



STORMWATER POLLUTION PREVENTION PLAN TEMPLATE
NORTH DAKOTA DEPARTMENT OF HEALTH
DIVISION OF WATER QUALITY
SFN 19388 (12/2010)

Stormwater Pollution Prevention Plan

For:

Project Name: Ironwood Industrial Park
Site Location/Address: Lot 7, 49th St. & 21st Ave.
City: Near Williston, ND
County: Williams
Site Telephone Number: none
(if applicable)

Owner(s):

Company or Organization: Ironwood Construction
Contact Name: Julien Morice
Mailing Address: 2110 Sourdough Road
City, State, Zip Code: Bozeman, MT, 59715
Telephone Number: 406-581-9999
Fax:
E-mail: j@ironwoodd.com

SWPPP Preparation Date:

11/08/2012

NDPDES Permit Coverage Number:

Foreword:

All construction projects covered by the North Dakota Pollutant Discharge Elimination System General Permit associated with stormwater discharges from construction activity, NDR10-0000, shall prepare and implement a stormwater pollution prevention (SWPP) plan as part of the permit requirements. The SWPP plan and revisions are subject to review by the North Dakota Department of Health. The objectives of the plan are to identify potential sources of stormwater pollution from construction activity and to ensure practices are implemented to minimize the contribution of pollutants to stormwater runoff. Stormwater management measures developed under other regulatory programs (e.g., Spill Prevention, Control and Countermeasure requirements) can be included in the SWPP plan or incorporated by reference.

The SWPP plan may identify more than one permittee and may specify the responsibilities of each permittee by task, area, and/or timing. Permittees may coordinate and prepare more than one SWPP plan to accomplish this. However, in the event there is a requirement under the SWPP plan for which responsibility is ambiguous or is not included in the SWPP plan, each permittee shall be responsible for implementation of that requirement. Each permittee is also responsible for ensuring that its activities do not render another permittee's controls ineffective.

The SWPP plan is an enforceable document; the purpose of the plan is not for regulators to review but for owners and operators to implement.

The SWPP plan shall include the following information:

1. Site description
2. Operational controls
3. Erosion and sediment controls
4. Stormwater management
5. Maintenance
6. Inspections
7. Records location and retention
8. Plan review and revisions
9. Final stabilization
10. Construction stormwater general permit, NDR10-0000
11. Copy of the notice of intent
12. Coverage letter from the North Dakota Department of Health
13. Guidelines, specifications or manuals for selected best management practices

1. Site Description. The plan must include a description of the construction site and potential pollutant sources.

a. Project location. Please complete one of the selections.

Street Address: _____ City: _____
 Subdivision (if known): _____

Township: 154N Range: 101W
 Section: 3 --- 1/4 1/4 NE 1/4; or ABCD: _____

Latitude: _____ Longitude: _____

General Location: Lot 7, Ironwood Industrial Park Subdivision on 49th St. East of 22nd Ave. and at the intersection of 21st and 49th.

b. Describe the overall project and type of construction activity. Attach additional pages if needed and label 1-b.

This project includes site grading and construction of access, drainage ditches, culverts, building construction, on-site septic system, and storm water detention ponds.

c. Estimated total area of the project and total area expected to be disturbed by excavation, grading, grubbing or other activities. Include the estimated total area of offsite support activities that will be covered by the construction general permit. This includes concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas not already covered by another stormwater permit.

Total area of project: 3.36 acres

Total area expected to be disturbed: 2.86 acres

d. Provide a proposed timetable of soil disturbing activities for major portions of the site (for example; excavation, grading, grubbing, building, temporary stabilization, final stabilization). A construction schedule may be used if available. Attach additional pages if needed and label 1-d.

Phase	Timetable
<u>Installation of temporary BMP's</u>	<u>November 16th, 2012</u>
<u>Site stripping, preliminary grading</u>	<u>November 19th, 2012</u>
<u>Final grading & temp. stabilization</u>	<u>February 1, 2013-March 1, 2013</u>
<u>Planting</u>	<u>March 5, 2013</u>
<u>Final stabilization</u>	<u>March 2014</u>

e. Describe the soil within the disturbed area(s). Attach additional pages if need and label 1-e. (Soil survey information may be found at websoilsurvey.nrcs.usda.gov/app/.)

According to the NRCS Soil Survey the site consists of soil type 2015 - Williams-Bowbells Loam which is described as Fine-Loamy Till. The soil has a below average suseptability to sheet and rill erosion (Scale 0.02-0.69 rated at 0.28) and relatively high suseptability to wind erosion (Scale 1-8 rated at a 6)

- f. Provide the drainage path runoff takes as it leaves the site. Include the municipal, county or state-operated storm sewer or drainage ditch, as well as the first named waterbody or wetland (if known) to which the site drains. Attach additional pages if need and label 1-f.

Also include whether or not the waterbody is listed in the most recent *North Dakota Integrated Section 305(b) Water Quality Assessment Report and Section 303(d) List of Water Needing Total Maximum Daily Loads* or if a total maximum daily load (TMDL) has been developed for the waterbody.

The Integrated Report and a list of waterbodies with a TMDL may be found at:
www.ndhealth.gov/WQ/SW/Z2_TMDL/default.htm.

- If the waterbody is listed in the Integrated Report in the Section 303(d) List as impaired due to sedimentation/siltation, then distance to the waterbody must be included.
- If a TMDL allocation has been developed for the waterbody or overall watershed, then a list of the particular pollutants must be included and the SWPP Plan must be developed to satisfy Part I.B.5 of NDR10-0000. The pollutants of concern often are referenced in the title of the TMDL document.

For example: The site drains to the Bismarck storm sewer and discharges into a tributary of Hay Creek. Hay Creek is listed as impaired for sediment and is 1,000 feet from the site.

Storm water runoff will be diverted to a detention pond found near the southeast boundary of Lot 7. An outlet control structure will release water at a rate no greater than to the pre development runoff rate into the roadside ditch north of 49th street. All storm water structures are sized to handle the runoff from a 25 year storm event. Runoff in the roadside ditch is diverted into retention ponds designed for the development. Water which may leave the site will eventually flow to the Little Muddy River if it is not infiltrated. The Little Muddy River is a low priority Section 303(d) TMDL Water with the pollutant of concern being Fecal Coliform. The Little Muddy River is located approximately 1.5 miles west of the property.

- g. Provide a site map showing the following items. Please note: Items 1 through 10 all must be shown on the site map. Label as 1-g.
- 1) Drainage patterns, including flow direction, dividing lines, existing grade and final grade
 - 2) Construction site boundaries
 - 3) Areas of soil disturbance
 - 4) Location of major structural controls identified in this plan
 - 5) Location of major nonstructural controls identified in this plan
 - 6) Location of areas that will be stabilized
 - 7) Surface waters, including an aerial extent of wetland acreage
 - 8) Locations where stormwater is discharged to surface waters
 - 9) Locations where stormwater enters municipal storm sewer systems
 - 10) If part of the project, additional site maps of:
 - Off-site concrete/asphalt batch plants
 - Equipment staging areas
 - Borrow sites
 - Offsite material disposal sites

2. Operational Controls. The plan must describe the best management practices (BMPs) used in day-to-day operations on the project site that reduce the contribution of pollutants in stormwater runoff.

a. **SWPP plan contact.** The SWPP plan contact must be an individual who is knowledgeable and experienced in the application of erosion and sediment control BMPs who will oversee the implementation of the SWPP plan and the installation, inspection and maintenance of the erosion and sediment control BMPs before and during construction. The contact may be identified by name or title.

SWPPP contact: Julien Morice Phone: (406)581-9999
Title: Ironwood Development

b. **Chain of responsibility.** A chain of responsibility must be developed by the owner with all operators on site to ensure the SWPP plan will be implemented and remains in effect until (1) the project is complete, (2) final stabilization has been achieved, and (3) a notice of termination (NOT) has been submitted to the department.

The developer is responsible for ensuring that the contractors are complying with the plan and the terms of the permit.
The contractor is responsible for carrying out the implementation of the plan, meeting the maintenance and reporting requirements and ensuring that all work performed by subcontractors is performed according to the plan and permit.

c. **Good housekeeping.** Describe good housekeeping practices used to maintain a clean and orderly project.

Properly handle construction debris and waste materials. The appropriate containers for debris and waste material must be provided until disposal. Litter and debris must be picked up regularly to reduce the chance of being carried away by wind or water. Collected material must be taken to the appropriate facility for disposal or recycling.

Liquid or soluble material (i.e., oil, fuel, paint and hazardous substances) must be stored properly to prevent spills, leaks or discharges off-site. Restricted access to storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste must be in compliance with applicable regulations.

1) Describe how the following items will be properly handled to minimize exposure to stormwater and not be carried offsite by wind or water. Attach additional pages if needed and label 2-c-1.

- Litter
- Debris
- Chemicals
- Parts

The general contractor shall be responsible for performing daily cleanup of the site to ensure that all litter is contained in an appropriate enclosure or container. Any chemicals, paint, petroleum products, fertilizer and pesticides shall be stored in approved containers in an enclosed area where they are safe from accidental harm. Storage areas shall be locked to prevent vandalism. The contractor shall provide the appropriate number of portable toilets on site during construction, the waste will be periodically hauled to the local wastewater treatment plant by the toilet provider.

2) Describe how off-site accumulations of tracked sediment caused by vehicles and equipment leaving the project will be reduced and cleaned up. Attach additional pages if needed and label 2-c-2.

Note: The general permit NDR10-0000 requires you to removed accumulated sediment tracked onto off-site paved surfaces within 24 hours or within a shorter time period specified by local authorities or the department. Be sure to check with local

authorities, most specify either the end of the day or within 24 hours. You also should consider whether public safety will be an issue.

A stabilized construction entrance/exit pad will be constructed at the connection to the existing roadway. This pad can be used as a tire wash pad if conditions warrant. The general contractor will be responsible for inspecting the surrounding roadways to ensure that sediment and debris is not being tracked off-site. If sediment is observed the general contractor is responsible for ensuring that it has been cleaned up prior to the end of the day.

3) Describe how dust generation will be reduced and how off-site accumulations will be cleaned up. Attach additional pages if needed and label 2-c-3.

If blowing dust is observed during construction, soils shall be stabilized with water or covered to prevent further erosion. If off-site accumulations occur the contractor shall be responsible for the associated removal and cleanup.

d. **Preventative maintenance.** Describe what preventative maintenance practices are used, including routine inspections and maintenance, to ensure the proper operation of the following. Attach additional pages if needed and label 2-d.

- Stormwater management devices (for example: oil-water separators, catch basins, fiber rolls, etc.)

Retention ponds, culverts, ditches and straw wattles/silt fence will all be cleaned out any time sediment is evident at a depth greater than 2-inches. These structures will be inspected for sediment depth and working condition at least every two weeks during construction and following any storm event greater than 0.5-inches. The stabilized construction entrance shall be observed on a daily basis to ensure that sediment is not being tracked onto surrounding roadways.

- **(Preventative maintenance-continued)** Equipment used on-site, such as a pre-startup inspection

The contractor shall ensure that all equipment used on site has been maintained in a working condition. All heavy equipment shall be inspected daily and prior to usage to ensure that there is no leaking fuels, fluids and/or hazardous materials. Material storage areas shall be inspected daily to make sure that materials are safely stored and there are no leaks or spills.

e. **Spill prevention and response procedures.** Describe spill prevention and response procedures used in areas where spills could occur. Bulk storage of petroleum products and other chemicals must have adequate leak and spill protection to prevent spilled material from entering waters of the state or storm sewer systems or from draining onto adjacent property.

Include, where appropriate:

- Specific handling procedures.
- Storage requirements.
- Spill containment procedures.
- Spill cleanup procedures.

Reportable spills are those that:

- Threaten or are in a position to threaten waters of the state, such as surface or ground water.
- Cause immediate danger to human health or safety.
- Cause harm or threaten to harm wildlife or aquatic life.
- Are releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

Note: CFR stands for *Code of Federal Regulations*, and CERCLA stands for *Comprehensive Environmental Response, Compensation, and Liability Act*.

Spill Reporting

Report any spill that may seriously endanger health or the environment **as soon as possible**, but no later than 24 hours from the time you became aware of the spill. The report must be made to EPA-Region 8, Emergency Response Branch, at 800.424.8802 and the state of North Dakota, Division of Homeland Security, at 800.472.2121.

Some releases may require immediate response by trained emergency personnel. This may be coordinated through the Department of Health, Department of Emergency Services and any other state or local emergency response agencies that may be needed. **If there is any question as to proper response, call the Department of Health at 701.328.5210 or the North Dakota hazardous materials emergency assistance and spill reporting number (800.472.2121) and provide all relevant information about the incident.**

North Dakota Department of Health:

Division of Water Quality	701.328.5210
Division of Waste Management	701.328.5166
Division of Air Quality	701.328.5188
Division of Municipal Facilities	701.328.5211

North Dakota hazardous materials emergency assistance and spill reporting:
800.472.2121 (24-hour hotline)

Nonemergency releases may be reported by filling out the online [Environmental Incident Report Form](http://www.ndhealth.gov/WQ/GW/spills.htm) at www.ndhealth.gov/WQ/GW/spills.htm.

Stormwater Pollution Prevention Plan (SWPPP)

Material/Chemical	Quantity	Handling Procedures	Storage Requirements	Spill Containment Procedures	Spill Clean-up Procedures
Gasoline, diesel fuel, oil and lubricants	small volumes	Employees shall be trained in proper handling, refueling trucks shall be parked off-site, all liquids shall be stored in approved containers	Approved containers	minor spills shall be cleaned up ASAP, if significant volumes are stored on site they shall be surrounded by an earth berm providing a volume greater than the size of the container	contaminated soils shall be excavated. stored in approved containers and disposed of properly
Paints, solvents and adhesives	small volumes	Employees shall be trained in proper handling procedures	Locked material storage areas	minor spills shall be cleaned up immediately	contaminated soils shall be excavated. stored in approved containers and disposed of properly
Used rags and absorbent materials	small volumes	used hazardous materials shall be taken off-site to a licensed hazardous waste disposal or recycling center	store in sealed container until disposed of off site	minor spills shall be cleaned up immediately	contaminated soils shall be excavated. stored in approved containers and disposed of properly

Stormwater Pollution Prevention Plan (SWPPP)

Attach additional pages if needed

- f. **Employee training.** Describe how personnel are informed about their responsibility in implementing the practices and controls in the plan. Employee training can include spill response procedures, good housekeeping practices, and erosion and sediment control practices. Note: Employee training must be provided at least annually, as new employees are hired or as necessary to ensure compliance with the plan and the general permit, NDR10-0000. Attach additional pages if needed and label 2-f.

The contractor will be responsible for ensuring that the conditions of this plan and permit are being met at all times. As a part of this requirement they will be responsible for providing the training for their employees and ensuring that subcontractors are educated on the requirements associated with the permit.

- g. **Concrete wash water, grindings and slurry.** Concrete wash water may not be discharged to any water of the state or any storm sewer system or allowed to drain onto adjacent properties. Disposal must be limited to a defined area or an area designated for cement washout. The area must be sufficient to contain the wash water and residual cement.

Please note that as the project progresses, the wash out area will probably move. Be sure to keep the current position of the wash out area up-to-date on the site map.

Describe what practices will be used to prevent concrete wash water, grindings and slurry from entering waters of the state and storm sewer systems, or draining onto adjacent property. Attach additional pages if needed and label 2-g.

Concrete wash water shall be disposed of in the washout pit identified on the SWPPP. The wash pit is located up gradient of the detention area which will contain any sediment that may escape the pit. The concrete residue from the pit shall be properly disposed of prior to the conclusion of construction

- h. **Dewatering and basin draining operations.** These operations must not adversely affect receiving waters or downstream landowners. The operation should be inspected daily and a record should be maintained. The following conditions apply to dewatering activities covered by the construction general permit:

- Dewatering is limited to stormwater and groundwater that may collect on site, and the following allowable non-stormwater sources: fire-fighting, fire hydrant flushing, potable water line flushing, infrequent building and equipment wash down without detergents, uncontaminated foundation drains, springs, lawn watering and air conditioning condensate.

Note: You are allowed to discharge the non-stormwater discharges sources only if you describe what measures will be used to minimize their impact to water quality.

A temporary dewatering permit, NDG07-0000, is required for other sources such as hydrostatic testing, contaminated groundwater or surface water. Information about the temporary dewatering permit may be found at: www.ndhealth.gov/WQ/Dewatering/DewateringHome.htm. Discharging wastewater from processing operations or sanitary facilities is not authorized by the construction general permit, NDR10-0000.

- The operation must not lead to sediment deposits within storm sewers, ditches and surface waters. The operation must not cause or potentially cause a visible plume in a surface water.

Describe how dewatering operation will be operated to minimize the release of sediment and amount of erosion caused by the discharge.

Construction dewatering should not be required on this site for the construction of roads and drainage facilities. The permanent underground retention basins will be constructed on native soils which will allow slow percolation. Any flushing required for utility testing or equipment wash down shall occur up gradient of the retention facilities. Any erosion that occurs during flushing or cleaning shall be repaired immediately following the activity.

3. Erosion and Sediment Controls. An erosion and sediment control plan must be developed for the project. The plan must identify the appropriate control measures and when they will be implemented during each major phase of the project (e.g., clearing, grading, and building phases).

The basic requirements of an erosion and sediment control plan are:

- a. Sediment basins – or an appropriate combination of equivalent sediment controls such as smaller sediment basins, and/or sediment traps, silt fences, fiber logs, vegetative buffer strips, berms, etc. – are required for all down-slope boundaries of the disturbance area and for those side-slope boundaries as may be appropriate for site conditions.
- b. Temporary erosion protection (such as cover crop planting or mulching) or permanent cover must be provided where activities have been completed or temporarily ceased. For areas with a continuous positive slope within 200 lineal feet of a surface water, this must be accomplished within 21 days. These areas include graded slopes, pond embankments, ditches, berms and soil stockpiles.

A general rule of thumb is that seed germination will occur when the soil temperature is above 50°F. Soil temperature information may be found at ndawn.ndsu.nodak.edu.

- c. All control measures must be properly selected, installed and maintained in accordance with the manufacturer’s specifications and good engineering practices. Include with this plan a copy of the use or installation directions for measures that are used during the project. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, it must be replaced or modified for the situation. You may deviate from the manufacturer's specifications and erosion and sediment control guidelines below if you provide justification for the deviation and document the rationale for the deviation in your SWPP plan.
- d. If sediment escapes from the site, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts. The plan must be modified to prevent further sediment deposition off-site.
- e. Stormwater controls are expected to withstand and function properly up to a two-year, 24-hour precipitation event. Visible erosion and/or off-site sediment deposits should be minimal. A two-year, 24 hour rain event in North Dakota ranges from 1.9 inches in the west to 2.3 inches in the east.
- f. If the project discharges to a waterbody that has a TMDL allocation for sediment, suspended solids or turbidity, this plan must be consistent with the requirements of the TMDL. If the TMDL requires certain practices be used to meet the waste load allocation (WLA), then the practices must be included in this plan.

The erosion and sediment control plan must conform to the guidelines outlined in Appendix 1 of NDR10-0000 for designing, implementing and maintaining effective erosion and sediment controls. The following questions break down the requirements of Appendix 1.

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1. Where practical, temporary or permanent sediment basins must be provided when 10 or more acres of disturbed area drains to a common location. The basins must be provided prior to runoff leaving the site or entering surface waters. The use of sediment basins is encouraged, but not required, in areas with steep slopes or highly erodible soils even if less than 10 acres drains to one area. Is the use of sediment basins practical for the project? If no, skip to question #10. Things to consider include public safety, soil type, slope and available area.
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2. Where appropriate, are temporary sediment basins installed in areas with steep slopes or highly erodible soils?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3. Are all basins sized or designed to meet one of the following guidelines? <ul style="list-style-type: none"> • Basins must be sized to provide 3,600 cubic feet of storage for every acre of disturbed area draining to the basin; or • Basins must be designed to provide storage for a two-year, 24-hour storm event plus more than 1,800 cubic feet of storage from each disturbed acre that drains to the basin.

Stormwater Pollution Prevention Plan (SWPPP)

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4. Are basin outlets designed to avoid short-circuiting? Short-circuiting usually occurs when the outlet is near the inlet. This causes water to exit the basin immediately upon entering and little treatment is achieved.
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Are basin outlets designed to avoid the discharge of floating debris?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Are the basins designed to allow complete drawdown for maintenance activities? Examples of drawdown devices include perforated riser pipes, pumps, skimmers or other means.
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7. Is the drawdown designed to release the storage volume in a 24-hour or longer period?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Does the basin have a stabilized emergency overflow to prevent failure of pond integrity?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	9. Does the basin outlet have an energy dissipater?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. If temporary sediment basins are not practical in areas where 10 or more acres of disturbed area drains to a common location, then a combination of erosion and/or sediment controls with equivalent storage must be used for all down-slope construction boundaries and side-slope boundaries as appropriate. Examples of additional controls include smaller sediment basins, sediment traps, silt fences, vegetative buffer strips, etc. Have erosion and sediment controls been provided that have the same sediment-control capabilities as the sediment basins they replaced?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Has temporary erosion protection been provided for exposed soil areas where activities have been completed or will temporarily cease?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Has permanent cover been provided for exposed soil areas where activities have been completed or will temporarily cease?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. For areas with a continuous positive slope within 200 lineal feet of a surface water, does the plan address how temporary erosion protection or permanent cover will be applied within 21 days of completing or ceasing earthmoving activities in these areas (pond embankments, ditches, berms, soil stockpiles)? Temporary stockpiles without significant silt, clay or organic components, such as clean aggregate stockpiles, demolition concrete stockpiles, and sand stockpiles, are exempt.
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14. Do temporary soil stockpiles have effective sediment controls? Does the plan address how temporary soil stockpiles will not be placed in surface waters, stormwater conveyance systems, curb and gutter systems, conduits or ditches?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	15. Are there any temporary or permanent drainage ditches that drain water from the construction site or divert water around the site? Does the plan address how the normal wetted perimeter of these ditches will be stabilized within 200 lineal feet of the property edge or point of discharge to a surface water? Does the plan address how the normal wetted perimeter will be stabilized within 24 hours of connecting to a surface water?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	16. Does the plan address how pipe outlets will be provided with temporary or permanent energy dissipation within 24 hours of connecting to a surface water?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	17. Where applicable, are splash pads and/or downspout extensions provided for roof drains to prevent erosion?

Stormwater Pollution Prevention Plan (SWPPP)

<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	18. For slopes with a grade of 3:1 or steeper, is the slope length broken up every 75 feet?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	19. Do temporary or permanent drainage ditches and sediment basins that are part of a treatment system have appropriate sediment controls?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	20. Are all storm drain inlets within the project limits and in the immediate vicinity of the site protected? This includes inlets affected by sediment tracked from the site. Note: Inlet protection is a last line of defense. Additional sediment and erosion control practices must be used on-site. Inlet protection must conform to local ordinances or regulations. Maintenance and cleaning of inlet protection must be performed in a timely manner. Inlet protection may be removed for a particular inlet if a specific concern, such as street flooding/freezing or snow removal, has been identified and documented in the SWPP plan. In these situations, additional erosion and sediment control practices must be used in place of the lost inlet protection.
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	21. Do inlet protection devices provide adequate drainage to prevent excessive flooding?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	22. Do vegetative buffers have a minimum width of 25 feet for every 125 feet of disturbed area that drains to the buffer? For each additional 5 feet of disturbance, an additional 1 foot of buffer must be added. The buffer should have a slope of 5 percent or less, and the area draining to the buffer should have a slope of 6 percent or less. Note: In some instances, a minimum width of 25 feet may not be necessary based on past experience with buffers. In those cases, a short explanation about what your experience has shown should be included in this plan.
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	23. Are concentrated flows being minimized throughout the vegetative buffer?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	24. Do vegetative buffers consist of dense, grassy vegetation? Dense, grassy vegetation is 3 to 12 inches tall with uniform coverage over 90 percent of the buffer. No more than 10 percent of the buffer may consist of woody vegetation.

4. Stormwater Management. The plan must identify what permanent practices will be used to control pollutants in stormwater discharges once construction is complete. This refers to post-construction controls like permanent infiltration devices or low-impact development practices. This does not refer to devices used to stabilize the site as a result of construction activity, such as silt fence or erosion control blanket, so this section may not apply to all projects.

Maintenance of on-site stormwater management features is your responsibility until a notice of termination has been submitted or the feature is accepted by the party responsible for long-term maintenance (e.g., a municipality accepts a stormwater pond built during the project). In the site map identify:

- a. Stormwater ponds; flow reduction practices that use open vegetated swales and natural depressions; infiltration of on-site runoff; and sequential systems that combine several practices.
- b. Velocity / energy dissipation devices placed at discharge locations (e.g., riprap) and appropriate erosion protection for outfall channels and ditches (e.g., hard armor or soft armor practices).

5. Maintenance. All erosion and sediment control (ESC) measures and other protective measures identified in the plan must be maintained in effective operating condition. The plan must indicate the appropriate maintenance or cleanout interval for selected erosion and sediment controls. Attach additional pages if needed and label 5.

If site inspections identify BMPs that are not operating effectively, maintenance must be arranged and accomplished as soon as practicable.

Stormwater Pollution Prevention Plan (SWPPP)

When describing the maintenance and cleanout frequency of selected measures, try not to use vague terms like "as needed." Instead describe what is meant by "as needed," such as when one-third full or at the end of each work day.

ESC Measure	Maintenance Frequency	Cleanout Frequency
Retention Ponds	At least once every 14 days & w/in 24hrs of any rainfall event greater than 0.5"	When sediment levels reach 2"
Straw wattles/silt fence	At least once every 14 days & w/in 24hrs of any rainfall event greater than 0.5	When sediment levels reach 2" or fabric clogs
Stabilized construction entrance	If off site tracking is evident	If off site tracking is evident

Maintenance Considerations:

- a. All erosion prevention and sediment control practices must be inspected to ensure integrity and effectiveness. All nonfunctional practices must be repaired, replaced or supplemented with functional practices.
- b. At a minimum, you must investigate and comply with the following maintenance requirements:
 - All control devices that function similarly to silt fence or fiber rolls must be repaired, replaced or supplemented with effective controls when they become nonfunctional or the sediment reaches one-third the height of the device. These repairs must be made within 24 hours of discovery or as soon as field conditions allow access.
 - Sediment that has collected within temporary or permanent sedimentation basins must be removed when one-half of the sediment storage volume has been reached. Drainage and removal must be completed within 72 hours of discovery or as soon as field conditions allow access.
- c. All sediment deltas and deposits must be removed from surface waters, drainage ways, catch basins and other drainage systems. All areas where sediment removal resulted in exposed soil must be restabilized. The removal and stabilization must take place immediately, but no more than seven (7) days after the discovery unless precluded by legal, regulatory or physical access constraints. All reasonable efforts must be used to obtain access. Once access is obtained, removal and stabilization must take place immediately, but no more than seven (7) days later. You are responsible for contacting all of the appropriate authorities and receiving the applicable permits prior to conducting any work.
- d. Accumulations of tracked and deposited sediment must be removed from off-site paved surfaces within 24 hours or sooner if required. Sediment tracking must be minimized by the appropriate management practice, like a dedicated site exit with an aggregate surface or designated off-site parking area. You are responsible for street sweeping and/or scraping if your practices are not adequate to prevent sediment from being tracked from the site.
- e. Off-site accumulations of sediment must be removed in the manner and frequency sufficient to minimize off-site impacts; for example, fugitive sediment in the street could be washed into the storm sewer by the next rain event and/or pose a safety hazard to users of public streets.
- f. If a vegetative buffer is silt covered, contains rills, or is otherwise rendered ineffective, other control measures must be implemented. Any eroded areas have to be repaired and stabilized.

6. Inspections. Site inspections must be conducted to monitor the condition of stormwater discharge outlets and the effectiveness of erosion and sediment controls and other best management practices. Personnel conducting inspections must be familiar with the permit conditions and the proper installation and operation of erosion and sediment control measures. At a minimum, inspections must be performed and recorded once every 14 calendar days and within 24 hours of a 0.50-inch or more rain event. You may use a rain gauge or the nearest National Weather Service precipitation gauge station; each must be within 5 miles of the project. Inspection frequency may be reduced based on site conditions. Refer to part III.A of the construction general permit for more information.

All erosion and sediment control measures **identified in the plan** must be inspected to ensure they are operating correctly and in serviceable condition.

Surface waters, drainage ditches and conveyance systems must be inspected for sediment deposits.

Exit points from the construction site (onto paved surfaces) must be inspected for sediment being tracked by vehicles or equipment.

Vegetative buffers must be inspected for the proper distribution of flows, sediment accumulation and signs of rill formation.

Stormwater Pollution Prevention Plan (SWPPP)

Erosion and sediment controls found in need of maintenance between inspections need to be repaired or supplemented with appropriate measures as soon as possible.

Discharge outlets from material storage areas, vehicle maintenance areas and permanent stormwater control measures must be inspected. Look for evidence of, or the potential for, pollutants entering a drainage system. The plan must be revised if any deficiencies are noted.

- a. Some erosion and sediment control measures may require more frequent inspections based on location or as a result of a recurring maintenance issue. The measure, location and inspection frequency should be outlined below:

ESC Measure	Location	Inspection Frequency
Retention Ponds	see SWPPP	At least once every 14 days & w/in 24hrs of any rainfall event greater than 0.5
Straw wattles/silt fence	see SWPPP	At least once every 14 days & w/in 24hrs of any rainfall event greater than 0.5
Stabilized construction entrance	at site entrances	daily

- b. Location of rain gauge being used: Willston Airport (KISN)

- c. In some instances, more than one inspector may be responsible for reviewing different areas of the site, or there may be different inspectors involved with different phases.

Inspector(s)	Area of Inspection	Construction Phase of Inspection	Start Date	End Date
Project Manager, Ironwood Construction	all	From initial land disturbance to completion of structures, grading, septic, and storm water conveyance facilities	November 16, 2012	infrastructure completion and final stabilization
developer	all	From infrastructure completion to final stabilization		

- e. All inspections and maintenance activity must be recorded in writing. Records of each inspection and maintenance activity shall include:
- 1) The date and time of the inspection.
 - 2) The name of the person(s) conducting the inspection.
 - 3) The findings of the inspection, including recommendations for corrective actions.
 - 4) Any corrective actions taken (including dates, times and party completing the maintenance activity).
 - 5) The date and amount of all rainfall events greater than 0.05 inches in 24 hours.
 - 6) Documentation that the SWPP plan was amended when substantial changes were made to erosion and sediment controls or other best management practices.

7. Records Location and Retention.

- a. The following documents must be kept in a field office, trailer, shed or vehicle that is on-site during normal working hours:
- 1) A completed and signed copy of the notice of intent
 - 2) The permit coverage letter from the North Dakota Department of Health
 - 3) The stormwater pollution prevention plan
 - 4) Site inspection records
 - 5) A copy of the North Dakota Pollutant Discharge Elimination System General Permit associated with stormwater discharges from construction activity, NDR10-0000
- b. If a reasonable on-site location is not available, then the documents may be retained at a readily available alternative location, preferably with the SWPP plan contact. If the site is inactive, then the documents may be stored at a local office.
- c. All records and information must be kept for at least three years or longer if requested by the North Dakota Department of Health or United States Environmental Protection Agency.

8. Plan Review and Revisions.

- a. The plan must be signed in accordance with Part IV-E of NDR10-0000.
- b. The plan must be made available, upon request, to the North Dakota Department of Health, United States Environmental Protection Agency, or operator of the local municipal separate storm sewer system.
- c. The plan must be amended whenever there is a change in design, construction, operation or maintenance that could have a significant effect on the potential for the discharge of pollutants to the waters of the state. It also must be amended if it is found to be ineffective in controlling pollutants present in stormwater.

SWPPP Revision Documentation

<u>Item Revised</u>	<u>Revision Made</u>	<u>Date</u>	<u>Initials</u>
_____	_____	_____	_____
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9. Final Stabilization.

Final stabilization means that:

- a. All soil-disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of 70 percent of the native cover for unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions or geotextiles) has been achieved.
- b. For areas with an average annual rainfall of less than 20 inches only, all soil-disturbing activities at the site have been completed and temporary erosion control measures (e.g., degradable rolled erosion control product) are selected, designed and installed, along with an appropriate seed base to provide erosion control for at least three years and achieve 70 percent vegetative coverage within three years without active maintenance.
- c. For soil-disturbing activities on land used for agricultural purposes, final stabilization may be accomplished by returning the disturbed land to its pre-disturbance agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state, and areas that are not being returned to their pre-disturbance agricultural use must meet the final stabilization criteria in (a) or (b) above.

Final stabilization has been achieved when one of the criteria above has been met and:

- a. All drainage ditches constructed to drain water from the site following construction have been stabilized to preclude erosion.
- b. All temporary, synthetic and structural erosion and sediment controls have been removed.
- c. Sediment has been removed from all stormwater conveyances and basins used for permanent water quality management. Removed sediment must be stabilized to prevent subsequent erosion in the future.

Final stabilization also can be achieved when a new permittee has assumed control of the site.

In the case of residential construction, final stabilization is achieved when erosion protection and down-gradient perimeter controls for individual lots have been installed and the residence has been transferred to the homeowner. In addition, a "homeowner fact sheet" must be given to the homeowner to inform them of the need for, and benefit of, stabilizing their property. You also must demonstrate that the homeowner received the fact sheet.

Stormwater Pollution Prevention Plan (SWPPP)

The individual(s) described below is(are) responsible for the following portion(s) of the Stormwater Pollution Prevention Plan:

Julien Morris	Ironwood Development	President
Name	Company	Title

Owner/developer responsible for ensuring that the Contractor is complying with the plan and the terms of the permit. The owner will also take over inspection, maintenance and reporting following the completion of the road infrastructure.

SWPP Plan Responsibility

_____	_____	_____
Name	Company	Title

SWPP Plan Responsibility

_____	_____	_____
Name	Company	Title

SWPP Plan Responsibility

_____	_____	_____
Name	Company	Title

SWPP Plan Responsibility

_____	_____	_____
Name	Company	Title

SWPP Plan Responsibility

Attach additional pages if needed.

CERTIFICATION

Certification Instructions:

The stormwater pollution prevention plan (SWPPP) must be signed by a responsible corporate officer, a general partner, or a principal executive officer or ranking elected official.

The SWPPP may be signed by a duly authorized representative of the individual described above if:

- The authorization is made in writing by the person described above and submitted to the North Dakota Department of Health; and
- The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the plant manager, the superintendent, a position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

If the authorization is no longer accurate for any reason, a new authorization satisfying the above requirements must be submitted to the Department of Health prior to or together with any reports, information or applications signed by the authorized representative.

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein. Based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name _____ Title _____

Signature _____ Date _____