



# ENVIRONMENTAL HEALTH & SAFETY

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## **Stormwater Guidance for UNM Staff & Contractors**

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Revision 1. Updated April 21, 2022.

**UNIVERSITY OF NEW MEXICO**  
**Department of Environmental Health & Safety**




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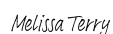
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## DOCUMENT REVISION LOG

All parties wishing to provide comments on or modify this guidance should submit proposed changes, along with a rationale for the proposal, to EHS for consideration. EHS reserves full discretion to implement proposed changes. Revisions will occur annually or more frequently as deemed necessary by EHS.

Document: **Stormwater Guidance**

Rev. No.	Effective Date	Revision Description	Pages Replaced	Completed by:
0	11/11/2021	Initial Publication	N/A	Kolt H. Vaughn, EHS Tech III
1	04/21/2022	Revised § 5.1 to include new (2022) CGP Requirements; Revised § 6.2 to clarify UNMH's responsibilities to UNM; & Revised § 6.5, adding language concerning ABCWUA Sewer Use Ordinance.	N/A	Kolt H. Vaughn, EHS Specialist

## ACRONYMS & DEFINITIONS

≥ 1 ac	Shorthand for “greater than or equal to one acre”
AMAFCA	Albuquerque Metropolitan Arroyo Flood Control Authority
BMP	Best Management Practice
Carbon dioxide or CO <sub>2</sub>	An important heat-trapping (greenhouse) gas, which is released through human and natural activities. It is the primary pollutant driving global climate change.
CGP	<a href="#">Construction General Permit</a> - authorizes the discharge of stormwater (and certain authorized non-stormwater discharges) from construction sites that disturb one acre or more of land, and from smaller sites that are part of a larger, common plan of development that together disturb one or more acres. Learn more by reviewing these <a href="#">FAQs on EPA’s Construction General Permit</a> .
Construction Site Operator	The individual assuming the role of the “operator” as defined by the 2022 CGP Appendix A. That section states 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 (e.g. in most cases this is the owner of the site); 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; in most cases this is the general contractor of the project).”
DO	Dissolved Oxygen
EHS	Environmental Health & Safety (UNM Department; formerly SRS)
EPA	U.S. Environmental Protection Agency
Et seq.	And sequential; and what follows ( <i>Latin</i> )
Evapotranspiration	The loss of water from the soil (to the atmosphere) both by evaporation from the soil surface and by transpiration from the leaves of the plants growing on it
FM	Facilities Management (UNM department)
GSI	Green Stormwater Infrastructure (Note GSI and LID are equivalent terms in this document)

Ibid.	In the same place —used to indicate that a reference is from the same source as a previous reference ( <i>Latin</i> )
IDDE	Illicit Discharge Detection and Elimination program; administered by EHS
Infiltration	The downward movement of water through soil and eventually the water table or aquifer.
LEED	Leadership in Energy and Environmental Design program; administered by the U.S. Green Building Council
LID	Low Impact Development (Note LID and GSI are equivalent terms in this document)
Maintenance Personnel	Any UNM staff or contractor tasked with the short-term or long-term maintenance of stormwater infrastructure. Examples of Maintenance Personnel include (1) FM Grounds and Landscaping or (2) a maintenance manager for a site owned by UNM but operated by a private, separate firm.
MRG	Middle Rio Grande (see MS4 Permit)
MS4 Permit	Middle Rio Grande Watershed-Based Municipal Separate Storm Sewer System Permit
NPDES	The NPDES or National Pollutant Discharge Elimination System is a regulatory tool (created by the U.S. Congress) authorizing MS4, wastewater, dredge and fill, industrial, and construction discharge permits.
NMAC	New Mexico Administrative Code
NMSA	New Mexico Statutes Annotated
PDC	Planning, Design & Construction (UNM department)
PIC	<p>Person in Charge.</p> <p>The principal UNM department involved with a project (e.g., PDC, FM Engineering, HSC Construction) must designate a Person In Charge, or PIC. The PIC must assume the responsibilities detailed in this guidance document.</p> <p>The PIC may be a department manager, team leader, project leader, facility owner, journeyman technician, or any other person appointed by the appropriate UNM department. The PIC must be a single person and may be either a UNM employee (for UNM-performed construction work) or a contractor employee (for contracted construction work).</p>

SRS	Safety & Risk Services (EHS's former department name)
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TMDL	TMDLs or Total Maximum Daily Loads are standards establishing the upper allowable limits for the discharge of pollutants of concern into impaired (polluted) waters and their tributaries.
Urban Heat Island	An urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities such as replacing natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat.
U.S.C.	United States Code

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## 1. PURPOSE

To facilitate compliance with stormwater regulations and encourage the appropriate use of **Best Management Practices (BMPs)**.<sup>1</sup>

## 2. SCOPE

This guidance applies to all UNM staff and contractors that plan, design, construct, operate, or maintain stormwater infrastructure.

## 3. ROLES & RESPONSIBILITIES

Specific responsibilities of the Environmental Health & Safety department, or EHS, include the following:

1. Utilize this guidance document to educate UNM staff and contractors about stormwater requirements and best management practices.
2. Communicate the material herein by providing a live presentation training session as necessary.
3. Enforce all stormwater rules as required by internal, local, state, and federal policies.
4. Revise this guidance document as necessary.

Specific responsibilities of the **Person In Charge**, or **PIC**,<sup>2</sup> include the following:

1. Review this guidance document.
2. Incorporate this guidance – and the policies herein – into all operations.
3. Attend a live presentation training session with EHS before planning, designing, or constructing any project that disturbs greater than or equal to one acre ( $\geq 1$  ac) of land. All UNM project

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<sup>1</sup> In general, **Best Management Practices (BMPs)** treat rain where it falls. BMPs address three criteria that are critical to managing UNM's stormwater runoff: (1) volume, (2) peak discharge, and (3) water quality. BMPs are discussed in more detail at the [construction](#) and [post-construction](#) sections below.

<sup>2</sup> The principal UNM department involved with a project (e.g., PDC, FM Engineering, HSC Construction) must designate a **Person In Charge (PIC)**. The PIC must assume the responsibilities detailed in this guidance document. The PIC may be a department manager, team leader, project leader, facility owner, journeyman technician, or any person appointed by the appropriate UNM Department. The PIC must be a single person, and may be either a UNM employee (for UNM-performed construction work) or a contractor employee (for contracted construction work).

managers that may become a PIC must attend annual training. A contractor that becomes a PIC must request training from EHS.

4. Notify EHS ([EHSWEB-L@list.unm.edu](mailto:EHSWEB-L@list.unm.edu)) when assuming the role of the PIC for a specific project.

Specific responsibilities of the **Maintenance Personnel**<sup>3</sup> include the following:

1. Review this guidance document.
2. Incorporate this guidance – and the policies herein – into all operations.
3. Attend a live presentation training session with EHS before operating or maintaining any stormwater infrastructure resulting from new or redevelopment that is  $\geq 1$  ac. All UNM Maintenance Personnel must attend annual training. Contractors that become Maintenance Personnel must request training from EHS.
4. Notify EHS ([EHSWEB-L@list.unm.edu](mailto:EHSWEB-L@list.unm.edu)) when assuming the role of Maintenance Personnel for specific stormwater infrastructure or a group of stormwater infrastructure.

## 4. DISCLAIMER

This document is intended for educational purposes only. All rules and regulations mentioned herein shall have final authority in place of this document.

## 5. GUIDANCE

This guidance clarifies stormwater requirements stemming from the rules and regulations governing UNM's **Stormwater Management Program (SWMP)**.<sup>4</sup> The SWMP is a required program of a permit designed to ensure the chemical, physical, and biological integrity of the Rio Grande and its tributaries. The **MS4 Permit**, or "Permit," refers to the Middle Rio Grande Watershed-Based Municipal Separate Storm Sewer System Permit.<sup>5</sup> Other regulated municipalities subject to the Permit include the City of Albuquerque, AMAFCA, and Kirtland Air Force Base. The U.S. Environmental Protection Agency (EPA) issues this Permit to protect the Rio Grande as required by the federal Clean Water Act.<sup>6</sup>

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<sup>3</sup> **Maintenance Personnel** is any UNM staff or contractor tasked with the short-term or long-term maintenance of stormwater infrastructure. Examples of Maintenance Personnel include (1) FM Grounds and Landscaping or (2) a maintenance manager for a site owned by UNM but operated by a private, separate firm.

<sup>4</sup> The **SWMP** describes how UNM manages stormwater programs to reduce discharges of pollution. See more [below](#).

<sup>5</sup> See the **MS4 Permit**, number NMR04A000, [here](#). Alternatively, review the EPA's description [here](#).

<sup>6</sup> Clean Water Act, 33 U.S.C. 1251 et seq.



Beyond the regulatory requirements, this guidance document intends to reduce UNM’s environmental impact and steward water resources sustainably, in line with UNM’s 2040 Vision Framework (see Goals Four & Five [here](#)). Unfortunately, increasing the footprint of impervious areas (e.g., paved surfaces, buildings, compacted soils) contributes to stormwater pollution and flooding by disrupting the natural water cycle. Likewise, improperly managed construction activities can cause similar adverse impacts. Thus, properly managing stormwater infrastructure ultimately creates a healthy and safe campus environment while protecting the Middle Rio Grande ecosystem.

## 5.1 Guidance for Construction

Appropriate on-site management, including utilizing BMPs to reduce pollution, is required when one of the following is true:

- (1) Construction activity disturbs  $\geq 1$  ac, or
- (2) Construction activity is less than one acre but is part of a larger common plan  $\geq 1$  ac. <sup>7</sup>

When neither condition is met, appropriate on-site management is highly recommended to support environmental health but not federally enforceable. Table 1 displays a menu of BMPs for convenience.

The PIC must plan, review, permit, and monitor construction activities to ensure controls are in place to eliminate erosion and maintain sediment on site. The PIC must also collaborate with relevant parties (e.g., EHS, Maintenance Personnel) to ensure the same. <sup>8</sup>

**Construction site operators**<sup>9</sup> must develop, implement, and maintain an erosion and sediment control plan (i.e., a Storm Water Pollution Prevention Plan or SWPPP) that utilizes BMPs. The SWPPP must be implemented to prevent the illegal discharge of soil, chemical contaminants, waste, and floatables (i.e., trash) throughout construction. <sup>10</sup>

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<sup>7</sup> [MS4 Permit](#) Part I.D.5.a.(i)

<sup>8</sup> [MS4 Permit](#) Part I.D.5.a.(ii)-(iv)

<sup>9</sup> Construction site operators are 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 (e.g. in most cases this is the owner of the site); 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; in most cases this is the general contractor of the project).

<sup>10</sup> [MS4 Permit](#) Part I.D.5.a.(ii)

Likewise, construction site operators must also comply with the **2022 Construction General Permit**. Of particular importance, construction site operators must comply with Notice of Intent (NOI) and Notice of Termination (NOT) rules.<sup>11</sup>

All construction site operators must develop a SWPPP consistent with the requirements in **§ 7** prior to their submittal of the NOI, and the SWPPP must be kept up-to-date throughout coverage under this permit.<sup>12</sup>

Upon submitting NOI or NOT forms to EPA, the PIC must ensure EHS is notified. To notify EHS, provide written confirmation of the EPA submission (i.e., a receipt of submission). The PIC should work with a construction representative from EHS to ensure proper notification. If a representative is unavailable, the PIC must email the receipt of submission to [EHSWEB-L@list.unm.edu](mailto:EHSWEB-L@list.unm.edu). EHS may request additional information to verify a receipt of submission.

#### Key Requirements for Complying with the 2022 Construction General Permit:

- (1) Develop a [Stormwater Pollution Prevention Plan \(SWPPP\)](#) and keep it up to date.
- (2) Complete and submit a Notice of Intent (NOI) to EPA via the [NPDES eReporting Tool \(NeT\)](#).
- (3) Implement erosion and sediment controls and pollution prevention practices throughout the entire construction project.
- (4) Conduct required inspections to verify compliance with the permit. Inspections may only be conducted by a [qualified person](#) who has either: (1) completed the [EPA construction inspection course](#) and passed the exam or (2) holds a current construction inspection certification or license from a program that covers the same core material as EPA's inspection course.
- (5) Conduct routine maintenance and take corrective action to fix problems with controls or discharges.
- (6) Complete [documentation](#) of all site inspections, dewatering inspections, and corrective actions.
- (7) Comply with [turbidity monitoring requirements](#) for dewatering discharges to sensitive waters (if applicable).
- (8) Comply with any State, Tribal, or territory-specific requirements in **§ 9.6.1** of the permit.<sup>13</sup>

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<sup>11</sup> **2022 Construction General Permit** refers to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) for Stormwater Discharges from Construction Activities, issued by the EPA [here](#). Special attention should be given to appendices 'H' ([Notice of Intent Form](#)) and 'I' ([Notice of Termination Form](#)).

<sup>12</sup> The 2022 Construction General Permit **§ 7**, available [here](#), details SWPPP requirements. Note: all construction sites with 2017 CGP coverage (where construction activities commenced prior to February 17, 2022) must submit NOIs under the 2022 CGP no later than May 18, 2022 (see 2022 CGP Table 1).

<sup>13</sup> The 2022 Construction General Permit **§ 9.6.1**, available [here](#), details permit conditions applicable to the state of New Mexico, except Indian Country.

### 5.1.1 Construction BMPs

Table 1 lists typical BMPs for preventing pollution, eliminating erosion, and retaining sediment on-site during construction. The menu is not comprehensive, but it offers a valuable starting place when deciding which BMPs are necessary to include in an SWPPP.

*Table 1 – Menu of BMPs for pollution prevention and erosion and sediment control during construction. Hyperlinks connect to fact sheets for that specific technology.<sup>14</sup>*

Category	Construction BMPs	
<b>Temporary Soil Stabilization</b>	Preservation of Existing Vegetation	Sodding
	Hydraulic Mulch	Hydroseeding
	Straw or Wood Mulch	Slope Drains
	Soil Binders	Earth Dikes, Drainage Swales & Ditches
	Geotextiles, Plastic Covers, <a href="#">Compost Blankets</a> and Mats, and Riprap	Outlet Protection/Velocity Dissipation Devices
<b>Temporary Sediment Control</b>	<a href="#">Silt Fences</a>	Street Sweeping and Vacuuming
	Storm Drain Inlet Protectors	Brush, Straw, or Sandbag Barriers or Fences
	Sediment Traps	Fiber Rolls
	Check Dams	Gradient Terraces
	Desilting Basins	Compost or Gravel Filter Berms and Socks
<b>Roadways</b>	Stabilized Construction Entrances/Exits	Stabilized Construction Roadways
	Trackpads	Other Sediment Removal Techniques
<b>Other</b>	Wind-Erosion & Dust Control (i.e., wind fences)	Sequencing (i.e., sequence construction activities to minimize exposed soils)
	Preserving Natural Vegetation	Soil Roughening (to promote infiltration)
<b>Waste Management &amp; Pollution Control</b>	Material Delivery and Storage	Hazardous Waste Management
	Material Use	Contaminated Soil Management
	Stockpile Management	<a href="#">Concrete Washout</a> and <a href="#">Waste Management</a>
	Spill Prevention and Control	Sanitary/Septic Waste Management
	Solid Waste Management	Liquid Waste Management

<sup>14</sup> Table 1 adapted from:

- (a) EPA. 2021. “National Menu of Best Management Practices (BMPs) for Stormwater-Construction.” Available [here](#). &
- (b) California Department of Transportation. 2003. “Construction Site BMP Field Manual and Troubleshooting Guide.” Available [here](#).

## 5.2 Guidance for Pre- & Post-Construction

Post-construction requirements are the standards for the final construction product. Meeting post-construction requirements involves considering various factors in the pre-construction phase. Consequently, the two phases are heavily interconnected and should be treated as such. To meet post-construction requirements outlined in UNM's MS4 Permit, projects  $\geq 1$  ac must incorporate BMPs into the planning, designing, constructing, operating, and maintaining processes. EHS can assist in incorporating BMPs into every project phase. Note that ineffective, improperly constructed, or inadequately maintained BMPs may subject responsible parties (e.g., PICs or Maintenance Personnel) to enforcement penalties.<sup>15</sup>

When development is less than one acre, the following are highly recommended but not federally enforceable. However, for projects  $\geq 1$  ac, the PIC must ensure compliance by:

1. Incorporating BMPs into the planning and design processes;
2. Establishing an operation and maintenance plan acceptable to responsible Maintenance Personnel before commencing construction;
3. Verifying BMPs are being built according to design standards during construction;
4. Verifying BMPs are built according to design standards after construction (during the post-construction phases); and
5. Submitting as-built plans to responsible Maintenance Personnel and EHS ([EHSWEB-L@list.unm.edu](mailto:EHSWEB-L@list.unm.edu)) within 90 calendar days of project completion.

The PIC must also ensure that projects ( $\geq 1$  ac):

1. Control stormwater to prevent or minimize water quality impacts;
2. Prevent the discharge of anything other than stormwater, including excess fertilizers and plant matter, which may reduce **dissolved oxygen (DO)** in the Rio Grande (implementing control measures and reporting efforts to EHS is required if activities may decrease DO);<sup>16</sup>
3. Direct all gutter and roof drain discharge into post-construction BMPs (or to other beneficial reuse) before discharging into the storm sewer;<sup>17</sup>
4. Manage the discharge volume (on-site) from a **90<sup>th</sup> percentile storm event** or smaller (new development only);<sup>18</sup>
5. Manage the discharge volume (on-site) from an **80<sup>th</sup> percentile storm event** or smaller (redevelopment only).<sup>19</sup>

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<sup>15</sup> [MS4 Permit](#) Part I.D.5.b.(ii).c

<sup>16</sup> See the [FAQ](#) section for more information about activities that may reduce **dissolved oxygen (DO)**.

<sup>17</sup> [MS4 Permit](#) Part I.D.5.b.(ii).a-b

<sup>18</sup> See the FAQ section [below](#) for more information about **90<sup>th</sup> and 80<sup>th</sup> percentile storm events**.

<sup>19</sup> Ibid.

### 5.2.1 Post-Construction BMPs

Table 2 lists typical BMPs to prevent or minimize water quality impacts to the Rio Grande. These BMPs are for incorporation into post-construction or final site designs. The menu is not comprehensive, but it offers a valuable starting place when deciding which BMPs are necessary for a project.

*Table 2 – Menu of BMPs to minimize water quality impacts for new or redevelopment. Hyperlinks connect to scientific fact sheets or product lists for that specific technology.<sup>20</sup>*

Category	Post-Construction BMPs	
Innovative	Open Space Designs	Narrower Streets
	Conservation Easements	Riparian/Forested Buffers
	Protection of <a href="#">Urban Forests</a> and Natural Features	<a href="#">Greenroofs</a> *
	Eliminating Curbs and Gutters	Green Parking
Infiltration (infiltrates into groundwater)	<a href="#">Grassed Swales</a>	<a href="#">Permeable Pavements</a> * (e.g., permeable concrete/asphalt, interlocking pavers)
	Infiltration Basins	<a href="#">Infiltration Trenches</a>
Filtration (discharge to surface water)	<a href="#">Bioretention Cells</a> * (i.e., <a href="#">Rain Gardens</a> )	Organic and <a href="#">Sand Filters</a>
	<a href="#">Planter Boxes</a>	Vegetated Filter Strips
Retention & Detention	<a href="#">Dry (Detention) Ponds</a>	<a href="#">Constructed Wetlands</a>
	<a href="#">Wet (Retention) Ponds</a>	Rain Barrels/Cisterns/Underground Tanks/ <a href="#">Rainwater Harvesting</a> *
Other	Manufactured <a href="#">Products</a> for Stormwater Inlets (e.g., catch basins, filter socks)	<a href="#">Disconnection</a> (i.e., disconnecting downspouts from impervious surfaces and connecting them with another BMP)

\* Often considered Green Stormwater Infrastructure (GSI) or Low Impact Development (LID). See more [below](#).

Note: any controls utilizing impoundments (e.g., retention ponds) that are also used for flood control, that are located in areas where the New Mexico Office of the State Engineer requirements apply, must comply with New Mexico's (1) **Natural Resources and Wildlife**<sup>21</sup> and (2) **Construction and Operation of Dams** statutes<sup>22</sup>.

As mentioned previously, the PIC must establish an operation and maintenance plan acceptable to responsible Maintenance Personnel during pre-construction. In other words, before construction begins,

<sup>20</sup> Table 2 adapted from EPA. 2021. "National Menu of Best Management Practices (BMPs) for Stormwater-Post-Construction." Available [here](#).

<sup>21</sup> **Natural Resources and Wildlife**, Surface Water, 19.26.2.15 NMAC; available [here](#).

<sup>22</sup> **Construction and Operation of Dams**, NMSA, § 72-5-32; available [here](#).

Maintenance Personnel must approve an operation and maintenance plan for planned post-construction BMPs. Then, the PIC must furnish as-built plans to Maintenance Personnel and EHS within 90 calendar days of project completion.

Lastly, The PIC should ensure that the construction contractor provides training to the maintenance staff on the proper maintenance and operation of the infrastructure and landscaping during the final phases of construction. Maintenance Personnel must implement the operation and maintenance plan for the life of the system to ensure the longevity and functionality of the BMPs. FM Grounds and Landscaping will typically assume operation and maintenance responsibilities, although other Maintenance Personnel may play similar roles.

### 5.2.2 GSI and LID

The premier stormwater design standards are called Green Stormwater Infrastructure (GSI) and Low Impact Development (LID). For this document, these two terms (i.e., GSI and LID) are interchangeable. GSI includes an array of products, technologies, and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality and provide utility services. Generally, GSI techniques use soils and vegetation to **infiltrate**<sup>23</sup>, **evapotranspire**<sup>24</sup>, or recycle stormwater runoff. When used as components of a stormwater management system, GSI can produce various economic, environmental, and social benefits. These technologies can simultaneously help filter air pollutants, reduce energy demands, mitigate **urban heat islands**<sup>25</sup>, and sequester **carbon dioxide**<sup>26</sup>. GSI can also provide UNM with aesthetic and natural resource benefits, including increased property values and habitats for pollinator species.

Many certification programs for building and landscape design (e.g., **LEED**<sup>27</sup>) require GSI to attain various levels of achievement and recognition. An excellent resource for identifying low-impact design strategies for use in UNM’s arid environment is the [Bernalillo County GSI Guide](#). Similarly, the Arid LID Coalition

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<sup>23</sup> **Infiltration** is the downward movement of water through soil and eventually the water table or aquifer.

<sup>24</sup> **Evapotranspiration** is the loss of water from the soil (to the atmosphere) both by evaporation from the soil surface and by transpiration from the leaves of the plants growing on it.

<sup>25</sup> An **urban heat island** is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities such as replacing natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat.

<sup>26</sup> **Carbon dioxide**, or CO<sub>2</sub>, is an important heat-trapping (greenhouse) gas, which is released through human and natural activities. It is the primary pollutant driving global climate change.

<sup>27</sup> **LEED** (Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world. Available for virtually all building types, LEED provides a framework for healthy, highly efficient, sustainable, and cost-saving green buildings.

maintains an [interactive map](#) and [research and resources](#) on GSI projects in the Middle Rio Grande Watershed.

GSI is highly recommended and encouraged to manage stormwater around UNM campuses when technically and fiscally feasible. However, when planning and designing a site ( $\geq 1$  ac), the PIC must evaluate opportunities to implement GSI. Then, when opportunities exist, the PIC must encourage stakeholders to incorporate BMPs into the site designs.<sup>28</sup> Likewise, Maintenance Personnel must maintain and ensure proper operation of the BMPs according to the operations and maintenance plan.

[Attachment B](#) includes resources for navigating federal funding for GSI.

## 6. FAQs

The Frequently Asked Questions (FAQs) below address various topics. For additional inquiries, review the materials from the [Existing Resources](#) section below or contact a member of the Environmental Health division of EHS - contact information is available [here](#).

### 6.1 What is allowed to discharge into a storm drain?

- a. ONLY stormwater! Any substances or materials mixed into stormwater are generally forbidden. In other words, prohibitions include:
  - i. non-stormwater discharge;
  - ii. construction stormwater discharge;
  - iii. industrial stormwater discharge;
  - iv. discharge covered under another **NPDES**<sup>29</sup> permit;<sup>30</sup>
  - v. discharge that compromises water quality, as defined by EPA before the issuance of the current MS4 Permit; and
  - vi. discharge inconsistent with an approved **TMDL**.<sup>31</sup>
- b. Limited exceptions exist. Contact EHS for more information.

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<sup>28</sup> [MS4 Permit](#) Part I.D.5.a.(v)

<sup>29</sup> The **NPDES** or **National Pollutant Discharge Elimination System** is a regulatory tool (created by the U.S. Congress) authorizing MS4, wastewater, dredge and fill, industrial, and construction discharge permits.

<sup>30</sup> This scenario is uncommon for UNM projects.

<sup>31</sup> **TMDLs** or **Total Maximum Daily Loads** are standards establishing the upper allowable limits for the discharge of pollutants of concern into impaired (polluted) waters and their tributaries. Learn more [here](#).

## 6.2 Which campuses are subject to the requirements described in this document?

- a. All UNM and UNMH owned and operated facilities inside of the Middle Rio Grande Watershed (i.e., the red line in Figure 1 in [Attachment A](#)) are subject to the requirements outlined in this document.
  - a. UNMH is only subject to these requirements when its construction activities or post-construction designs discharge to the UNM storm sewer (i.e., UNM's Municipal Separate Storm Sewer System)
  - b. If the conditions above are not met, UNMH may be subject to similar requirements through the City of Albuquerque's MS4 Program.
- b. UNM owned and operated property outside the Middle Rio Grande watershed is subject to the **Construction General Permit**,<sup>32</sup> unless expressly exempted, and may be subject to other permitting requirements not contained within this document.

## 6.3 Which activities reduce dissolved oxygen (DO) in the Rio Grande?

- a. Various factors can reduce DO, including human-caused and natural factors. Primarily, staff and contractors are to prevent or minimize human-induced factors. Chemicals such as nitrogen, phosphorous, or chlorine can reduce DO and should be stored and disposed of properly. These chemicals typically stem from, but are not limited to, standard industrial and household fertilizers, pesticides, salty products, or wastewater outfalls. Simpler elements, such as dead grass or plants (i.e., decaying organic matter) that enter streams can also reduce DO. Likewise, sediment in runoff or reductions in the vegetated area can reduce DO.<sup>33</sup> Consequently, any activity that involves the use of or modification to those chemicals or natural elements has the potential to reduce DO, and proper BMPs should be implemented to minimize risks.

## 6.4 What does it mean to design infrastructure to capture an 80th or 90th percentile storm?

- a. *80<sup>th</sup> percentile*: When UNM undertakes a redevelopment project ( $\geq 1$  ac), the PIC must install BMPs that capture all the area's precipitation, minus the largest 20% of storms. Historical observations demonstrate that BMPs installed for redevelopment projects must capture all of the discharge for a storm event that produces **0.5 inches of precipitation or less**.
- b. *90<sup>th</sup> percentile*: Similarly, historical observations demonstrate that BMPs installed for new development projects must capture all of the discharge for a storm event that produces **0.65 inches of precipitation or less**.

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<sup>32</sup> See footnote 11.

<sup>33</sup> EPA 2021. "Dissolved Oxygen." Causal Analysis/Diagnosis Decision Information System, Vol. 2. Available [here](#).



c. Note:

- i. The 80<sup>th</sup> percentile requirement applies to redevelopment projects.
- ii. The 90<sup>th</sup> percentile requirement applies to new development projects.

## 6.5 Can the gutters on my building direct stormwater into the street or waste water sewer?

- a. No. All gutters must drain into a best management practice (e.g., grassed swales, wet ponds, bioretention cells).<sup>34</sup> An exception could be a gutter draining from a properly designed and maintained greenroof.
- b. Neither stormwater nor “pollutants” may discharge into the waste water sewer per the Sewer Use and Wastewater Control Ordinance § 3-2-1(B.)(12), available [here](#). The Albuquerque Bernalillo County Water Utility Authority (ABCWUA) issues that ordinance and defines pollutant as:
  - a. Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, municipal, agricultural and industrial wastes, and characteristics, such as pH, temperature, TSS, turbidity, color, BOD, COD, NH<sub>3</sub>N, FOG, toxicity, or odor.

## 6.6 Am I allowed to collect stormwater in a rain barrel and use it?

- a. All rain barrels on UNM property must be reviewed and approved, in writing, by Maintenance Personnel prior to installation. Maintenance Personnel often discourages these systems because they require greater maintenance than alternatives and can attract unwanted life forms. Inquire with the appropriate Maintenance Personnel to assess the feasibility of installation and long-term maintenance.
- b. Regardless of the above, all rain barrels must slowly drain into a natural or engineered landscape within 96 hours of the storm event. The captured rainwater must not be used for commercial purposes.<sup>35</sup> Exercise caution when using the water – it may contain pollutants.

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<sup>34</sup> [MS4 Permit](#) Part I.D.5.b.(ii).a-b

<sup>35</sup> [MS4 Permit](#) Part I.D.5.b.(ii)

## 7. EXISTING RESOURCES

### 7.1 EHS's Contact Information:

An updated information hub that **provides methods to contact EHS personnel.**

- <https://ehs.unm.edu/about-us/contact-us.html>

### 7.2 EHS's Stormwater Web Page:

An **updated narrative description for the public** about how and why EHS manages UNM's stormwater program. The page includes links to various resources.

- <https://ehs.unm.edu/environmental-affairs/stormwater.html>

### 7.3 UNM's MS4 Permit:

The **ultimate authority governing stormwater management on UNM campuses** within the Middle Rio Grande watershed boundary (i.e., the red line in Figure 1 in [Attachment A](#)). The Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System Permit (the "MS4 Permit") is authorized by the EPA, as required by the NPDES program of the Clean Water Act.<sup>36</sup> Although the Permit "expired" on 12/19/2019, it remains effective under the administrative continuance via the Administrative Procedures Act.<sup>37</sup>

- <https://ehs.unm.edu/assets/documents/misc-environmental-health/April 9 2015 Final MRG MS4 Permit Mod.pdf>

### 7.4 UNM's Illicit Discharge Detection and Elimination (IDDE) Plan:

**Guides how EHS identifies and eradicates illegal dumping** into the stormwater system.

- <https://ehs.unm.edu/assets/documents/misc-environmental-health/idde-plan.pdf>

### 7.5 UNM's Storm Water Management Plan (SWMP):

**Describes how EHS manages stormwater to reduce the discharge of pollutants** to the maximum extent practicable necessary to protect water quality (including that of downstream state or tribal waters) and satisfy applicable surface water quality standards. This document is revised and republished each year in Autumn on the [EHS Stormwater Web Page](#). The original SWMP is available at:

- [https://ehs.unm.edu/assets/documents/misc-environmental-health/UNM\\_SWMP.pdf](https://ehs.unm.edu/assets/documents/misc-environmental-health/UNM_SWMP.pdf)

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<sup>36</sup> See footnotes 6 and 29.

<sup>37</sup> Administrative Procedures Act, 5 U.S.C. 551 et seq.

## 7.6 EHS/SRS Construction Safety Manual:

Created under the former department name “Safety & Risk Services,” the manual **enhances construction safety awareness and proposes hazard mitigation strategies** associated with construction for employees, workers, UNM, the public, and the environment.

- <https://ehs.unm.edu/assets/documents/sop-copies/safety-manual1.pdf>

## 7.7 National Pollutant Discharge Elimination System (NPDES) Manual:

This 2020 edition of the *Storm Water Management Guidelines for Construction, MS4, and Industrial Activities* should be used as guidance for construction projects. Originally authored by several New Mexico institutions, including UNM, it **guides users through the NPDES process, accounting for regulatory revisions**.

- <https://www.dot.state.nm.us/content/dam/nmdot/Infrastructure/NPDES%20Manual%20Rev3%202020.pdf>

## 7.8 UNM Spill Prevention, Control, and Countermeasure Plan:

Created under the former department name “Safety & Risk Services,” this plan **helps UNM prevent and manage a discharge of regulated petroleum substances** into waters of the U.S. or adjoining shorelines, such as lakes, rivers, and streams. This document is available from EHS upon request.

## **ATTACHMENT A**

### **A-1 Middle Rio Grande Watershed Map**

(see next page)

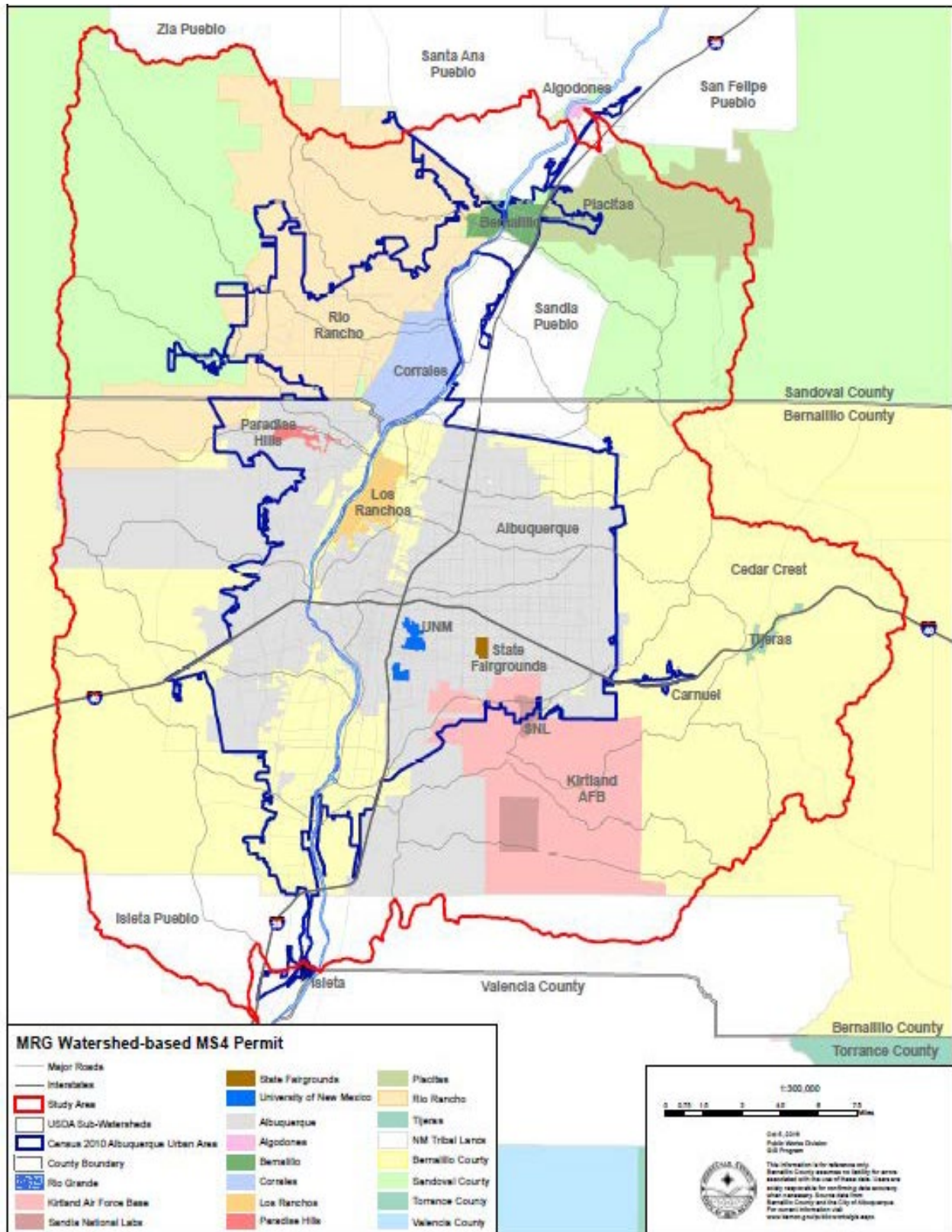


Figure 1 - Middle Rio Grande Watershed Map

## ATTACHMENT B

### B-1 Federal Funding Resources for Green Stormwater Infrastructure

The [Green Infrastructure Federal Collaborative](#) fosters engagement and cooperation between federal agencies that actively work to promote the implementation of green infrastructure. Below, Table 3 offers a menu of select federal programs for which GSI projects at UNM may qualify. The four columns on the right indicate if the program offers funds for the listed project stage.



Table 3 - Menu of federal programs offering funding for green infrastructure.<sup>38</sup>

AGENCY	PROGRAM (hyperlinks to website)	PLANNING & DESIGN	CONSTRUCTION	OPERATIONS & MAINTENANCE	MONITORING
EPA	<a href="#">Overflow and Stormwater Grants (OSG)</a>	Y	Y	N	N
EPA	<a href="#">Clean Water State Revolving Fund (CWSRF)</a>	Y	Y	N	N
EPA	<a href="#">Water Infrastructure Finance and Innovation Act (WIFIA)</a>	Y	Y	N	N
EPA	<a href="#">Section 319 Non-Point Source Grants</a>	Y	Y	Y	Y
EPA	<a href="#">Environmental Justice Small Grants</a>	Y	N	N	Y
EPA	<a href="#">Green Streets, Green Jobs, Green Towns (G3)</a>	Y	Y	N	N
USDA NRCS	<a href="#">Watershed and Flood Prevention Operations Program</a>	Y	Y	N	N
USDA NRCS	<a href="#">Watershed Rehabilitation Program</a>	Y	Y	N	N
USDA NRCS	<a href="#">Regional Conservation Partnership Program</a>	Y	Y	Y	Y

<sup>38</sup> Table 3 represents an adapted summary of funding resources given during a webinar on November 2, 2021, by the Green Infrastructure Federal Collaborative. There are other federal programs that fund green infrastructure not included on this list.

<b>HUD</b>	Community Development Block Grant (CDBG)	Y	Y	N	N
<b>FEMA</b>	Building Resilient Infrastructure & Communities (BRIC)	Y	Y	N	N
<b>USACE</b>	Floodplain Management Services Program - Technical Assistance	Y	N	N	N
<b>USACE</b>	Planning Assistance to States (PAS)	Y	N	N	N
<b>USACE</b>	Continuing Authorities Program (CAP) Sec 205 - Small Flood Risk Management Projects	Y	Y	N	Y
<b>USACE</b>	CAP Sec 204 - Beneficial Use of Dredged Material	Y	Y	N	Y
<b>USACE</b>	CAP Sec 1135 - Modification of Projects for the Environment	Y	Y	N	Y
<b>USACE</b>	Individually Authorized Feasibility Studies and Projects	Y	Y	Y	Y
<b>USACE</b>	Watershed Studies (Sec 729)	Y	N	N	N
<b>EDA</b>	Public Works & Economic Adjustment Assistance Funds	Y	Y	N	N
<b>EDA</b>	American Rescue Plan Program: Economic Adjustment Assistance Funds	Y	Y	N	N

**Key:**

**Y** indicates Yes, funding is available for this phase of new or redevelopment.

**N** indicates No, funding is not available for this phase of new or redevelopment.

**Agency Acronyms:**

- USDA NRCS – United States Department of Agriculture, Natural Resource Conservation Service
- HUD – Department of Housing and Urban Development
- FEMA – Federal Emergency Management Agency
- USACE – United States Army Corps of Engineers
- EDA – Economic Development Administration











# Stormwater Guidance for UNM Staff and Contractors (Revision 1) - 4-21-22

Final Audit Report

2022-05-02

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