought-Stricken Areas.*** You may reduce the frequency of inspections to once per month and within 24 hours of the occurrence of a storm event of 0.25 inches or greater if your site is located in an arid, semi-arid, or drought-stricken area, as these terms are defined in Appendix A, and construction is occurring during the seasonally dry period or during a period in which drought is predicted to occur. You must document that you are using this reduced schedule and the beginning and ending dates of the seasonally dry period in your SWPPP. To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day in accordance with Part 4.1.7.1d.

Note: Inspections are only required during the project's normal working hours.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

4.1.4.3 ***For Frozen Conditions.***

a. If you are suspending earth-disturbing activities due to frozen conditions, you may temporarily suspend inspections on your site until thawing conditions (see Appendix A) begin to occur if:

i. Runoff is unlikely due to continuous frozen conditions that are likely to continue at your site for at least 3 months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain on snow events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.1.2 or 4.1.3, if applicable;

ii. Land disturbances have been suspended; and

iii. All disturbed areas of the site have been temporarily or permanently stabilized in accordance with Part 2.2.

b. If you are still conducting earth-disturbing activities during frozen conditions, you may reduce your inspection frequency to once per month if:

i. Runoff is unlikely due to continuous frozen conditions that are likely to continue at your site for at least 3 months based on historic seasonal averages. If unexpected weather conditions (such as above freezing temperatures or rain on snow events) make discharges likely, you must immediately resume your regular inspection frequency as described in Parts 4.1.2 or 4.1.3 if applicable; and

ii. Except for areas in which you are actively conducting earth-disturbing activities, disturbed areas of the site have been temporarily or permanently stabilized in accordance with Part 2.2.

You must document the beginning and ending dates of this period in your SWPPP.

4.1.5. Areas that Need to Be Inspected. During your site inspection, you must at a minimum inspect the following areas of your site:

4.1.5.1 All areas that have been cleared, graded, or excavated and that have not yet completed stabilization consistent with Part 2.2;

4.1.5.2 All stormwater controls (including pollution prevention measures) installed at the site to comply with this permit;

4.1.5.3 Material, waste, borrow, or equipment storage and maintenance areas that are covered by this permit;

4.1.5.4 All areas where stormwater typically flows within the site, including drainageways designed to divert, convey, and/or treat stormwater;

4.1.5.5 All points of discharge from the site; and

4.1.5.6 All locations where stabilization measures have been implemented.

You are not required to inspect areas that, at the time of the inspection, are considered unsafe to your inspection personnel.

4.1.6. Requirements for Inspections. During your site inspection, you must at a minimum:

4.1.6.1 Check whether all erosion and sediment controls and pollution prevention controls are installed, appear to be operational, and are working as intended to minimize pollutant discharges. Determine if any controls need to be replaced, repaired, or maintained in accordance with Parts 2.1.1.4 and 2.3.2;

4.1.6.2 Check for the presence of conditions that could lead to spills, leaks, or other accumulations of pollutants on the site;

4.1.6.3 Identify any locations where new or modified stormwater controls are necessary to meet the requirements of Parts 2 and/or 3;

4.1.6.4 At points of discharge and, if applicable, the banks of any surface waters flowing within your property boundaries or immediately adjacent to your property, check for signs of visible erosion and sedimentation *(i.e., sediment deposits)* that have occurred and are attributable to your discharge; and

4.1.6.5 Identify any and all incidents of noncompliance observed.

4.1.6.6 If a discharge is occurring during your inspection, you are required to:

a. Identify all points of the property from which there is a discharge;

b. Observe and document the visual quality of the discharge, and take note of the characteristics of the stormwater discharge, including color, odor, floating, settled, or suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollutants; and

c. Document whether your stormwater controls are operating effectively, and describe any such controls that are clearly not operating as intended or are in need of maintenance.

4.1.6.7 Based on the results of your inspection, initiate corrective action under Part 5.

4.1.7. Inspection Report.

4.1.7.1 ***Requirement to Complete Inspection Report.*** You must complete an inspection report within 24 hours of completing any site inspection. Each inspection report must include the following:

a. The inspection date;

b. Names and titles of personnel making the inspection;

c. A summary of your inspection findings, covering at a minimum the observations you made in accordance with Part 4.1.6;

d. If you are inspecting your site at the frequency specified in Part 4.1.2.2, Part 4.1.3, or Part 4.1.4.2, and you conducted an inspection because of rainfall measuring 0.25 inches or greater, you must include the applicable rain gauge or weather station readings that triggered the inspection; and

e. If you have determined that it is unsafe to inspect a portion of your site, you must describe the reason you found it to be unsafe and specify the locations that this condition applied to.

4.1.7.2 ***Signature Requirements.*** Each inspection report must be signed in accordance with Appendix I, Part I.11 of this permit.

4.1.7.3 ***Recordkeeping Requirements.*** You are required to keep a current, copy of all inspection reports at the site or at an easily accessible location, so that it can be made available at the time of an onsite inspection or upon request by EPA. For purposes of this permit, your inspection reports may be kept electronically if the records are:

a. In a format that can be read in a similar manner as a paper record;

b. Legally dependable with no less evidentiary value than their paper equivalent; and

c. Accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be, if the records were stored in paper form.

Note: See Section IX.1.7 of the Fact Sheet for a discussion on ways to ensure that electronic records satisfy this requirement. See Appendix I, Part I.11.5 for requirements relating to electronic signature of these documents.

All inspection reports completed for this Part must be retained for at least 3 years from the date that your permit coverage expires or is terminated.

4.2. INSPECTIONS BY EPA.

You must allow EPA, or an authorized representative of the EPA, to conduct the following activities at reasonable times:

4.2.1. Enter onto areas of your site, including any construction support activity areas covered by this permit (see Part 1.3.c), and onto locations where records are kept under the conditions of this permit;

4.2.2. Access and copy any records that must be kept under the conditions of this permit;

4.2.3. Inspect your construction site, including any construction support activity areas covered by this permit (see Part 1.3.c) and any stormwater controls installed and maintained at the site; and

4.2.4. Sample or monitor for the purpose of ensuring compliance.

5. CORRECTIVE ACTIONS.

5.1. "CORRECTIVE ACTIONS" DEFINED.

Corrective actions are actions you take in compliance with this Part to:

- Repair, modify, or replace any stormwater control used at the site;
- Clean up and properly dispose of spills, releases, or other deposits; or
- Remedy a permit violation.

5.2. REQUIREMENTS FOR TAKING CORRECTIVE ACTION.

You must complete the following corrective actions in accordance with the deadlines specified in this Part. In all circumstances, you must immediately take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational, including cleaning up any contaminated surfaces so that the material will not discharge in subsequent storm events.

Note: in this context, the term "immediately" requires construction operators to, on the same day a condition requiring corrective action is found, take all reasonable steps to minimize or prevent the discharge of pollutants until a permanent solution is installed and made operational. However, if the problem is identified at a time in the work day when it is too late to initiative corrective action, the initiation of corrective action must begin on the following work day.

5.2.1. For any of the following conditions on your site, you must install a new or modified control and make it operational, or complete the repair, by no later than 7 calendar days from the time of discovery. If it is infeasible to complete the installation or repair within 7 calendar days, you must document in your records why it is infeasible to complete the installation or repair within the 7 calendar day timeframe and document your schedule for installing the stormwater control(s) and making it operational as soon as practicable after the 7-day timeframe.

5.2.1.1 A required stormwater control was never installed, was installed incorrectly, or not in accordance with the requirements in Parts 2 and/or 3; or

5.2.1.2 You become aware that the stormwater controls you have installed and are maintaining are not effective enough for the discharge to meet applicable water quality standards or applicable requirements in Part 3.1. In this case, you must notify your EPA Regional Office by the end of the next work day. You are required to submit your notification through EPA's electronic NOI system, or "eNOI", at www.epa.gov/npdes/cgpenoi; or

5.2.1.3 One of the prohibited discharges in Part 2.3.i is occurring or has occurred.

5.2.2. Where your corrective actions result in changes to any of the stormwater controls or procedures documented in your SWPPP, you must modify your SWPPP accordingly within 7 calendar days of completing corrective action work.

5.3. CORRECTIVE ACTION REQUIRED BY EPA.

You must comply with any corrective actions required by EPA as a result of permit violations found during an inspection carried out under Part 4.2.

5.4. CORRECTIVE ACTION REPORT.

For each corrective action taken in accordance with this Part, you must complete a corrective action report, which includes the applicable information in Parts 5.4.1 and 5.4.2. Note that these reports must be maintained in your records but do not need to be provided to EPA except upon request.

5.4.1. Within 24 hours of discovering the occurrence of one of the triggering conditions in Part 5.2.1 at your site, you must complete a report of the following:

5.4.1.1 Which condition was identified at your site;

5.4.1.2 The nature of the condition identified; and

5.4.1.3 The date and time of the condition identified and how it was identified.

5.4.2. Within 7 calendar days of discovering the occurrence of one of the triggering conditions in Part 5.2.1 at your site, you must complete a report of the following:

5.4.2.1 Any follow-up actions taken to review the design, installation, and maintenance of stormwater controls, including the dates such actions occurred;

5.4.2.2 A summary of stormwater control modifications taken or to be taken, including a schedule of activities necessary to implement changes, and the date the modifications are completed or expected to be completed; and

5.4.2.3 Notice of whether SWPPP modifications are required as a result of the condition identified or corrective action.

5.4.3. Signature Requirements. Each corrective action report must be signed and certified in accordance with Appendix I, Part I.11 of this permit.

5.4.4. Recordkeeping Requirements. You are required to keep a current copy of all corrective action reports at the site or at an easily accessible location, so that it can be made available at the time of an onsite inspection or upon request by EPA. For purposes of this permit, your corrective action reports may be kept electronically if the records are:

5.4.4.1 In a format that can be read in a similar manner as a paper record;

5.4.4.2 Legally dependable with no less evidentiary value than their paper equivalent; and

5.4.4.3 Accessible to the inspector during an inspection to the same extent as a paper copy stored at the site would be. If the records were stored in paper form.

Note: See Section IX.1.7 of the Fact Sheet for a discussion on ways to ensure that electronic records satisfy this requirement. See Appendix I, Part I.11.5 for requirements relating to electronic signature of these documents.

All corrective action reports completed for this Part must be retained for at least 3 years from the date that your permit coverage expires or is terminated.

6. STAFF TRAINING REQUIREMENTS.

Prior to the commencement of earth-disturbing activities or pollutant-generating activities, whichever occurs first, you must ensure that the following personnel understand the requirements of this permit and their specific responsibilities with respect to those requirements:

- Personnel who are responsible for the design, installation, maintenance, and/or repair of stormwater controls (including pollution prevention measures);
- Personnel responsible for the application and storage of treatment chemicals (if applicable);
- Personnel who are responsible for conducting inspections as required in Part 4.1.1; and
- Personnel who are responsible for taking corrective actions as required in Part 5.

Notes: (1) If the person requiring training is a new employee, who starts after you commence earth-disturbing or pollutant-generating activities, you must ensure that this person has the proper understanding as required above prior to assuming particular responsibilities related to compliance with this permit.

(2) For emergency-related construction activities, the requirement to train personnel prior to commencement of earth-disturbing activities does not apply, however, such personnel must have the required training prior to NOI submission.

You are responsible for ensuring that all activities on the site comply with the requirements of this permit. You are not required to provide or document formal training for subcontractors or other outside service providers, but you must ensure that such personnel understand any requirements of the permit that may be affected by the work they are subcontracted to perform.

At a minimum, personnel must be trained to understand the following if related to the scope of their job duties (e.g., only personnel responsible for conducting inspections need to understand how to conduct inspections):

- The location of all stormwater controls on the site required by this permit, and how they are to be maintained;
- The proper procedures to follow with respect to the permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions.

7. STORMWATER POLLUTION PREVENTION PLAN (SWPPP).

7.1. GENERAL REQUIREMENTS.

7.1.1. Requirement to Develop a SWPPP Prior to Submitting Your NOI.

All operators associated with a construction project to be covered under this permit must develop a SWPPP.

Note: You have the option of developing a group SWPPP where you are one of several operators who will be engaged in construction activities at your site. For instance, if both the owner and the general contractor of the construction site are permitted, the owner may be the party responsible for SWPPP development, and the general contractor can choose to use this same SWPPP, as long as the SWPPP addresses the general contractor's scope of construction work and obligations under this permit.

You are required to develop your site's SWPPP prior to submitting your NOI. At a minimum, your SWPPP must include the information required in Part 7.2 and as specified in other parts of the permit. [24] You must also update the SWPPP as required in Part 7.4.

Note: If your project is an "existing project" (see Part 1.4.2.b) or if you are a new operator of an existing project" (see Part 1.4.2.c), and it is infeasible for you to comply with a specific requirement in this Part or in Parts 2.1, and 2.3.3 through 2.3.5 (except for Parts 2.3.3.1, 2.3.3.2b, 2.3.3.3c.i, and 2.3.3.4) because (1) the provision was not part of the permit you were previously covered under (i.e., the 2003 or 2008 CGP), and (2) because you are prevented from compliance due to the nature or location of earth disturbances that commenced prior to February 16, 2012 (or prior to April 9, 2012 for projects in the State of Idaho (except for Indian country), or prior to April 13, 2012 for projects in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, or prior to May 9, 2012 for projects located in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin), or because you are unable to comply with the requirement due to the manner in which stormwater controls have already been installed or were already designed prior to February 16, 2012 (or prior to April 9, 2012 for projects in the State of Idaho (except for Indian country), or prior to April 13, 2012 for projects in areas in the State of Washington (except for Indian country) subject to construction activity by a Federal Operator, or prior to May 9, 2012 for projects located in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin), you are required to include documentation of the reasons why it is infeasible for you to meet the specific requirement, and then you may be waived from complying with this requirement. You must include a separate justification why it is infeasible for you to meet each of the applicable requirements.

If you prepared a SWPPP for coverage under a previous version of this NPDES permit, you must review and update your SWPPP to ensure that this permit's requirements are addressed prior to submitting your NOI.

7.2. SWPPP CONTENTS.

Your SWPPP must include the following information, at a minimum.

[24] The SWPPP does not establish the effluent limits that apply to your site's discharges; these limits are established in this permit in Parts 2 and 3.

7.2.1. Stormwater Team.

Each operator, or group of multiple operators, must assemble a "stormwater team," which is responsible for overseeing the development of the SWPPP, any later modifications to it, and for compliance with the requirements in this permit.

The SWPPP must identify the personnel (by name or position) that are part of the stormwater team, as well as their individual responsibilities. Each member of the stormwater team must have ready access to an **electronic** or paper copy of applicable portions of this permit, the most updated copy of your SWPPP, and other relevant documents or information that must be kept with the SWPPP.

7.2.2. Nature of Construction Activities.

The SWPPP must describe the nature of your construction activities, including the size of the property (in acres) and the total area expected to be disturbed by the construction activities (in acres), construction support activity areas covered by this permit (see Part 1.3.c), and the maximum area expected to be disturbed at any one time.

7.2.3. Emergency-Related Projects.

If you are conducting earth-disturbing activities in response to a public emergency (see Part 1.2), you must document the cause of the public emergency *(e.g., natural disaster, extreme flooding conditions, etc.)*, information substantiating its occurrence *(e.g., state disaster declaration or similar state or local declaration)*, and a description of the construction necessary to reestablish effected public services.

7.2.4. Identification of Other Site Operators.

The SWPPP must include a list of all other operators who will be engaged in construction activities at your site, and the areas of the site over which each operator has control.

7.2.5. Sequence and Estimated Dates of Construction Activities.

The SWPPP must include a description of the intended sequence of construction activities, including a schedule of the estimated start dates and the duration of the activity, for the following activities:

7.2.5.1 Installation of stormwater control measures, and when they will be made operational, including an explanation of how the sequence and schedule for installation of stormwater control measures complies with Part 2.1.1.3a and of any departures from manufacturer specifications pursuant to Part 2.1.1.3b;

7.2.5.2 Commencement and duration of earth-disturbing activities, including clearing and grubbing, mass grading, site preparation (i.e., excavating, cutting and filling), final grading, and creation of soil and vegetation stockpiles requiring stabilization;

7.2.5.3 Cessation, temporarily or permanently, of construction activities on the site, or in designated portions of the site;

7.2.5.4 Final or temporary stabilization of areas of exposed soil. The dates for stabilization must reflect the applicable deadlines to which you are subject in Part 2.2.1; and

7.2.5.5 Removal of temporary stormwater conveyances/channels and other stormwater control measures, removal of construction equipment and vehicles, and cessation of any pollutant-generating activities.

Note: If plans change due to unforeseen circumstances or for other reasons, the requirement to describe the sequence and estimated dates of construction activities is not meant

to "lock in" the operator to meeting these projections. When departures from initial projections are necessary, this should be documented in the SWPPP itself or in associated records, as appropriate.

7.2.6. Site Map.

The SWPPP must include a legible site map, or series of maps, showing the following features of your project:

Note: Included in the project site are any construction support activities covered by this permit (see Part 1.3.c).

7.2.6.1 Boundaries of the property and of the locations where construction activities will occur, including:

a. Locations where earth-disturbing activities will occur, noting any phasing of construction activities;

b. Approximate slopes before and after major grading activities. Note areas of steep slopes, as defined in Appendix A;

c. Locations where sediment, soil, or other construction materials will be stockpiled;

d. Locations of any crossings of surface waters;

e. Designated points on the site where vehicles will exit onto paved roads;

f. Locations of structures and other impervious surfaces upon completion of construction; and

g. Locations of construction support activity areas covered by this permit (see Part 1.3.c).

7.2.6.2 Locations of all surface waters, including wetlands, that exist within or in the immediate vicinity of the site. Indicate which waterbodies are listed as impaired, and which are identified by your state, tribe, or EPA as Tier 2, Tier 2.5, or Tier 3 waters;

7.2.6.3 The boundary lines of any natural buffers provided consistent with Part 2.1.2.1a;

7.2.6.4 Areas of federally-listed critical habitat for endangered or threatened species;

7.2.6.5 Topography of the site, existing vegetative cover (e.g., *forest, pasture, pavement, structures*), and drainage pattern(s) of stormwater and authorized non-stormwater flow onto, over, and from the site property before and after major grading activities;

7.2.6.6 Stormwater and allowable non-stormwater discharge locations, including:

a. Locations of any storm drain inlets on the site and in the immediate vicinity of the site; and

Note: The requirement to show storm drain inlets in the immediate vicinity of the site on your site map only applies to those inlets that are easily identifiable from your site or from a publicly accessible area immediately adjacent to your site.

b. Locations where stormwater or allowable non-stormwater will be discharged to surface waters (including wetlands) on or near the site.

7.2.6.7 Locations of all potential pollutant-generating activities identified in Part 7.2.7;

7.2.6.8 Locations of stormwater control measures; and

7.2.6.9 Locations where polymers, flocculants, or other treatment chemicals will be used and stored.

7.2.7. Construction Site Pollutants.

The SWPPP must include the following:

7.2.7.1 A list and description of all the pollutant-generating activities[25] on your site.

7.2.7.2 For each pollutant-generating activity, an inventory of pollutants or pollutant constituents *(e.g., sediment, fertilizers and/or pesticides, paints, solvents, fuels)* associated with that activity, which could be exposed to rainfall, or snowmelt, and could be discharged from your construction site. You must take into account where potential spills and leaks could occur that contribute pollutants to stormwater discharges. You must also document any departures from the manufacturer's specifications for applying fertilizers containing nitrogen and phosphorus, as required in Part 2.3.5.1.

7.2.8. Non-Stormwater Discharges.

The SWPPP must also identify all sources of allowable non-stormwater discharges listed in Part 1.3.d.

7.2.9. Buffer Documentation.

If you are required to comply with Part 2.1.2.1 because a surface water is located within 50 feet of your project's earth disturbances, you must describe which compliance alternative you have selected for your site, and comply with any additional requirements to provide documentation in Part 2.1.2.1.

7.2.10. Description of Stormwater Control Measures.

7.2.10.1 ***Stormwater Control Measures to be Used During Construction Activity.*** The SWPPP must describe all stormwater control measures that are or will be installed and maintained at your site to meet the requirements of Part 2. For each stormwater control measure, you must document:

a. Information on the type of stormwater control measure to be installed and maintained, including design information;

b. What specific sediment controls will be installed and made operational prior to conducting earth-disturbing activities in any given portion of your site to meet the requirement of Part 2.1.2.2a;

c. For exit points on your site, document stabilization techniques you will use and any additional controls that are planned to remove sediment prior to vehicle exit consistent with Part 2.1.2.3; and

d. For linear projects, where you have determined that the use of perimeter controls in portions of the site is impracticable, document why you believe this to be the case (see Part 2.1.2.2a).

7.2.10.2 ***Use of Treatment Chemicals.*** If you will use polymers, flocculants, or other treatment chemicals at your site, the SWPPP must include:

a. A listing of all soil types[26] that are expected to be exposed during construction and that will be discharged to locations where chemicals

[25] Examples of pollutant-generating activities include, but are not limited to: paving operations; concrete, paint, and stucco washout and waste disposal; solid waste storage and disposal; and dewatering operations.

will be applied. Also include a listing of soil types expected to be found in fill material to be used in these same areas, to the extent you have this information prior to construction.

b. A listing of all treatment chemicals to be used at the site, and why the selection of these chemicals is suited to the soil characteristics of your site;

c. If you have been authorized by your applicable EPA Regional Office to use cationic treatment chemicals, include the specific controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards;

d. The dosage of all treatment chemicals you will use at the site or the methodology you will use to determine dosage;

e. Information from any applicable Material Safety Data Sheets (MSDS);

f. Schematic drawings of any chemically-enhanced stormwater controls or chemical treatment systems to be used for application of the treatment chemicals;

g. A description of how chemicals will be stored consistent with Part 2.1.3.3b;

h. References to applicable state or local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems; and

i. A description of the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to use of the treatment chemicals at your site.

7.2.10.3 ***Stabilization Practices.*** The SWPPP must describe the specific vegetative and/or non-vegetative practices that will be used to comply with the requirements in Part 2.2, including:

a. If you will be complying with the stabilization deadlines specified in Part 2.2.1.3a, you must indicate in your SWPPP the beginning and ending dates of the seasonally dry period and your site conditions; and

b. If you will be complying with the stabilization deadlines specified in Part 2.2.1.3b, you must document the circumstances that prevent you from meeting the deadlines specified in Parts 2.2.1.1 and/or 2.2.1.2.

7.2.11. Pollution Prevention Procedures.

7.2.11.1 ***Spill Prevention and Response Procedures.*** The SWPPP must describe procedures that you will follow to prevent and respond to spills and leaks consistent with Part 2.3, including:

a. Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. Identify the name or position of the employee(s) responsible for detection and response of spills or leaks; and

[26] Information on soils may be obtained at http://websoilsurvey.nrcs.usda.gov/app/.

b. Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity consistent with Part 2.3.4 and established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period. Contact information must be in locations that are readily accessible and available.

You may also reference the existence of Spill Prevention Control and Countermeasure (SPCC) plans developed for the construction activity under Part 311 of the CWA, or spill control programs otherwise required by an NPDES permit for the construction activity, provided that you keep a copy of that other plan onsite.

Note: Even if you already have an SPCC or other spill prevention plan in existence, your plans will only be considered adequate if they meet all of the requirements of this Part, either as part of your existing plan or supplemented as part of the SWPPP.

7.2.11.2 ***Waste Management Procedures.*** The SWPPP must describe procedures for how you will handle and dispose of all wastes generated at your site, including, but not limited to, clearing and demolition debris, sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste.

7.2.12. Procedures for Inspection, Maintenance, and Corrective Action.

The SWPPP must describe the procedures you will follow for maintaining your stormwater control measures, conducting site inspections, and, where necessary, taking corrective actions, in accordance with Part 2.1.1.4, Part 2.3.2, Part 4, and Part 5 of the permit. The following information must also be included in your SWPPP:

7.2.12.1 Personnel responsible for conducting inspections;

7.2.12.2 The inspection schedule you will be following, which is based on whether your site is subject to Part 4.1.2 or Part 4.1.3, and whether your site qualifies for any of the allowances for reduced inspection frequencies in Part 4.1.4. If you will be conducting inspections in accordance with the inspection schedule in Part 4.1.2.2 or Part 4.1.3, the location of the rain gauge on your site or the address of the weather station you will be using to obtain rainfall data;

7.2.12.3 If you will be reducing your inspection frequency in accordance with Part 4.1.4.2, the beginning and ending dates of the seasonally-defined arid period for your area or the valid period of drought. If you will be reducing your inspection frequency in accordance with Part 4.1.4.3, the beginning and ending dates of frozen conditions on your site; and

7.2.12.4 Any inspection or maintenance checklists or other forms that will be used.

7.2.13. Staff Training.

The SWPPP must include documentation that the required personnel were trained in accordance with Part 6.

7.2.14. Documentation of Compliance with Other Federal Requirements.

7.2.14.1 *Endangered Species Act.* The SWPPP must include documentation supporting your determination with respect to Part 1.1.e and Appendix D.

7.2.14.2 *Historic Properties.* The SWPPP must include documentation required by Appendix E in relation to potential impacts to historic properties.

7.2.14.3 *Safe Drinking Water Act Underground Injection Control (UIC) Requirements for Certain Subsurface Stormwater Controls.* If you are using any of the following stormwater controls at your site, as they are described below, you must document any contact you have had with the applicable state agency or EPA Regional Office responsible for implementing the requirements for underground injection wells in the Safe Drinking Water Act and EPA's implementing regulations at 40 CFR Parts 144 -147. Such controls would generally be considered Class V UIC wells:

a. Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system);

b. Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow; and

c. Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system).

Note: For state UIC program contacts, refer to the following EPA website: http://water.epa.gov/type/groundwater/uic/whereyoulive.cfm.

7.2.15. SWPPP Certification.

You must sign and date your SWPPP in accordance with Appendix I, Part I.11.

7.2.16. Post-Authorization Additions to the SWPPP.

Once you are notified of your coverage under this permit, you must include the following documents as part of your SWPPP:

7.2.16.1 A copy of your NOI submitted to EPA along with any correspondence exchanged between you and EPA related to coverage under this permit;

7.2.16.2 A copy of the acknowledgment letter you receive from the NOI Processing Center or eNOI system assigning your permit tracking number;

7.2.16.3 A copy of this permit (an electronic copy easily available to the stormwater team is also acceptable).

7.3. ON-SITE AVAILABILITY OF YOUR SWPPP.

You are required to keep a current copy of your SWPPP at the site or at an easily accessible location so that it can be made available at the time of an on-site inspection or upon request by EPA; a state, tribal, or local agency approving stormwater management plans; the operator of a storm sewer system receiving discharges from the site; or representatives of the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS).

EPA may provide access to portions of your SWPPP to a member of the public upon request. Confidential Business Information (CBI) will be withheld from the public, but may not be withheld from EPA, USFWS, or NMFS.

Note: Information covered by a claim of confidentiality will be disclosed by EPA only to the extent of, and by means of, the procedures set forth in 40 CFR Part 2, Subpart B. In general, submitted information protected by a business confidentiality claim may

be disclosed to other employees, officers, or authorized representatives of the United States concerned with implementing the CWA. The authorized representatives, including employees of other executive branch agencies, may review CBI during the course of reviewing draft regulations.

If an onsite location is unavailable to keep the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance of your construction site.

7.4. REQUIRED SWPPP MODIFICATIONS.

7.4.1. List of Conditions Requiring SWPPP Modification.

You must modify your SWPPP, including the site map(s), in response to any of the following conditions:

7.4.1.1 Whenever new operators become active in construction activities on your site, or you make changes to your construction plans, stormwater control measures, pollution prevention measures, or other activities at your site that are no longer accurately reflected in your SWPPP. This includes changes made in response to corrective actions triggered under Part 5. You do not need to modify your SWPPP if the estimated dates in Part 7.2.5 change during the course of construction;

7.4.1.2 To reflect areas on your site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;

7.4.1.3 If inspections or investigations by site staff, or by local, state, tribal, or federal officials determine that SWPPP modifications are necessary for compliance with this permit;

7.4.1.4 Where EPA determines it is necessary to impose additional requirements on your discharge, the following must be included in your SWPPP:

a. A copy of any correspondence describing such requirements; and

b. A description of the stormwater control measures that will be used to meet such requirements.

7.4.1.5 To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the stormwater control measures implemented at the site; and

7.4.1.6 If applicable, if a change in chemical treatment systems or chemically-enhanced stormwater control is made, including use of a different treatment chemical, different dosage rate, or different area of application.

7.4.2. Deadlines for SWPPP Modifications.

You must complete required revisions to the SWPPP within 7 calendar days following the occurrence of any of the conditions listed in Part 7.4.1.

7.4.3. SWPPP Modification Records.

You are required to maintain records showing the dates of all SWPPP modifications. The records must include the name of the person authorizing each change (see Part 7.2.15 above) and a brief summary of all changes.

7.4.4. Certification Requirements.

All modifications made to the SWPPP consistent with Part 7.4 must be authorized by a person identified in Appendix I, Part I.11.b.

7.4.5. Required Notice to Other Operators.

Upon determining that a modification to your SWPPP is required, if there are multiple operators covered under this permit, you must immediately notify any operators who may be impacted by the change to the SWPPP.

8. HOW TO TERMINATE COVERAGE.

Until you terminate coverage under this permit, you are required to comply with all conditions and effluent limitations in the permit. To terminate permit coverage, you must submit to EPA a complete and accurate Notice of Termination (NOT), which certifies that you have met the requirements for terminating in Part 8.

8.1. MINIMUM INFORMATION REQUIRED IN NOT.

You will be required to provide the following in your NOT:

8.1.1. NPDES permit tracking number provided by EPA when you received coverage under this permit;

8.1.2. Basis for submission of the NOT (see Part 8.2);

8.1.3. Operator contact information;

8.1.4. Name of project and address (or a description of location if no street address is available); and

8.1.5. NOT certification.

8.2. CONDITIONS FOR TERMINATING PERMIT COVERAGE.

You may terminate permit coverage only if one of the following conditions occurs at your site:

8.2.1. You have completed all earth-disturbing activities at your site and, if applicable, construction support activities covered by this permit (see Part 1.3.c), and you have met the following requirements:

8.2.1.1 For any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which you had control during the construction activities, you have met the requirements for final vegetative or non-vegetative stabilization in Part 2.2.2;

8.2.1.2 You have removed and properly disposed of all construction materials, waste and waste handling devices, and have removed all equipment and vehicles that were used during construction, unless intended for long-term use following your termination of permit coverage;

8.2.1.3 You have removed all stormwater controls that were installed and maintained during construction, except those that are intended for long-term use following your termination of permit coverage or those that are biodegradable; and

8.2.1.4 You have removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following your termination of permit coverage; or

8.2.2. You have transferred control of all areas of the site for which you are responsible under this permit to another operator, and that operator has submitted an NOI and obtained coverage under this permit; or

8.2.3. Coverage under an individual or alternative general NPDES permit has been obtained.

8.3. HOW TO SUBMIT YOUR NOT.

You are required to use EPA's electronic NOI system, or "eNOI system", to prepare and submit your NOT. The electronic NOT form you are required to complete is found at www.epa.gov/npdes/stormwater/cgpenoi. You will use your NOI tracking number *(i.e., the EPA number you were assigned upon authorization under the permit)* to upload the

fillable NOT form, which will ensure that EPA properly records your termination of coverage. If you have a problem with the use of the eNOI system, contact the EPA Regional Office that corresponds to the location of your site. If you are given approval by the EPA Regional Office to use a paper NOT, you must complete the form in Appendix K.

8.4. DEADLINE FOR SUBMITTING NOTS.

You must submit your NOT within 30 calendar days after any one of the triggering conditions in Part 8.2 occur.

8.5. EFFECTIVE DATE OF TERMINATION OF COVERAGE.

Your authorization to discharge under this permit terminates at midnight of the calendar day that a complete NOT is processed and posted on EPA's website (www.epa.gov/npdes/stormwater/cgpnoisearch).

9. PERMIT CONDITIONS APPLICABLE TO SPECIFIC STATES, INDIAN COUNTRY LANDS, OR TERRITORIES

The provisions in this Part provide modifications or additions to the applicable conditions of this permit to reflect specific additional conditions required as part of the state or tribal CWA Section 401 certification process, or the Coastal Zone Management Act (CZMA) certification process, or as otherwise established by the permitting authority. The specific additional revisions and requirements only apply to activities in those specific states, Indian country, and areas in certain states subject to construction projects by Federal Operators. States, Indian country, and areas subject to construction by Federal Operators not included in this Part do not have any modifications or additions to the applicable conditions of this permit

9.1. Region 1

9.1.1. MAR120000: Commonwealth of Massachusetts (except Indian country).

9.1.1.1 You must comply with the Massachusetts Clean Waters Act (Ch. 21, ss. 26-53).

9.1.1.2 You must comply with the conditions in 314 CMR 4.00- Massachusetts Surface Water Quality Standards.

9.1.1.3 You must comply with the conditions in 314 CMR 3.00- Massachusetts Surface Water Discharge Permit Program.

9.1.1.4 You must comply with the Wetlands Protection Act (Ch. 131 s. 40) and its regulations, 310 CMR 10.00 and any Order of Conditions issued by a Conservation Commission or a Superseding Order of Conditions issued by the Massachusetts Department of Environmental Protection.

9.1.1.5 You must comply with the Massachusetts Storm Water Performance Standards, as prescribed by state regulations promulgated under the authority of the Massachusetts Clean Waters Act, MGL Ch. 21, ss 26-53 and the Wetlands Protection Act, Ch. 131, s. 40.

9.1.1.6 You must comply with the conditions in 314 CMR 9.00 – Water Quality Certification for Discharges of Dredged or Fill Material, Dredging, and Dredged Material Disposal in Waters of the United States within the Commonwealth.

9.1.1.7 You must comply with the Massachusetts Endangered Species Act (MESA), MGL Ch. 313A and regulations at 321 CMR 10.00 and any actions undertaken to comply with this stormwater general permit shall not result in non-compliance with the MESA.

9.1.1.8 Activities covered under this general permit shall not interfere with the implementation of mosquito control work conducted in accordance with Chapter 252 including s. 5A thereunder and MassDEP Guideline Number BRP G01-02, West Nile Virus Application of Pesticides to Wetland Resource Areas and Buffer Zones, and Public Water Supplies.

9.1.1.9 The Department may request a copy of the Stormwater Pollution Prevention Plan (SWPPP) and the permittee is required to submit the SWPPP to the Department within 14 days of such request. The Department may conduct an inspection of any facility covered by this permit to ensure compliance with state law requirements, including state water quality standards. The Department may enforce its certification conditions.

9.1.1.10 The Department may require the permit holder to perform water quality monitoring during the permit term if monitoring is necessary for the protection of public health or the environment as designated under the authority at 314 CMR 3.00.

9.1.1.11 The Department may require the permit holder to provide measurable verification of the effectiveness of Best Management Practices (BMPs) and other control measures used in the stormwater management program, including water quality monitoring.

9.1.1.12 The Department has determined that compliance with this permit does not protect the permit holder from enforcement actions deemed necessary by the Department under its associated regulations to address an imminent threat to public health or a significant adverse environmental impact which results in a violation of the Massachusetts Clean Waters Act, Ch. 21, ss. 26-53.

9.1.1.13 The Department reserves the right to modify this 401 Water Quality Certification if any changes, modifications, or deletions are made to this general permit. In addition, the Department reserves the right to add and/or alter the terms and conditions of this 401 Water Quality Certification to carry out its responsibilities during the term of this general permit with respect to water quality, including any revisions to 314 CMR 4.00, Massachusetts Surface Water Quality Standards.

9.1.1.14 Should any violation of the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, or the conditions of this 401 Water Quality Certification occur, the Department will direct the permit holder to correct the violation(s). The Department has the right to take any action as authorized by the General Laws of the Commonwealth to address the violation(s) of this permit or the Massachusetts Clean Waters Act and the regulations promulgated thereunder. Substantial civil and criminal penalties are authorized under MGL Ch. 21, s. 42 for discharging into Massachusetts' waters in violation of an order or permit issued by this Department. This 401 Water Quality Certification does not relieve the permit holder of the duty to comply with other applicable Massachusetts statutes and regulations.

9.1.2. NHR120000: State of New Hampshire.

9.1.2.1 If you disturb 100,000 square feet or more of contiguous area, you must also apply for an Alteration of Terrain (AoT) permit from DES pursuant to RSA 485-A:17 and Env-Ws 1500. This requirement also applies to a lower disturbance threshold of 50,000 square feet or more when construction occurs within the protected shoreline under the Shoreland Water Quality Protection Act (see RSA 483-B and Env-Ws 1400). A permit application must also be filed if your project disturbs an area of greater than 2,500 square feet, is within 50 feet of any surface water, and has a flow path of 50 feet or longer disturbing a grade of 25 percent or greater. Project sites with disturbances smaller than those discussed above, that have the potential to adversely affect state surface waters, are subject to the conditions of an AoT General Permit by Rule.

9.1.2.2 You must determine that any excavation dewatering discharges are not contaminated before they will be authorized as an allowable non-stormwater discharge under this permit (see Part 1.3.d). The water is considered uncontaminated if there is no groundwater contamination within 1,000 feet of the source of the groundwater to be treated and discharged.

Information on groundwater contamination can be generated over the Internet via the NHDES web site http://des.nh.gov/ at the OneStop Web Geographic Information System at http://www2.des.state.nh.us/gis/onestop. If it is determined that the groundwater to be dewatered is near a remediation or other waste site you must apply for the Remediation General Permit (see http://www.epa.gov/region1/npdes/rgp.html.)

9.1.2.3 You must treat any uncontaminated excavation dewatering discharges as necessary to remove suspended solids and turbidity. The discharges must be sampled at a location prior to mixing with stormwater at least once per week during weeks when discharges occur. Samples must be analyzed for total suspended solids (TSS) and must meet monthly average and daily maximum TSS limits of 50 milligrams per liter (mg/L) and 100 mg/L, respectively. TSS (a.k.a. Residue, Nonfilterable) sampling and analysis must be performed in accordance with Tables IB and II in 40 CFR 136.3 (see: http://www.access.gpo.gov/nara/cfr/waisidx_02/40cfr136_02.html). Records of any sampling and analysis must be maintained and kept with the SWPPP for at least three years after final site stabilization.

9.1.2.4 Construction site owners and operators must consider opportunities for post-construction groundwater recharge using infiltration best management practices (BMPs) during site design and preparation of the stormwater pollution prevention plan (SWPPP). If your construction site is in a town that is required to obtain coverage under the NPDES General Permit for discharges from Municipal Separate Storm Sewer Systems (MS4) you may be required to use such practices. The SWPPP must include a description of any on-site infiltration that will be installed as a post-construction stormwater management measure or reasons for not employing such measures such as 1) The facility is located in a wellhead protection area as defined in RSA 485-C:2; or 2) The facility is located in an area where groundwater has been reclassified to GAA, GAI or GA2 pursuant to RSA 485-C and Env-Ws 420; or 3) Any areas that would be exempt from the groundwater recharge requirements contained in Env-Ws 1507.04(e), including all land uses or activities considered to be a "High-load Area" (see Env-Wq 1502.26). For design considerations for infiltration measures see Volume II of the NH Stormwater Manual.

9.1.2.5 Appendix F contains a list of Tier 2, or high quality waters. Although there is no official list of tier 2 waters, it can be assumed that all NH surface waters are tier 2 for turbidity unless 1) the surface water that you are proposing to discharge into is listed as impaired for turbidity in the states listing of impaired waters (see Surface Water Quality Watershed Report Cards at http://des.nh.gov/organization/divisions/water/wmb/swqa/report_cards.htm or 2) sampling upstream of the proposed discharge location shows turbidity values greater than 10 NTU. A single grab sample collected during dry weather (no precipitation within 48 hours) is acceptable.

9.1.2.6 To ensure compliance with RSA 485-C, RSA 485-A, RSA 485-A:13, I(a), Env-Wq 1700 and Env-Wq 302, the following information may be requested by NHDES. This information must be kept on site unless you receive a written request from NHDES that it be sent to the address shown in Part 9.1.2.7.

a. A site map required in Part 7.2.6, showing the type and location of all post-construction infiltration BMPs utilized at the facility or the reason(s) why none were installed;

b. A list of all non-stormwater discharges that occur at the facility, including their source locations and the control measures being used (see Part 1.3.d).

c. Records of sampling and analysis of TSS required for construction dewatering discharges (see Part 9.1.2.3).

9.1.2.7 All required or requested documents must be sent to:

NH Department of Environmental Services, Wastewater Engineering Bureau,
Permits & Compliance Section
P.O. Box 95
Concord, NH 03302-0095

9.1.2.8 When NHDES determines that additional water quality certification requirements are necessary to protect water quality, it may require individual discharges to meet additional conditions to obtain or continue coverage under the CGP. Any such conditions must be supplied to the permittee in writing. Any required pollutant loading analyses and any designs for structural best management practices necessary to protect water quality must be prepared by a civil or sanitary engineer registered in New Hampshire.

9.2. Region 4

9.2.1. FLR12000I: Indian country within the State of Florida.

9.2.1.1 **Seminole Tribe of Florida.** The following conditions apply only for discharges on federal trust lands of the Seminole Tribe of Florida (Big Cypress, Brighton, Hollywood, Immokalee, and Tampa Reservations):

a. Any discharges into waters of the Seminole Tribe of Florida shall not cause an exceedance in Turbidity of 29 NTU above natural background conditions.

b. Unless otherwise specified by previous permits or criteria, a storm event of three (3) day duration and twenty five (25) year return frequency shall be used in computing off-site discharge on Seminole Lands as agreed upon in the Water Rights Compact agreement attached to Public Law 100-228 (December 31, 1987), Seminole Indian Land Claims Settlement Act of 1987.

c. The Seminole Tribe of Florida accepts a 20' X 20' stabilization at entry/exit points.

9.3. Region 5

MNR12000I: Indian country within the State of Minnesota.

9.3.1.1 **Fond du Lac Band of Lake Superior Chippewa.** The following conditions apply only to discharges on the Fond du Lac Band of Lake Superior Chippewa Reservation.

a. A copy of the Storm Water Pollution Prevention Plan must be submitted to the following office at least thirty (30) days in advance of sending the Notice of Intent (NOI) to EPA:

Fond du Lac Reservation
Office of Water Protection
1720 Big Lake Road
Cloquet, MN 55720

CGP applicants are encouraged to work with the FDL Office of Water Protection in the identification of all proposed receiving waters.

b. Copies of the Notice of Intent (NOI) and the Notice of Termination (NOT) must be sent to the Fond du Lac Office of Water Protection at the same time they are submitted to EPA.

c. The turbidity limit shall NOT exceed 10% of natural background as determined by the Office of Water protection staff.

d. Turbidity sampling must take place within 24 hours of a ¼ -inch or greater rainfall event. The results of the sampling must be reported to the Office of Water Protection staff within 7 days of sample collection. All sample reporting must include the date and time, location (GPS:UTM/Zone 15), and NTU.

e. Discharges to receiving waters with open water must be sampled for turbidity prior to any authorized discharge as determined by Office of Water Protection staff.

f. This certification does not pertain to any new discharge to Outstanding Reservation Resource Waters (ORRW) as described in §105 b.3 of the Fond du Lac Water Quality Standards (Ordinance #12/98). Although additional waters may be designated in the future, currently Perch Lake, Rice Portage Lake, Miller Lake, Deadfish Lake and Jaskari Lake are designated as ORRWs. New dischargers wishing to discharge to an ORRW must obtain an individual permit for stormwater discharges from large and small construction activities.

g. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in the Water Quality Standards of the Fond du Lac Reservation, Ordinance 12/98 as amended. This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of water of the Fond du Lac Reservation for any of the uses designated in the Water Quality Standards of the Fond du Lac Reservation. These uses include wildlife, aquatic life, warm and cold water fisheries, subsistence fishing (netting), primary contact recreation, cultural, wild rice areas, aesthetic waters, agriculture, navigation and commercial.

h. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the Fond du Lac Reservation. All spills must be reported to the appropriate emergency management agency, and measures shall be taken immediately to prevent the pollution of waters of the Fond du Lac reservation, including groundwater.

i. This certification does not authorize impacts to cultural, historical, or archeological features or sites, or properties that may be eligible for such listing.

9.3.1.2 **Grand Portage Band of Lake Superior Chippewa.** The following conditions apply only to discharges on the Grand Portage Band of Lake Superior Chippewa Reservation.

a. The CGP authorization is for construction activities that may occur within the exterior boundaries of the Grand Portage Reservation in

accordance to the Grand Portage Land Use Ordinance. The CGP regulates stormwater discharges associated with construction sites of one acre or more in size. Only those activities specifically authorized by the CGP are authorized by this certification (the "Certification"). This Certification does not authorize impacts to cultural, historical, or archeological features or sites, or properties that may be eligible for listing as such.

b. All construction stormwater discharges authorized by the CGP must comply with the Water Quality Standards and Water Resources Ordinance, as well as Applicable Federal Standards (as defined in the Water Resources Ordinance). As such, appropriate steps must be taken to ensure that petroleum products or other chemical pollutants are prevented from entering the Waters of the Reservation (as defined in the Water Resources Ordinance). All spills must be reported to the appropriate emergency-management agency, and measures must be taken to prevent the pollution of the Waters of the Reservation, including groundwater.

c. A copy of the Storm Water Pollution Prevention Plan (the "Plan") required by the CGP must be submitted to the Board at least 30 days in advance of sending the requisite Notice of Intent to EPA. The Board may require monitoring of storm-water discharges as determined on a case-by-case basis. If the Board determines that a monitoring plan is necessary, the monitoring plan must be prepared and incorporated into the Plan before the Notice of Intent is submitted to the EPA. The Plan should be sent to:

Grand Portage Environmental Resources Board
P.O. Box 428
Grand Portage, MN 55605

Copies of the Notice of Intent and Notice of Termination required under the General Permit must be submitted to the Board at the address above at the same time they are submitted to the EPA.

d. If requested by the Grand Portage Environmental Department, the permittee must provide additional information necessary for a case-by-case eligibility determination to assure compliance with the Water Quality Standards and any Applicable Federal Standards.

e. Discharges that the Board has determined to be or that may reasonably be expected to be contributing to a violation of Water Quality Standards or Applicable Federal Standards are not authorized by this Certification.

f. The Board retains full authority provided by the Water Resources Ordinance to ensure compliance with and to enforce the provisions of the Water Resource Ordinance and Water Quality Standards, Applicable Federal Standards, and these Certification conditions.

g. Appeals related to Board actions taken in accordance with any of the preceding conditions may be heard by the Grand Portage Tribal Court.

9.3.2. WIR12000I: Indian country within the State of Wisconsin.

9.3.2.1 **Bad River Band of the Lake Superior Tribe of Chippewa Indians.** The following conditions apply only to discharges on the Bad River Band of the Lake Superior Tribe of Chippewa Indians Reservation.

a. Only those activities specifically authorized by the CGP are authorized by this Certification. This Certification does not authorize impacts to cultural properties, or historical sites, or properties that may be eligible for listing as such.[27, 28]

b. Operators are not eligible to obtain authorization under the CGP for all new discharges to an Outstanding Tribal Resource Water (or Tier 3 water).[29] Outstanding Tribal Resource Waters, or Tier 3 waters, include the following: Kakagon Slough and the lower wetland reaches of its tributaries that support wild rice, Kakagon River, Bad River Slough, Honest John Lake, Bog Lake, a portion of Bad River, from where it enters the Reservation through the confluence with the White River, and Potato River.[30]

c. Projects utilizing cationic treatment chemicals[31] within the Bad River Reservation boundaries are not eligible for coverage under the CGP.[32]

d. All projects which are eligible for coverage under the CGP and are located within the exterior boundaries of the Bad River Reservation shall be implemented in such a manner that is consistent with the Tribe's Water Quality Standards (WQS).[33]

e. An operator proposing to discharge to an Outstanding Resource Water (or Tier 2.5 water) under the CGP must comply with the antidegradation provisions of the Tribe's WQS. Outstanding Resource Waters, or Tier 2.5 waters, include the following: a portion of Bad River, from downstream the confluence with the White River to Lake Superior, White River, Marengo River, Graveyard Creek, Bear Trap Creek, Wood Creek, Brunsweiler River, Tyler Forks, Bell Creek, and Vaughn Creek.[34] The antidegradation demonstration materials described in provision E.4.ii. must be submitted to the following address:

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

f. An operator proposing to discharge to an Exceptional Resource Water (or Tier 2 water) under the CGP must comply with the antidegradation provisions of the Tribe's WQS. Exceptional Resource Waters, or Tier 2 waters, include the following: any surface water within the exterior boundaries of the Reservation that is not specifically classified as an Outstanding Resource Water (Tier 2.5 water) or an Outstanding Tribal Resource Water (Tier 3 water).[35] The antidegradation demonstration materials described in provision E.4.ii. must be submitted to the following address:

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

g. A discharge to a surface water within the Bad River Reservation boundaries shall not cause or contribute to an exceedance of the turbidity criterion included in the Tribe's WQS, which states: Turbidity shall not exceed 5 NTU over natural background turbidity when the background turbidity is 50 NTU or less, or turbidity shall not increase more than 10% when the background turbidity is more than 50 NTU.[36]

h. All projects which are eligible for coverage under the CGP within the exterior boundaries of the Bad River Reservation must comply with the Bad River Reservation Wetland and Watercourse Protection Ordinance, or Chapter 323 of the Bad River Tribal Ordinances, including the erosion and sedimentation control, natural buffer, and stabilization requirements. Questions regarding Chapter 323 and requests for permit applicatans can be directed to the Wetlands Specialist in the Tribe's Natural Resources Department at (715) 682-7123 or wetlands@badriver-nsn.gov.

i. An operator of a project, which is eligible for coverage under the CGP, that would result in an allowable discharge under the CGP occurring within the exterior boundaries of the Bad River Reservation must notify the Tribe prior to the commencing earth-disturbing activities.[37] The operator must submit a copy of the Notice of Intent (NOI) to the following addresses at the same time it is submitted to the U.S. EPA:

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

Bad River Tribe's Natural Resources Department
Attn: Tribal Historic Preservation Officer (THPO)
P.O. Box 39
Odanah, WI 54861

The operator must also submit a copy of the Notice of Termination (NOT) to the abave addresses at the same time it is submitted to the U.S. EPA.

j. The THPO must be provided 30 days to comment on the project.[38]

k. The operator must obtain THPO concurrence in writing. This written concurrence will outline measures to be taken to prevent or mitigate effects to historic properties. For more information regarding the specifics of the cultural resources process, see 36 CFR Part 800. A best practice for an operator is to consult with the THPO during the planning stages of an undertaking.[39]

l. An operator of a project, which is eligible for coverage under the CGP, that would result in an allowable discharge under the CGP occurring within the exterior boundaries of the Bad River Reservation must submit a copy of the Stormwater Pollution Prevention Plan (SWPPP) to the following address at the same time as submitting the NOI:[40]

Bad River Tribe's Natural Resources Department
Attn: Water Resources Specialist
P.O. Box 39
Odanah, WI 54861

m. Any corrective action reports that are required under the CGP must be submitted to the following address within one (1) working day of the report completion:[41]

Bad River Tribe's Natural Resources Department
P.O. Box 39
Odanah, WI 54861

n. An operator shall be responsible for meeting any additional permit requirements imposed by the U.S. EPA necessary to comply with the Tribe's antidegradation policies if the discharge point is located upstream of waters designated by the Tribe.[42]

9.3.2.2 **Lac du Flambeau Band of Lake Superior Chippewa Indians.** The following conditions apply only to discharges on the Lac du Flambeau Band of Lake Superior Chippewa Indians Reservation.

a. A copy of the Storm Water Pollution Prevention Plan must be submitted to the following office at least thirty (30) days in advance of sending the Notice of Intent (NOI) to EPA:

Lac du Flambeau
Tribal Land Management
P. O. Box 279
Lac du Flambeau, WI 54538

CGP applicants are encouraged to work with the LdF Office of Water Protection in the identification of all proposed receiving waters.

b. Copies of the NOI and the Notice of Termination (NOT) must be sent to the LdF Water Resource Program at the same time they are submitted to EPA.

c. All work shall be carried out in such a manner as will prevent violations of water quality criteria as stated in the Water Quality Standards of the Lac du Flambeau Reservation. This includes, but is not limited to, the prevention of any discharge that causes a condition in which visible solids, bottom deposits, or turbidity impairs the usefulness of water of the Lac du Flambeau Reservation for any of the uses designated in the Water Quality Standards of the Lac du Flambeau Reservation.

d. Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the Lac du Flambeau Reservation. All spills must be reported to the appropriate emergency management agency, and measures shall be taken immediately to prevent the pollution of waters of the Lac du Flambeau Reservation, including groundwater.

e. This certification does not authorize impacts to cultural, historical, or archeological features or sites, or properties that may be eligible for such listing.

Note: Facilities within the Sakaogon Chippewa Community are not eligible for stormwater discharge coverage under this permit. Contact the Region 5 office for an individual permit application.

9.4. Region 6

9.4.1. NMR120000: State of New Mexico, except Indian country.

9.4.1.1 In addition to all other provisions of this permit, operators who intend to obtain authorization under this permit for all new and existing stormwater discharges must satisfy the following condition:

The SWPPP must include site-specific interim and permanent stabilization, managerial, and structural solids, erosion, and sediment control best management practices (BMPs) and/or other controls that are designed to prevent to the maximum extent practicable an increase in the sediment yield and flow velocity from pre-construction, pre-development conditions to assure that applicable standards in 20.6.4 NMAC, including the antidegradation policy, or waste load allocations (WLAs) are met. This requirement applies to discharges both during construction and after construction operations have been completed. The SWPPP must identify, and document the rationale for selecting these BMPs and/or other controls. The SWPPP must also describe design specifications, construction specifications, maintenance schedules (including a long term maintenance plan), criteria for inspections, and expected performance and longevity of these BMPs. BMP selection must be made based on the use of appropriate soil loss prediction models (e.g., SEDCAD 4.0, RUSLE, SEDIMOT II, MULTISED, etc.), or equivalent, generally accepted (by professional erosion control specialists), soil loss prediction tools. The operator(s) must demonstrate, and include documentation in the SWPPP, that implementation of the site-specific practices will assure that the applicable standards or WLAs are met, and will result in sediment yields and flow velocities that, to the maximum extent practicable, will not be greater than the sediment yield levels and flow velocities from pre-construction, pre-development conditions. The SWPPP must be prepared in accordance with good engineering practices by qualified (e.g., CPESC certified, engineers with appropriate training, etc.) erosion control specialists familiar with the use of soil loss prediction models and design of erosion and sediment control systems based on these models (or equivalent soil loss prediction tools). Qualifications of the preparer (e.g., professional certifications, description of appropriate training) must be

[27] Bad River Band of Lake Superior Tribe of Chippewa Indians Water Quality Standards adopted by Resolution No. 7-6-11-441 (hereafter, Tribe's WQS).

[28] 36 C.F.R §800.16(l)(2).

[29] Tribe's WQS: See provisions E.3.ii and E.4.iv.

[30] Tribe's WQS: See provision E.2.iii.

[31] See definition of cationic treatment chemicals in Appendix A of the CGP

[32] Tribe's WQS: See provisions E.6.ii.a and E.6.ii.c.

[33] See Footnote 27.

[34] Tribe's WQS: See provision E.2.ii.

[35] Tribe's WQS: See provision E.2.i.

[36] Tribe's WQS: See provision E.7.iii.

[37] See footnotes 27 and 28.

[38] 36 C.F.R. § 800.3(c)(4).

[39] 36 C.F.R. § 800.3(b).

[40] See footnote 27.

[41] See footnote 27.

[42] See footnote 27.

documented in the SWPPP. The operator(s) must design, implement, and maintain BMPs in the manner specified in the SWPPP.

9.4.1.2 Operators are not eligible to obtain authorization under this permit for all new and existing stormwater discharges to outstanding national resource waters (ONRWs) (also referred to as "Tier 3" waters).

9.4.1.3 For temporary stabilization, instead of the deadline for initiating and completing stabilization in Part 2.2.1.3a, operators must comply with the deadlines in Parts 2.2.1.1 and 2.2.1.2.

9.4.1.4 Instead of the criteria for vegetative stabilization in Part 2.2.2.1.a, operators must provide a uniform vegetation (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for all unpaved areas and areas not covered by permanent structures. The adjustment to allow for less than 100 % native vegetative cover (e.g., 50 % native vegetative cover x 70 % = 35 %) is acceptable.

9.4.1.5 The following replaces the criteria for final vegetative stabilization in Part 2.2.2.1.b:

- The area you have seeded and planted must within 3 years provide established vegetation that achieves 70% of the native background vegetative cover for all unpaved areas and areas not covered by permanent structures; and
- In addition to to seeding or planting the area to be vegetatively stabilized, you must select, design, and install non-vegetative erosion controls that provide cover for at least 3 years without active maintenance by you.

In addition, permittees are only authorized to used this option as o method for final vegetative stabilization for purposes of filing a Notice of Termination (NOT) under the following conditions:

If this option is selected, you must notify NMED at the address listed in Part 9.4.1.6 at the time the NOT is submitted to EPA. The information to be submitted includes:

- A copy of the NOT;
- Contact information, including individual name or title, address, and phone number for the party responsible for implementing the final stabilization measures; and
- The date that the permanent vegetative stabilization practice was implemented and the projected timeframe that the 70 % native vegetative cover requirements are expected to be met. (Note that if more than three years is required to establish 70 % of the natural vegetative cover, this technique cannot be used or cited for fulfillment of the final stabilization requirement – you remain responsible for establishment of final stabilization).

NMED also requires that operators periodically (minimum once/year) inspect and properly maintain the area until the criteria for final stabilization, as specified in Part 2.2 of the CGP, have been met. Operators must prepare an inspection report documenting the findings of these inspections and signed in accordance with Appendix I, Part I.11. This inspection record must be

retained along with the SWPPP for three years after the NOT is submitted for the site and additionally submitted to NMED at the address listed in Part 9.4.1.6. The inspections at a minimum must include the following:

- Observations of all areas of the site disturbed by construction activity;
- Best Management Practices (BMPs)/post-construction stormwater controls must be observed to ensure they are effective;
- An assessment of the status of vegetative re-establishment; and
- Corrective actions required to ensure vegetative success within three years, and control of pollutants in stormwater runoff from the site, including implementation dates.

9.4.1.6 Copies of all documents submitted to EPA in non-electronic format must be sent to the following address:

Program Manager
Point Source Regulation Section
Surface Water Quality Bureau
New Mexico Environment Department
P.O. Box 5469
Santa Fe, New Mexico 87502

9.4.2. NMR12000I: Indian country within the State of New Mexico.

9.4.2.1 **Pueblo of Sandia.** The following conditions apply only to discharges on the Pueblo of Sandia Reservation:

a. Copies of all Notices of Intent submitted to the EPA must also be sent concurrently to the Pueblo of Sandia at the following address. Discharges are not authorized by this permit unless an accurate and complete NOI has been submitted to the Pueblo of Sandia.

Regular U.S. Delivery Mail:
Pueblo of Sandia Environment Department
Attention: Water Quality Manager
481 Sandia Loop
Bernalillo, New Mexico 87004

b. The Pueblo of Sandia will not allow the Rainfall Erosivity Waivers (see Appendix C) to be granted for any small construction activities.

c. The Stormwater Pollution Prevention Plan (SWPPP) must be available to the Pueblo of Sandia Environment either electronically or hard copy upon request for review. The SWPPP must be made available at least fourteen (14) days before construction begins. The fourteen (14) day period will give Tribal staff time to become familiar with the project site, prepare for construction inspections, and determine compliance with the Pueblo of Sandia Water Quality Standards. Failure to provide a SWPPP to the Pueblo of Sandia may result in denial of the discharge or construction delay.

d. An "Authorization to Proceed Letter" with site specific mitigation, site and project requirements will be sent out to the permittee when a review of the NOI and SWPPP is completed by the Pueblo of Sandia

Environment Department. This approval will allow the construction to proceed if all applicable requirements are met.

e. Before submitting a Notice of Termination (NOT), permittees must clearly demonstrate to the Pueblo of Sandia Environment Department though a site visit or documentation that requirements for site stabilization have been met and any temporary erosion control structures have been removed. A short letter stating the stabilization requirements have been met will be sent to the permittee to add to the permittees NOT submission to EPA.

f. Copies of all NOT submitted to the EPA must also be sent concurrently to the Pueblo of Sandia at the following address:

Regular U.S. Delivery Mail:
Pueblo of Sandia Environment Department
Attention: Water Quality Manager
481 Sandia Loop
Bernalillo, New Mexico 87004

9.4.3. OKR12000F: Discharges in the State of Oklahoma that are not under the authority of the Oklahoma Department of Environmental Quality, including activities associated with oil and gas exploration, drilling, operations, and pipelines (includes SIC Groups 13 and 46, and SIC codes 492 and 5171), and point source discharges associated with agricultural production, services, and silviculture (includes SIC Groups 01, 02, 07, 08, 09).

In accordance with Section 303 of the Clean Water Act and Oklahoma's Water Quality Standards (OAC 785: 45):

9.4.3.1 For activities located within the watershed of any Oklahoma Scenic River, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork, Little Lee Creek, and Big Lee Creek or any water or watershed designated "ORW" (Outstanding Resource Water) in Oklahoma's Water Quality Standards, this permit may only be used to authorize discharges from temporary construction activities. Certification is denied for any on-going activities such as sand and gravel mining or any mineral mining.

9.4.3.2 For activities located within the watershed of any Oklahoma Scenic River, including the Illinois River, Flint Creek, Barren Fork Creek, Upper Mountain Fork, Little Lee Creek, and Big Lee Creek or any water or watershed designated "ORW" (Outstanding Resource Water) in Oklahoma's Water Quality Standards, certification is denied for any discharges originating from support activities, including concrete and asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, or borrow areas.

9.5. Region 8

9.5.1. MTR12000I: Indian country within the State of Montana

9.5.1.1 **The Confederated Salish and Kootenai Tribes of the Flathead Nation.** The following conditions apply only to discharges on the Confederated Salish and Kootenai Tribes of the Flathead Nation Reservation:

a. Permittees must send the Stormwater Pollution Prevention Plan (SWPPP) to the Tribes at least 30 days before construction starts.

b. Before submitting the Notice of Termination (NOT), permittees must clearly demonstrate to an appointed tribal staff person during an on-site inspection that requirements for site stabilization have been met.

c. The permittee must send a copy of the Notice of Intent (NOI) and the Notice of Termination (NOT) to the tribes.

d. Permittees may submit their SWPPPs and NOTs electronically to clintf@cskt.org.

Written NOI's, SWPPPs and NOT's may be mailed to:
Clint Folden, Water Quality Regulatory Specialist
Confederated Salish and Kootenai Tribes
Natural Resources Department
P.O. Box 278
Pablo, MT 59855

9.5.1.2 Fort Peck Tribes. The following conditions apply only to discharges on the Fort Peck Reservation:

Permittees must notify the Fort Peck Office of Environmental Protection (OEP) two weeks prior to commencing construction.

9.6. Region 9

9.6.1. AZR12000I: Indian country within the State of Arizona.

9.6.1.1 **Hualapai Tribal Lands.** The following condition applies only for discharges on the Hualapai Reservation:

All notices of intent for proposed stormwater discharges under the CGP and all pollution prevention plans for stormwater discharges on Hualapai Tribal lands shall be submitted to Water Resources Program through the Tribal Chairman for review and approval, P.O. Box 179, Peach Springs, AZ 86434.

9.6.2. CAR12000I: Indian country within the State of California.

9.6.2.1 **Big Pine Paiute Tribe of the Owens Valley.** Big Pine Tribal Water Quality Standards Section VII(e): If a proposed action has the possibility to adversely affect the water quality of Big Pine Creek, an application must be filed with the Tribal Environmental Office. The application must describe the action proposed and its effects on the creek, how this information was derived, and a justification for the action. Upon satisfying these requirements, the Tribal Environmental Office will recommend or not recommend this proposal to be considered by the Tribal Council. Tribal Council will make a determination whether to consider the proposal further. If the Tribal Council wishes to consider the application further, the public participation process will take place (see paragraph VII(d)). The Tribal Council has the sole authority in permitting degradation to Big Pine Creek. If the Tribal Council makes the decision to allow degradation, they will submit their decision to the USEPA for review and approval.

9.6.3. GUR12000I: The Island of Guam. Permittees must adhere with imposed conditions for the project, in accordance with section 307(c)(1), of the Coastal Zone Management Act, 15 CFR part 930.

9.6.4. MPR12000I: Commonwealth of the Northern Mariana Islands (CNMI).

9.6.4.1 An Earthmoving and Erosion Control Permit must be obtained from DEQ prior to any construction activity covered under the NPDES General Permit.

9.6.4.2 All conditions and requirements set forth in the United States Environmental Protection Agency (USEPA), National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities must be complied with.

9.6.4.3 A stormwater pollution prevention plan (SWPPP) for stormwater discharges from construction activities must be approved by the Director of DEQ prior to submission of the Notice of Intent (NOI).

9.6.4.4 A NOI to be covered by the General Permit for Discharges from Construction Activities must be submitted to DEQ and USEPA, Region IX, in the form prescribed by USEPA, accompanied by a SWPPP approval letter from DEQ.

9.6.4.5 The NOI must be postmarked fourteen (14) calendar days prior to any stormwater dischorges and a copy is submitted to the Director of DEQ no later than seven (7) calendar days prior to any stormwater discharges.

9.6.4.6 Copies of all monitoring reports required by the NPDES General Permit are submitted to DEQ.

9.6.4.7 In accordance with Section 10.3(h) and (i) of the CNMI Water Quality Standards, DEQ reserves the right to deny coverage under this permit and require submittal of an application for an individual NPDES permit based on review of the NOI or other information made available to the Director.

9.6.5. NVR12000I: Indian country within the State of Nevada.

9.6.5.1 **Pyramid Lake Paiute Tribe.** The following conditions apply only for discharges on the Pyramid Lake Paiute Reservation:

a. A SWPPP for stormwater discharges from project construction activities must be submitted to, and approved by, the PLPT Environmental Department director, prior to the submission of a Notice of Intent (NOI or eNOI) to EPA.

b. The applicant is to submit a hard copy of the Notice of Intent (NOI or eNOI) and a draft or final copy of the Stormwater Pollution Prevention Plan (SWPPP) by U.S. Mail to the Pyramid Lake Environmental Department at the address below:

Pyramid Lake Tribe Environmental Department
P.O. Box 256
Nixon, NV 89424

c. The applicant is to concurrently submit to the PLPT Environmental Department, hard copies of any other forms submitted to the EPA, including waivers, reporting, and Notice of Termination (NOT).

9.7. Region 10

9.7.1. IDR120000: The State of Idaho, except those located on Indian country.

For the complete text of Idaho's certification including the full anti-degradation analysis, please visit the IDEQ website at http://www.deq.idaho.gov/media/821491-usepa-npdes-general-permit-storm-water-discharges-401-certification-final-0412.pdf

9.7.1.1 The Idaho Department of Environmental Quality's (DEQ) certification of this permit does not constitute authorization of your permitted activities by any other state or federal agency or private person or entity. DEQ's certification does not excuse you from the obligation to obtain any other necessary

approvals, authorizations or permits, including without limitation, the approval from the owner of a private water conveyance system, if one is required, to use the system in connection with the permitted activities.

9.7.1.2 Idaho's Antidegradation Policy. Idaho Water Quality Standards (WQS) (IDAPA 58.01.02) contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

a. Tier 1 Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.05).
b. Tier 2 Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.06).
c. Tier 3 Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.07).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (Idaho Code § 39-3603(2)(b)(i)). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (Idaho Code § 39-3603(2)(b)(iii)). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (Idaho Code § 39-3603(2)(b)). The primary pollutants of concern associated with stormwater discharges from construction activities are sediment and turbidity (as Total Suspended Solids). Other potential pollutants include the following: phosphorus, nitrogen and other nutrients from fertilizers; pesticides; petroleum products; construction chemicals; and solid wastes.

9.7.1.3 Protection and Maintenance of Existing Uses (Tier 1 Protection). In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The permittee must notify the appropriate DEQ Regional Office (see table in Part 9.7.1.8 below for contact information) of any potential discharges to impaired waters - water bodies identified as "impaired" for sediment or a sediment-related parameter, such as total suspended solids (TSS) or turbidity, and/or nutrients, including impairments for nitrogen and/or phosphorus.

To determine the support status of the affected water body, the permittee must use the most current EPA-approved Integrated Report, available on Idaho DEQ's website: http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report.aspx. Impaired waters are identified in Categories 4 and 5 of the Integrated Report. Category 4(a) reflects impaired waters for which a TMDL has been approved by EPA. Category 5

contains waters which have been identified as "impaired" but da not yet have an EPA-approved TMDL.

DEQ's webpage also has a link to the state's map-based Integrated Report which presents information from the Integrated Report in a searchable, map-based format: http://mapcase.deq.idaho.gov/wq2010/.

In addition to complying with the Part 3.2.2 requirements for any sediment or nutrient-impaired waters, permittee(s) must also comply with Idaho's numeric turbidity criteria, developed to protect aquatic life uses. The criterion states, "Turbidity shall not exceed background turbidity by more than 50 NTU instantaneously or more than 25 NTU for more than 10 consecutive days" (IDAPA 58.01.02250.02.e). For Waters of the State which have been identified as impaired due to sedimentation/siltation, the permittee must conduct turbidity monitoring as described below in Part 9.7.1.6

9.7.1.4 Protection of High-Quality Waters (Tier 2 Protection). To determine the support status of the affected water body, the permittee must use the most current EPA-approved Integrated Report, available on Idaho DEQ's website: http://www.deq.idaho.gov/water-quality/surface-water/monitoring-assessment/integrated-report.aspx. DEQ's webpage also has a link to the state's map-based Integrated Report which presents information from the Integrated Report in a searchable, map-based format: http://mapcase.deq.idaho.gov/wq2010/.

DEQ retains the authority to determine that a 303(d) listed water body is actually a high quality water body if there is biological, chemical or physical data to support such a determination. In cases where information submitted with the NOI, or available from other sources, indicates that further Tier 2 analysis is necessary and/or additional conditions are needed, either for a new project or an existing project with a significantly increased discharge, EPA and DEQ will conduct a review and require any appropriate additional controls. If during this review, EPA and DEQ decide that an additional Tier 2 protection is warranted, then EPA may either change the terms of coverage or terminate coverage under the CGP and require an individual permit.

9.7.1.5 Protection of Outstanding Resource Waters (Tier 3 Protection). Idaho's antidegradation policy requires that the quality of outstanding resource waters (ORWs) be maintained and protected from the impacts of point source discharges. No water bodies in Idaho have been designated as outstanding resource waters to date; however, it is possible that waters may become designated during the term of the CGP. Any applicant proposing to discharge to an ORW must obtain an individual NPDES permit from EPA.

9.7.1.6 Turbidity Monitoring. For Waters of the State which are identified in the Integrated Report as impaired for sedimentation/siltation, the permittee must conduct turbidity monitoring each day during construction activities when the project is not stabilized per Part 2.2 or shut down per Part 4.1.4.3 of the CGP. A properly and regularly calibrated turbidimeter is required.

A sample must be taken twice daily at an undisturbed area immediately upstream of the project area to establish background turbidity levels for each monitoring event. Background turbidity, location, date and time must be recorded prior to monitoring downstream of the project area.

A sample must also be taken twice daily immediately downstream from any point of discharge, and within any visible plume. The turbidity, location, date

and time must be recorded. The downstream sample(s) must be taken immediately following the upstream sample(s) in order to obtain meaningful and representative results.

Results from the compliance point sampling or observation must be compared to the background levels to determine whether project activities are causing an exceedance of state WQS. If the downstream turbidity is 50 NTUs or more than the upstream turbidity, or a plume is observed, then the project is causing an exceedance of the WQS. The permittee must inspect the condition of project BMPs. If the BMPs are functioning to their fullest capability, then the permittee must modify project activities and/or BMPs to correct the violation.

Copies of daily logs for turbidity monitoring must be available to DEQ upon request. The report must describe all exceedances and subsequent actions taken, including the effectiveness of the action.

9.7.1.7 Equivalent Analysis Waiver. Use of the "Equivalent Analysis Waiver" in Appendix C (Part C.3) of the CGP is not authorized.

9.7.1.8 Reporting of Discharges Containing Hazardous Materials or Petroleum Products. Any spill of hazardous materials must be immediately reported to the appropriate DEQ regional office (see table of contacts, below) (IDAPA 58.01.02.850.03). Spills of petroleum products that exceed 25 gallons or that cause a visible sheen on nearby surface waters should be reported to DEQ within 24-hours. Petroleum product spills of less than 25 gallons or spills that do not cause a sheen on nearby surface waters shall only be reported to DEQ if clean-up cannot be accomplished within 24-hours (IDAPA 58.01.02.851.04).

DEQ Regional Office	Contact Name	Phone Number
Boise	Lance Holloway	208-373-0550
Coeur d'Alene	June Bergquist	208-769-1422
Idaho Falls	Troy Saffle	208-528-2650
Lewiston	John Cardwell	208-799-4370
Pocatello	Greg Mladenka	208-236-6160
Twin Falls	Balthasar Buhidar	208-736-2190

Outside of regular business hours, qualified spills shall be reported to the State Communications Center (1-800-632-8000 or 208-846-7610).

9.7.2. ORR12000I: Indian country within the State of Oregon.

9.7.2.1 **Confederated Tribes of the Umatilla Indian Reservation.** The following conditions apply only to discharges on the Umatilla Indian Reservation:

a. The operator shall be responsible for achieving compliance with the Confederated Tribes of the Umatilla Indian Reservations (CTUIR) Water Quality Standards.

b. The operator shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to the CTUIR Water Resources Program at the address below, at the same time it is submitted to EPA.

c. The operator shall be responsible for submitting all Stormwater Pollution Prevention Plans (SWPPP) required under this permit to the CTUIR Water Resources Program for review and determination that the SWPPP is sufficient to meet Tribal Water Quality Standards, prior to the beginning of any discharge activities taking place.

d. The operator shall be responsible for reporting an exceedance to Tribal Water Quality Standards to the CTUIR Water Resources Program at the same time it is reported to EPA.

Confederated Tribes of the Umatilla Indian Reservation
Water Resources Program
46411 Timine Way
Pendleton, OR 97801

e. The CTUIR Tribal Historic Preservation Office (THPO) requests copies of each NOI which will define whether or not the undertaking has the potential to affect historic properties, and if so, define the undertaking's area of potential effect (APE).

f. The THPO must be provided 30 days to comment on the APE as defined in the permit application.

g. If the project is an undertaking, a cultural resource investigation must occur. All fieldwork must be conducted by qualified personnel (as outlined by the Secretary of Interior's Standards and Guidelines; http://www.nps.gov/history/local-law/arch_stnds_0.htm) and documented using Oregon Reporting Standards (http://egov.oregon.gov/OPRD/HCD/ARCH/arch_pubsandlinks.shtml). The resulting report must be submitted to the THPO and the THOP must concur with the findings and recommendations before any ground disturbing work can occur. The THPO requires 30 days to review all reports.

h. The operator must obtain THPO concurrence in writing. If historic properties are present, this written concurrence will outline measures to be taken to prevent or mitigate effects to historic properties.

i. For more information regarding the specifics of the cultural resources process, see 36 CFR Part 800.

Confederated Tribes of the Umatilla Indian Reservation
Cultural Resources Protection Program
Tribal Historic Preservation Office
46411 Timine Way
Pendleton, OR 97801

9.7.2.2 Confederated Tribes of the Warm Springs Reservation of Oregon. The following conditions apply only for discharges on the Warm Springs Reservation:

a. All activities covered by this NPDES general permit occurring within a designated riparian buffer zone as established in Ordinance 74 (Integrated Resource Management Plan or IRMP) must be reviewed, approved and permitted through the Tribe's Hydraulic Permit Application process, including payment of any applicable fees.

b. All activities covered by this NPDES permit must follow all applicable land management and resource conservation requirements specified in the IRMP.

c. Operators of activities covered by this NPDES general permit must submit a Storm Water Pollution Prevention Plan to the Tribe's Water Control Board at the following address for approval at least 30 days prior to beginning construction activity:

Chair, Warm Springs Water Control Board
P.O. Box C
Warm Springs, Oregon 97761

d. The operator shall be responsible for achieving compliance with the Water Quality Standards of the Confederated Tribes of the Warm Springs Reservation of Oregon. The operator shall be responsible for reporting an exceedance to Tribal Water Quality Standards to the Water Control Board at the address above.

e. The operator shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to the CTWS, Branch of Natural Resources, Tribal Environmental Office at the address above, at the same time it is submitted to EPA.

f. The CTWS Tribal Historic Preservation Officer (THPO) requests copies of each NOI which will define whether or not the undertaking has the potential to affect historic properties, and if so, define the undertaking's area of potential effect (APE).

g. The THPO must be provided 30 days to comment on the APE as defined in the permit application.

h. If the project is an undertaking, a cultural resource investigation must occur. All fieldwork must be conducted by qualified personnel (as outlined by the Secretary of Interior's Standards and Guidelines; http://www.nps.gov/history/local-law/arch_stnds_0.htm) and documented using Oregon Reporting Standards (http://egov.oregon.gov/OPRD/HCD/ARCH/arch_pubsandlinks.shtml). The resulting report must be submitted to the THPO and the THOP must concur with the findings and recommendations before any ground disturbing work can occur. The THPO requires 30 days to review all reports.

i. The operator must obtain THPO concurrence in writing. If historic properties are present, this written concurrence will outline measures to be taken to prevent or mitigate effects to historic properties.

j. For more information regarding the specifics of the cultural resources process, see 36 CFR Part 800.

9.7.3. WAR12000F: Areas in the State of Washington, except those located on Indian country, subject to construction by Federal Operators.

9.7.3.1 Discharges shall not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR Part 131.36). Discharges that are not in compliance with these standards are not authorized.

9.7.3.2 Prior to the discharge of stormwater and non-stormwater to waters of the state, the permittee shall apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate Stormwater Pollution Prevention Plan (SWPPP), with all appropriate best management practices (BMPs) installed and maintained in accordance with the SWPPP and the terms and conditions of this permit.

9.7.3.3 Sampling & Numeric Effluent Limitations – For Sites Discharging to Certain Waterbodies on the 303(d) List

a. Permittees that discharge to water bodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH or phosphorus, shall conduct water quality sampling according to the requirements of this subsection.

Parameter identified in 303(d) listing	Parameter/Units	Analytical Method	Sampling Frequency	Water Quality Standard
Turbidity Fine Sediment Phosphorus	Turbidity/NTU	SM2130 or EPA180.1	Weekly, if discharging	If background is 50 NTU or less: 5 NTU over background; or If background is more than 50 NTU: 10% over background
High pH	pH/Standard Units	pH meter	Weekly, if discharging	In the range of 6.5 – 8.5

b. The operator must retain all monitoring results required by this section as part of the SWPPP. All data and related monitoring records must be provided to EPA or the Washington State Department of Ecology (Ecology) upon request.

c. The operator must notify EPA when the discharge turbidity or discharge pH exceeds the water quality standards as defined in 5.b and 6.b below. All such reports must be submitted within 30 days of measurement to EPA at the following address:

USEPA – Region 10
NPDES Compliance Unit - Attn: Federal Facilities Compliance Officer
1200 6th Avenue, Suite 900
OCE-133
Seattle, WA 98101
(206) 553-1846

d. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current EPA approved listing of impaired waters that exists on January 29, 2009, or the date when the operator's complete NOI is received by EPA, whichever is later. The most

recent EPA approved 303(d) list is available on Ecology's website at www.ecy.wa.gov/programs/wq/303d/2008/index.html.

e. Discharges to waterbodies on the 303(d) list for turbidity, fine sediment, or phosphorus

i. Permittees which discharge to waterbodies on the 303(d) list for turbidity, fine sediment, or phosphorus shall conduct turbidity sampling at the following locations to evaluate compliance with the water quality standard for turbidity:

(1) Background turbidity shall be measured in the 303(d) listed receiving water immediately upstream (upgradient) or outside the area of influence of the discharge.

(2) Discharge turbidity shall be measured at the point of discharge into the 303(d) listed receiving waterbody, inside the area of influence of the discharge; or

(3) Alternatively, discharge turbidity may be measured at the point where the discharge leaves the construction site, rather than in the receiving waterbody.

Based on sampling, if the discharge turbidity ever exceeds the water quality standard for turbidity (more than 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or more than a 10% increase in turbidity when the background turbidity is more than 50 NTU), all future discharges shall comply with a numeric effluent limit which is equal to the water quality standard for turbidity. If the receiving water background turbidity is 50 NTU or less, the water quality standard is 5 NTU over background. If the receiving water background turbidity is more than 50 NTU, the water quality standard is 10% over background.

If a future discharge exceeds the water quality standard for turbidity, the permittee shall:

(1) Review the SWPPP for compliance with the permit and make appropriate revisions within seven days of the discharge that exceeded the standard.

(2) Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but no later than ten days of the discharge that exceeded the standard.

(3) Document BMP implementation and maintenance in the site log book.

(4) Continue to sample daily until discharge turbidity meets the water quality standard for turbidity.

f. Discharges to waterbodies on the 303(d) list for High pH

i. Permittees which discharge to waterbodies on the 303(d) list for high pH shall conduct sampling one of the following locations to evaluate compliance with the water quality standard for pH (in the range of 6.5 – 8.5):

(1) pH shall be measured at the point of discharge into the 303(d) listed waterbody, inside the area of influence of the discharge; or,

(2) Alternatively, pH may be measured at the point where the discharge leaves the construction site, rather than in the receiving water.

ii. Based on the sampling set forth above, if the pH ever exceeds the water quality standard for pH (in the range of 6.5 – 8.5), all future discharges shall comply with a numeric effluent limit which is equal to the water quality standard for pH. If a future discharge exceeds the water quality standard for pH, the permittee shall:

(1) Review the SWPPP for compliance with the permit and make appropriate revisions within 7 days of the discharge.

(2) Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but no later than 10 days of the discharge that exceeded the standards.

(3) Document BMP implementation and maintenance in the site log book.

(4) Continue to sample daily until discharge meets the water quality standard for pH (in the range of 6.5 – 8.5).

9.7.3.4 Sampling & Limitations – For Sites Discharging to TMDLs

a. Discharges to a waterbodies subject to an applicable Total Maximum Daily Load (TMDL) for turbidity, fine sediment, high pH, or phosphorus, shall be consistent with the assumptions and requirements of the TMDL.

i. Where an applicable TMDL sets specific waste load allocations or requirements for discharges covered by this permit, discharges shall be consistent with any specific waste load allocations or requirements established by the applicable TMDL.

(1) Discharges shall be sampled weekly, or as otherwise specified by the TMDL, to evaluate compliance with the specific waste load allocations or requirements.

(2) Analytical methods used to meet the monitoring requirements shall conform to the latest revision of the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136.

ii. Where an applicable TMDL has established a general waste load allocation for construction stormwater discharges, but no specific requirements have been identified, compliance with this permit will be assumed to be consistent with the approved TMDL.

iii. Where an applicable TMDL has not specified a waste load allocation for construction stormwater discharges, but has not excluded these discharges, compliance with this permit will be assumed to be consistent with the approved TMDL.

iv. Where an applicable TMDL specifically precludes or prohibits discharges from construction activity, the operator is not eligible for coverage under this permit.

b. Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus, which has been completed and approved by EPA prior to February 16, 2012, or prior to the date the operator's complete NOI is received by EPA, whichever is later.

Completed TMDLs are available on Ecology's website at www.ecy.wa.gov/programs/wq/tmdl/TMDLsbyWria/TMDLbyWria.html, or by phone at (360) 407-6460.

9.7.4. WAR12000: Indian country within the State of Washington

9.7.4.1 **Kalispel Tribe** The following conditions apply only for discharges on the Kalispel Reservation:

a. The operator shall be responsible for achieving compliance with the Kalispel Tribe's Water Quality Standards, and;

b. The operator shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to the Kalispel Tribe Natural Resources Department (KNRD) at the same time as it is submitted to the EPA, and;

c. The operator shall submit all Storm Water Pollution Prevention Plans (SWPPP) to KNRD thirty (30) days prior to beginning any discharge activities for review, and;

d. The operator shall be responsible for reporting any exceedance of Tribal Water Quality Standards to KNRD at the same time it is reported to EPA, and;

e. Prior to any land disturbing activities on the Kalispel Indian Reservation and its dependent communities, the operator shall attain a cultural resource clearance letter from KNRD.

f. All tribal correspondence pertaining to the General Permit for Discharges from Construction Activities shall be sent to:

Kalispel Tribe Natural Resources Department
Water Resources Program
PO Box 39
Usk, WA 99180

9.7.4.2 **Lummi Nation**. The following conditions apply only for discharges on the Lummi Reservation:

a. Pursuant to Lummi Code of Laws (LCL) 17.05.020(a), the operator must also obtain a land use permit from the Lummi Planning Department as provided in Title 15 of the Lummi Code of Laws and regulations adopted thereunder.

b. Pursuant to LCL 17.05.020(a), each operator shall develop and submit a Stormwater Pollution Prevention Plan to the Lummi Water Resources Division for review and approval by the Water Resources Manager prior to beginning any discharge activities.

c. Pursuant to LCL Title 17, each operator shall be responsible for achieving compliance with the Water Quality Standards for Surface Waters of the Lummi Indian Reservation (Lummi Administrative Regulations (LAR) 17 LAR 07.010 together with supplements and amendments thereto).

d. Each operator shall submit a signed hard copy of the Notice of Intent (NOI) to the Lummi Water Resources Division at the same time it is submitted electronically to the Environmental Protection Agency (EPA) and shall provide the Lummi Water Resources Division the acknowledgement of receipt of the NOI from the EPA and the associated NPDES tracking number provided by the EPA within 7 calendar days of receipt by EPA.

e. Each operator shall submit a signed hard copy of the Notice of Termination (NOT) to the Lummi Water Resources Division at the same time it is submitted electronically to the EPA and shall provide the Lummi Water Resources Division the EPA acknowledgement of receipt of the NOT.

f. Stormwater Pollution Prevention Plans, Notice of Intent, Notice of Termination and associated correspondence with the EPA shall be submitted to:

Lummi Natural Resources Department
ATTN: Water Resources Manager
2616 Kwina Road
Bellingham, WA 98226-9298

g. Please see the Lummi Nation website (www.lummi-nsn.gov) and/or the Lummi Natural Resources Department website (http://lnnr.lummi-nsn.gov/LummiWebsite/Website.php?PageID=53) to review a copy of Title 17 of the Lummi Code of Laws, associated regulations, and the references upon which the conditions identified above are based.

9.7.4.3 **Makah Tribe**. The following conditions apply only for discharges on the Makah Reservation:

a. The operator shall be responsible for achieving compliance with the Makah Tribe's Water Quality Standards.

b. The operator shall submit a Storm Water Pollution Prevention Plan to the Makah Tribe Water Quality Program and Makah Fisheries Habitat Division for review and approval at least thirty (30) days prior to beginning any discharge activities.

c. The operator shall submit a copy of the Notice of Intent to the Makah Tribe Water Quality Program and Makah Fisheries Habitat Division at the same time it is submitted to EPA.

d. Storm Water Pollution Prevention Plans and Notices of Intent shall be submitted to:

Ray Colby
Makah Tribal Water Quality
Water Quality Specialist
(360) 645-3162
colby.ray@centurytel.net
PO Box 115
Neah Bay, WA 98357

9.7.4.4 **Puyallup Tribe of Indians.** The following conditions apply only for discharges on the Puyallup Reservation:

a. Each permittee shall be responsible for achieving compliance with the Puyallup Tribe's Water Quality Standards, including antidegradation provisions. The Puyallup Natural Resources Department will conduct an antidegradation review for permitted activities that have the potential to lower water quality. The antidegradation review will be consistent with the Tribe's Antidegradation Implementation Procedures.

b. The permittee shall be responsible for meeting any additional permit requirements imposed by EPA necessary to comply with the Puyallup Tribe's antidegradation policies if the discharge point is located within 1 linear mile upstream of waters designated by the Tribe.

c. Each permittee shall submit a copy of the Notice of Intent (NOI) to be covered by the general permit to the Puyallup Tribal Natural Resources Department at the address listed below at the same time it is submitted to EPA.

Puyallup Tribe of Indians
3009 E. Portland Avenue
Tacoma, WA 98404
ATTN: Natural Resources Department – Bill Sullivan and Char Naylor

d. All supporting documentation and certifications in the NOI related to coverage under the general permit for Endangered Species Act purposes shall be submitted to Bill Sullivan and Char Naylor in the Puyallup Tribal Natural Resources Department for review.

e. If EPA requires coverage under an individual or alternative permit, the permittee shall submit a copy of the permit to Bill Sullivan and Char Naylor in the Puyallup Tribal Natural Resources Department at the address listed above.

f. The permittee shall submit all stormwater pollution prevention plans to Bill Sullivan and Char Naylor in the Puyallup Tribal Natural Resources Department for review and approval prior to beginning any activities resulting in a discharge to tribal waters.

g. The permittee shall conduct benchmark monitoring for turbidity and nutrients, complying with Section 3 monitoring requirements.

h. The permittee shall notify Bill Sullivan and Char Naylor prior to conducting inspections at construction sites generating stormwater discharged to tribal waters.

Appendix A - Definitions and Acronyms

Definitions

"Action Area" – all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. See 50 CFR 402. For the purposes of this permit and for application of the Endangered Species Act requirements, the following areas are included in the definition of action area:

- The areas on the construction site where stormwater discharges originate and flow toward the point of discharge into the receiving waters (including areas where excavation, site development, or other ground disturbance activities occur) and the immediate vicinity. (Example: Where bald eagles nest in a tree that is on or bordering a construction site and could be disturbed by the construction activity or where grading causes stormwater to flow into a small wetland or other habitat that is on the site that contains listed species.)
- The areas where stormwater discharges flow from the construction site to the point of discharge into receiving waters. (Example: Where stormwater flows into a ditch, swale, or gully that leads to receiving waters and where listed species (such as listed amphibians) are found in the ditch, swale, or gully.)
- The areas where stormwater from construction activities discharge into receiving waters and the areas in the immediate vicinity of the point of discharge. (Example: Where stormwater from construction activities discharges into a stream segment that is known to harbor listed aquatic species.)
- The areas where stormwater controls will be constructed and operated, including any areas where stormwater flows to and from the stormwater controls. (Example: Where a stormwater retention pond would be built.)
- The areas upstream and/or downstream from the stormwater discharge into a stream segment that may be affected by these discharges. (Example: Where sediment discharged to a receiving stream settles downstream and impacts a breeding area of a listed aquatic species.)

"Agricultural Land" - cropland, grassland, rangeland, pasture, and other agricultural land, on which agricultural and forest-related products or livestock are produced and resource concerns may be addressed. Agricultural lands include cropped woodland, marshes, incidental areas included in the agricultural operation, and other types of agricultural land used for the production of livestock.

"Antidegradation Policy" or "Antidegradation Requirements" - the water quality standards regulation that requires States and Tribes to establish a three-tiered antidegradation program:

1. Tier 1 maintains and protects existing uses and water quality conditions necessary to support such uses. An existing use can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975, or that the water quality is suitable to allow such uses to occur. Where an existing use is established, it must be protected even if it is not listed in the water quality standards as a designated use. Tier 1 requirements are applicable to all surface waters.
2. Tier 2 maintains and protects "high quality" waters -- water bodies where existing conditions are better than necessary to support CWA § 101(a)(2) "fishable/swimmable"

uses. Water quality can be lowered in such waters. However, State and Tribal Tier 2 programs identify procedures that must be followed and questions that must be answered before a reduction in water quality can be allowed. In no case may water quality be lowered to a level which would interfere with existing or designated uses.

3. Tier 3 maintains and protects water quality in outstanding national resource waters (ONRWs). Except for certain temporary changes, water quality cannot be lowered in such waters. ONRWs generally include the highest quality waters of the United States. However, the ONRW classification also offers special protection for waters of exceptional ecological significance, i.e., those which are important, unique, or sensitive ecologically. Decisions regarding which water bodies qualify to be ONRWs are made by States and authorized Indian Tribes.

"Arid Areas" – areas with an average annual rainfall of 0 to 10 inches.

"Bank" (e.g., stream bank or river bank) – the rising ground bordering the channel of a water of the U.S.

"Bluff" – a steep headland, promontory, riverbank, or cliff.

"Borrow Areas" – the areas where materials are dug for use as fill, either onsite or off-site.

"Bypass" – the intentional diversion of waste streams from any portion of a treatment facility. See 40 CFR 122.41(m)(1)(i).

"Cationic Treatment Chemical" – polymers, flocculants, or other chemicals that contain an overall positive charge. Among other things, they are used to reduce turbidity in stormwater discharges by chemically bonding to the overall negative charge of suspended silts and other soil materials and causing them to bind together and settle out. Common examples of cationic treatment chemicals are chitosan and cationic PAM.

"Commencement of Earth-Disturbing Activities" - the initial disturbance of soils (or 'breaking ground') associated with clearing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material).

"Commencement of Pollutant-Generating Activities" – at construction sites (for the purposes of this permit) occurs in any of the following circumstances:

- Clearing, grubbing, grading, and excavation has begun;
- Raw materials related to your construction activity, such as building materials or products, landscape materials, fertilizers, pesticides, herbicides, detergents, fuels, oils, or other chemicals have been placed at your site;
- Use of authorized non-stormwater for washout activities, or dewatering activities, have begun; or
- Any other activity has begun that causes the generation of or the potential generation of pollutants.

"Construction Activities" – earth-disturbing activities, such as the clearing, grading, and excavation of land.

"Construction and Development Effluent Limitations and New Source Performance Standards" (C&D Rule) – as published in 40 CFR § 450 is the regulation requiring effluent limitations guidelines

(ELG's) and new source performance standards (NSPS) for controlling the discharge of pollutants from construction sites.

"Construction Site" – the land or water area where construction activities will occur and where stormwater controls will be installed and maintained. The construction site includes construction support activities, which may be located at a different part of the property from where the primary construction activity will take place, or on a different piece of property altogether. The construction site is often a smaller subset of the lot or parcel within which the project is taking place.

"Construction Support Activities" – a construction-related activity that specifically supports the construction activity and involves earth disturbance or pollutant-generating activities of its own, and can include activities associated with concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, and borrow areas.

"Construction Waste" – discarded material (such as packaging materials, scrap construction materials, masonry products, timber, steel, pipe, and electrical cuttings, plastics, and styrofoam).

"Conveyance Channel" – a temporary or permanent waterway designed and installed to safely convey stormwater flow within and out of a construction site.

"Corrective Action" – for the purposes of the permit, any action taken to (1) repair, modify, or replace any stormwater control used at the site; (2) clean up and dispose of spills, releases, or other deposits found on the site; and (3) remedy a permit violation.

"Critical Habitat" – as defined in the Endangered Species Act at 16 U.S.C. 1531 for a threatened or endangered species, (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

"CWA" – the Clean Water Act or the Federal Water Pollution Control Act, 33 U.S.C. section 1251 et seq.

"Dewatering" – the act of draining rainwater and/or groundwater from building foundations, vaults, and trenches.

"Discharge" – when used without qualification, means the "discharge of a pollutant."

"Discharge of a Pollutant" – any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

"Discharge Point" – for the purposes of this permit, the location where collected and concentrated stormwater flows are discharged from the construction site.

"Discharge-Related Activity" – activities that cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction, and operation of stormwater controls to control, reduce, or prevent pollutants from being discharged.

"Discharge to an Impaired Water" – for the purposes of this permit, a discharge to an impaired water occurs if the first water of the U.S. to which you discharge is identified by a State, Tribe, or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting an applicable water quality standard, or is included in an EPA-approved or established total maximum daily load (TMDL). For discharges that enter a storm sewer system prior to discharge, the water of the U.S. to which you discharge is the first water of the U.S. that receives the stormwater discharge from the storm sewer system.

"Domestic Waste" – for the purposes of this permit, typical household trash, garbage or rubbish items generated by construction activities.

"Drainageway" – an open linear depression, whether constructed or natural, that functions for the collection and drainage of surface water.

"Drought-Stricken Area" – for the purposes of this permit, an area in which the National Oceanic and Atmospheric Administration's U.S. Seasonal Drought Outlook indicates for the period during which the construction will occur that any of the following conditions are likely: (1) "Drought to persist or intensify", (2) "Drought ongoing, some improvement", (3) "Drought likely to improve, impacts ease", or (4) "Drought development likely". See http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif.

"Earth-Disturbing Activity" or "Land-Disturbing Activity" – actions taken to alter the existing vegetation and/or underlying soil of a site, such as clearing, grading, site preparation (e.g., excavating, cutting, and filling), soil compaction, and movement and stockpiling of top soils.

"Effective Operating Condition" – for the purposes of this permit, a stormwater control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

"Effluent Limitations" – for the purposes of this permit, any of the Part 2 or Part 3 requirements.

"Effluent Limitations Guideline" (ELG) – defined in 40 CFR § 122.2 as a regulation published by the Administrator under section 304(b) of CWA to adopt or revise effluent limitations.

"Electronic Notice of Intent" (eNOI) – EPA's online system for submitting electronic Construction General Permit forms.

"Eligible" – for the purposes of this permit, refers to stormwater and allowable non-stormwater discharges that are authorized for coverage under this general permit.

"Emergency-Related Project" – a project initiated in response to a public emergency (e.g., natural disaster, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services.

"Endangered Species" – defined in the Endangered Species Act at 16 U.S.C. 1531 as any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose

protection under the provisions of this Act would present an overwhelming and overriding risk to man.

"Excursion" – a measured value that exceeds a specified limit.

"Existing Project" – a construction project that commenced construction activities prior to February 16, 2012 (April 9, 2012 for the State of Idaho, except for Indian Country; April 13, 2012 for areas in the state of Washington, except for Indian Country, subject to construction activity by a Federal Operator; May 9, 2012 for projects in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin).

"Exit Points" – any points of egress from the construction site to be used by vehicles and equipment during construction activities.

"Exposed Soils" – for the purposes of this permit, soils that as a result of earth-disturbing activities are left open to the elements.

"Federal Operator" – an entity that meets the definition of "Operator" in this permit and is either any department, agency or instrumentality of the executive, legislative, and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, performing construction activity for any such department, agency, or instrumentality.

"Final Stabilization" – on areas not covered by permanent structures, either (1) vegetation has been established, or for arid or semi-arid areas, will be established that provides a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the natural background vegetative cover, or (2) non-vegetative stabilization methods have been implemented to provide effective cover for exposed portions of the site.

"Hazardous Materials" or "Hazardous Substances" or "Hazardous or Toxic Waste" – for the purposes of this permit, any liquid, solid, or contained gas that contain properties that are dangerous or potentially harmful to human health or the environment. See also 40 CFR §261.2.

"Historic Property" – as defined in the National Historic Preservation Act regulations means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

"Impaired Water" or "Water Quality Impaired Water" or "Water Quality Limited Segment" – for the purposes of this permit, waters identified as impaired on the CWA Section 303(d) list, or waters with an EPA-approved or established TMDL. Your construction site will be considered to discharge to an impaired water if the first water of the U.S. to which you discharge is identified by a state, tribe, or EPA pursuant to Section 303(d) of the CWA as not meeting an applicable water quality standard, or is included in an EPA-approved or established total maximum daily load (TMDL). For discharges that enter a storm sewer system prior to discharge, the first water of the U.S. to which you discharge is the waterbody that receives the stormwater discharge from the storm sewer system.

"Impervious Surface" – for the purpose of this permit, any land surface with a low or no capacity for soil infiltration including, but not limited to, pavement, sidewalks, parking areas and driveways, packed gravel or soil, or rooftops.

"Indian Country" or "Indian Country Lands" – defined at 40 CFR §122.2 as:

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
2. All dependent Indian communities with the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-ways running through the same.

"Infeasible" – for the purpose of this permit, infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices. EPA notes that it does not intend for any permit requirement to conflict with state water rights law.

"Install" or "Installation" – when used in connection with stormwater controls, to connect or set in position stormwater controls to make them operational.

"Intermittent (or Seasonal) Stream" – one which flows at certain times of the year when groundwater provides water for stream flow, as well as during and immediately after some precipitation events or snowmelt.

"Jar test" – a test designed to simulate full-scale coagulation/flocculation/sedimentation water treatment processes by taking into account the possible conditions.

"Landward" – positioned or located away from a waterbody, and towards the land.

"Level Spreader" – a temporary stormwater control used to spread stormwater flow uniformly over the ground surface as sheet flow to prevent concentrated, erosive flows from occurring.

"Linear Project" – includes the construction of roads, bridges, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area.

"Minimize" – to reduce and/or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

"Municipal Separate Storm Sewer System" or "MS4" – defined at 40 CFR §122.26(b)(8) as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

1. Owned and operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
2. Designed or used for collecting or conveying stormwater;
3. Which is not a combined sewer; and

4. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

"National Pollutant Discharge Elimination System" (NPDES) – defined at 40 CFR §122.2 as the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA. The term includes an 'approved program.'

"Native Topsoil" – the uppermost layer of naturally occurring soil for a particular area, and is often rich in organic matter, biological activity, and nutrients.

"Native Vegetation" – the species of plants that have developed for a particular region or ecosystem and are considered endemic to that region or ecosystem.

"Natural Buffer" – for the purposes of this permit, an area of undisturbed natural cover surrounding surface waters within which construction activities are restricted. Natural cover includes the vegetation, exposed rock, or barren ground that exists prior to commencement of earth-disturbing activities.

"Natural Vegetation" – vegetation that occurs spontaneously without regular management, maintenance or species introductions, removals, and that generally has a strong component of native species

"New Operator of a New or Existing Project" – an operator that through transfer of ownership and/or operation replaces the operator of an already permitted construction project.

"New Project" – a construction project that commences construction activities on or after February 16 (or on or after April 9, 2012 for the State of Idaho, except for Indian Country; April 13, 2012 for areas in the state of Washington, except for Indian Country, subject to construction activity by a Federal Operator; May 9, 2012 for projects in the following areas: the Fond du Lac Band and Grand Portage Band of Lake Superior Chippewa in Minnesota; and the Bad River Band and Lac du Flambeau Band of Lake Superior Chippewa in Wisconsin).

"New Source" – for the purpose of this permit, a construction project that commenced construction activities after February 1, 2010.

"New Source Performance Standards (NSPS)" – for the purposes of this permit, NSPS are technology-based standards that apply to construction sites that are new sources under 40 CFR 450.24.

"Non-Stormwater Discharges" – discharges that do not originate from storm events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

"Non-Turbid" – a discharge that does not cause or contribute to an exceedence of turbidity-related water quality standards.

"Notice of Intent" (NOI) – the form (electronic or paper) required for authorization of coverage under the Construction General Permit.

"Notice of Termination" (NOT) – the form (electronic or paper) required for terminating coverage under the Construction General Permit.

"Operational" – for the purpose of this permit, stormwater controls are made "operational" when they have been installed and implemented, are functioning as designed, and are properly maintained.

"Operator" – for the purpose of this permit and in the context of stormwater discharges associated with construction activity, any party associated with a construction project that meets either of the following two criteria:

1. The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
2. The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the permit).

This definition is provided to inform permittees of EPA's interpretation of how the regulatory definitions of "owner or operator" and "facility or activity" are applied to discharges of stormwater associated with construction activity.

"Ordinary High Water Mark" – the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris.

"Outfall" – see "Discharge Point."

"Permitting Authority" – for the purposes of this permit, EPA, a Regional Administrator of EPA, or an authorized representative.

"Point(s) of Discharge" – see "Discharge Point."

"Point Source" – any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

"Pollutant" – defined at 40 CFR §122.2. A partial listing from this definition includes: dredged spoil, solid waste, sewage, garbage, sewage sludge, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial or municipal waste.

"Pollutant-Generating Activities" – at construction sites (for the purposes of this permit), those activities that lead to or could lead to the generation of pollutants, either as a result of earth-disturbance or a related support activity. Some of the types of pollutants that are typically found at construction sites are:

- sediment;
- nutrients;
- heavy metals;
- pesticides and herbicides;
- oil and grease;
- bacteria and viruses;

- trash, debris, and solids;
- treatment polymers; and
- any other toxic chemicals.

"Pollution Prevention Measures" – stormwater controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

"Polymers" – for the purposes of this permit, coagulants and flocculants used to control erosion on soil or to enhance the sediment removal capabilities of sediment traps or basins. Common construction site polymers include polyacrylamide (PAM), chitosan, alum, polyaluminum chloride, and gypsum.

"Prohibited Discharges" – discharges that are not allowed under this permit, including:

1. Wastewater from washout of concrete;
2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
4. Soaps or solvents used in vehicle and equipment washing;
5. Toxic or hazardous substances from a spill or other release; and
6. Waste, garbage, floatable debris, construction debris, and sanitary waste from pollutant-generating activities.

"Provisionally Covered Under this Permit" – for the purposes of this permit, EPA provides temporary coverage under this permit for emergency-related projects prior to receipt of a complete and accurate NOI. Discharges from earth-disturbing activities associated with the emergency-related projects are subject to the terms and conditions of the permit during the period of temporary coverage.

"Receiving Water" – a "Water of the United States" as defined in 40 CFR §122.2 into which the regulated stormwater discharges.

"Run-On" – sources of stormwater that drain from land located upslope or upstream from the regulated site in question.

"Semi-Arid Areas" – areas with an average annual rainfall of 10 to 20 inches.

"Site" – for construction activities, the land or water area where earth-disturbing activities take place, including construction support activities.

"Small Construction Activity" – defined at 40 CFR §122.26(b)(15) and incorporated here by reference. A small construction activity includes clearing, grading, and excavating resulting in a land disturbance that will disturb equal to or greater than one (1) acre and less than five (5) acres of land or will disturb less than one (1) acre of total land area but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one (1) acre and less than five (5) acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the site.

"Small Residential Lot" – for the purpose of this permit, a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre.

"Snowmelt" – the conversion of snow into overland stormwater and groundwater flow as a result of warmer temperatures.

"Spill" – for the purpose of this permit, the release of a hazardous or toxic substance from its container or containment.

"Stabilization" – the use of vegetative and/or non-vegetative cover to prevent erosion and sediment loss in areas exposed through the construction process.

"Steep Slopes" – where a state, Tribe, local government, or industry technical manual (e.g., stormwater BMP manual) has defined what is to be considered a "steep slope", this permit's definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 15 percent or greater in grade.

"Storm Sewer System" – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) designed or used for collecting or conveying stormwater.

"Stormwater" – stormwater runoff, snow melt runoff, and surface runoff and drainage.

"Stormwater Control Measure" - refers to any stormwater control, BMP, or other method (including narrative effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

"Stormwater Controls" – see "Stormwater Control measure."

"Stormwater Discharge Associated with Construction Activity" – as used in this permit, a discharge of pollutants in stormwater to waters of the United States from areas where land-disturbing activities (e.g., clearing, grading, or excavation) occur, or where construction materials or equipment storage or maintenance (e.g., fill piles, borrow area, concrete truck chute washdown, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants), are located.

"Stormwater Inlet" – a structure placed below grade to conduct water used to collect stormwater runoff for conveyance purposes.

"Stormwater Team" – the group of individuals responsible for oversight of the development and modifications of the SWPPP, and oversight of compliance with the permit requirements. The individuals on the "Stormwater Team" must be identified in the SWPPP.

"Storm Event" – a precipitation event that results in a measurable amount of precipitation.

"Storm Sewer" – a system of pipes (separate from sanitary sewers) that carries stormwater runoff from buildings and land surfaces.

"Subcontractor" – for the purposes of this permit, an individual or company that takes a portion of a contract from the general contractor or from another subcontractor.

"Surface Water" – a "Water of the United States" as defined in 40 CFR §122.2.

"SWPPP" (Stormwater Pollution Prevention Plan) – a site-specific, written document that, among other things: (1) identifies potential sources of stormwater pollution at the construction site; (2) describes stormwater control measures to reduce or eliminate pollutants in stormwater discharges from the construction site; and (3) identifies procedures the operator will implement to comply with the terms and conditions of this general permit.

"Temporary Stabilization" – a condition where exposed soils or disturbed areas are provided a temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

"Thawing Conditions" – for the purposes of this permit, thawing conditions are expected based on the historical likelihood of two or more days with daytime temperatures greater than 32°F. This date can be determined by looking at historical weather data. Note: the estimation of thawing conditions is for planning purposes only. During construction the permittee will be required to conduct site inspections based upon actual conditions (i.e., if thawing conditions occur sooner than expected, the permittee will be required to conduct inspections at the regular frequency).

"Threatened Species" – defined in the Endangered Species Act at 16 U.S.C. 1531 as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

"Tier 2 Waters" – for antidegradation purposes, pursuant to 40 CFR 131.12(a)(2), those waters thatare characterized as having water quality that exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

"Tier 2.5 Waters" – for antidegradation purposes, those waters designated by States or Tribes as requiring a level of protection equal to and above that given to Tier 2 waters, but less than that given Tier 3 waters. Some States have special requirements for these waters.

"Tier 3 Waters" – for antidegradation purposes, pursuant to 40 CFR 131.12(a)(3), Tier 3 waters are identified by states as having high quality waters constituting an Outstanding Natural Resource Water (ONRW), such as waters of National Parks and State Parks, wildlife refuges, and waters of exceptional recreational or ecological significance.

"Total Maximum Daily Load" or "TMDL" – the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for nonpoint sources and natural background. If receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure.

"Toxic Waste" – see "Hazardous Materials."

"Turbidity" – a condition of water quality characterized by the presence of suspended solids and/or organic material.

"Uncontaminated Discharge" – a discharge that does not cause or contribute to an exceedence of applicable water quality standards.

"Upland" - the dry land area above and 'landward' of the ordinary high water mark.

"Upset" – Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR 122.41(n)(1).

"Water-Dependent Structures" – structures or facilities that are required to be located directly adjacent to a waterbody or wetland, such as a marina, pier, boat ramp, etc.

"Water Quality Standards" – defined in 40 CFR § 131.3, and are provisions of State or Federal law which consist of a designated use or uses for the waters of the United States, water quality criteria for such waters based upon such uses, and an antidegradation policy to protect high-quality waters. Water quality standards protect the public health or welfare, enhance the quality of water and serve the purposes of the Act.

"Waters of the United States" – defined at 40 CFR §122.2 as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
   a. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
   b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
   c. Which are used or could be used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (1) through (4) of this definition;
6. The territorial sea; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

In applying this definition, EPA will consider applicable Court cases and current guidance.

"Wetland" – those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. On-site evaluations are typically required to confirm the presence and boundaries of wetlands.

"Work day" – for the purposes of this permit, a work day is a calendar day on which construction activities will take place.

Acronyms

C&D – Construction & Development

CGP – Construction General Permit

CFR – Code of Federal Regulations

CWA – Clean Water Act

eNOI – Electronic Notice of Intent

EPA – United States Environmental Protection Agency

ESA – Endangered Species Act

FWS – United States Fish and Wildlife Service

MS4 – Municipal Separate Storm Sewer System

MSGP – Multi-Sector General Permit

NMFS – United States National Marine Fisheries Service

NOI – Notice of Intent

NOT – Notice of Termination

NPDES – National Pollutant Discharge Elimination System

NRC – National Response Center

NRCS – National Resources Conservation Service

POTW – Publicly Owned Treatment Works

SPCC – Spill Prevention Control and Countermeasure

SWPPP – Stormwater Pollution Prevention Plan

TMDL – Total Maximum Daily Load

USGS – United States Geological Survey

WQS – Water Quality Standard

Appendix B - Permit Areas Eligible for Coverage

Permit coverage for stormwater discharges from construction activity occurring within the following areas is provided by legally separate and distinctly numbered permits:

B.1 EPA Region 1: CT, MA, ME, NH, RI, VT

US EPA, Region 01
Office of Ecosystem Protection
NPDES Stormwater Program
5 Post Office Square
Boston, MA 02109-3912

The States of Connecticut, Maine, Rhode Island, and Vermont are the NPDES Permitting Authority for the majority of discharges within their respective states.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
CTR120001	Indian country within the State of Connecticut
MAR120000	Commonwealth of Massachusetts (except Indian country)
MAR120001	Indian country within the State of Massachusetts
NHR120000	State of New Hampshire
RIR120001	Indian country within the State of Rhode Island
VTR12000F	Areas in the State of Vermont subject to construction by a Federal Operator

B.2 EPA Region 2: NJ, NY, PR, VI

For NJ, NY, and VI:
US EPA, Region 02
NPDES Stormwater Program
290 Broadway, 24th Floor
New York, NY 10007-1866

For PR:
US EPA, Region 02
Caribbean Environmental Protection Division
NPDES Stormwater Program
1492 Ponce de Leon Ave
Central Europa Building, Suite 417
San Juan, PR 00907-4127

The State of New York is the NPDES Permitting Authority for the majority of discharges within its state. The State of New Jersey and the Virgin Islands are the NPDES Permitting Authority for all discharges within their respective states.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
NYR120001	Indian country within the State of New York
PRR120000	Commonwealth of Puerto Rico

B.3 EPA Region 3: DE, DC, MD, PA, VA, WV

US EPA, Region 03
NPDES Stormwater Program
1650 Arch St
Philadelphia, PA 19103

The State of Delaware is the NPDES Permitting Authority for the majority of discharges within its state. Maryland, Pennsylvania, Virginia, and West Virginia are the NPDES Permitting Authority for all discharges within their respective states.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
DCR120000	District of Columbia
DER12000F	Areas in the State of Delaware subject to construction by a Federal Operator

B.4 EPA Region 4: AL, FL, GA, KY, MS, NC, SC, TN

US EPA, Region 04
Water Protection Division
NPDES Stormwater Program
61 Forsyth St SW
Atlanta, GA 30303-3104

The States of Alabama, Florida, Mississippi, and North Carolina are the NPDES Permitting Authority for the majority of discharges within their respective States. EPA Region 4 is the NPDES Permitting Authority for all Indian country lands within any other Region 4 State except Catawba lands in South Carolina.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
ALR120001	Indian country within the State of Alabama
FLR120001	Indian country within the State of Florida
MSR120001	Indian country within the State of Mississippi
NCR120001	Indian country within the State of North Carolina
RE4120001	Indian country within any other Region 4 State (except Catawba lands in South Carolina)

B.5 EPA Region 5: IL, IN, MI, MN, OH, WI

US EPA, Region 05
NPDES & Technical Support
NPDES Stormwater Program
77 W Jackson Blvd
(WN-16J)
Chicago, IL 60604-3507

The States of Michigan, Minnesota, and Wisconsin are the NPDES Permitting Authority for the majority of discharges within their respective states. The States of Illinois, Indiana, and Ohio are the NPDES Permitting Authorities for all discharges within their respective states.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
MIR100001	Indian country within the State of Michigan
MNR100001	Indian country within the State of Minnesota
WIR100001	Indian country within the State of Wisconsin, except the Sokaogon Chippewa (Mole Lake) Community

B.6 EPA Region 6: AR, LA, OK, TX, NM (except see Region 9 for Navajo lands, and see Region 8 for Ute Mountain Reservation lands)

US EPA, Region 06
NPDES Stormwater Program
1445 Ross Ave, Suite 1200
Dallas, TX 75202-2733

The States of Louisiana, Oklahoma, and Texas are the NPDES Permitting Authority for the majority of discharges within their respective state. The State of Arkansas is the NPDES Permitting Authority for all discharges within its respective state.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
LAR120001	Indian country within the State of Louisiana
NMR120000	State of New Mexico, except Indian country
NMR120001	Indian country within the State of New Mexico, except Navajo Reservation Lands that are covered under Arizona permit AZR100001 and Ute Mountain Reservation Lands that are covered under Colorado permit COR100001.
OKR120001	Indian country within the State of Oklahoma
OKR12000F	Discharges in the State of Oklahoma that are not under the authority of the Oklahoma Department of Environmental Quality, including activities associated with oil and gas exploration, drilling, operations, and pipelines (includes SIC Groups 13 and 46, and SIC codes 492 and 5171), and paint source discharges associated with agricultural production, services, and silviculture (includes SIC Groups 01, 02, 07, 08, 09).
TXR12000F	Discharges in the State of Texas that are not under the authority of the Texas Commission on Environmental Quality (formerly TNRCC), including activities associated with the exploration, development, or production of oil or gas or geothermal resources, including transportation of crude oil or natural gas by pipeline.
TXR120001	Indian country within the State of Texas

B.7 EPA Region 7: IA, KS, MO, NE (except see Region 8 for Pine Ridge Reservation Lands)

US EPA, Region 07
NPDES Stormwater Program
901 N 5th St
Kansas City, KS 66101

The States of Iowa, Kansas, and Nebraska are the NPDES Permitting Authority for the majority of discharges within their respective states. The State of Missouri is the NPDES Permitting Authority for all discharges within its state.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
IAR12000I	Indian country within the State of Iowa
KSR12000I	Indian country within the State of Kansas
NER12000I	Indian country within the State of Nebraska, except Pine Ridge Reservation lands (see Region 8)

B.8 EPA Region 8: CO, MT, ND, SD, WY, UT (except see Region 9 for Goshute Reservation and Navajo Reservation Lands), the Ute Mountain Reservation in NM, and the Pine Ridge Reservation in NE.

US EPA, Region 08
NPDES Stormwater Program
999 18th St, Suite 300
(EPR-EP)
Denver, CO 80202-2466

The States of Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming are the NPDES Permitting Authority for the majority of discharges within their respective states.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
COR12000F	Areas in the State of Colorado, except those located on Indian country, subject to construction activity by a Federal Operator
COR12000I	Indian country within the State of Colorado, as well as the portion of the Ute Mountain Reservation located in New Mexico
MTR12000I	Indian country within the State of Montana
NDR12000I	Indian country within the State of North Dakota, as well as that portion of the Standing Rock Reservation located in South Dakota (except for the portion of the lands within the former boundaries of the Lake Traverse Reservation which is covered under South Dakota permit SDR10000I listed below)
SDR12000I	Indian country within the State of South Dakota, as well as the portion of the Pine Ridge Reservation located in Nebraska and the portion of the lands within the former boundaries of the Lake Traverse Reservation located in North Dakota (except for the Standing Rock Reservation which is covered under North Dakota permit NDR10000I listed above)
UTR12000I	Indian country within the State of Utah, except Goshute and Navajo Reservation lands (see Region 9)
WYR12000I	Indian country within the State of Wyoming

B.9 EPA Region 9: CA, HI, NV, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, the Goshute Reservation in UT and NV, the Navajo Reservation in UT, NM, and AZ, the Duck Valley Reservation in ID, and the Fort McDermitt Reservation in OR.

US EPA, Region 09
NPDES Stormwater Program
75 Hawthorne St
San Francisco, CA 94105-3901

The States of Arizona, California and Nevada are the NPDES Permitting Authority for the majority of discharges within their respective states. The State of Hawaii is the NPDES Permitting Authority for all discharges within its state.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
ASR120000	Island of American Samoa
AZR12000I	Indian country within the State of Arizona, as well as Navajo Reservation lands in New Mexico and Utah
CAR12000I	Indian country within the State of California
GUR120000	Island of Guam
JAR120000	Johnston Atoll
MPR120000	Commonwealth of the Northern Mariana Islands
MWR120000	Midway Island and Wake Island
NVR12000I	Indian country within the State of Nevada, as well as the Duck Valley Reservation in Idaho, the Fort McDermitt Reservation in Oregon and the Goshute Reservation in Utah

B.10 EPA Region 10: AK, WA, ID (except see Region 9 for Duck Valley Reservation Lands), and OR (except see Region 9 for Fort McDermitt Reservation).

US EPA, Region 10
NPDES Stormwater Program
1200 6th Ave (OW-130)
Seattle, WA 98101-1128
Phone: (206) 553-6650

The States of Oregon and Washington are the NPDES Permitting Authority for the majority of discharges within their respective states.

Permit No.	Areas of Coverage/Where EPA is Permitting Authority
AKR12000I	Indian country within the State of Alaska
AKR12-000F	Areas in the the Denali National Park and Preserve subject to construction by a Federal Operator
IDR120000	State of Idaho, except Indian country
IDR12000I	Indian country within the State of Idaho, except Duck Valley Reservation lands (see Region 9)
ORR12000I	Indian country within the State of Oregon, except Fort McDermitt Reservation lands (see Region 9)
WAR12000F	Areas in the State of Washington, except those located on Indian country, subject to construction activity by a Federal Operator
WAR12000I	Indian country within the State of Washington

Appendix C - Small Construction Waivers and Instructions

These waivers are only available to stormwater discharges associated with small construction activities (i.e., 1-5 acres). As the operator of a small construction activity, you may be able to qualify for a waiver in lieu of needing to obtain coverage under this general permit based on: (A) a low rainfall erosivity factor, (B) a TMDL analysis, or (C) an equivalent analysis that determines allocations for small construction sites are not needed. Each operator, otherwise needing permit coverage, must notify EPA of its intention for a waiver. It is the responsibility of those individuals wishing to obtain a waiver from coverage under this general permit to submit a complete and accurate waiver certification as described below. Where the operator changes or another is added during the construction project, the new operator must also submit a waiver certification to be waived.

C.1 Rainfall Erosivity Waiver

Under this scenario the small construction project's rainfall erosivity factor calculation ("R" in the Revised Universal Soil Loss Equation) is less than 5 during the period of construction activity. The operator must certify to EPA that construction activity will occur only when the rainfall erosivity factor is less than 5. The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a stabilization practice that will provide interim non-vegetative stabilization can be used for the end of the construction period, provided the operator commits (as a condition of waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the construction general permit have been met. If use of this interim stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with its certification statement constitutes acceptance of and commitment to complete the final stabilization process. The operator must submit a waiver certification to EPA prior to commencing construction activities.

Note: The rainfall erosivity factor "R" is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE), pages 21–64, dated January 1997; United States Department of Agriculture (USDA), Agricultural Research Service.

EPA has developed an online rainfall erosivity calculator to help small construction sites determine potential eligibility for the rainfall erosivity waiver. You can access the calculator from EPA's website at:www.epa.gov/npdes/stormwater/lew. The R factor can easily be calculated by using the construction site latitude/longitude or address and estimated start and end dates of construction. This calculator may also be useful in determining the time periods during which construction activity could be waived from permit coverage. You may find that moving your construction activity by a few weeks or expediting site stabilization will allow you to qualify for the waiver. Use this online calculator or the Construction Rainfall Erosivity Waiver Fact Sheet (www.epa.gov/npdes/pubs/fact3-1.pdf) to assist in determining the R Factor for your small construction site.

If you are the operator of the construction activity and eligible for a waiver based on low erosivity potential, you can submit a rainfall erosivity waiver electronically via EPA's eNOI system (www.epa.gov/npdes/capenoi) or provide the following information on the waiver certification form in order to be waived from permitting requirements:

1. Name, address and telephone number of the construction site operator(s);
2. Name (or other identifier), address, county or similar governmental subdivision, and latitude/longitude of the construction project or site;
3. Estimated construction start and completion (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed;
4. The rainfall erosivity factor calculation that applies to the active construction phase at your project site; and
5. A statement, signed and dated by an authorized representative as provided in Appendix I, Subsection I.11, which certifies that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five.

You can access the waiver certification form from EPA's website at: (http://www.epa.gov/npdes/pubs/construction_waiver_form.pdf). Paper copies of the form must be sent to one of the addresses listed in Part C.4 of this section.

Note: If the R factor is 5 or greater, you cannot apply for the rainfall erosivity waiver, and must apply for NPDES permit coverage, unless you qualify for the Water Quality Waiver as described in section B below.

If your small construction project continues beyond the projected completion date given on the waiver certification, you must recalculate the rainfall erosivity factor for the new project duration. If the R factor is below five (5), you must update all applicable information on the waiver certification and retain a copy of the revised waiver as part of your records. The new waiver certification must be submitted prior to the projected completion date listed on the original waiver form to assure your exemption from permitting requirements is uninterrupted. If the new R factor is 5 or above, you must obtain NPDES permit coverage.

C.2 TMDL Waiver

This waiver is available if EPA has established or approved a TMDL that addresses the pollutant(s) of concern for the impaired water and has determined that controls on stormwater discharges from small construction activity are not needed to protect water quality. The pollutant(s) of concern include sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. Information on TMDLs that have been established or approved by EPA is available from EPA online at http://www.epa.gov/owow/tmdl/ and from state and tribal water quality agencies.

If you are the operator of the construction activity and eligible for a waiver based on compliance with an EPA-established or approved TMDL, you must provide the following information on the Waiver Certification form in order to be waived from permitting requirements:

1. Name, address and telephone number of the construction site operator(s);
2. Name (or other identifier), address, county or similar governmental subdivision, and latitude/longitude of the construction project or site;

3. Estimated construction start and completion (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed;
4. The name of the waterbody(s) that would be receiving stormwater discharges from your construction project;
5. The name and approval date of the TMDL;
6. A statement, signed and dated by an authorized representative as provided in Appendix I, Subsection I.11, that certifies that the construction activity will take place and that the stormwater discharges will occur, within the drainage area addressed by the TMDL.

C.3 Equivalent Analysis Waiver

This waiver is available for non-impaired waters only. The operator can develop an equivalent analysis that determines allocations for his/her small construction site for the pollutant(s) of concern or determines that such allocations are not needed to protect water quality. This waiver requires a small construction operator to develop an equivalent analysis based on existing in-stream concentrations, expected growth in pollutant concentrations from all sources, and a margin of safety.

If you are a construction operator who wants to use this waiver, you must develop your equivalent analysis and provide the following information to be waived from permitting requirements:

1. Name, address and telephone number of the construction site operator(s);
2. Name (or other identifier), address, county or similar governmental subdivision, and latitude/longitude of the construction project or site;
3. Estimated construction start and completion (i.e., final stabilization) dates, and total acreage (to the nearest quarter acre) ta be disturbed;
4. The name of the waterbody(s) that would be receiving stormwater discharges from your construction project;
5. Your equivalent analysis;
6. A statement, signed and dated by an authorized representative as provided in Appendix I, Subsection I.11, that certifies that the construction activity will take place and that the stormwater discharges will occur, within the drainage area addressed by the equivalent analysis.

C.4 Waiver Deadlines and Submissions

1. Waiver certifications must be submitted prior to commencement of construction activities.
2. If you submit a TMDL or equivalent analysis waiver request, you are not waived until EPA approves your request. As such, you may not commence construction activities until receipt of approval from EPA.
3. Late Notifications: Operators are not prohibited from submitting waiver certifications after initiating clearing, grading, excavation activities, or other construction activities. The Agency reserves the right to take enforcement for any unpermitted discharges that occur between the time construction commenced and waiver authorization is granted.

Submittal of a waiver certification is an optional alternative to obtaining permit coverage for discharges of stormwater associated with small construction activity, provided you qualify for the waiver. Any discharge of stormwater associated with small construction activity not covered by either a permit or a waiver may be considered an unpermitted discharge under the Clean Water Act. As mentioned above, EPA reserves the right to take enforcement for any unpermitted discharges that occur between the time construction commenced and either discharge authorization is granted or a complete and accurate waiver certification is submitted. EPA may notify any operator covered by a waiver that they must apply for a permit. EPA may notify any operator who has been in non-compliance with a waiver that they may no longer use the waiver for future projects. Any member of the public may petition EPA to take action under this provision by submitting written notice along with supporting justification.

Complete and accurate Rainfall Erosivity waiver certifications not otherwise submitted electronically via EPA's eNOI system (www.epa.gov/npdes/cgpenoi) must be sent to one of the following addresses:

Regular U.S. Mail Delivery
EPA Stormwater Notice Processing Center
Mail Code 4203M
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Overnight/Express Mail Delivery
EPA Stormwater Notice Processing Center
Room 7420
U.S. EPA
1201Constitution Avenue, NW
Washington, DC 20004

Complete and accurate TMDL or equivalent analysis waiver requests must be sent to the applicable EPA Region office specified in Appendix B.

Appendix D - Endangered Species Act Requirements

The purpose of this guidance is to assist you in complying with the requirements in Part 1.1.e of the permit requiring you to demonstrate that you meet one of the criteria listed in this appendix with respect to the protection of any and all species that are federally-listed as endangered or threatened under the Endangered Species Act (ESA) or of habitat that is federally-designated as "critical habitat" under the ESA in order to be eligible for coverage under this permit.

This guidance provides you information on the following:

- **Section D.1:** ESA Eligibility Criteria
- **Section D.2:** Guidance for Determining Which ESA Criteria Applies

D.1 ESA Eligibility Criteria

You must certify in your NOI that you meet one of the eligibility criteria listed below in order to be eligible for coverage under this permit. You must also specify in the NOI the basis for your selection of the applicable eligibility criterion.

> Note: (1) Regardless of the criterion selected, you must provide documentation in your SWPPP that is sufficient to support your determination that you satisfy the requirements of the particular criterion. (2) While coordination between you and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service (together, the "Services") is not necessarily required in all cases, EPA encourages you to coordinate with the Services and to do so early in the planning process prior to submitting your NOI.

Criterion A. No federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's "action area" as defined in Appendix A of this permit.

Criterion B. The construction site's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your action area under eligibility Criterion A, C, D, E, or F and there is no reason to believe that federally-listed species or federally-designated critical habitat not considered in the prior certification may be present or located in the "action area". To certify your eligibility under this Criterion, there must be no lapse of NPDES permit coverage in the other operator's certification. By certifying eligibility under this Criterion, you agree to comply with any effluent limitations or conditions upon which the other operator's certification was based. You must include in your NOI the tracking number from the other operator's notification of authorization under this permit. If your certification is based on another operator's certification under Criterion C, you must provide EPA with the relevant supporting information required of existing dischargers in Criterion C in your NOI form.

Criterion C. Federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near your site's "action area," and your site's discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat. This determination may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and discharge-related activities are not likely to adversely affect listed species and critical habitat. To make this certification, you must include the following in your NOI: 1) any federally listed species and/or designated habitat located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles). You must also include a copy of your site map with your NOI.

Criterion D. Coordination between you and the Services has been concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in a written concurrence from the relevant Service(s) that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion E. Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has been concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat. The result of this consultation must be either:

i. a biological opinion that concludes that the action in question (taking into account the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or

ii. written concurrence from the applicable Service(s) with a finding that the site's discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated habitat.

You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion F. Your construction activities are authorized through the issuance of a permit under section 10 of the ESA, and this authorization addresses the effects of the site's discharges and discharge-related activities on federally-listed species and federally-designated critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

You must comply with any applicable terms, conditions, or other requirements developed in the process of meeting the eligibility criteria in this section to remain eligible for coverage under this permit. Documentation of these requirements must be kept as part of your SWPPP (see Part 7.2.14.1).

D.2 Guidance for Determining Which Criterion Applies

Part 1.1.5 of the permit requires that you meet one of the six criteria listed above in order to be eligible for coverage under the permit.

You must follow the procedures in Steps 1 through 6 to determine the ESA criterion under which your site is eligible for permit coverage.

D.2.1 Step 1 - Determine If Your Discharges and Discharge-Related Activities Were Already Addressed in Another Operator's Valid Certification that Included Your Action Area.

- **If your discharges and discharge-related activities were already addressed in another operator's valid certification that included your action area** (e.g., a general contractor or developer may have completed and filed an NOI for the entire action area with the necessary ESA certifications (Criterion A, C, D, E, or F)), *you may select eligibility Criterion B on your Notice of Intent form.*

  By certifying eligibility under Criterion B, you must comply with any terms and conditions imposed under the eligibility requirements of Criterion A, C, D, E, or F to ensure that your discharges and discharge-related activities are protective of listed species and/or critical habitat.

  Note: If you are unable to meet these eligibility requirements, then you may either establish eligibility under one of the other criterion, or you may consider applying to EPA for an individual permit.

  Under Criterion B, you must provide documentation in your SWPPP of any of these terms and conditions, as well as the other operator's basis for establishing eligibility. You must also provide a description of the basis for your selection of Criterion B on your NOI form, including the eligibility criterion (A, C, D, E, or F) that was certified to by the previous operator, and must provide the Tracking Number from the other operator's notification of authorization under this permit.

  If your certification is based on another operator's certification under criterion C, you must provide the documentation required in the NOI for criterion C, namely: 1) what federally listed species and/or designated habitat are located in your "action area"; and 2) what is the distance between your site and the listed species or designated critical habitat (in miles).

- **If discharges and discharge-related activities from your site were not addressed in another operator's valid certification that included your action area,** you must follow the applicable procedures in Steps 2 through 5 below.

D.2.2 Step 2 - Determine if Listed Threatened or Endangered Species or their Designated Critical Habitat(s) are Likely to Occur in your Site's Action Area

You must determine, to the best of your knowledge, whether species listed as either threatened or endangered, or their critical habitat(s) (see definitions of these terms in Appendix A), are located in your site's action area. To make this determination, you should first determine if listed species and/or critical habitat are expected to exist in your county or township. The local offices of the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and State or Tribal Heritage Centers often maintain lists of federally listed endangered or threatened species on their internet sites. For FWS

terrestrial and aquatic species information, you can use FWS' on-line mapping tool, the Information, Planning, and Consultation (IPAC) System, located at http://www.fws.gov/ipac/.

Note: To determine the field office that corresponds to your project site, visit http://www.fws.gov/endangered/regions/index.html and http://www.nmfs.noaa.gov/ (under the left tabe for "Regions").

In most cases, species and/or critical habitat lists allow you to determine if any such species or habitat exists in your county or township. You can also find critical habitat designations and associated requirements at 50 CFR Parts 17 and 226. http://www.access.gpo.gov.

- ***If there are listed species and/or critical habitat in your county or township***, you should contact your local FWS, NMFS, or State or Tribal Heritage Center to determine if the listed species are known to exist in your action area and if any critical habitat areas have been designated that overlap your action area.
  - If your local FWS, NMFS, or State or Tribal Heritage Center indicates that these species and/or critical habitat could exist in your action area, you must:
    - Do **one or more** of the following:
      - Conduct visual inspections. This method may be particularly suitable for construction sites that are smaller in size or located in non-natural settings such as highly urbanized areas or industrial parks where there is little or no natural habitat, or for construction activities that discharge directly into municipal stormwater collection systems.
      - Conduct a formal biological survey. In some cases, particularly for larger construction sites with extensive stormwater discharges, biological surveys may be an appropriate way to assess whether species are located in the action area and whether there are likely to be adverse effects to such species. Biological surveys are frequently performed by environmental consulting firms. A biological survey may in some cases be useful to conduct in conjunction with Steps Two, Three, or Four of these instructions.
      - If required, conduct an environmental assessment under the National Environmental Policy Act (NEPA). Some construction activities might require review under NEPA for specific reasons, such as federal funding or other federal involvement in the project. Note: Coverage under the CGP does not trigger such a review for individual projects/sites. EPA has complied with NEPA in the issuance of the CGP.

    and

- Follow the instructions in Steps 3 – 5 below, as applicable. Note that many but not all measures imposed to protect listed species under these steps will also protect critical habitat. Thus, meeting the eligibility requirements of this CGP may require measures to protect critical habitat that are separate from those to protect listed species.

- ***If there are no listed species in your county or township and no critical habitat areas in your action area,*** *you may check eligibility criterion A on your NOI form.* You must also provide a description of the basis for the criterion selected on your NOI form and provide documentation supporting the criterion selected in your SWPPP.

D.2.3 Step 3 - Determine if the Construction Activity's Discharges or Discharge-Related Activities Are Likely to Adversely Affect Listed Threatened or Endangered Species or Designated Critical Habitat

If in Step 2 you determine based on communication with your local FWS, NMFS, or State or Tribal Heritage Center, or other determination, that listed species and/or critical habitat could exist in your action area, you must next assess whether your discharges or discharge-related activities are likely to adversely affect listed threatened or endangered species or designated critical habitat.

Potential adverse effects from discharges and discharge-related activities include:

- *Hydrological.* Stormwater discharges may cause siltation, sedimentation or induce other changes in receiving waters such as temperature, salinity or pH. These effects will vary with the amount of stormwater discharged and the volume and condition of the receiving water. Where a stormwater discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely. Construction activity itself may also alter drainage patterns on a site where construction occurs that can impact listed species or critical habitat.

- *Habitat.* Excavation, site development, grading, and other surface disturbance activities from construction activities, including the installation or placement of stormwater controls, may adversely affect listed species or their habitat. Stormwater may drain or inundate listed species habitat.

- *Toxicity.* In some cases, pollutants in stormwater may have toxic effects on listed species.

The scope of effects to consider will vary with each site. If you are having difficulty determining whether your project is likely to adversely affect listed species or critical habitat, or one of the Services has already raised concerns to you, you should contact the appropriate office of the FWS, NMFS or Natural Heritage Center for assistance.

- ***If adverse effects to listed threatened or endangered species or their critical habitat are not likely,*** *then you may select eligibility criterion C on the NOI form.* You must provide the following specific information on your NOI form: 1) what federally listed species and/or designated habitat are located in your "action area"; and 2) what is the distance between your site and the listed species or

designated critical habitat (in miles). You must also provide a copy of your site map with your NOI.

- ***If adverse effects to listed threatened or endangered species or their critical habitat are likely,*** you must follow Step 4 below.

D.2.4 Step 4 - Determine if Measures Can Be Implemented to Avoid Adverse Effects

If you make a preliminary determination in Step 3 that adverse effects from your construction activity's discharges or discharge-related activities are likely to occur, you can still receive coverage under eligibility criterion C of the CGP if appropriate measures are undertaken to avoid or eliminate the likelihood of adverse effects prior to applying for CGP coverage.

These measures may involve relatively simple changes to construction activities such as re-routing a stormwater discharge to bypass an area where species are located, relocating stormwater controls, or by modifying the "footprint" of the construction activity. If you are unable to ascertain which measures to implement to avoid the likelihood of adverse effects, you must coordinate or enter into consultation with the FWS and/or NMFS, in which case you would not be eligible for coverage under eligibility criterion C, but may instead be eligible for coverage under eligibility criterion D, E, or F (described in more detail in Step 5).

- **If you are able to install and implement appropriate measures to avoid the likelihood of adverse effects,** *then you may check eligibility criterion C on the NOI form.* The measures you adopt to avoid or eliminate adverse effects must be implemented for the duration of the construction project and your coverage under the CGP. You must also provide a description of the basis for the criterion selected , and the following specific information on your NOI form: 1) what federally listed species and/or designated habitat are located in your "action area"; and 2) what is the distance between your site and the listed species or designated critical habitat (in miles).

- **If you cannot ascertain which measures to implement to avoid the likelihood of adverse effects,** you must follow the procedures in Step 5.

D.2.5 Step 5 - Determine if the Eligibility Requirements of Criterion D, E, or F Can Be Met

If in Step 4 you cannot ascertain which measures to implement to avoid the likelihood of adverse effects, you must contact the FWS and/or NMFS. You may still be eligible for CGP coverage if any likely adverse effects can be addressed through meeting criterion D, E, or F.

- **Criterion D:** You have coordinated with the Services and have addressed the effects of your site's discharges on federally-listed threatened or endangered species and federally-designated critical habitat, which resulted in a written concurrence from the relevant Service(s) that your site's discharges are not likely to adversely affect listed species or critical habitat.

  If you have met the requirements of criterion D, *you may select eligibility criterion D on the NOI form.* You must provide a description of the basis for the criterion selected on your NOI form and must include copies of the correspondence between you and the applicable Service in your SWPPP.

- **Criterion E:** Formal or informal ESA section 7 consultation is performed with the FWS and/or NMFS and that consultation addresses the effects of your discharges and discharge-related activities on federally-listed and threatened species and designated critical habitat. In order to be eligible for coverage under this permit, consultation must result in a "no jeopardy opinion" or a written concurrence by the Service(s) on a finding that your stormwater discharge(s) and stormwater discharge-related activities are not likely to adversely affect listed species or critical habitat (For more information on consultation, see 50 CFR §402). If you receive a "jeopardy opinion," you may continue to work with the FWS and/or NMFS and your permitting authority to modify your project so that it will not jeopardize listed species or designated critical habitat.

  Note that most consultations are accomplished through informal consultation. When conducting informal ESA section 7 consultation as a non-federal representative, you must follow the procedures found in 50 CFR Part 402 of the ESA regulations. You must notify FWS and/or NMFS of your intention and agreement to conduct consultation as a non-federal representative.

  Consultation may occur in the context of another federal action at the construction site (e.g., where ESA section 7 consultation was performed for issuance of a wetlands dredge and fill permit for the project or where a NEPA review is performed for the project that incorporates a section 7 consultation). Any terms and conditions developed through consultations to protect listed species and critical habitat must be incorporated into the SWPPP. As noted above, operators may, if they wish, initiate consultation with the Services at Step Four.

  Whether ESA section 7 consultation must be performed with either the FWS, NMFS or both Services depends on the listed species that may be affected by the operator's activity. In general, NMFS has jurisdiction over marine, estuarine, and anadromous species. Operators should also be aware that while formal section 7 consultation provides protection from incidental takings liability, informal consultation does not.

  If you have met the requirements of criterion E, *you may select eligibility criterion E on the NOI form.* You must provide a description of the basis for the criterion selected on your NOI form and must include copies of the correspondence between yourself and the Services in your SWPPP.

- **Criterion F:** Your construction activities are authorized through the issuance of a permit under section 10 of the ESA, and that authorization addresses the effects of your discharge(s) and discharge-related activities on federally-listed species and designated critical habitat. You must follow FWS and/or NMFS procedures when applying for an ESA Section 10 permit (see 50 CFR §17.22(b)(1) for FWS and §222.22 for NMFS). Application instructions for section 10 permits for FWS and NMFS can be obtained by accessing the FWS and NMFS websites (http://www.fws.gov and http://www.nmfs.noaa.gov) or by contacting the appropriate FWS and NMFS regional office.

  If you have met the requirements of criterion F, *you may select eligibility criterion F on the NOI form.* You must provide a description of the basis for the criterion selected on your NOI form and must include copies of the correspondence between yourself and the Services in your SWPPP.

Appendix E – Historic Property Screening Process

Background

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies to take into account the effects of Federal "undertakings", such as the issuance of this permit, on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has developed the screening process in this appendix that enables construction operators to appropriately consider the potential impacts, if any, of their installation of stormwater controls on historic properties and to determine whether actions can be taken, if applicable, to mitigate any such impacts. Although the coverages of individual construction sites under this permit do not constitute separate Federal undertakings, the screening process in this appendix provides an appropriate site-specific means of addressing historic property issues in connection with EPA's issuance of the permit.

Key Terms

Historic property - prehistoric or historic districts, sites, buildings, structures, or objects that are included in or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and remains that are related to and located within such properties

SHPO – The State Historic Preservation Officer for a particular state

THPO or Tribal representative – The Tribal Historic Preservation Officer for a particular Tribe or, if there is no THPO, the representative designated by such Tribe for NHPA purposes

Instructions for All Construction Operators

You are required to follow the screening process in this appendix to determine if your installation of stormwater controls on your site has the potential to cause effects to historic properties, and whether or not you need to contact your SHPO, THPO, or other tribal representative for further information. You may not submit your NOI until you have completed this screening process. The following four steps describe how applicants can meet the historic property requirements under this permit:

Step 1 *Are you installing any stormwater controls that require subsurface earth disturbance?*

The first step of the screening process is to determine if you will install stormwater controls that cause subsurface earth disturbance. The installation of the following types of stormwater controls require subsurface earth disturbance:

- Dikes
- Berms
- Catch Basins
- Ponds
- Ditches
- Trenches
- Culverts
- Channels
- Perimeter Drains

- Swales

Note: This list is not intended to be exhaustive. Other stormwater controls that are not on this list may involve earth-disturbing activities and must also be examined for the potential to affect historic properties.

Note: You are only required to consider earth-disturbing activities related to the installation of stormwater controls in the NHPA screening process. You are not required to consider other earth-disturbing activities a the site. If you are installing one of the above stormwater controls or another type of control that requires subsurface earth disturbance, your project has the potential to have an effect on historic properties. If this is the case, then you must proceed to Step 2.

If you are not installing one of the above stormwater controls or another type of control that requires subsurface earth disturbance, then you may indicate this on your NOI, and no further screening is necessary. During the 14-day waiting period after submitting your NOI, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

Step 2 *Have prior professional cultural resource surveys or other evaluations determined that historic properties do not exist, or have prior disturbances precluded the existence of historic properties?*

If you are installing a stormwater control that requires subsurface earth disturbance, you must next determine if it has already been determined that no historic properties exist on your site based on prior professional cultural resource surveys or other evaluations, or that the existence of historic properties has been precluded because of prior earth disturbances.

If prior to your project it has already been determined that no historic properties exist at your site based on available information, including information that may be provided by your applicable SHPO, THPO, or other tribal representative, then you may indicate this on your NOI, and no further screening steps are necessary. Similarly, if earth disturbances that have occurred prior to your project have eliminated the possibility that historic properties exist on your site, you may indicate this on your NOI, and no further screening steps are necessary. After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

If neither of these circumstances exists for your project, you must proceed to Step 3.

Step 3 *If you are installing any stormwater controls that require subsurface earth disturbance, you must determine if these activities will have an effect on historic properties.*

If your answer to the questions in Steps 1 and 2 is "no", *then you must assess whether your earth-disturbing activities related to the installation of stormwater controls will have an effect on historic properties. This assessment may be based on historical sources, knowledge of the area, an assessment of the types of earth-disturbing activities you are engaging in, considerations of*

any controls and/or management practices you will adopt to ensure that your stormwater control-related earth-disturbing activities will not have an effect on historic properties, and any other relevant factors. If you determine based on this assessment that earth disturbances related to the installation of yous stormwater controls will not cause effects to historic properties, you may indicate this on your NOI, and document the basis for your determinatioin in your SWPPP and no further screening steps are necessary. In this case you must also attach a copy of your site map to your NOI. After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

If none of the circumstances in Steps 1-3 exist for your project, you must proceed to Step 4.

Step 4: *If you are installing any stormwater controls that require subsurface earth disturbance and you have not satisfied the conditions in Steps 1-3, you must contact and consult with the appropriate historic preservation authorities.*

Where you are installing stormwater controls that require subsurface earth disturbance, and you cannot determine in Step 3 that these activities will not have effects on historic properties, then you must contact the relevant SHPO, THPO, or other tribal representative to request their views as to the likelihood that historic properties are potentially present on your site and may be impacted by the installation of these controls.

Note: Addresses for SHPOs and THPOs may be found on the Advisory Council on Historic Preservation's website (www.achp.gov/programs.html). In instances where a Tribe does not have a THPO you should contact the appropriate Tribal government office designated by the Tribe for this purpose when responding to this permit eligibility condition.

You must submit the following minimum information in order to properly initiate your request for information:

1. Project name (i.e., the name or title most commonly associated with your project);
2. A narrative description of the project;
3. Name, address, phone and fax number, and email address (if available) of the operator;
4. Most recent U.S. Geological Survey (USGS) map section (7.5 minute quadrangle) showing actual project location and boundaries clearly indicated; and
5. Sections of SWPPP site map (see Part 7.2.6) that show locations where stormwater controls that will cause subsurface earth disturbance will be installed (see Step 1).

Without submitting this minimum information, you will not have been considered to have properly initiated your request. You will need to provide the SHPO, THPO, or other tribal representative a minimum of 15 calendar days after they receive these materials to respond to your request for information about your project. You are advised to get a receipt from the post office or other carrier confirming the date on which your letter was received.

If you do not receive a response within15 calendar days after receipt by the SHPO, THPO, or other tribal representative of your request, then you may indicate this on your NOI, and no further screening steps are necessary. Or, if the applicable SHPO, THPO, or other tribal representative responds to your request with an indication that no historic properties will be affected by the installation of stormwater controls at your site, then you may indicate this on your NOI, and no further screening steps are necessary. After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, or other tribal representative may request that EPA hold up authorization based on concerns about potential adverse impacts to historic properties. EPA will evaluate any such request and notify you if any additional measures to address adverse impacts to historic properties are necessary.

If within 15 calendar days of receipt of your request the applicable SHPO, THPO, or other tribal representative responds with a request for additional information or for further consultation regarding appropriate measures for treatment or mitigation of effects on historic properties caused by the installation of stormwater controls on your site, you must comply with this request and proceed to Step 5.

Step 5: *Consultation with your applicable SHPO, THPO, or other tribal representative.*

If, following your discussions with the appropriate historic preservation authorities in Step 4, the applicable SHPO, THPO, or other tribal represenative requests additional information or further consultation, you must respond with such information or to consult to determine impacts to historic properties that may be caused by the installation of stormwater controls on your site and appropriate measures for treatment or mitigation of such impacts. If as a result of your discussions with the applicable SHPO, THPO, or tribal representative, you enter into, and comply with, a written agreement regarding treatment and/or mitigation of impacts on your site, then you may indicate this on your NOI, and no further screening steps are necessary.

If, however, agreement on an appropriate treatment or mitigation plan cannot be reached between you and the SHPO, THPO, or other tribal representative within 30 days of your response to the SHPO, THPO, or other tribal representative's request for additional information or further consultation, you may submit your NOI, but you must indicate that you have not negotiated measures to avoid or mitigate such effects. You must also include in your SWPPP the following documentation:

1. Copies of any written correspondence between you and the SHPO, THPO, or other tribal representative; and
2. A description of any significant remaining disagreements as to mitigation measures between you and the SHPO, THPO, or other tribal representative.

After submitting your NOI, and during the 14-day waiting period, the SHPO, THPO, ACHP or other tribal representative may request that EPA place a hold on authorization based upon concerns regarding potential adverse effects to historic properties. EPA, in coordination with the ACHP, will evaluate any such request and notify you if any additional measures to address adverse effects to historic properties are necessary.

Appendix F - List of Tier 3, Tier 2, and Tier 2.5 Waters

EPA's CGP has special requirements for discharges to waters designated by a state or tribe as Tier 2/2.5 or Tier 3 for antidegradation purposes under 40 CFR 131.12(a). See Parts 1.2.3 and 3.3.

The list below is provided as a resource for operators who must determine whether they discharge to a Tier 2/2.5 or Tier 3 water. Only Tier 2/2.5 or Tier 3 waters specifically identified by a water quality standard authority (e.g., a state, territory, or tribe) are identified in the table below. Many authorities evaluate the existing and protected quality of the receiving water on a pollutant-by-pollutant basis and determine whether water quality is better than the applicable criteria that would be affected by a new discharge or an increase in an existing discharge of the pollutant. In instances where water quality is better, the authority may choose to allow lower water quality, where lower water quality is determined to be necessary to support important social and economic development. Permittees are not required to identify those waters which are evaluated on an individual basis.

Permit Number	Areas of Coverage/Where EPA is Permitting Authority	
MAR120000	**Commonwealth of Massachusetts, except Indian Country lands**	
	Tier 2 and Tier 2.5 waters are identified and listed in 314 CMR 4.06 Basin Classification. (314 CMR 4 can be found at DEP's web page at http://www.mass.gov/dep/service/regulations/314cmr04.pdf)	
	Tier 2	Tier 2 waters are listed on a parameter-by-parameter basis.
	Tier 2.5	Tier 2.5 waters are listed as "outstanding resource waters" on the website: http://www.mass.gov/dep/water/laws/tbiflg.pdf
NHR120000	**State of New Hampshire**	
	Tier 2/2.5	There is no list of Tier 2/Tier 2.5 waters. New dischargers should contact Ken Edwardson at Kenneth.Edwardson@des.nh.gov.
	Tier 3	Env-Ws 1708.05(a) Surface waters of national forests and surface waters designated as "natural" under RSA 483:7-a, I shall be considered outstanding resource waters (ORW). "Natural waters" are listed at http://www.gencourt.state.nh.us/rsa/html/L/483/483-15.htm. Surface waters of national forests are not included in an official list. For further questions, new dischargers should contact Thelma Murphy (EPA Region 1's stormwater coordinator) at murphy.thelma@epa.gov.
PRR120000	**Commonwealth of Puerto Rico**	
	Tier 3	Tier III waters are those which are classified as either Class SA or Class SE. Class SA waters are defined as "Coastal waters and estuarine waters of high quality and/or exceptional ecological or recreational value whose existing characteristics shall not be altered, except by natural causes, in order to preserve the existing natural phenomena." Class SA waters include bioluminiscent lagoons and bays such as La Parguera and Monsio José on the Southern Coast, Bahia de Mosquito in Vieques, and any other coastal or estuarine waters of exceptional quality of high ecological value or recreational which may be designated by Puerto Rico, through Resolution, as requiring this classification for protection of the waters. Class SE waters are defined

Permit Number	Areas of Coverage/Where EPA is Permitting Authority	
		as "Surface waters and wetlands of exceptional ecological value, whose existing characteristics should not be altered in order to preserve the existing natural phenomena." Class SE waters include Laguna Tortuguero, Laguna Cartagena and any other surface water bodies of exceptional ecological value as may be designated by Puerto Rico through Resolution.
DCR120000	**District of Columbia**	
	Tier 2/2.5	Rock Creek and its tributaries and Battery Kemble Creek and its tributaries are considered Special Waters of the District of Columbia (SWDC) under its antidegradation program.
MNR12000I	**Fond du Lac Band of MN Chippewa**	
	Tier 3	Six lakes are presently identified as Tier 3: (1) Dead Fish, (2) Jaskari, (3) Miller (Mud), (4) Perch, (5) Rice Portage, (6) Wild Rice.
	Grand Portage Band of MN Chippewa	
	Tier 2/2.5	All waters, not already classified as Tier 3, are high quality Tier 2 waters. (see Grand Portage Reservation Water Quality Standards, Section VI & VII, Pages 14-16).
	Tier 3	"The portion of Lake Superior north of latitude 47 degrees, 57 minutes, 13 seconds, east of Hat Point, south of the Minnesota-Ontario boundary, and west of the Minnesota-Michigan boundary." (see Section VII, Page 16).
WIR12000I	**Lac du Flambeau Band of the Lake Superior Chippewa**	
	Tier 2	All named waters, including wetlands, not specified under an antidegradation classification.
	Tier 2.5	Bills Lake, Birch Lake, Bobidosh Lake, Bog Lake (SE SE Sec. 31, T40NR6E), Bolton Lake, Broken Bow Lake, Chewalah Lake, Clear Lake (Sec. 2, T39NR4E), Corn Great, Great, Corn Lake, Little "Least/Lesser", Crawling Stone Lake, Big, Crawling Stone Lake, Little, Crescent Lake, Crooked Lake, Big, David Lake, Ellerson Lake, Middle, Ellerson Lake, West, Elsie Lake "Boundary Lake", Fat Lake, Fence Lake, Gresham Creek, Green Lake (NW NW Sec. 19, T41R6E), Grey Lake, Gunlock Lake, Haskell Lake, Headflyer Lake (Sec. 19, T41NR5E), Highway Lake (NW NW Sec. 19, T41NR5E), Horsehead Lake (SE SW Sec. 9, T40NR5E), Hutton's Creek, Ike Walton Lake, Lily Lake (SE SW Sec. 35, T40NR5E), Little Ten Lake, Lodge Lake "L. Rice" (NW NW Sec. 8, T41NR6E), Lucy Lake, Mindys Lake (Sec. 8, T40NR5E), Minette Lake, Mitten Lake, Monk's Lake (Sec. 13, T40NR5E), Moving Cloud Lake, Mud Creek, Muskesin Lake, Patterson Lake, Placid Twin Lake (North), Placid Twin Lake (Sauth), Plummer Lake, Poupart Lake, Prairie Lake (NE SW Sec. 13, T40NR4E), Raven Lake, Ross Allen Lake, Sand Lake, Little, Scott Lake (Sec. 22, T40N, R4E), Shishebogama Lake, Signal Lake, Snart Lake (Sec. 5, T41N, R6E), Spring Lake "Jerms", Squirrel Lake, Statenaker Lake "Hollow", Stearns Lake "Hourglass", Sugarbush "Hidden Lake" (NW NW Sec. 17, T41NR5E), Sugarbush Creek, Sugarbush Lake, Little, Sugarbush Lake, Lower, Sugarbush Lake, Middle, Sugarbush Lake, Upper, Sunfish Lake, Tippecanoe Lake, Tomahawk River, To-To Tom Lake, Toulish Lake, Trout River, Warrior Lake, White Sand Lake, Whitefish Lake

Permit Number	Areas of Coverage/Where EPA is Permitting Authority	
		"Cattail Lake" (Sec. 34, T40N5R), Wishow Lake, Wyandock Lake
	Tier 3	Bear River (1st bridge to Reservation boundary), Big Springs (Sec. 25, T40NR4E), Black Lake, Cranberry Lake, Doud Lake, Eagle Lake, Gene Lake, Johnson Springs, Little Trout Lake, Lost Lake (Sect. 1, T41NR4E), Mishonagon Creek, Munnomin (Jesse, Duck) Lake, Negani (Hegani) Lake, Reservation Line Lake, Spring Creek, Tank Lake, Thomas Lake, Wild Rice Lake, Zee Lake
NMR120000	**State of New Mexico**	
	Tier 3	(1) Rio Santa Barbara, including the west, middle and east forks from their headwaters downstream to the boundary of the Pecos Wilderness; and (2) the waters within the United States forest service Valle Vidal special management unit including: (a) Rio Costilla, including Comanche, La Cueva, Fernandez, Chuckwagon, Little Costilla, Holman, Gold, Grassy, LaBelle and Vidal creeks, from their headwaters downstream to the boundary of the United States forest service Valle Vidal special management unit; (b) Middle Ponil creek, including the waters of Greenwood Canyon, from their headwaters downstream to the boundary of the Elliott S. Barker wildlife management area; (c) Shuree lakes; (d) North Ponil creek, including McCrystal and Seally Canyon creeks, from their headwaters downstream to the boundary of the United States forest service Valle Vidal special management unit; and (e) Leandro creek from its headwaters downstream to the boundary of the United States forest service Valle Vidal special management unit. (3) the named perennial surface waters of the state, identified in Subparagraph (a) below, located within United States department of agriculture forest service wilderness. Wilderness are those lands designated by the United States congress as wilderness pursuant to the Wilderness Act. Wilderness areas included in this designation are the Aldo Leopold wilderness, Apache Kid wilderness, Blue Ronge wilderness, Chama River Canyon wilderness, Cruces Basin wilderness, Dome wilderness, Gila wilderness, Latir Peak wilderness, Pecos wilderness, San Pedro Parks wilderness, Wheeler Peak wilderness, and White Mountain wilderness. (a) The following waters are designated in the Rio Grande basin: (i) in the Aldo Leopold wilderness: Byers Run, Circle Seven creek, Flower canyon, Holden Prong, Indian canyon, Las Animas creek, Mud Spring canyon, North Fork Palomas creek, North Seco creek, Pretty canyon, Sids Prong, South Animas canyon, Victorio Park canyon, Water canyon; (ii) in the Apache Kid wilderness Indian creek and Smith canyon; (iii) in the Chama River Canyon wilderness: Chavez canyon, Ojitas canyon, Rio Chama; (iv) in the Cruces Basin wilderness: Beaver creek, Cruces creek, Diablo creek, Escondido creek, Lobo creek, Osha creek; (v) in the Dome wilderness: Capulin creek, Medio creek, Sanchez

Permit Number	Areas of Coverage/Where EPA is Permitting Authority	
		canyon/creek; (vi) In the Latir Peak wilderness: Bull creek, Bull Creek lake, Heart lake, Lagunitas Fork, Lake Fork creek, Rito del Medio, Rito Primero, West Latir creek; (vii) In the Pecos wilderness: Agua Sarca, Hidden lake, Horseshoe lake (Alamitos), Jose Vigil lake, Nambe lake, Nat lake IV, No Fish lake, North Fork Rio Quemado, Rinconada, Rio Capulin, Rio de las Trampas (Trampas creek), Rio de Truchas, Rio Frijoles, Rio Medio, Rio Molino, Rio Nambe, Rio San Leonardo, Rito con Agua, Rito Gallina, Rito Jaroso, Rito Quemado, San Leonardo lake, Santa Fe lake, Santa Fe river, Serpent lake, South Fork Rio Quemado, Trampas lake (East), Trampas lake (West); (viii) In the San Pedro Parks wilderness: Agua Sarca, Cañon Madera, Cove creek, Cecilia Canyon creek, Clear creek (North SPP), Clear creek (South SPP), Corralitos creek, Dove creek, Jose Miguel creek, La Jara creek, Oso creek, Rio Capulin, Rio de las Vacas, Rio Gallina, Rio Puerco de Chama, Rito Anastacio East, Rito Anastacio West, Rito de las Palomas, Rito de las Perchas, Rito de los Pinos, Rito de los Utes, Rito Leche, Rito Redondo, Rito Resumidero, San Gregorio lake; (ix) In the Wheeler Peak wilderness: Black Copper canyon, East Fork Red river, Elk lake, Horseshoe lake, Lost lake, Sawmill creek, South Fork lake, South Fork Rio Hondo, Williams lake. (b) The following waters are designated in the Pecos River basin: (i) In the Pecos wilderness: Albright creek, Bear creek, Beatty creek, Beaver creek, Carpenter creek, Cascade canyon, Cave creek, El Porvenir creek, Hollinger creek, Holy Ghost creek, Horsethief creek, Jack's creek, Jarosa canyon/creek, Johnson lake, Lake Katherine, Lost Bear lake, Noisy brook, Panchuela creek, Pecos Baldy lake, Pecos river, Rio Mora, Rio Valdez, Rito Azul, Rito de los Chimayosos, Rito de los Esteros, Rito del Oso, Rito del Padre, Rito las Trampas, Rito Maestas, Rito Oscuro, Rito Perro, Rito Sebadilloses, South Fork Bear creek, South Fork Rito Azul, Spirit lake, Stewart lake, Truchas lake (North), Truchas lake (South), Winsor creek; (ii) In the White Mountain wilderness: Argentina creek, Aspen creek, Bonita creek, Little Bonito creek, Mills canyon/creek, Rodamaker creek, South Fork Rio Bonito, Turkey canyon/creek. (c) The following waters are designated in the Gila River basin: (i) In the Aldo Leopold wilderness: Aspen canyon, Black Canyon creek, Bonner canyon, Burnt canyon, Diamond creek, Falls canyon, Fisherman canyon, Running Water canyon, South Diamond creek; (ii) In the Gila wilderness: Apache creek, Black Canyon creek, Brush canyon, Canyon creek, Chicken Coop canyon, Cleor creek, Cooper canyon, Cow creek, Cub creek, Diamond creek, East Fork Gila river, Gilo river, Gilita creek, Indian creek, Iron creek, Langstroth canyon, Lilley canyon, Little creek, Little Turkey creek, Lookout canyon, McKenno creek, Middle Fork Gila river, Miller Spring canyon, Mogollon creek, Panther canyon, Prior creek, Rain creek, Raw Meat creek, Rocky canyon, Sacaton creek, Sapillo creek, Sheep Corral canyon, Skeleton canyon, Squaw creek, Sycamore canyon, Trail canyon, Trail creek, Trout creek, Turkey creek, Turkey Feather creek, Turnbo canyon,

Permit Number	Areas of Coverage/Where EPA is Permitting Authority	
		West Fork Gila river, West Fork Mogollon creek, White creek, Willow creek, Woodrow canyon. (d) The following waters are designated in the Canadian River basin: in the Pecos wilderness Daily creek, Johns canyon, Middle Fork Lake of Rio de la Casa, Middle Fork Rio de la Casa, North Fork Lake of Rio de la Casa, Rito de Gascon, Rito San Jose, Sapello river, South Fork Rio de la Casa, Sparks creek (Manuelitas creek). (e) The following waters are designated in the San Francisco River basin: (i) in the Blue Range wilderness: Pueblo creek; (ii) in the Gila wilderness: Big Dry creek, Lipsey canyon, Little Dry creek, Little Whitewater creek, South Fork Whitewater creek, Spider creek, Spruce creek, Whitewater creek. (f) The following waters are designated in the Mimbres Closed basin: in the Aldo Leopold wilderness Corral canyon, Mimbres river, North Fork Mimbres river, South Fork Mimbres river. (g) The following waters are designated in the Tularosa Closed basin: in the White Mountain wilderness Indian creek, Nogal Arroyo, Three Rivers. (h) The wetlands designated are identified on the maps and list of wetlands within United States forest service wilderness areas designated as outstanding national resource waters published at the New Mexico state library and available on the department's website.

Appendix G – Buffer Guidance.

The purpose of this guidance is to assist you in complying with the requirements in Part 2.1.2.1 of the permit regarding the establishment of natural buffers or equivalent sediment controls. This guidance is organized as follows:

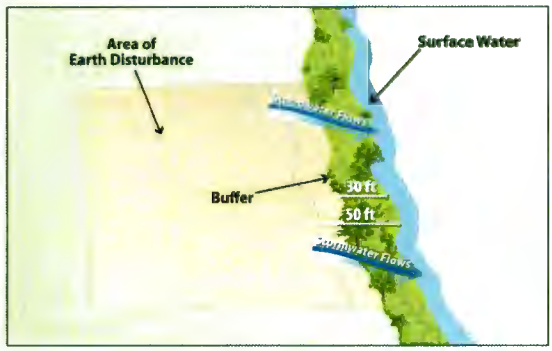
G.1 Sites That Are Required to Comply with Part 2.1.2.1

The purpose of this part is to help you determine if the requirements in Part 2.1.2.1 apply to your site.

G.1.1 Step 1 - Determine if Your Site is Within 50 Feet of a Surface Water

Part 2.1.2.1 applies to you only if your earth-disturbing activities will occur within 50 feet of a surface water that receives stormwater discharges from your site. Figure G – 1 illustrates when a site would be required to comply with the requirements in Part 2.1.2.1 due to their proximity to a surface water. If the surface water is not located within 50 feet of the earth-disturbing activities, Part 2.1.2.1 does not apply.

Figure G - 1. Example of earth-disturbing activities within 50 feet of a surface water.



If you determine that your earth-disturbing activities will occur within 50 feet of a surface water that receives stormwater discharges from your site, the requirements in Part 2.1.2.1 apply, except for certain circumstances that are described in Step 2.

Note that where some natural buffer exists but portions of the area within 50 feet of the surface water are occupied by preexisting development disturbances, or if a portion of area within 50 feet of the surface water is owned by another party and is not under your control, the buffer requirements in Part 2.1.2.1 still apply, but with some allowances.

Clarity about how to implement the compliance alternatives for these situations is provided in G.2.1.2 and G.2.2.2 below.

Note that EPA does not consider designed stormwater control features *(e.g., stormwater conveyance channels, storm drain inlets, stormwater basins)* that direct storm water to surface waters more than 50 feet from the disturbance to constitute surface waters for the purposes of determining if the buffer requirements apply.

G.1.2 Step 2 - Determine If Any Exceptions to the Requirements in Part 2.1.2.1 Apply

The following exceptions apply to the requirements in Part 2.1.2.1:

- If there is no discharge of stormwater to surface waters through the area between the disturbed portions of the site and any surface waters located within 50 feet of your site, you are not required to comply with the requirements in this Part. This includes situations where you have implemented controls measures, such as a berm or other barrier, that will prevent such discharges.
- Where no natural buffer exists due to preexisting development disturbances *(e.g., structures, impervious surfaces)* that occurred prior to the initiation of planning for the current development of the site, you are not required to comply with the requirements in this Part.

  Where some natural buffer exists but portions of the area within 50 feet of the surface water are occupied by preexisting development disturbances, you are required to comply with the requirements in this Part. For the purposes of calculating the sediment load reduction for either compliance alternative 2 or 3 below, you are not expected to compensate for the reduction in buffer function that would have resulted from the area covered by these preexisting disturbances. Clarity about how to implement the compliance alternatives for these situations is provided in G.2.1.2 and G.2.2.2 below.

  If during your project, you will disturb any portion of these preexisting disturbances, the area removed will be deducted from the area treated as natural buffer.
- For "linear construction projects" (see Appendix A), you are not required to comply with this requirement if site constraints *(e.g., limited right-of-way)* prevent you from complying with the requirements of the alternatives in Part 2.1.2.1a, provided that, to the extent practicable, you limit disturbances within 50 feet of the surface water and/or you provide supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the surface water. You must also document in your SWPPP your rationale for why it is infeasible for you to comply with the requirements in Part 2.1.2.1a, and describe any buffer width retained and/or supplemental erosion and sediment controls installed.
- For "small residential lot" construction *(i.e., a lot being developed for residential purposes that will disturb less than 1 acre of land, but is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre)*, you have the option of complying with the requirements in Part G.2.3 of this appendix.
- The following disturbances within 50 feet of a surface water are exempt from the requirements in this Part:
  - Construction approved under a CWA Section 404 permit; or

  - Construction of a water-dependent structure or water access areas *(e.g., pier, boat ramp, trail)*.

  Note that you must document in your SWPPP if any disturbances related to any of the above exceptions occurs within the buffer area on your site.

G.2 COMPLIANCE ALTERNATIVES GUIDANCE

If in Part G.1 of this guidance you determine that the buffer requirements apply to your site, you have three compliance alternatives from which you can choose:

1. Provide and maintain a 50-foot buffer undisturbed natural buffer (Part 2.1.2.1a.i);[1] or
2. Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer (Part 2.1.2.1a.ii);[1] or
3. If it is infeasible to provide and maintain an undisturbed natural buffer of any size, you must implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer (Part 2.1.2.1a.iii).[1]

The compliance alternative selected above must be maintained throughout the duration of permit coverage.

The following provides detailed guidance for how you can comply with each of the compliance alternatives. Part G.2.1 below provides guidance on how to provide and maintain natural buffers consistent with the alternatives 1 and 2, above. Part G.2.2 below provides guidance on how to comply with the requirement to provide a 50-foot buffer equivalent through erosion and sediment controls consistent with alternatives 2 and 3, above.

G.2.1 Guidance for Providing and Maintaining Natural Buffers

The following guidance is intended to assist you in complying with the requirements to provide and maintain a natural buffer during construction. This part of the guidance applies to you if you choose either alternative 1 (50-foot buffer) or alternative 2 (a buffer of < 50 feet supplemented by additional erosion and sediment controls that achieve the equivalent sediment load reduction as the 50-foot buffer), or if you are providing a buffer in compliance with one of the small residential lot compliance alternatives in Part G.2.3 below.

[1] *For the compliance alternatives in 1 and 2, you are not required to enhance the quality of the vegetation that already exists in the buffer, or provide vegetation if none exists (e.g., arid and semi-arid areas). You only need to retain and protect from disturbance the natural buffer that existed prior to the commencement of construction. Any preexisting structures or impervious surfaces are allowed in the natural buffer provided you retain and protect from disturbance the natural buffer area outside the preexisting disturbance. Similarly, for alternatives 2 and 3, you are required to implement and maintain sediment controls that achieve the sediment load reduction equivalent to the undisturbed natural buffer that existed on the site prior to the commencement of construction. In determining equivalent sediment load reductions, you may consider naturally non-vegetated areas and prior disturbances. See Part G.2.2 of this Appendix for a discussion of how to determine equivalent reductions.*

G.2.1.1 *Buffer Width Measurement*

Where you are retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:

1. The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
2. The edge of the stream or river bank, bluff, or cliff, whichever is applicable.

Refer to Figure G – 2 and Figure G - 3. You may find that specifically measuring these points is challenging if the flow path of the surface water changes frequently, thereby causing the measurement line for the buffer to fluctuate continuously along the path of the waterbody. Where this is the case, EPA suggests that rather than measuring each change or deviation along the water's edge, it may be easier to select regular intervals from which to conduct your measurement. For instance, you may elect to conduct your buffer measurement every 5 to 10 feet along the length of the water.

Additionally, note that if earth-disturbing activities will take place on both sides of a surface water that flows through your site, to the extent that you are establishing a buffer around this water, it must be established on both sides. For example, if you choose alternative 1 above, and your project calls for disturbances on both sides of a small stream, you would need to retain the full 50 feet of buffer on both sides of the water. However, if your construction activities will only occur on one side of the stream, you would only need to retain the 50-foot buffer on the side of the stream where the earth-disturbance will occur.

Figure G - 2. This image shows buffer measurement from the ordinary high water mark of the water body, as indicated by a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, and/or the presence of litter/debris.

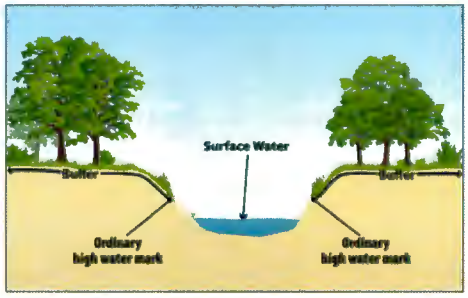
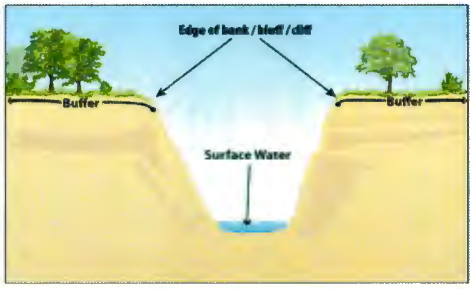


Figure G - 3. This image shows buffer measurement from the edge of the bank, bluff, or cliff, whichever is applicable.



G.2.1.2 *Limits to Disturbance Within the Buffer*

You are considered to be in compliance with this requirement if you retain and protect from construction activities the natural buffer that existed prior to the commencement of construction. If the buffer area contains no vegetation prior to the commencement of construction (e.g., sand or rocky surface), you are not required to plant any additional vegetation. As noted above, any preexisting structures or impervious surfaces are allowed in the buffer provided you retain and protect from disturbance the vegetation in the buffer outside the preexisting disturbance.

To ensure that the water quality protection benefits of the buffer are retained during construction, you are prohibited from conducting any earth-disturbing activities within the buffer during permit coverage. In furtherance of this requirement, prior to commencing earth-disturbing activities on your site, you must delineate, and clearly mark off, with flags, tape, or a similar marking device, the buffer area on your site. The purpose of this requirement is to make the buffer area clearly visible to the people working on your site so that unintended disturbances are avoided.

While you are not required to enhance the quality of the vegetation that already exists within the buffer, you are encouraged to do so where such improvements will enhance the water quality protection benefits of the buffer. (Note that any disturbances within the buffer related to buffer enhancement are permitted and do not constitute construction disturbances.) For instance, you may want to consider targeted plantings where limited vegetation exists, or replacement of existing vegetation where invasive or noxious plant species (see http://plants.usda.gov/java/noxiousDriver) have taken over. In the case of invasive or noxious species, you may want to remove and replace them with a diversity of native trees, shrubs, and herbaceous plants that are well-adapted to the climatic, soil, and hydrologic conditions on the site. You are also encouraged to limit the removal of naturally deposited leaf litter, woody debris, and other biomass, as this material contributes to the ability of the buffer to retain water and filter pollutants.

If a portion of the buffer area adjacent to the surface water is owned by another party and is not under your control, you are only required to retain and protect from construction activities the portion of the buffer area that is under your control. For example, if you elect alternative 1 above (provide and maintain a 50-foot buffer), but 10 feet of land immediately adjacent to the surface water is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you must only retain and protect from construction activities the 40-foot buffer area that occurs on the property on which your construction activities are taking place. EPA would consider you to be in compliance with this requirement regardless of the activities that are taking place in the 10-foot area that is owned by a different party than the land on which your construction activities are taking place that you have no control over.

G.2.1.3 *Discharges to the Buffer*

You must ensure that all discharges from the area of earth disturbance to the natural buffer are first treated by the site's erosion and sediment controls (*for example, you must comply with the Part 2.1.2.2 requirement to establish sediment controls around the downslope perimeter of your site disturbances*), and if necessary to prevent erosion caused by stormwater flows within the buffer, you must use velocity dissipation devices. The purpose of this requirement is to decrease the rate of stormwater flow and

encourage infiltration so that the pollutant filtering functions of the buffer will be achieved. To comply with this requirement, construction operators typically will use devices that physically dissipate stormwater flows so that the discharge entering the buffer is spread out and slowed down.

G.2.1.4 *SWPPP Documentation*

You are required to document in your SWPPP the natural buffer width that is retained. For example, if you are complying with alternative 1, you must specify in your SWPPP that you are providing a 50-foot buffer. Or, if you will be complying with alternative 2, you must document the reduced width of the buffer you will be retaining (and you must also comply with the requirements in Part 2.1.2.1c to describe the erosion and sediment controls you will use to achieve an equivalent sediment reduction, as described in Part G.2.2 below). Note that you must also show any buffers on your site plan in your SWPPP consistent with Part 7.2.6.3. Additionally, if any disturbances related to the exceptions in Part 2.1.2.1e occur within the buffer area, you must document this in the SWPPP.

G.2.2 Guidance for Providing the Equivalent Sediment Reduction as the 50-foot Buffer

If you are selecting Alternative 2 (provide and maintain a buffer that is less than 50 feet that is supplemented by additional erosion and sediment controls that, together, achieve the equivalent sediment load reduction as the 50-foot buffer) or Alternative 3 (implement erosion and sediment controls that achieve the equivalent sediment load reduction as the 50-foot buffer), the following guidance is intended to assist you in demonstrating that you will achieve the equivalent sediment reduction as the 50-foot buffer.

G.2.2.1 *Determine Whether it is Feasible to Provide a Reduced Buffer*

EPA recognizes that there will be a number of situations in which it will be infeasible to provide and maintain a buffer of any width. While some of these situations may exempt you from the buffer requirement entirely (see G.1.2), if you do not qualify for one of these exemptions, there still may be conditions or circumstances at your site that make it infeasible to provide a natural buffer. For example, there may be sites where a significant portion of the property on which the earth-disturbing activities will occur is located within the buffer area, thereby precluding the retention of natural buffer areas. EPA believes there are likely to be other examples of situations that make it infeasible to provide any buffer area.

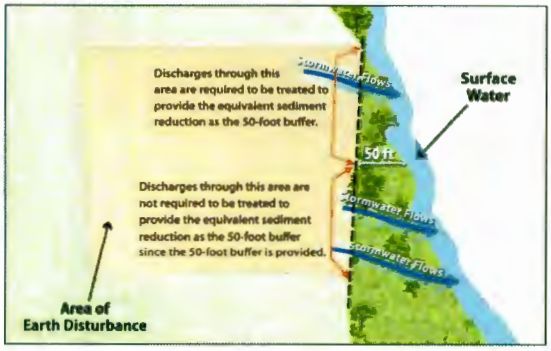
Therefore, in choosing between the 2 different compliance alternatives (Alternative 2 or 3), you should only elect to comply with Alternative 2 if it is feasible for you to retain any natural buffer on your site. (Note: For any buffer width retained, you are required to comply with the requirements in Part G.2.1, above, concerning the retention of vegetation and restricting earth disturbances.) Similarly, if you determine that it is infeasible to provide a natural buffer of any size during construction, you should elect to comply with Alternative 3. After making this determination, you should proceed to Part G.2.2.2 to determine how to provide controls that, together with any buffer areas that is being retained, if applicable, will achieve an equivalent sediment load reduction as the 50-foot buffer.

G.2.2.2 *Design Controls That Provide Equivalent Sediment Reduction as 50-foot Buffer*

You must next determine what additional controls must be implemented on your site that, alone or in combination with any retained natural buffer, achieve a reduction in sediment equivalent to that achieved by a 50-foot buffer.

Note that if only a portion of the natural buffer is less than 50 feet, you are only required to implement erosion and sediment controls that achieve the sediment load reduction equivalent to the 50-foot buffer for discharges through that area. You would not be required to provide treatment of stormwater discharges that flow through 50 feet or more of natural buffer. See Figure G - 4.

Figure G - 4 Example of how to comply with the requirement to provide the equivalent sediment reduction when only a portion of your earth-disturbances discharge to a buffer of less than 50-feet.



To comply with this requirement, you are required to do the following:

Step1 - Estimate the sediment reduction expected from your site if you had retained a 50-foot natural buffer;

Step 2 - Design controls that alone or in combination with any width of buffer retained achieve the equivalent sediment removal efficiency as that expected from the 50-foot buffer; and

Step 3 - Document in your SWPPP how your controls will achieve the equivalent sediment removal efficiency of the 50-foot buffer.

Guidelines to help you work through these requirements are provided below.

a. **Step 1 - Estimate the Sediment Reduction from the 50-foot Buffer**

In order to design controls that match the sediment removal efficiency of a 50-foot buffer, you first need to know what this efficiency is for your site. The sediment removal efficiencies of natural buffers vary according to a number of site-specific factors, including precipitation, soil type, land cover, slope length, width, steepness, and the types of sediment controls used to reduce the discharge of sediment prior to the buffer. EPA has simplified this calculation by developing buffer performance tables covering a range of vegetation and soil types for the areas covered by the CGP. See Attachment 1, Tables G - 8 through G - 15. Note: buffer performance values in Tables G - 8 through G - 15 represent the percent of sediment captured through the use of perimeter controls (e.g., silt fences) and 50-foot buffers at disturbed sites of fixed proportions and slopes.[2]

Using Tables G - 8 through G - 15 (see Attachment 1), you can determine the sediment removal efficiency of a 50-foot buffer for your geographic area by matching the vegetative cover type that best describes your buffer area and the type of soils that predominate at your site. For example, if your site is located in Massachusetts (Table G - 9), and your buffer vegetation corresponds most closely with that of tall fescue grass, and the soil type at your site is best typified as sand, your site's sediment removal efficiency would be 81 percent.

In this step, you should choose the vegetation type in the tables that most closely matches the vegetation that would exist naturally in the buffer area on your site regardless of the condition of the buffer. However, because you are not required to plant any additional vegetation in the buffer area, in determining what controls are necessary to meet this sediment removal equivalency in Step 2 below, you will be able to take credit for this area as a fully vegetated "natural buffer."

Similarly, if a portion of the buffer area adjacent to the surface water is owned by another party and is not under your control, you can treat the area of land not

[2] EPA used the following when developing the buffer performance tables:

- The sediment removal efficiencies are based on the U.S. Department of Agriculture's RUSLE2 ("Revised Universal Soil Loss Equation 2") model for slope profiles using a 100-foot long denuded slopes.
- Sediment removal was defined as the annual sediment delivered at the downstream end of the 50-foot natural buffer (tons/yr/acre) divided by the annual yield from denuded area (tons/yr/acre).
- As perimeter controls are also required by the CGP, sediment removal is in part a function of the reduction due to a perimeter control (i.e., silt fence) located between the disturbed portion of the site and the upstream edge of the natural buffer and flow travelling through a 50-foot buffer of undisturbed natural vegetation.
- It was assumed that construction sites have a relatively uniform slope without topographic features that accelerate the concentration for erosive flows.
- It was assumed that vegetation has been removed from the disturbed portion of the site and a combination of cuts and fills have resulted in a smooth soil surface with limited retention of near-surface root mass

To represent the influence of soil, EPA analyzed 11 general soil texture classifications in its evaluation of buffer performance. To represent different types of buffer vegetation, EPA evaluated 4 or more common vegetative types for each state/territory covered under the permit. For each vegetation type evaluated, EPA considered only permanent, non-grazed and non-harvested vegetation, on the assumption that a natural buffer adjacent to the surface water will typically be undisturbed. EPA also evaluated slope steepness and found that sediment removal efficiencies present in Tables G -8 through G - 15 are achievable for slopes that are less than nine percent.

under control as having the equivalent vegetative cover and soil type that predominates on the portion of the property on which your construction activities are occurring.

For example, if your earth-disturbances occur within 50 feet of a surface water, but the 10 feet of land immediately adjacent to the surface water is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you can treat the 10 foot area adjacent to the stream as having the equivalent soil and vegetation type as predominates in the 40 foot area under your control. You would then make the same assumption in Step 2 for purposes of determining the equivalent sediment removal.

Alternatively, you may do your own calculation of the effectiveness of the 50-foot buffer based upon your site-specific conditions, and may use this number as your sediment removal equivalency standard to meet instead of using Tables G - 8 through G - 15. This calculation must be documented in your SWPPP.

b. Step 2 - Design Controls That Match the Sediment Removal Efficiency of the 50-foot Buffer

Once you have determined the estimated sediment removal efficiency of a 50-foot buffer for your site in Step 1, you will be required to select stormwater controls that will provide an equivalent sediment load reductions. These controls can include the installation of a single designed control, such as a sediment pond, additional perimeter controls, or other type of device. Alternatively, you may elect to install a combination of stormwater controls and to retain some amount of a buffer. Whichever control(s) you select, you must demonstrate in your SWPPP that the controls will provide at a minimum the same sediment removal capabilities as the 50-foot buffer (Step 1). You are allowed to take credit for the removal efficiencies of your required perimeter controls in your calculation of equivalency, because these were included in calculating the buffer removal efficiencies in Tables G - 8 through G - 15. (Note: You are reminded that the controls must be kept in effective operating condition until you have completed final stabilization on the disturbed portions of the site discharging to the surface water.)

To make the determination that your controls and/or buffer area achieve an equivalent sediment load reduction as the 50-foot buffer, you will need to use a model or other type of calculator. As mentioned above, there are a variety of models available that can be used to support your calculation, including USDA's RUSLE-series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other models. A couple of examples are provided in Attachment 3 to help illustrate how this determination could be made.

If you are retaining a buffer of less than 50 feet, you may take credit for the removal that will occur from the reduced buffer and only need to provide additional controls to make up the difference between the removal efficiency of a 50 foot buffer and the removal efficiency of the narrower buffer. For example, if you are retaining a 30 foot buffer, you can account for the sediment removal provided by the 30-foot buffer retained, and you will only need to design controls to make up for the additional removal provided by the 20-foot of buffer that is not being provided. To do this, you would plug the width of the buffer that is

retained into RUSLE or another model, along with other stormwater controls that will together achieve a sediment reduction equivalent to a natural 50-foot buffer.

As described in Step 1 above, you can take credit for the area you have retained as a "natural buffer" as being fully vegetated, regardless of the condition of the buffer area.

For example, if your earth-disturbances occur 30 feet from a surface water, but the 10 feet of land immediately adjacent to the surface water is owned by a different party than the land on which your construction activities are taking place and you do not have control over that land, you can treat the 10-foot area as a natural buffer, regardless of the activities that are taking place in the area. Therefore, you can assume (for purposes of your equivalency calculation) that your site is providing the sediment removal equivalent of a 30-foot buffer, and you will only need to design controls to make up for the additional removal provided by the 20-foot of buffer that is not being provided.

c. Step 3 - Document How Site-Specific Controls Will Achieve the Sediment Removal Efficiency of the 50-foot Buffer

In Steps 1 and 2, you determined both the expected sediment removal efficiency of a 50-foot buffer at your site, and you used this number as a performance standard to design controls to be installed at your site, which alone or in combination with any retained natural buffer, achieves the expected sediment removal efficiency at a 50-foot buffer at your site. The final step is to document in your SWPPP the information you relied on to calculate the equivalent sediment reduction as an undisturbed natural buffer.

EPA will consider your documentation to be sufficient if it generally meets the following:

- For Step 1, refer to the table in Attachment 1 that you used to derive your estimated 50-foot buffer sediment removal efficiency performance. Include information about the buffer vegetation and soil type that predominate at your site, which you used to select the sediment load reduction value in Tables G - 8 through G - 15. Or, if you conducted a site-specific calculation for sediment removal efficiency, provide the specific removal efficiency, and the information you relied on to make your site-specific calculation.
- For Step 2: (1) Specify the model you used to estimate sediment load reductions from your site; and (2) the results of calculations showing how your controls will meet or exceed the sediment removal efficiency from Step 1.

If you choose Alternative 3, you must also include in your SWPPP a description of why it is infeasible for you to provide and maintain an undisturbed natural buffer of any size.

G.2.3 Small Residential Lot Compliance Alternatives

In this part of Appendix G, EPA provides additional compliance alternatives for operators of small residential lots. In accordance with Part 2.1.2.1e.iv, operators of small residential lots who do not provide a 50-foot buffer are not required to make the demonstration outlined in Part G.2.2.2. Instead, qualifying operators can comply with the buffer requirement by choosing to implement a set of traditional sediment and erosion controls from the menu of practices provided in Part G.2.3.2.

A **small residential lot** is a lot or grouping of lots being developed for residential purposes that will disturb less than 1 acre of land, but that is part of a larger residential project that will ultimately disturb greater than or equal to 1 acre.

EPA has developed two different alternatives for compliance. The following steps describe how a small residential lot operator would achieve compliance with these 2 alternatives.

G.2.3.1 *Step 1 – Determine If You are Eligible for the Small Residential Lot Compliance Alternatives*

In order to be eligible for the small residential lot compliance alternatives, the following conditions must be met:

a. The lot or grouping of lots meets the definition of "small residential lot"; and

b. The operator must comply with all other requirements in Part 2.1.2.1, including:

- **i.** Ensure that all discharges from the area of earth disturbance to the natural buffer are first treated by the site's erosion and sediment controls, and use velocity dissipation devices if necessary to prevent erosion caused by stormwater within the buffer;
- **ii.** Document in the SWPPP the natural buffer width retained on the property, and show the buffer boundary on your site plan; and
- **iii.** Delineate, and clearly mark off, with flags, tape, or other similar marking device, all natural buffer areas.

G.2.3.2 *Step 2 – Implement the Requirements of the Small Residential Lot Compliance Alternative Selected*

You must next choose from one of two small residential lot compliance alternatives and implement the stormwater control practices associated with that alternative.

Note: The compliance alternatives provided below are not mandatory. Operators of small residential lots can alternatively choose to comply with the any of the options that are available to other sites in Part 2.1.2.1a, described in Parts G.2.1 and G.2.2 in this appendix.

a. Small Residential Lot Compliance Alternative 1

Alternative 1 is a straightforward tiered- technology approach that specifies the controls that a small residential lot must implement based on the buffer width retained. To achieve compliance with Alternative 1, you must implement the

controls specified in Table G – 1 based on the buffer width to be retained. See footnote 3, below, for a description of the controls you must implement.

For example, if you are an operator of a small residential lot that will be retaining a 35-foot buffer and you choose Small Residential Lot Compliance Alternative 1, you must implement double perimeter controls between earth disturbances and the surface water.

In addition to implementing the applicable control, you must also document in your SWPPP how you will comply with Alternative 1.

Table G - 1, Alternative 1 Requirements[3]

Retain 50-foot Buffer	Retain <50 and >30 foot Buffer	Retain ≤ 30 foot Buffer
No Additional Requirements	Double Perimeter Controls	Double Perimeter Controls and 7-Day Site Stabilization

b. Small Residential Lot Compliance Alternative 2

Alternative 2 specifies the controls that a builder of a small lot must implement based on both the buffer width retained and their risk of sediment discharge. By incorporating the sediment risk, this approach may result in the implementation of controls that are more appropriate for the site's specific conditions.

Step 1 – Determine Your Site's Sediment Risk Level

To meet the requirements of Alternative 2, you must first determine your site's sediment discharge "risk level" based on the site's slope, location, and soil type. To help you to determine your site's sediment risk level, EPA has developed five different tables for different slope conditions. You must select the table that most closely corresponds to your site's average slope.

For example, if your site's average slope is 7 percent, you would use Table G – 4 to determine your site's sediment risk.

After you determine which table applies to your site, you must then use the table to determine the "risk level" (e.g., "low", "moderate", or "high") that corresponds to your site's location and predominant soil type.[4]

For example, based on Table G - 3, a site located in New Hampshire with a 4 percent average slope and with predominately sandy clay loam soils would fall into the "moderate" risk level.

Description of Additional Controls Applicable to Small Residential Lot Compliance Alternatives 1 and 2:

- **No Additional Requirements:** If you implement a buffer of 50 feet or greater, then you are not subject to any additional requirements. Note that you are required to install perimeter controls between the disturbed portions of your site and the buffer in accordance with Part 2.1.2.2.
- **Double Perimeter Control:** In addition to the reduced buffer width retained on your site, you must provide a double row of perimeter controls between the disturbed portion of your site and the surface water spaced a minimum of 5 feet apart.
- **Double Perimeter Control and 7-Day Site Stabilization:** In addition to the reduced buffer width retained on your site and the perimeter control implemented in accordance with Part 2.1.2.2, you must provide a double row of perimeter controls between the disturbed portion of your site and the surface water spaced a minimum of 5 feet apart, and you are required to complete the stabilization activities specified in Parts 2.2.1.2a and/or 2.2.1.2b within 7 calendar days of the temporary or permanent cessation of earth-disturbing activities.

[4] One source for determining your site's predominant soil type is the USDA's Web Soil Survey located at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

Table G - 2. Risk Levels for Sites with Average Slopes of ≤ 3 Percent

Location \ Soil Type	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Guam	Moderate	Moderate	Moderate	Moderate	High
Puerto Rico	Moderate	Moderate	Moderate	Moderate	High
Virgin Islands	Low	Moderate	Low	Moderate	Moderate
American Samoa	Moderate	Moderate	Moderate	Moderate	High
Massachusetts and New Hampshire	Low	Moderate	Low	Low	Moderate
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Low	Low	Low	Low
Washington D.C.	Low	Moderate	Low	Low	Moderate

Table G - 3. Risk Levels for Sites with Average Slopes of > 3 Percent and ≤ 6 Percent

Location \ Soil Type	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Guam	Moderate	Moderate	Moderate	Moderate	High
Puerto Rico	Moderate	Moderate	Moderate	Moderate	High
Virgin Islands	Moderate	Moderate	Moderate	Moderate	High
American Samoa	High	High	Moderate	High	High
Massachusetts and New Hampshire	Moderate	Moderate	Low	Moderate	High
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Low	Low	Low	Moderate
Washington D.C.	Moderate	Moderate	Moderate	Moderate	High

Table G - 4. Risk Levels for Sites with Average Slopes of > 6 Percent and ≤ 9 Percent

Location \ Soil Type	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Guam	Moderate	High	Moderate	High	High
Puerto Rico	Moderate	High	Moderate	Moderate	High
Virgin Islands	Moderate	Moderate	Moderate	Moderate	High
American Samoa	High	High	High	High	High
Massachusetts and New Hampshire	Moderate	Moderate	Moderate	Moderate	High
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Low	Low	Low	Moderate
Washington D.C.	Moderate	Moderate	Moderate	Moderate	High

Table G - 5. Risk Levels for Sites with Average Slopes of > 9 Percent and ≤ 15 Percent

Location \ Soil Type	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Guam	High	High	High	High	High
Puerto Rico	High	High	High	High	High
Virgin Islands	Moderate	High	Moderate	High	High
American Samoa	High	High	High	High	High
Massachusetts and New Hampshire	Moderate	Moderate	Moderate	Moderate	High
Idaho	Low	Low	Low	Low	Low
New Mexico	Low	Moderate	Low	Moderate	Moderate
Washington D.C.	Moderate	High	Moderate	Moderate	High

Table G - 6. Risk Levels for Sites with Average Slopes of > 15 Percent

Location \ Soil Type	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Guam	High	High	High	High	High
Puerto Rico	High	High	High	High	High
Virgin Islands	High	High	High	High	High
American Samoa	High	High	High	High	High
Massachusetts and New Hampshire	High	High	Moderate	High	High
Idaho	Low	Low	Low	Low	Moderate
New Mexico	Moderate	Moderate	Moderate	Moderate	High
Washington D.C.	High	High	Moderate	High	High

Step 2 – Determine Which Additional Controls Apply

Once you determine your site's "risk level", you must next determine the additional controls you need to implement on your site, based on the width of buffer you plan to retain. Table G - 7 specifies the requirements that apply based on the "risk level" and buffer width retained. See footnote 3, above, for a description of the additional controls that are required.

For example, if you are the operator of a small residential lot that falls into the "moderate" risk level, and you decide to retain a 20-foot buffer, using Table G-7 you would determine that you need to implement double perimeter controls to achieve compliance with Part 2.1.2.1.

You must also document in your SWPPP your compliance with Alternative 2.

Table G - 7. Alternative 2 Requirements[3]

Risk Level Based on Estimated Soil Erosion	Retain ≥ 50' Buffer	Retain <50' and >30' Buffer	Retain ≤30' and >10' Buffer	Retain ≤ 10' Buffer
Low Risk	No Additional Requirements	No Additional Requirements	Double Perimeter Contro	Double Perimeter Control
Moderate Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization
High Risk	No Additional Requirements	Double Perimeter Control	Double Perimeter Control and 7-Day Site Stabilization	Double Perimeter Control and 7-Day Site Stabilization

ATTACHMENT 1

Sediment Removal Efficiency Tables[4]

EPA recognizes that very high removal efficiencies, even where theoretically achievable by a 50-foot buffer, may be very difficult to achieve in practice using alternative controls. Therefore in the tables below, EPA has limited the removal efficiencies to a maximum of 90%. Efficiencies that were calculated at greater than 90% are shown as 90%, and this is the minimum percent removal that must be achieved by alternative controls.

Table G - 8. Estimated 50-foot Buffer Performance in Idaho*

Type of Buffer Vegetation**	Estimated % Sediment Removal				
	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Tall Fescue Grass	42	52	44	48	85
Medium-density Weeds	28	30	28	26	60
Low-density Warm-season Native Bunchgrass (i.e., Grama Grass)	25	26	24	24	55
Northern Mixed Prairie Grass	28	30	28	26	50
Northern Range Cold Desert Shrubs	28	28	24	26	50

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G - 9. Estimated 50-foot Buffer Performance in Massachusetts and New Hampshire*

Type of Buffer Vegetation**	Estimated % Sediment Removal				
	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Warm-season Grass (i.e., Switchgrass, Lemongrass)	79	90	90	90	90
Cool-season Dense Grass (Kentucky Bluegrass, Smooth Bromegrass, Timothy)	78	90	90	90	90
Tall Fescue Grass	76	90	81	89	90
Medium-density Weeds	66	76	60	72	66

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

[3] The buffer performances were calculated based on a denuded slope upgradient of a 50-foot buffer and a perimeter controls, as perimeter controls are a standard requirement (see Part 2.1.2.2).

Table G - 10. Estimated 50-foot Buffer Performance in New Mexico*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Tall Fescue grass	71	85	80	86	90
Medium-density Weeds	56	73	55	66	78
Low-density Warm-season Native Bunchgrass (i.e., Grama Grass)	53	70	51	62	67
Southern Mixed Prairie Grass	53	71	52	63	50
Southern Range Cold Desert Shrubs	56	73	55	65	53

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G - 11. Estimated 50-foot Buffer Performance in Washington, DC*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Warm-season Grass (i.e., Switchgrass, Lemongrass)	82	90	90	90	90
Cool-season Dense Grass (Kentucky Bluegrass, Smooth Bromegrass, Timothy)	81	90	90	90	90
Tall Fescue Grass	79	90	83	89	90
Medium-density Weeds	71	79	66	75	74

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G - 12. Estimated 50-foot Buffer Performance in American Samoa*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	82	90	90	90	83
Warm-season Grass (i.e., Switchgrass, Lemongrass)	82	90	90	90	85
Dense Grass	82	90	90	90	83
Tall Fescue Grass	82	89	82	89	79
Medium-density Weeds	70	73	62	75	59

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G - 13. Estimated 50-foot Buffer Performance in Guam*

	Estimated % Sediment Removal				
Type of Buffer Vegetation **	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	80	90	90	90	89
Warm-season Grass (i.e., Switchgrass, Lemongrass)	80	90	90	90	90
Dense Grass	79	90	90	90	89
Tall Fescue Grass	76	90	80	88	87
Medium-density Weeds	63	73	53	68	61

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G - 14. Estimated 50-foot Buffer Performance in Puerto Rico*

	Estimated % Sediment Removal				
Type of Buffer Vegetation**	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	83	90	90	90	90
Warm-season Grass (i.e., Switchgrass, Lemongrass)	83	90	90	90	90
Dense Grass	83	90	90	90	90
Tall Fescue Grass	82	90	84	90	89
Medium-density Weeds	72	78	65	76	64

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Table G - 15. Estimated 50-foot Buffer Performance in Virgin Islands*

	Estimated % Sediment Removal				
Type of Buffer Vegetation**	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Bahiagrass (Permanent cover)	85	90	90	90	90
Warm-season Grass (i.e., Switchgrass, Lemongrass)	86	90	90	90	90
Dense Grass	85	90	90	90	90
Tall Fescue Grass	85	90	88	90	89
Medium-density Weeds	75	77	71	78	63

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

ATTACHMENT 2

Using the Sediment Removal Efficiency Tables – Questions and Answers

- *What if my specific buffer vegetation is not represented in Tables G - 8 through G - 15?* Tables G - 8 through G - 15 provide a wide range of factors affecting buffer performance; however, there may be instances where the specific buffer vegetation type on your site is not listed. If you do not see a description of the type of vegetation present at your site, you should choose the vegetation type that most closely matches the vegetation type on your site. You can contact your local Cooperative Extension Service Office (www.csrees.usda.gov/Extension) for assistance in determining the vegetation type in Tables G - 8 through G - 15 that most closely matches your site-specific vegetation.
- *What if there is high variability in local soils?* EPA recognizes that there may be a number of different soil type(s) on any given construction site. General soil information can be obtained from USDA soil survey reports (http://websoilsurvey.nrcs.usda.gov) or from individual site assessments performed by a certified soil expert. Tables G - 8 through G - 15 present eleven generic soil texture classes, grouping individual textures where EPA has determined that performance is similar. If your site contains different soil texture classes, you should use the soil type that best approximates the predominant soil type at your site.
- *What if my site slope is greater than 9 percent after final grade is reached?* As indicated in the buffer performance tables, the estimated sediment removal efficiencies are associated with disturbed slopes of up to 9 percent grade. Where your graded site has an average slope of greater than 9 percent, you should calculate o site-specific buffer performance.
- *How do I calculate my own estimates for sediment reduction at my specific site?* If you determine that it is necessary to calculate your own sediment removal efficiency using site-specific conditions (e.g., slopes at your site are greater than 9 percent), you can do so by choosing from a range of available mathematical models that are available to facilitate this calculation, including USDA's RUSLE-series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other equivalent models.
- *What is my estimated buffer performance if my site location is not represented by Tables G - 8 through G - 15?* If your site is located in an area not represented by Tables G - 8 through G - 15, you should use the table that most closely approximates conditions at your site. You may also choose to conduct a site-specific calculation of the buffer performance.
- *What if only a portion of my site drains to the buffer area?* If only a portion of your site drains to a surface water, where that water is within 50 feet of your construction activities, you are only required to meet the equivalency requirement for the stormwater flows corresponding to those portions of the site. See Example 2 below for an example of how this is expected to work.

ATTACHMENT 3

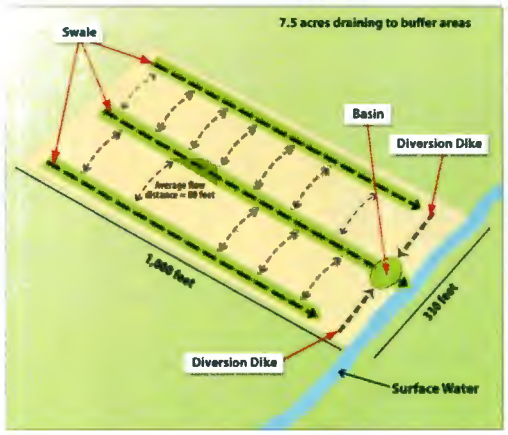
Examples of How to Use the Sediment Removal Efficiency Tables

Example 1. Comparatively Wet Location (7.5 acre site located in Massachusetts)

The operator of a 7.5-acre construction site in Massachusetts has determined that it is infeasible to establish a buffer of any size on their site, and is now required to select and install controls that will achieve an equivalent sediment load reduction as that estimated in G - 9 for their site conditions. The first step is to identify what percentage of eroded sediment is estimated to be retained from a 50-foot buffer. For this example, it is assumed that the site has a relatively uniform gentle slope (3 percent), so Table G - 9 can be used to estimate the 50-foot buffer sediment load reduction. If the site's buffer vegetation is best typified by cool-season dense grass and the underlying soil is of a type best described as loamy sand, the 50-foot buffer is projected to capture 90 percent of eroded sediment from the construction site.

The second step is to determine what sediment controls can be selected and installed in combination with the perimeter controls already required to be implemented at the site (see Part 2.1.2.2), which will achieve the 90 percent sediment removal efficiency from Table G - 9. For this example, using the RUSLE2 profile model, it was determined that installing a pair of shallow-sloped diversion ditches to convey runoff to a well-designed and maintained sediment basin provides 99 percent sediment removal. Because the estimated sediment reduction is greater than the required 90 percent that a 50-foot buffer provides, the operator will have met the buffer requirements. See Figure G - 5. The operator could also choose a different set of controls, as long as they achieve at least a 90 percent sediment removal efficiency.

Figure G - 5. Example 1 – Equivalent Sediment Load Reductions at a 7.5 ac Site in MA.



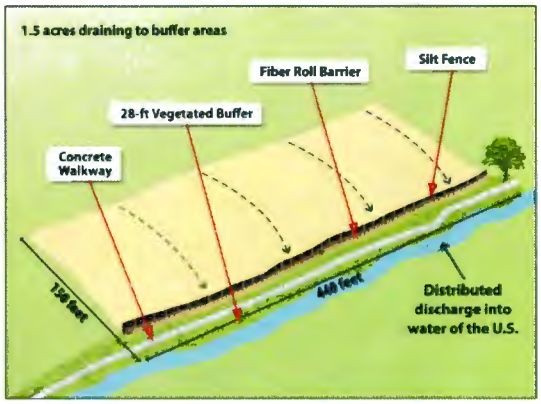
Example 2. Arid Location With Pre-existing Disturbances in the Natural Buffer (6.5 acre site located in New Mexico)

An operator of a site in New Mexico determines that it is not practicable to provide a 50-foot buffer, but a 28-foot buffer can be provided. Because the operator will provide a buffer that is less than 50 feet, the operator must determine which controls, in combination with the 28-foot buffer, achieve a sediment load reduction equivalent to the 50-foot buffer. In this example, the project will disturb 6.5 acres of land, but only 1.5 acres of the total disturbed area drains to the buffer area. Within the 28-foot buffer area is a preexisting concrete walkway. Similar to Example 1, the equivalence analysis starts with Step 1 (Part G.2.2.2) with a review of the New Mexico buffer performance (Table G - 10). The operator determines that the predominate vegetation type in the buffer area is prairie grass and the soil type is similar to silt, and that the site is of a uniform, shallow slope (e.g., 3 percent grade). Although the operator will take credit for the disturbance caused by the concrete walkway as a natural buffer in Step 2, here the operator can treat the entire buffer area as being naturally vegetated with prairie grass. Based on this information, the operator refers to Table G - 10 to estimate that the 50-foot buffer would retain 50 percent of eroded soil.

The second step is to determine, based on the 50 percent sediment removal efficiency found in Table G - 10, what sediment controls in combination with the 28-foot buffer area, can be

implemented to reduce sediment loads by 50 percent or more. The operator does not have to account the reduction in buffer function caused by the preexisting walkway, and can take credit for the entire 28-foot buffer being fully vegetated in the analysis. For this example, using the RUSLE2 profile model, the operator determined that installing a fiber roll barrier between the silt fence (already required by Part 2.1.2.2) and the 28-foot buffer will achieve an estimated 84 percent sediment removal efficiency. See Figure G - 6. Note that this operator is subject to the requirement in Part 2.1.2.1.b.i to ensure that discharges through the silt fence, fiber roll barrier, and 28-foot buffer do not cause erosion within the buffer. The estimated sediment reduction is greater than the required 50 percent; therefore the operator will have met the buffer alternative requirement.

Figure G - 6. Example 2 – Equivalent Sediment Load Reductions at a 6.5 ac Site in NM.



Appendix H – 2-Year, 24-Hour Storm Frequencies

Part 2.1.3.2 of the permit indicates that if you install a sediment basin, one of the design requirements is to provide storage for either (1) the calculated volume of runoff from a 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained. This appendix is intended to provide a guide to permittees to determine the volume of precipitation associated with their local 2-year, 24-hour storm event.

The permittee should start out by determining their local 2-year, 24-hour storm volume. The rainfall frequency atlases, technical papers, and the Precipitation Frequency Data Server (PFDS) developed by the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS) serve as national standards for rainfall intensity at specified frequencies and durations in the United States. Operators of construction projects subject to the numeric effluent limits can use these standards to determine their local 2-year, 24-hour storm. Table H-1 identifies methods for determining precipitation frequency based on permit area. EPA notes that permittees may also use alternative peer-reviewed data sources not listed in Table H - 1 to determine the 2-year, 24-hour storm for their site.

Table H -1 – Method to Determine Precipitation Frequency Based on Permit Area

PERMIT AREA	METHOD TO DETERMINE PRECIPITATION FREQUENCY
District of Columbia	PFDS; NOAA Atlas 14, Vol. 2
Idaho	NOAA Atlas 2, Vol. 5; Technical Paper 40
Massachusetts	Technical Paper 40
New Hampshire	Technical Paper 40
New Mexico	PFDS; Technical Paper 40
Selected Pacific Islands	PFDS; Technical Paper 40
Puerto Rico and the U.S Virgin Islands	PFDS; Technical Paper 40
Other	PFDS; Technical Paper 40; NOAA Atlas 2 or 14

How to Determine Your Local 2-year, 24-hour Storm Size

Projects located in the **District of Columbia, New Mexico, Puerto Rico, U.S. Virgin Islands, or Pacific Islands:** can use the PFDS at http://hdsc.nws.noaa.gov/hdsc/pfds/index.html or use NOAA's Atlas 14 Volumes 2, 3, and 5, respectively at http://www.nws.noaa.gov/oh/hdsc/currentpf.htm to determine their precipitation frequency.

The PFDS is an easy to use, point-and-click interface to official U.S. precipitation frequency estimates and intensities. The opening PFDS screen is a clickable map of the United States. Upon clicking on a state, a state-specific interface appears. From this page the user selects the following:

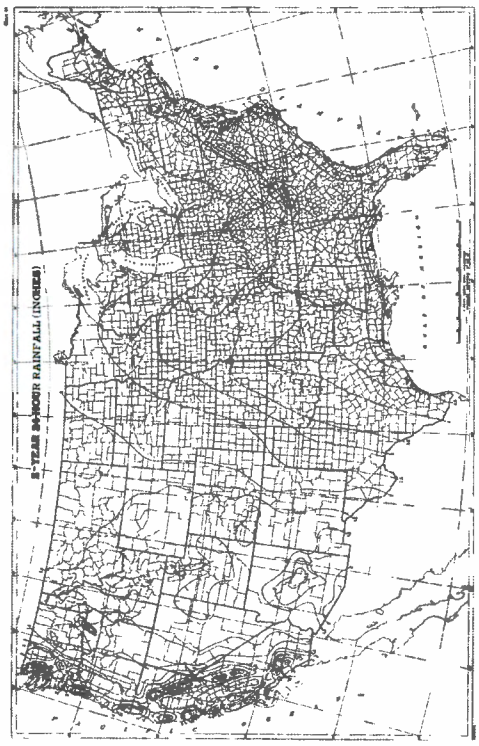
- A location: Either via clicking on the map or manually entering a longitude/latitude coordinate;
- Type of output: Depth-Duration Frequency (DDF) or Intensity-Duration-Frequency (IDF)
- Units: millimeters or inches; and
- Type of estimate: Point or areal.

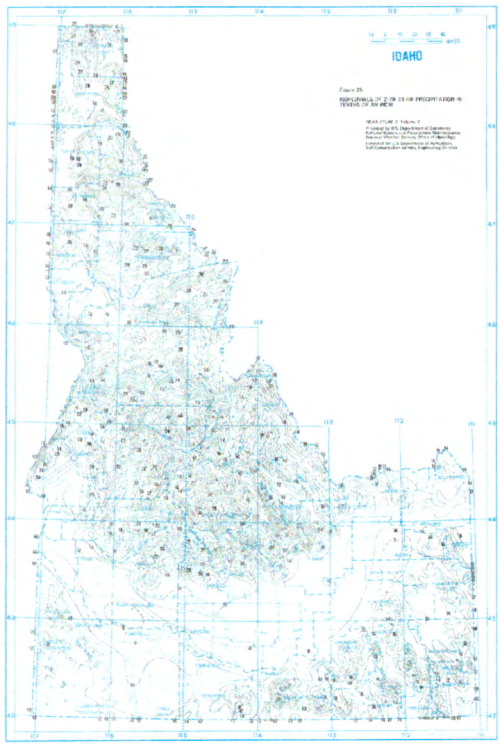
Additionally, PFDS also serves as a tool for providing references and other information for other current precipitation frequency standards that are not yet updated.

Projects located in the **District of Columbia, Puerto Rico, U.S. Virgin Islands, or Pacific Islands** can use NOAA's Atlas 14 Volumes 2, 3, and 5, respectively at http://www.nws.noaa.gov/oh/hdsc/currentpf.htm or access the PFDS at http://hdsc.nws.noaa.gov/hdsc/pfds/index.html to determine their precipitation frequency.

Projects located in **Massachusetts and New Hampshire**, or other areas not covered by the PFDS or NOAA Atlases will need to use TP-40 to identify the precipitation frequency. TP-40 provides a map of the continental U.S. for the 2-year, 24-hour rainfall. TP40 can be accessed at http://www.nws.noaa.gov/oh/hdsc/PF_documents/TechnicalPaper_No40.pdf. (See also attached map of TP-40)

Projects located in **Idaho** can use the NOAA Atlas 2, Vol. 5 to determine their precipitation frequency. NOTE: Precipitation Frequencies on the NOAA Atlas 2, Vol. 5 are in tenths of an inch and will have to be converted to inches to determine precipitation frequency. NOAA Atlas 2, Vol. 5 can be accessed at http://www.nws.noaa.gov/oh/hdsc/PF_documents/Atlas2_Volume5.pdf. (See also attached map of NOAA Atlas 2, Vol. 5)





Appendix I - Standard Permit Conditions

Standard permit conditions in Appendix I are consistent with the general permit provisions required under 40 CFR 122.41.

I.1 Duty To Comply.

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

I.1.1 You must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards, even if the permit has not yet been modified to incorporate the requirement.

I.1.2 Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (61 FR 252, December 31, 1996, pp. 69359-69366, as corrected in 62 FR 54, March 20, 1997, pp.13514-13517) as mandated by the Debt Collection Improvement Act of 1996 for inflation on a periodic basis. This rule allows EPA's penalties to keep pace with inflation. The Agency is required to review its penalties at least once every 4 years thereafter and to adjust them as necessary for inflation according to a specified formula. The civil and administrative penalties following were adjusted for inflation starting in 1996.

I.1.2.1 *Criminal Penalties.*

a. *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than $2,500 nor more than $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation or by imprisonment of not more than two years, or both.

b. *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

c. *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than $250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon

conviction of violating the imminent danger provision be subject to a fine of not more than $1,000,000 and can fined up to $2,000,000 for second or subsequent convictions.

d. *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

I.1.2.2 *Civil Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $37,500 per day for each violation).

I.1.2.3 *Administrative Penalties.* The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows

a. *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $37,500).

b. *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently $11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $177,500).

I.2 Duty to Reapply.

If you wish to continue an activity regulated by this permit after the expiration date of this permit, you must apply for and obtain authorization as required by the new permit once EPA issues it.

I.3 Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.4 Duty to Mitigate.

You must take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

I.5 Proper Operation and Maintenance.

You must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by you to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by you only when the operation is necessary to achieve compliance with the conditions of this permit.

I.6 Permit Actions.

This permit may be modified, revoked and reissued, or terminated for cause. Your filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

I.7 Property Rights.

This permit does not convey any property rights of any sort, or any exclusive privileges.

I.8 Duty to Provide Information.

You must furnish to EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), within a reasonable time, any information that EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. You must also furnish to EPA or an authorized representative upon request, copies of records required to be kept by this permit.

I.9 Inspection and Entry.

You must allow EPA or an authorized representative (including an authorized contractor acting as a representative of EPA), upon presentation of credentials and other documents as may be required by law, to:

I.9.1 Enter upon your premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

I.9.2 Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

I.9.3 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

I.9.4 Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

I.10 Monitoring and Records.

I.10.1 Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.

I.10.2 You must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date the permit expires or the date the permittee's authorization is terminated. This period may be extended by request of EPA at any time.

I.10.3 Records of monitoring information must include:

I.10.3.1 The date, exact place, and time of sampling or measurements;

I.10.3.2 The individual(s) who performed the sampling or measurements;

I.10.3.3 The date(s) analyses were performed

I.10.3.4 The individual(s) who performed the analyses;

I.10.3.5 The analytical techniques or methods used; and

I.10.3.6 The results of such analyses.

I.10.4 Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.

I.10.5 The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

I.11 Signatory Requirements.

I.11.1 All applications, including NOIs, must be signed as follows:

I.11.1.1 For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

I.11.1.2 For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

I.11.1.3 For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive

officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

I.11.2 Your SWPPP, including changes to your SWPPP, inspection reports, and any other compliance documentation required under this permit, must be signed by a person described in Appendix I, Subsection I.11.1 above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

I.11.2.1 The authorization is made in writing by a person described in Appendix I, Subsection I.11.1;

I.11.2.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

I.11.2.3 The signed and dated written authorization is included in the SWPPP. A copy must be submitted to EPA, if requested.

I.11.3 Changes to Authorization. If an authorization under Part 1.7 is no longer accurate because a different operator has responsibility for the overall operation of the construction site, a new NOI satisfying the requirements of Part 1.7 must be submitted to EPA. See Table 1 in Part 1.7.2 of the permit. However, if the only change that is occurring is a change in contact information or a change in the facility's address, the operator need only make a modification to the existing NOI submitted for authorization.

I.11.4 Any person signing documents in accordance with Appendix I, Subsections I.11.1 or I.11.2 above must include the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

I.11.5 For persons signing documents electronically, in addition to meeting other applicable requirements in Appendix I, Subsection I.11, such signatures must meet the same signature, authentication, and identity-proofing standards set forth at 40 CFR § 3.2000(b) for electronic reports (including robust second-factor authentication).

I.11.6 The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

I.12 Reporting Requirements.

I.12.1 Planned changes. You must give notice to EPA as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

I.12.1.1 The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

I.12.1.2 The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

I.12.2 Anticipated noncompliance. You must give advance notice to EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

I.12.3 Transfers. This permit is not transferable to any person except after notice to EPA. Where a facility wants to change the name of the permittee, the original permittee (the first owner or operators) must submit a Notice of Termination pursuant to Part 8. The new owner or operator must submit a Notice of Intent in accordance with Part 1.7 and Table 1. See also requirements in Appendix I, Subsections I.11.1 and I.11.2.

I.12.4 Monitoring reports. Monitoring results must be reported at the intervals specified elsewhere in this permit.

I.12.4.1 Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by EPA for reporting results of monitoring of sludge use or disposal practices.

I.12.4.2 If you monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by EPA.

I.12.5 Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.

I.12.6 Twenty-four hour reporting. In addition to reports required elsewhere in this permit:

I.12.6.1 You must report any noncompliance which may endanger health or the environment. Any information must be provided orally within 24 hours from the time you become aware of the circumstances. A written submission must also be provided within five days of the time you become aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

I.12.6.2 The following shall be included as information which must be reported within 24 hours under this paragraph.

a. Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(m)(3)(i))

b. Any upset which exceeds any effluent limitation in the permit

c. Violation of a maximum daily discharge limit for any numeric effluent limitation. (See 40 CFR 122.44(g).)

I.12.6.3 EPA may waive the written report on a case-by-case basis for reports under Appendix I, Subsection I.12.6.2 if the oral report has been received within 24 hours.

I.12.7 Other noncompliance. You must report all instances of noncompliance not reported under Appendix I, Subsections I.12.4, I.12.5, and I.12.6, at the time monitoring reports are submitted. The reports must contain the information listed in Appendix I, Subsection I.12.6.

I.12.8 Other information. Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Permitting Authority, you must promptly submit such facts or information.

I.13 Bypass.

I.13.1 Definitions.

I.13.1.1 Bypass means the intentional diversion of waste streams from any portion of a treatment facility See 40 CFR 122.41(m)(1)(i).

I.13.1.2 Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR 122.41(m)(1)(ii).

I.13.2 Bypass not exceeding limitations. You may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Appendix I, Subsections I.13.3 and I.13.4. See 40 CFR 122.41(m)(2).

I.13.3 Notice.

I.13.3.1 Anticipated bypass. If you know in advance of the need for a bypass, you must submit prior notice, if possible at least ten days before the date of the bypass. See 40 CFR 122.41(m)(3)(i).

I.13.3.2 Unanticipated bypass. You must submit notice of an unanticipated bypass as required in Appendix I, Subsection I.12.6 (24-hour notice). See 40 CFR 122.41(m)(3)(ii).

I.13.4 Prohibition of bypass. See 40 CFR 122.41(m)(4).

I.13.4.1 Bypass is prohibited, and EPA may take enforcement action against you for bypass, unless:

a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. You submitted notices as required under Appendix I, Subsection I.13.3.

I.13.4.2 EPA may approve an anticipated bypass, after considering its adverse effects, if EPA determines that it will meet the three conditions listed above in Appendix I, Subsection I.13.4.1.

I.14 Upset.

I.14.1 Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR 122.41(n)(1).

I.14.2 Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Appendix I, Subsection I.14.3 are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. See 40 CFR 122.41(n)(2).

I.14.3 Conditions necessary for a demonstration of upset. See 40 CFR 122.41(n)(3). A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

I.14.3.1 An upset occurred and that you can identify the cause(s) of the upset;

I.14.3.2 The permitted facility was at the time being properly operated; and

I.14.3.3 You submitted notice of the upset as required in Appendix I, Subsection I.12.6.2.b (24 hour notice).

I.14.3.4 You complied with any remedial measures required under Appendix I, Subsection I.4.

I.14.4 Burden of proof. In any enforcement proceeding, you, as the one seeking to establish the occurrence of an upset, have the burden of proof. See 40 CFR 122.41(n)(4).

I.15 Retention of Records.

Copies of the SWPPP and all documentation required by this permit, including records of all data used to complete the NOI to be covered by this permit, must be retained for at least three years from the date that permit coverage expires or is terminated. This period may be extended by request of EPA at any time.

I.16 Reopener Clause.

I.16.1 Procedures for modification or revocation. Permit modification or revocation will be conducted according to 40 CFR §122.62, §122.63, §122.64 and §124.5.

I.16.2 Water quality protection. If there is evidence indicating that the stormwater discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standard, you may be required to obtain an individual permit in accordance with Part 1.7.5 of this permit, or the permit may be modified to include different limitations and/or requirements.

I.16.3 Timing of permit modification. EPA may elect to modify the permit prior to its expiration (rather than waiting for the new permit cycle) to comply with any new statutory or regulatory requirements, such as for effluent limitation guidelines that may be promulgated in the course of the current permit cycle.

I.17 Severability.

Invalidation of a portion of this permit does not necessarily render the whole permit invalid. EPA's intent is that the permit is to remain in effect to the extent possible; in the event that any part of this permit is invalidated, EPA will advise the regulated community as to the effect of such invalidation.

Appendix J - Notice of Intent (NOI) Form and Instructions

Part 1.7.1 requires you to use the electronic NOI system, or "eNOI" system, to prepare and submit your NOI. However, if you are given approval by the EPA Regional Office to use a paper NOI form, and you elect to use it, you must complete and submit the following form.

NPDES FORM 3510-9

EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

NOTICE OF INTENT (NOI) FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER AN NPDES GENERAL PERMIT

Form Approved.
OMB No. 2040-0004

Submission of this Notice of Intent (NOI) constitutes notice that the operator identified in Section II of this form requests authorization to discharge pursuant to the NPDES Construction General Permit (CGP) permit number identified in Section I of this form. Submission of this NOI also constitutes notice that the operator identified in Section II of this form meets the eligibility requirements of Parts 1.1 and 1.2 of the CGP for the project identified in Section III of this form. Permit coverage is required prior to commencement of construction activity until you are eligible to terminate coverage as detailed in Part 8 of the CGP. To obtain authorization, you must submit a complete and accurate NOI form. Dischargers are not authorized if your NOI is incomplete or inaccurate or if you were never eligible for permit coverage. Refer to the instructions at the end of this form.

I. Approval to Use Paper NOI Form

Have you been given approval from the Regional Office to use this paper NOI form*? ☐ YES ☐ NO

If yes, provide the reason you need to use this paper form, the name of the EPA Regional Office staff person who approved your use of this form, and the date of approval:

Reason for using paper form: _____

Name of EPA staff person: _____

Date approval obtained: _____

* Note: You are required to obtain approval from the applicable Regional Office prior to using this paper NOI form.

II. Permit Information

Tracking Number (EPA Use Only): ☐☐☐☐☐☐☐☐

Permit Number: ☐☐☐☐☐☐☐☐ (see Appendix B of the CGP for the list of eligible permit numbers)

III. Operator Information

Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Phone: ☐☐☐-☐☐☐-☐☐☐☐ Ext. ☐☐☐☐ Fax (optional): ☐☐☐-☐☐☐-☐☐☐☐

E-mail: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

IRS Employer Identification Number (EIN): ☐☐ - ☐☐☐☐☐☐☐

Point of Contact:

First Name, Middle Initial, Last Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐ ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Mailing Address:

Street: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

City: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ State: ☐☐ Zip Code: ☐☐☐☐☐-☐☐☐☐

NOI Preparer (Complete if NOI was prepared by someone other than the certifier):

Prepared by:

First Name, Middle Initial, Last Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐ ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Organization: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Phone: ☐☐☐-☐☐☐-☐☐☐☐ Ext. ☐☐☐☐ Fax (optional): ☐☐☐-☐☐☐-☐☐☐☐

E-mail: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

IV. Project/Site Information

Project/Site Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Project/Site Address:

Street/Location: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

City: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ State: ☐☐ Zip Code: ☐☐☐☐☐-☐☐☐☐

County or similar government subdivision: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

For the project/site for you are seeking permit coverage, provide the following information:

Latitude/Longitude (Use one of three possible formats, and specify method):

Latitude 1. ___°___'___.___" N (degrees, minutes, seconds) Longitude 1. ___°___'___.___" W (degrees, minutes, seconds)
2. ___°___.___' N (degrees, minutes, decimal) 2. ___°___.___' W (degrees, minutes, decimal)
3. ___.___° N (degrees decimal) 3. ___.___° W (degrees decimal)

Latitude/Longitude Data Source. ☐ U.S.G.S. topographic map ☐ EPA web site ☐ GPS ☐ Other: _____

If you used a U.S.G.S. topographic map, what was the scale? _____

Horizontal Reference Datum: ☐ NAD 27 ☐ NAD 83 or WGS 84 ☐ Unknown

Is your project/site located in Indian Country lands, or located on a property of religious or cultural significance to an Indian tribe? ☐ YES ☐ NO

If yes, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property: _____

Are you requesting coverage under this NOI as a "federal operator" as defined in Appendix A? ☐ YES ☐ NO

Estimated Project Start Date: ☐☐/☐☐/☐☐☐☐ Estimated Project Completion Date: ☐☐/☐☐/☐☐☐☐

Estimated Area to be Disturbed (to the nearest quarter acre): ☐☐☐.☐☐

Have earth-disturbing activities commenced on your project/site? ☐ YES ☐ NO

If yes, is your project an "emergency-related project? ☐ YES ☐ NO

Have stormwater discharges from your project/site been covered previously under an NPDES permit? ☐ YES ☐ NO

If yes, provide the Tracking Number if you had coverage under EPA's CGP or the NPDES permit number if you had coverage under an EPA individual permit: ☐☐☐☐☐☐☐☐

V. Discharge Information

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☐ YES ☐ NO

Are there any surface waters within 50 feet of your project's earth disturbance? ☐ YES ☐ NO

Receiving Waters and WetSands Information: (Attach a separate list if necessary)

Provide the name(s) of the first surface water that received stormwater directly from your site and/or from the MS4:	Provide the names of any impaired waters to which you discharge and the pollutant(s) for which they are impaired		Provide the names of any waters to which you discharge for which there is an EPA approved or established TMDL, the name of the TMDL, and the pollutant(s) for which there is a TMDL		
	Surface water name:	Pollutant(s) causing the impairment:	Surface water name:	TMDL name:	Pollutant(s) for which there is a TMDL:

Impaired Waters

Describe the methods you used to complete the above table: _____

Are any of the surface waters to which you discharge designated by the state or tribal authority under its antidegradation policy as a Tier 2 (or Tier 2.5) water (water quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water) or as a Tier 3 water (Outstanding Natural Resource Water)? (See Appendix F).

☐ YES ☐ NO

If yes, name(s) of receiving water(s) and its designation (Tier 2, Tier 2.5 or Tier 3): _____

VI. Chemical Treatment Information

Will you use polymers, flocculants, or other treatment chemicals at your construction site? ☐ YES ☐ NO

If yes, will you use cationic treatment chemicals at your construction site*? ☐ YES ☐ NO

If yes, have you been authorized to use cationic treatment chemicals by your applicable EPA Regional Office in advance of filing your NOI*? ☐ YES ☐ NO

If you have been authorized to use cationic treatment chemicals by your applicable EPA Regional Office, attach a copy of your authorization letter and include documentation of the appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

Please indicate the treatment chemicals that you will use: _____

* Note: You are ineligible for coverage under this permit unless you notify your applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

VII. Stormwater Pollution Prevention Plan (SWPPP) Information

Has the SWPPP been prepared in advance of filing this NOI? ☐ YES ☐ NO

SWPPP Contact Information:

First Name, Middle Initial Last Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐ ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Organization Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Phone: ☐☐☐-☐☐☐-☐☐☐☐ Ext. ☐☐☐☐ Fax (optional): ☐☐☐-☐☐☐-☐☐☐☐

E-mail: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

VIII. Endangered Species Protection

Using the instructions in Appendix D of the CGP, under which criterion listed in Appendix D are you eligible for coverage under this permit (only check 1 box)?

☐ A ☐ B ☐ C ☐ D ☐ E ☐ F

Provide a brief summary of the basis for criterion selection listed in Appendix D (e.g. communication with U.S. Fish and Wildlife Service or National Marine Fisheries Service specific study): _____

If you select criterion B, provide the Tracking Number from the other operator's notification of authorization under this permit. ☐☐☐☐☐☐☐☐

If you select criterion C, you must attach a copy of your site map (see Part 7.2.6 of the permit), and you must answer the following questions:

What federally-listed species or federally-designated critical habitat are located in your "action area": _____

What is the distance between your site and the listed species or critical habitat (miles): _____

If you select criterion D, E, or F, attach copies of any letters or other communications between you and the U.S. Fish and Wildlife Service or National Marine Fisheries Service.

IX. Historic Preservation

Are you installing any stormwater controls as described in Appendix E that require subsurface earth disturbance? (Appendix E, Step 1) ☐ YES ☐ NO

If yes, have prior surveys or evaluations conducted on the site have already determined historic properties do not exist, or that prior disturbances have precluded the existence of historic properties? (Appendix E, Step 2) ☐ YES ☐ NO

If no, have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? (Appendix E, Step 3) ☐ YES ☐ NO

If no, did the SHPO, THPO, or other tribal representative (whichever applies) respond to you within the 15 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties? (Appendix E, Step 4) ☐ YES ☐ NO

If yes, describe the nature of their response:

☐ Written indication that adverse effects to historic properties from the installation of stormwater controls can be mitigated by agreed upon actions

☐ No agreement has been reached regarding measures to mitigate effects to historic properties from the installation of stormwater controls

☐ Other: _____

X. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐ ☐ ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Title: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Signature: _____ Date: ☐☐/☐☐/☐☐☐☐

Email: ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Instructions for Completing EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

NPDES Form Date (2/16) This Form Replaces Form 3510-9 (11/08) Form Approved OMB No. 2040-0004

Who Must File an NOI Form

Under the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et. seq.; the Act), federal law prohibits stormwater discharges from certain construction activities to waters of the U.S. unless that discharge is covered under a National Pollutant Discharge Elimination System (NPDES) permit. Operator of construction sites where one or more acres are disturbed, smaller sites that are part of a larger common plan of development or sale where there is a cumulative disturbance of at least one acre, or any other site specifically designated by the Director, must submit an NOI to obtain coverage under an NPDES general permit. Each person, firm, public organization, or any other entity that meets either of the following criteria must file this form: (1) they have operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or (2) they have day-to-day operational control of those activities at the project necessary to ensure compliance with the permit conditions. If you have questions about whether you need a NPDES stormwater permit, or if you need information to determine whether EPA or your state agency is the permitting authority, refer to www.epa.gov/npdes/stormwater/cgp or telephone EPA's NOI Processing Center at (866) 352-7755.

Completing the Form

Obtain and read a copy of the 2012 Construction General Permit, viewable at www.epa.gov/npdes/stormwater/cgp. To complete this form, type or print uppercase letters, in the appropriate areas only. Please place each character between the marks (abbreviate if necessary to stay within the number of characters allowed for each item). Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions on this form, refer to www.epa.gov/npdes/stormwater/cgp or telephone EPA's NOI Processing Center at (866) 352-7755. Please submit the original document with signature in ink - do not send a photocopied signature.

Section I. Approval to Use Paper NOI Form

You must indicate whether you have been given approval by the EPA Regional Office to use a paper NOI. Note that you are not authorized to use this paper NOI form unless the Regional Office has approved its use. Verbal approval from the Regional Office is sufficient. Where you have obtained approval to use this form, indicate the reason you need to use this form, the name of the EPA Regional Office staff person who provided approval for use of this form, and the date that approval was provided. See www.epa.gov/npdes/stormwater/contacts for a list of EPA Regional Office contacts.

Section II. Permit Number

Provide the number of the permit under which you are applying for coverage (see Appendix B of the general permit for the list of eligible permit numbers).

Section III. Operator Information

Provide the legal name of the person, firm, public organization, or any other entity that operates the project described in this application. Refer to Appendix A of the permit for the definition of "operator". Provide the employer identification number (EIN from the Internal Revenue Service; IRS), also commonly referred to as your taxpayer ID. If the applicant does not have an EIN enter "NA" in the space provided. Also provide a point of contact, the operator's mailing address, telephone number, fax number (optional) and e-mail address (to be notified via e-mail of NOI approval when available). Correspondence for the NOI will be sent to this address.

If the NOI was prepared by someone other than the certifier (for example, if the NOI was prepared by the facility SWPPP contact or a consultant for the certifier's signature), include the full name, organization, phone number and email address of the NOI preparer.

Section IV. Project/Site Information

Enter the official or legal name and complete street address, including city, state, zip code, and county or similar government subdivision of the project or site. If the project or site lacks a street address, indicate the general location of the site (e.g., Intersection of State Highways 61 and 34). Complete site information must be provided for permit coverage to be granted.

Provide the latitude and longitude of your facility either in degrees, minutes, seconds; degrees, minutes, decimal; or degrees decimal format. The latitude and longitude of your facility can be determined in several different ways, including through the use of global positioning system (GPS) receivers, U.S. Geological Survey (U.S.G.S.) topographic or quadrangle maps, and EPA's web-based siting tools, among others. Refer to www.epa.gov/npdes/stormwater/cgp for further guidance on the use of these methodologies. For consistency, EPA requests that measurements be taken from the approximate center of the construction site. Applicants must specify which method they used to determine latitude and longitude. If a U.S.G.S. topographic map is used, applicants are required to specify the scale of the map used. If known, enter the horizontal reference datum for your latitude and longitude. The horizontal reference datum used on USGS topographic maps is shown on the bottom left corner of USGS topographic maps. It is also available for GPS receivers. If you use EPA's web siting tool, or if you are unsure of the horizontal reference datum for your site, please check the "unknown" box.

Indicate whether the project is in Indian country lands or located on a property of religious or cultural significance to an Indian tribe, and if so, provide the name of the Indian tribe associated with the area of Indian country (including name of Indian reservation, if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property.

Indicate whether you are seeking coverage under this permit as a "federal operator" as defined in Appendix A.

Enter the estimated construction start and completion dates using four digits for the year (i.e., 10/06/2012). Indicate to the nearest quarter acre the estimated area to be disturbed.

Indicate whether earth-disturbing activities have already commenced on your project/site. If earth-disturbing activities have commenced on your site because stormwater discharges from the site have been previously covered under a NPDES permit, you must provide the CGP Tracking Number or the NPDES permit number if coverage was under an individual permit.

Instructions for Completing EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

NPDES Form Date (2/16) This Form Replaces Form 3510-9 (11/08) Form Approved OMB No. 2040-0004

Section V. Discharge Information

Indicate whether discharges from the site will enter into a municipal separate storm sewer system (MS4), as defined in Appendix A.

Also, indicate whether any surface waters (as defined in Appendix A) exist either on or within 50 feet from your site. Note that if "yes", you are required to comply with the requirement in Part 2.1.2.1 of the permit to provide natural buffers or equivalent sediment controls.

You must specify the names of any surface waters that receive stormwater directly from your site and/or from the MS4 to which you discharge. You must also specify the names of any surface waters that you discharge to that are listed as "impaired" as defined in Appendix A, including any waters for which there is an approved or established TMDL and the pollutants for which the water is impaired or for which there is a TMDL. This information will be used to determine if the site discharges to an impaired waterbody, which triggers additional requirements in Part 3.2.2 of the permit. Applicants must specify which method they used to determine whether or not their site discharges to impaired waters. Also, if a TMDL has been approved or established, identify the title or reference of the TMDL document.

Indicate whether discharges from the site will enter into a surface water that is designated as a Tier 2, Tier 2.5, or Tier 3 water. A list of Tier 2, 2.5, and 3 waters is provided as Appendix F. If the answer is "yes", name all waters designated as Tier 2, Tier 2.5, or Tier 3 to which the site will discharge.

Section VI. Chemical Treatment Information

Indicate whether the site will use polymers, flocculants, or other treatment chemicals. Indicate whether the site will employ cationic treatment chemicals. If the answer is "yes" to either question, indicate which chemical(s) you will use. Note that you are not eligible for coverage under this permit to use cationic treatment chemicals unless you notify your applicable EPA Regional Office in advance and the EPA office authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards. If you have been authorized to use cationic treatment chemicals by your applicable EPA Regional Office, attach a copy of your authorization letter and include documentation of the appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards. Examples of cationic treatment chemicals include, but are not limited to, cationic polyacrylamide (C-PAM), PolyDADMAC (POLYDIALLYLDIMETHYLAMMONIUM CHLORIDE), and chitosan.

Section VII. Stormwater Pollution Prevention Plan (SWPPP) Information

All sites eligible for coverage under this permit are required to prepare a SWPPP in advance of filing the NOI, in accordance with Part 7. Indicate whether the SWPPP has been prepared in advance of filing the NOI.

Indicate the street, city, state, and zip code where the SWPPP can be found. Indicate the contact information (name, organization, phone, fax (optional), and email) for the person who developed the SWPPP for this project.

Section VIII. Endangered Species Information

Using the instructions in Appendix D, indicate under which criterion (i.e., A, B, C, D, E, or F) of the permit the applicant is eligible with regard to protection of federally listed endangered and threatened species and designated critical habitat. A description of the basis for the criterion selected must also be provided.

If criterion B is selected, provide the Tracking Number for the other operator who had previously certified their eligibility under criterion A, C, D, E, or F. The Tracking Number was assigned when the operator received coverage under this permit, and is included in the notice of authorization.

If criterion C is selected, you must attach copies of your site map. See Part 7.2.6 of the permit for information about what is required to be in your site map. You must also specify the federally-listed species or federally-designated critical habitat that are located in the "action area" of the project, and provide the distance between the construction site and any listed endangered species or their critical habitat.

If criterion D, E, or F is selected, attach copies of any communications between you and the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

Section IX. Historic Preservation

Use the instructions in Appendix E to complete the questions on the NOI form regarding historic preservation.

Section X. Certification Information

All applications, including NOIs, must be signed as follows:

For a corporation: By a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means:

(i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA). Include the name and title of the person signing the form and the date of signing. An unsigned or undated NOI form will not be considered eligible for permit coverage.

Instructions for Completing EPA Form 3510-9

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under an NPDES General Permit

NPDES Form Date (2/16) This Form Replaces Form 3510-9 (11/08) Form Approved OMB No. 2040-0004

Modifying Your NOI

If after submitting your NOI you need to correct or update any fields on this NOI form, you may do so by submitting a paper modification form, which you can obtain at the following link: http://www.epa.gov/npdes/pubs/cgp_modify.pdf

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 3.7 hours. This estimate includes time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form, including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch 2136, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW Washington, D.C. 20460 Include the OMB control number on any correspondence. Do not send the completed form to this address.

Submitting Your Form

Submit your NOI form by mail to one of the following addresses:

For Regular U.S. Mail Delivery:
Stormwater Notice Processing Center
Mail Code 4203M
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:
Stormwater Notice Processing Center
EPA East Building - Room 7420
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically:
www.epa.gov/npdes/stormwater/cgpenoi

Appendix K - Notice of Termination (NOT) Form and Instructions

Part 8.3 requires you to use the electronic NOI system, or "eNOI" system, to prepare and submit your NOT. However, where your EPA Regional Office specifically authorizes you to use a paper NOT form, you are required to complete and submit the following form.

NPDES
FORM
3510-13

EPA

United States Environmental Protection Agency
Washington, DC 20460
Notice of Termination (NOT) for Stormwater Discharges Associated with Construction Activity under an NPDES General Permit

Form Approved.
OMB No. 2040-0004

Submission of this Notice of Termination constitutes notice that the operator identified in Section II of this form is no longer authorized discharge pursuant to the NPDES Construction General Permit (CGP) from the site identified in Section III of this form. All necessary information must be included on this form. Refer to the instructions at the end of this form.

I. Approval to Use Paper NOT Form

Have you been given approval from the Regional Office to use this paper NOT form?* ☐ YES ☐ NO

*** Note: You must have been given approval by the Regional Office prior to using this paper NOT form.**

II. Permit Information

NPDES Stormwater General Permit Tracking Number:

Reason for Termination (Check only one)

- ☐ You have completed earth-disturbing activities at your site, and you have met all other requirements in Part 8.2.1.
- ☐ Another operator has assumed control over all areas of the site and that operator has submitted an NOI and obtained coverage under the CGP.
- ☐ You have obtained coverage under an individual permit or another general NPDES permit addressing stormwater discharges from the construction site.

III. Operator Information

Name:

IRS Employer Identification Number (EIN): -

Mailing Address:

Street:

City: State: Zip Code: -

Phone: - - Ext. Fax (optional): - -

E-mail:

IV. Project/Site Information

Project/Site Name:

Project/Site Address:

Street/Location:

City: State: Zip Code: -

County or similar government subdivision:

V. Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

First Name, Middle Initial, Last Name:

Title:

Signature: _____ Date: / /

Email:

Instructions for Completing EPA Form 3510-13

Notice of Termination (NOT) of Coverage Under an NPDES General Permit for Stormwater Discharges Associated with Construction Activity

NPDES Form Date (2/18) This Form Replaces Form 3510-13 (12/08) Form Approved OMB No. 2040-0004

Who May File an NOT Form
Permittees who are presently covered under the EPA-issued 2012 Construction General Permit (CGP) for Stormwater Discharges Associated with Construction Activity may submit an NOT form when: (1) earth-disturbing activities at the site are completed and the conditions in Parts 8.2.1.1 thru 8.2.1.5 are met; or (2) the permittee has transferred all areas under its control to another operator, and that operator has submitted and obtained coverage under this permit; or (3) the permittee has obtained coverage under a different NPDES permit for the same discharges.

Completing the Form
Type or print, using uppercase letters, in the appropriate areas only. Please place each character between the marks. Abbreviate if necessary to stay within the number of characters allowed for each item. Use only one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response. If you have any questions about this form, refer to www.epa.gov/npdes/stormwater/cgp or telephone EPA's NOI Processing Center at (866) 352-7755. Please submit original document with signature in ink - do not send a photocopied signature.

Section I. Approval to Use Paper NOT Form
You must indicate whether you have been given approval by the EPA Regional Office to use a paper NOT. Note that you are not authorized to use this paper NOT form unless the Regional Office has approved its use.

Section II. Permit Number
Enter the existing NPDES Stormwater General Permit Tracking Number assigned to the project by EPA's Stormwater Notice Processing Center. If you do not know the permit tracking number, refer to http://www.epa.gov/npdes/stormwater/cgp or contact EPA's NOI Processing Center at (866) 352-7755.

Indicate your reason for submitting this Notice of Termination by checking the appropriate box. Check only one:

You have completed earth-disturbing activities at your site and, if applicable, construction support activities covered by this permit (see Part 1.6.3) and you have met all other requirements in Part 8.2.1.

Another operator has assumed control over all areas of the site and that operator has submitted an NOI and obtained coverage under the CGP.

You have obtained coverage under an individual permit or another general NPDES permit addressing stormwater discharges from the construction site.

Section III. Operator Information
Provide the legal name of the person, firm, public organization, or any other entity that operates the project described in this application and is covered by the permit tracking number identified in Section I. Refer to Appendix A of the permit for the definition of "operator". Provide the employer identification number (EIN from the Internal Revenue Service; IRS). If the applicant does not have an EIN enter "NA" in the space provided. Enter the complete mailing address, telephone number, and email address of the operator. Optional: enter the fax number of the operator.

Section IV. Project/Site Information
Enter the official or legal name and complete street address, including city, state, zip code, and county or similar government subdivision of the project or site. If the project or site lacks a street address, indicate the general location of the site (e.g., intersection of State Highways 61 and 34). Complete site information must be provided for termination of permit coverage to be valid.

Section V. Certification Information

All applications, including NOIs, must be signed as follows:

For a corporation. By a responsible corporate officer. For the purpose of this Part, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this Part, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of EPA).

Include the name, title, and email address of the person signing the form and the date of signing. An unsigned or undated NOT form will not be considered valid termination of permit coverage.

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 0.5 hours per notice, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding the burden estimate, any other aspect of the collection of information, or suggestions for improving this form including any suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, 2136, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460. Include the OMB number on any correspondence. Do not send the completed form to this address.

Instructions for Completing EPA Form 3510-13

Notice of Termination (NOT) of Coverage Under an NPDES General Permit for Stormwater Discharges Associated with Construction Activity

NPDES Form Date (2/18) This Form Replaces Form 3510-13 (12/08) Form Approved OMB No. 2040-0004

Submitting Your Form:
Submit your NOI form by mail to one of the following addresses:

For Regular U.S. Mail Delivery:
Stormwater Notice Processing Center
Mail Code 4203M
U.S. EPA
1200 Pennsylvania Avenue, NW
Washington, DC 20460

For Overnight/Express Mail Delivery:
Stormwater Notice Processing Center
EPA East Building - Room 7420
U.S. EPA
1201 Constitution Avenue, NW
Washington, DC 20004

Visit this website for instructions on how to submit electronically.
www.epa.gov/npdes/stormwater/cgpenoi

E2RC INTEGRATED ENVIRONMENTAL

Stormwater Construction Site Inspection Report

Project Name			
NPDES Tracking No.		Location	
Date of Inspection		Time	
Inspector's Name			
Inspector's Contact Information			
Current phase of construction			
Type of Inspection	Regular	Pre-Storm event	Post storm event

The Site is Classified as	Passing - Stable	Passing – Maintenance Required	Failed

Weather Information

Has it rained since the last inspection?		
Yes	No	If yes, provide:
Storm Start Date & Time:	Storm Duration (hrs):	Approx. Rainfall
Weather at time of this inspection?		

	Overall Site Issues	Yes	No	N/A	Notes
1	Are stabilized construction entrances in place & in good maintenance?				
2	Is sediment cleaned from public roads at site access roads?				
3	Are drop inlet protections in place and functioning properly?				
4	Are gravel bags properly placed and in good repair?				
5	Are diversion dikes controlling storm water effectively?				
6	Are sediment basins, ponds, traps, and barriers functioning properly?				
7	Are discharge points free of pollutant discharges?				
8	Is trash/litter from work areas collected in covered containers?				
9	Are dust control measures being properly implemented?				
10	Are all material and equipment handling and storage areas free of spills and leaks?				
11	Are traffic and parking areas restricted so as to reduce soil erosion and dust?				
12	Is heavy equipment being maintained so as not to contaminate soils with spills?				
13	Are sanilets located in such a way as not to pose a threat of spills to waterways?				
14	Are non-stormwater discharges properly controlled?				
15	Are SWPPP postings legible and properly displayed at construction entrances?				
16	Concrete washout area established and posted				
17	BMP correctly installed and in good condition				

Completed Inspections

BMP Description	BMP Installed and Operating Properly?		Corrective Action Needed	Photo #
1	Yes	No		
2	Yes	No		
3	Yes	No		
4	Yes	No		
5	Yes	No		
6	Yes	No		
7	Yes	No		
8	Yes	No		
9	Yes	No		
10	Yes	No		

Notes describe needed corrections and indicate the location of the items needing correction

1
2
3
4
5
6
7
8
9
10

Certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name: _____

Signature: _____

Date: _____

THE NAVAJO NATION

RUSSELL BEGAYE PRESIDENT
JONATHAN NEZ VICE PRESIDENT

ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF EXECUTIVE DIRECTOR/ADMINISTRATION
OFFICE OF ENVIRONMENTAL REVIEW
PO BOX 339 WINDOW ROCK ARIZONA 86515 Office: 928/871-7188 Fax: 928/871-7996
Website: www.navajonationepa.org

EXHIBIT
tabbies
M

M E M O R A N D U M

TO: Howard Draper, Program & Project Specialist
Project Review Office
Navajo Land Department
Division of Natural Resources

FROM: Rita Whitehorse-Larsen, Senior Environmental Specialist
Office of Executive Director/Administration
Office of Environmental Review
NNEPA

DATE: December 23, 2015

SUBJECT: 164 EOR 005000 Recon Oil Buffalo Springs Sand & Gravel Lease

The Recon Oil Company Inc., PO Box 1678, Window Rock, Arizona, 86515, submitted a sand & gravel lease to use 11.41 acres, more or less, of Navajo Nation Trust lands for sand and gravel area and 0.24 acres, more or less, for access road for road improvements. The borrow materials will be use in the reconstruction of US 491 as fill for embankments. Pit use is expected to last two years. It will be reclaimed as the end of the project. The estimated extraction of materials is 6,000 cubic yards. The proposed temporary mineral lease is located at LAT: 35° 56' 35.7"N LONG: 108° 38' 56.5"W, [Tohatchi vicinity], McKinley County, New Mexico.

Navajo Nation Environmental Protection Agency (NNEPA) reviewed [1] and recommends ***conditional approval*** for the proposed sand and gravel lease.

The proposed action is required to meet the following and attain each required permit before commencing any operation activities.

1. ***Navajo Nation Clean Water Act:***

1 Permits West, Inc. Environmental Assessment for Recon Oil Tohatchi/Buffalo Springs Borrow Pit for the US 491 Improvement Project. July 2015.

a. **Section §401 and §404:** Excavation and/or filling of waters of the US requires coverage under a US Army Corps of Engineers Nationwide (No. 44 for Mining Activities) or Individual Permit that requires CWA §401 Water Quality Certification from Navajo Nation EPA. Waters of the US jurisdictional waters are defined by Ordinary High-Water Mark characteristics. As determined in the EA, NNEPA Water Quality determined *"There appears to be no jurisdictional waters within the proposed project area. There are no filling or excavating of a jurisdictional water. Best Management Practices (BMPs) is highly recommended to be in place to prevent sediment runoff."* If you need more information, contact Patrick Antonio, Principal Hydrologist, NNEPA Water Quality.

b. **Section §402 Multi-Sector General Permit (USEPA)**: The proposed action is greater than 1 acre. Recon Oil Company Inc., including sub-contractors are subject to complete the requirements under the Clean Water Act Section §402. *Sand and gravel operations are covered by the federal general permit for storm water discharges associated with industrial activities known as the Multi Sector General Permit (MSGP) under Sector J for Mineral Mining and Dressing specifically under J1 for Construction Sand and Gravel. USEPA recently reissued the MSGP that became effective June 4, 2015. Under the MSGP, the discharge authorization date is 30 days after USEPA notifies you that after receiving the Notice of Intent (NOI) and the Storm Water Pollution Prevention Plan (SWPPP) must be prepared before submission of the NOI. The NOI should be submitted to USEPA. USEPA does not approve SWPPP but it receives and processes the NOIs. The NOI should be submitted to USEPA and the MSGP discharge coverage occurs 30 days after notification from USEPA of a complete NOI. Coverage under the MSGP should be for the storm water discharges associated with active mining activities and for the earth-disturbing activities conducted prior to active mining activities.*

2. ***Navajo Nation Air Pollution Prevention and Control Act:***
   a. The proposed action is not located in an attainment area.
   b. Visibility is good to excellent.
   c. Dust suppression must be implemented in the Best Management Practice.
   d. The Air Quality Control Program: Activity Application must be completed and submitted to NNEPA Operating Permit Program for the quarry processing, transporting and the road maintenance activities.
3. ***Navajo Nation Safe Drinking Water Act:***
   a. No proposed drinking water system is expected to be at the proposed sand and gravel site.
   b. No proposed domestic waste water system is expected to be at the proposed sand and gravel site.
   c. Portable toilet rentals should be provided for onsite workers at the expense of Recon Oil Company Inc. The portable toilet rentals shall be maintained and protected from vandalism during off working hours and holidays by Recon Oil Company Inc.
4. ***Navajo Nation Solid Waste Act:***
   a. Do not allow public to take onsite waste, cumulatively NNEPA receives complaints and reports on illegal trash dumpings on rural areas and in the waters of the US and Navajo Nation.
   b. The Recon Oil Company Inc., is subject to control the solid waste littering and shall provide solid waste bins for onsite workers. The bins shall be maintained and protected from vandalism during off working hours and holidays by Recon Oil Company Inc.
5. ***Navajo Nation Comprehensive, Environmental Response, Compensation and Liability Act (CERLA):***
   a. No hazardous material will be stored, transported, generated and distributed from the proposed sand and gravel site.

b. According the Navajo CERCLA, petroleum is considered hazardous material and any spills ≥ 25 gallons should be reported to NNEPA Office of Executive Director/Administration at 928/871-7692.

6. ***Navajo Nation Storage Tank Act (NNSTA)*** *(formerly Underground Storage Tank (UST) Act; amended February 2012):*
   a. No storage tanks are proposed on the sand and gravel site.
   b. If there are plans to install underground and/or aboveground storage tanks greater than 100 gallons, the plans must meet the design specifications as outlined by NNEPA Storage Tank Program. The specifications must be approved by the Storage Tank Program. Contact the Storage Tank Program at 928/871-7993 for further technical assistance.
   c. NNEPA Storage Tank Program staff will need to be onsite before installing any above and underground storage tanks.
7. ***Federal Insecticide Fungicide and Rodenticide Act (FIFRA)/NN Pesticide Act:***
   a. The Recon Oil Company Inc., is subject to control and prevent the spread of invasive and noxious weeds.
   b. Contact the NNEPA Pesticide Program at 928/871-7815/7810 before applying any pesticides and herbicides to control noxious and invasive plant species to ensure the product is in compliance and appropriately applied by a certified and licensed applicator.
   c. Pesticide staff will also may need to be onsite to monitor during pesticide/herbicide application.
8. ***Others To Contact Within Navajo Nation:***
   a. Existing public roads will be used for access during the operation activities.
   b. Submit all required documents for water permit including imported water to the Division of Natural Resources, Department of Water Resources – Water Code Program.

If there are any questions, you may contact Rita Whitehorse-Larsen at 928/871-7188. Thank you.

Cc: Tohatchi Chapter, PO Box 1236, Tohatchi, New Mexico 87325
NNEPA Water Quality; Operating Permit Program; Administration chrono file
Contact Person: Hubert Dayzie or Bruce Nicholson, PO Box 1678, Window Rock, AZ 86515; (214) 394-7561 or (505) 488-3314

Document No. 005000 Date Issued: 11/06/2015

EXECUTIVE OFFICIAL REVIEW

Title of Document: Recon Oil- Buffalo Springs S&G Lease Contact Name: DRAPER, HOWARD

Program/Division: DIVISION OF NATURAL RESOURCES

Email: howarddraper@frontiernet.net Phone Number: 928/871-6447

☐ **Business Site Lease** — Sufficient ☐ Insufficient ☐

1. Division: _____ Date: _____ ☐ ☐
2. Office of the Controller: _____ Date: _____ ☐ ☐

(only if Procurement Clearance is not issued within 30 days of the initiation of the E.O. review)

3. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Business and Industrial Development Financing, Veteran Loans, (i.e. Loan, Loan Guarantee and Investment) or Delegation of Approving and/or Management Authority of Leasing transactions**

1. Division: _____ Date: _____ ☐ ☐
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Fund Management Plan, Expenditure Plans, Carry Over Requests, Budget Modifications**

1. Office of Management and Budget: _____ Date: _____ ☐ ☐
2. Office of the Controller: _____ Date: _____ ☐ ☐
3. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Navajo Housing Authority Request for Release of Funds**

1. NNEPA: _____ Date: _____ ☐ ☐
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Lease Purchase Agreements**

1. Office of the Controller: _____ Date: _____ ☐ ☐

(recommendation only)

2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Grant Applications**

1. Office of Management and Budget: _____ Date: _____ ☐ ☐
2. Office of the Controller: _____ Date: _____ ☐ ☐
3. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Five Management Plan of the Local Governance Act, Delegation of an Approving Authority from a Standing Committee, Local Ordinances (Local Government Units), or Plans of Operation/Division Policies Requiring Committee Approval**

1. Division: _____ Date: _____ ☐ ☐
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Relinquishment of Navajo Membership**

1. Land Department: _____ Date: _____ ☐ ☐
2. Elections: _____ Date: _____ ☐ ☐
3. Office of the Attorney General: _____ Date: _____ ☐ ☐

DIVISION OF NATURAL RESOURCES DEC

Pursuant to 2 N.N.C. § 164 and Executive Order Number 07-2013

			Sufficient	Insufficient
☐ **Land Withdrawal or Relinquishment for Commercial Purposes**				
1. Division:		Date:	☐	☐
2. Office of the Attorney General:		Date:	☐	☐
☒ **Land Withdrawals for Non-Commercial Purposes, General Land Leases and Resource Leases**				
1. NLD		Date: 09 Nov 15	☑	☐
2. F&W		Date: 11/12/15	☑	☐
3. HPD		Date: 11/17/15	☒	☐
4. Minerals		Date: 12/17/15	☑	☐
5. NNEPA		Date: ~~12/22/15~~	☒	☐
6. DNR		Date: 12/28/15	☑	☐
7. DOJ		Date: 1-12-16	☑	☐
8. OP/VP		Date: 1-20-16	☒	☐
☐ **Rights of Way**				
1. NLD		Date:	☐	☐
2. F&W		Date:	☐	☐
3. HPD		Date:	☐	☐
4. Minerals		Date:	☐	☐
5. NNEPA		Date:	☐	☐
6. Office of the Attorney General:		Date:	☐	☐
7. OPVP		Date:	☐	☐
☐ **Oil and Gas Prospecting Permits, Drilling and Exploration Permits, Mining Permit, Mining Lease**				
1. Minerals		Date:	☐	☐
2. OPVP		Date:	☐	☐
3. NLD		Date:	☐	☐
☐ **Assignment of Mineral Lease**				
1. Minerals		Date:	☐	☐
2. DNR		Date:	☐	☐
3. DOJ		Date:	☐	☐
☐ **ROW (where there has been no delegation of authority to the Navajo Land Department to grant the Nation's consent to a ROW)**				
1. NLD		Date:	☐	☐
2. F&W		Date:	☐	☐
3. HPD		Date:	☐	☐
4. Minerals		Date:	☐	☐
5. NNEPA		Date:	☐	☐
6. DNR		Date:	☐	☐
7. DOJ		Date:	☐	☐
8. OPVP		Date:	☐	☐
☐ **OTHER:**				
1.		Date:	☐	☐
2.		Date:	☐	☐
3.		Date:	☐	☐
4.		Date:	☐	☐
5.		Date:	☐	☐

NAVAJO NATION DEPARTMENT OF JUSTICE

DOCUMENT REVIEW REQUEST FORM

RECEIVED DEC 30 2015 DEPARTMENT OF JUSTICE RECEPTIONIST DESK

DOJ
1/11 [illegible]
DATE / TIME
☐ 7 Day Deadline
DOC # 005000
SAS #:
UNIT: NRU

☐ RESUBMITTAL

*** FOR NNDOJ USE ONLY - DO NOT CHANGE OR REVISE FORM. VARIATIONS OF THIS FORM WILL NOT BE ACCEPTED. ***

CLIENT TO COMPLETE			
DATE OF REQUEST:	12/30/2015	DIVISION:	Division of Natural Resources
CONTACT NAME:	Kayla Bia/ Howard Draper	DEPARTMENT:	Navajo Land Department- Prjt. Review
PHONE NUMBER:	928/871-6447	E-MAIL:	howarddraper@frontiernet.net
TITLE OF DOCUMENT:	*Sand & Gravel Lease for Recon Oil- Buffalo Springs*		

RECEIVED DEC 31 2015 DEPARTMENT OF JUSTICE NATURAL RESOURCES UNIT

DOJ SECRETARY TO COMPLETE			
DATE/TIME IN UNIT:	1-13-15 8:35 AM	REVIEWING ATTORNEY/ADVOCATE:	Irvin Cu 01/12/16
DATE TIME OUT OF UNIT:	1/12/16	2:01 p.m.	SB

DOJ ATTORNEY / ADVOCATE COMMENTS

Document is legally sufficient

REVIEWED BY: (*Print*)	Date / Time	SURNAMED BY: (*Print*)	Date / Time
Jeff Garland	1-11-16/ 2:29pm	Melissa Blackhat	1-12-16 10:55 am

DOJ Secretary Called: Kayla Bia for Document Pick Up on 1/12/16 at 11:40am By: SB

PICKED UP BY: (*Print*) DATE / TIME:

NNDOJ/DRRF-July 2013

THE NAVAJO NATION

MINERALS DEPARTMENT
Post Office Box 1910
Window Rock, Arizona 86515
Phone: (928) 871-6587 • Fax: (928) 871-7095

December 14, 2015

M E M O R A N D U M

TO : ALL CONCERNED

FROM : Akhtar Zaman, Director
Minerals Department

SUBJECT : **DELEGATION OF AUTHORITY**

Ms. Rowena Cheromiah, Minerals Royalty/Audit Manager, is hereby delegated to act in the capacity of the Director of the Minerals Department beginning at 8:00 A.M. on Monday, December 14, 2015 and ending at 5:00 P.M. on Friday, December 18, 2015.

Your cooperation with Ms. Cheromiah will be appreciated.

ACKNOWLEDGMENT

Rowena Cheromiah
Minerals Audit Department

AZ/kjs
Distribution

THE NAVAJO NATION

RUSSELL BEGAYE
JONATHAN NEZ

MEMORANDUM

TO : Jeffrey Cole, Wildlife Manager
Department of Fish and Wildlife

FROM : _____
Gloria M. Tom, Director
Department of Fish and Wildlife

DATE : November 10, 2015

SUBJECT : **DELEGATION OF AUTHORITY**

I will be on leave beginning Thursday, November 12 through Tuesday, November 17, 2015. I am hereby delegating you to act in the capacity of the Director, Department of Fish and Wildlife, effective 8:00 a.m. on Thursday, November 12, 2015. This delegation shall end at 5:00 p.m. on Tuesday, November 17, 2015.

Your authority will cover the review and signing off of all routine documents pertaining to the Department of Fish and Wildlife, except for issues that you feel should have the attention of the Director.

ACKNOWLEDGEMENT

_____
Jeffrey Cole, Wildlife Manager
Department of Fish and Wildlife

THE NAVAJO NATION

RUSSELL BEGAYE PRESIDENT
JONATHAN NEZ VICE PRESIDENT

March 2, 2016

Mr. Ben Bennett
Council Delegate
Navajo Nation

RE: Recon Oil Co., Inc.

Per your request, this letter is to verify that Recon Oil Co., Inc. is registered with the Navajo Nation Corporation Code (NNCC). This company filed their annual report and are in compliance with the NNCC. And are in good standing with NNCC, Business Regulatory Department.

If you have any questions, please contact our office at (928) 871-6714 or 7365.

Thank you.

E M Begaye

Eunice M. Begaye
Programs & Projects Specialist
Business Regulatory Department
PO Box 663
Window Rock, Arizona 86515

THE NAVAJO NATION

RUSSELL BEGAYE
JONATHAN NEZ

February 17, 2016

MEMORANDUM

TO : Mariana Kahn, Attorney
Office of Legislative Counsel

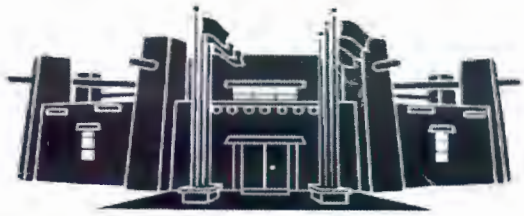
FROM: Eunice M. Begaye
Eunice M. Begaye, Programs and Projects Specialist
Business Regulatory/DED

SUBJECT: Corporation Status – Recon Oil Co., Inc.

Per your request, this memo is to verify that Recon Oil Co., Inc. is registered with the Navajo Nation Corporation Code (NNCC). This company is not in compliance with the NNCC therefore, they are not in good standing with NNCC, Business Regulatory Department.

If you have any questions, please contact our office at (928) 871-6714 or 7365. Thank you.

Office of Legislative Counsel
Telephone: (928) 871-7166
Fax # (928) 871-7576



Honorable LoRenzo Bates
Speaker
23rd Navajo Nation Council

MEMORANDUM

TO: Honorable Ben Bennett
Crystal, Fort Defiance, Red Lake, Sawmill Chapters

FROM: Mariana Kahn
Mariana Kahn, Attorney
Office of Legislative Counsel

DATE: May 10, 2016

SUBJECT: PROPOSED STANDING COMMITTEE RESOLUTION; AN ACTION RELATING TO RESOURCES AND DEVELOPMENT; APPROVING A SAND AND GRAVEL LEASE TO RECON OIL CO., INC., TO OPERATE AND MAINTAIN A SAND AND GRAVEL PIT TO OCCUPY 11.41 ACRES, MORE OR LESS, AND AN ACCESS ROAD OF 0.24 ACRES, MORE OR LESS, OF NAVAJO NATION TRUST LANDS LOCATED WITHIN THE TOHATCHI CHAPTER VICINITY, NAVAJO NATION (MCKINLEY COUNTY, NEW MEXICO) FOR ROAD IMPROVEMENT PROJECTS

As requested, I have prepared the above-referenced proposed resolution and associated legislative summary sheet pursuant to your request for legislative drafting. Based on existing law and review of documents submitted, the resolution as drafted is legally sufficient. As with any action of government however, it can be subject to review by the courts in the event of proper challenge. Please ensure that his particular resolution request is precisely what you want. You are encouraged to review the proposed resolution to ensure that it is drafted to your satisfaction.

The Exhibit A, the sand and gravel lease, is written for Recon Oil, Co. Inc. notwithstanding the Fisher Sand and Gravel—NM, Inc. is listed as the sponsor on Exhibit E, the Cultural Resource and Compliance Form, on Exhibit F, the Biological Compliance Form, on Exhibit I, the Navajo Natural Heritage Program letter, and listed with Recon Oil, Co., Inc. on Exhibit J, the Biological Resource Compliance Form, and Exhibit J, the Cultural Resource Survey. The Applicant/Operator is also listed as Bruce Nicholson, Recon Oil on page 18 of

Exhibit D, the Environmental Assessment and on Exhibit L, the Mining and Reclamation page 3, the Permittee for the Proposed Action Expansion Area is listed as Bruce Nicholson.

I also bring to your attention that there is no chapter resolution from the Tohatchi Chapter acknowledging the proposed activity.

The Office of Legislative Counsel confirms the appropriate standing committee(s) based on the standing committees powers outlined in 2 N.N.C. §§301, 401, 501, 601 and 701. Nevertheless, "the Speaker of the Navajo Nation Council shall introduce [the proposed resolution] into the legislative process by assigning it to the respective oversight committee(s) of the Navajo Nation Council having authority over the matters for proper consideration." 2 N.N.C. §164(A)(5).

If the proposed resolution is unacceptable to you, please contact me at the Office of Legislative Counsel and advise me of the changes you would like made to the proposed resolution.

THE NAVAJO NATION
LEGISLATIVE BRANCH
INTERNET PUBLIC REVIEW PUBLICATION

LEGISLATION NO: _0194-16_____ SPONSOR: Benjamin Bennett

TITLE: An Action Relating to Resources and Development; Approving a Sand and Gravel Lease to Recon Oil Co., Inc. to Operate and Maintain a Sand and Gravel Pit to Occupy 11.41 Acres, More or Less, and an Access Road of 0.24 Acres, More or Less, of Navajo Nation Trust Lands Located Within the Tohatchi Chapter Vicinity, Navajo Nation (McKinley County, New Mexico) for Road Improvement Projects.

***Date posted*: June 21, 2016 at 10:00am**

Digital comments may be e-mailed to comments@navajo-nsn.gov

Written comments may be mailed to:

Executive Director
Office of Legislative Services
P.O. Box 3390
Window Rock, AZ 86515
(928) 871-7590

Comments may be made in the form of chapter resolutions, letters, position papers, etc. Please include your name, position title, address for written comments; a valid e-mail address is required. Anonymous comments will not be included in the Legislation packet.

Please note: This digital copy is being provided for the benefit of the Nav, ajo Nation chapters and public use. Any political use is prohibited. All written comments received become the property of the Navajo Nation and will be forwarded to the assigned Navajo Nation Council standing committee(s) and/or the Navajo Nation Council for review. Any tampering with public records are punishable by Navajo Nation law pursuant to 17 N.N.C. *§374 et. seq*.

THE NAVAJO NATION
LEGISLATIVE BRANCH
INTERNET PUBLIC REVIEW SUMMARY

LEGISLATION NO.: 0194-16

SPONSOR: Honorable Benjamin Bennett

TITLE: An Action Relating to Resources and Development; Approving a Sand and Gravel Lease to Recon Oil Co., Inc. to Operate and Maintain a Sand and Gravel Pit to Occupy 11.41 Acres, More or Less, and an Access Road of 0.24 Acres, More or Less, of Navajo Nation Trust Lands Located Within the Tohatchi Chapter Vicinity, Navajo Nation (McKinley County, New Mexico) for Road Improvement Projects.

Posted: June 21, 2016 at 10:00am

5 DAY Comment Period Ended: June 26, 2016

Digital Comments received:

Comments Supporting	***None***
Comments Opposing	***None***
Inclusive Comments	***None***

Latonya Bully
Policy Analyst
Office of Legislative Services

6/27/16 8:45am
Date/Time

RESOURCES AND DEVELOPMENT COMMITTEE
23rd NAVAJO NATION COUNCIL

FOURTH YEAR 2018

COMMITTEE REPORT

Mr. Speaker,

The **RESOURCES AND DEVELOPMENT COMMITTEE** to whom has been assigned:

> **Legislation # 0194-16:** An Action Relating to Resources and Development; Approving a Sand and Gravel Lease to Recon Oil Co., Inc. to Operate and Maintain a Sand and Gravel Pit to Occupy 11.41 Acres, More or Less, and an Access Road of 0.24 Acres, More or Less, of Navajo Nation Trust Lands Located Within The Tohatchi Chapter Vicinity, Navajo Nation (McKinley County, New Mexico) For Road Improvement Projects. *Sponsor: Honorable Benjamin Bennett.*

Has had it under consideration and reports the same **EXPIRED.**

Pursuant to NN Standing Committee Rules of Order, Rule 18.H, "Any Legislations not taken up from the table in the manner provided herein directed by the Committee shall be deemed to be expired and shall be eliminated from the agenda of the committee."

The above referenced legislation has been on tabled status since June 28, 2016 due to litigation occurring with Agent. The Agent is charged with trespassing on Nazlini sewer lagoon site (Legislation # 0040-16) and hauled sand without proper authorization from the NN and RDC. As a result the incident and pending litigation against the Agent, the matter be closed. When the litigation issued are settled, the Sponsor and Agent can reopen their legislation packet.

Respectfully submitted,

Alton Joe Shepherd, Chairperson
Resource and Development Committee of
the 23rd Navajo Nation Council

March 8, 2018

ATTACHED: NN DOJ – Natural Resource Unit Correspondence Dated July 12, 2016.

NAVAJO NATION DEPARTMENT OF JUSTICE
OFFICE OF THE ATTORNEY GENERAL

ETHEL B. BRANCH
ATTORNEY GENERAL

RODGERICK T. BEGAY
ACTING DEPUTY ATTORNEY GENERAL

MEMORANDUM

TO: Honorable Alton Joe Shepherd, Chairperson
Resources and Development Committee of the Navajo Nation Council

Honorable Benjamin Bennett, Vice-Chairperson,
Resources and Development Committee of the Navajo Nation Council

Honorable Davis Filfred, Committee Member
Resources and Development Committee of the Navajo Nation Council

Honorable Jonathan Perry, Committee Member
Resources and Development Committee of the Navajo Nation Council

Honorable Leonard Pete, Committee Member
Resources and Development Committee of the Navajo Nation Council

Honorable Walter Phelps, Committee Member
Resources and Development Committee of the Navajo Nation Council

FROM: Sage G. Garland, Attorney
Natural Resources Unit

DATE: July 12, 2016

Re: **Litigation Status of NN Div. of Natural Res. v. Recon Oil Co., Inc. (No. OHA-DNR-001-16)**

On April 15, 2016, the Navajo Nation Division of Natural Resources issued a Notice of Trespass and Order to Comply to Recon Oil Co., Inc. ("Recon") pursuant to the Navajo

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Nation Civil Trespass Act.[1] On April 22, 2016, the Navajo Nation Division of Natural Resources issued a Civil Trespass Assessment to Recon for the trespass violation in the amount of $50,000. Recon subsequently appealed the Notice of Trespass to the Office of Hearings and Appeals ("OHA").

A central issue of the litigation is the Executive Order issued by former President Ben Shelly on May 7, 2015 (the "Executive Order"), which purported to authorize Recon access to material at the site in question. OHA held an expedited hearing on the validity of the Executive Order, which resulted in OHA declaring the Executive Order invalid.

At this time, the litigation is still pending and the associated civil assessment has not been paid. In addition to litigation the parties have been involved in settlement negotiations. Included in the settlement discussions are terms and conditions to a sand and gravel lease.

The site at issue in the trespass litigation is the same site identified in proposed Resources and Development Committee Resolution No. 0194-16. As mentioned above, the settlement negotiations address both the trespass, and the appropriate terms and conditions for a lease for future extraction of sand and gravel. The Division of Natural Resources has determined that it is not prudent to release terms and conditions at this time due to the ongoing settlement negotiations that address this issue. Please note that whatever terms and conditions are agreed to as part of the settlement will be brought to RDC for approval.

If there are any questions please contact Sage G. Garland at (928) 871-6347.

[1] *See* Navajo Nation Civil Trespass Act, 16 N.N.C. §§2201-2293.