

STORMWATER MANAGEMENT PLAN

For
Stormwater Discharges Associated with Construction Activity
CDPS General Permit COR-030000

January 2008



PROJECT NAME:	Center for Multiscale Modeling of Atmospheric Processes (CMMAP), Foothills Campus
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General Contractor:	Bryan Construction, Inc.
Certification No.:	TBD

Rev.	Date
A	2/15/08
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1.0 SITE DESCRIPTION

1.1 Construction Activity

The project entails construction of a two-story 13,500 square-foot building and associated road and parking lot. The project is located near the west and south of LaPorte Avenue on Colorado State University's (CSU's) Foothills Campus. The General Contractor is Bryan Construction, Inc. (BCI), who will obtain a certification for Stormwater Discharges Associated With Construction. BCI will maintain coverage under Colorado Department of Public Health and Environment's (CDPHE's) General Permit¹ until project close-out, when the certification will be transferred to CSU if stabilization of all disturbed areas is not established at that time.

BCI will maintain the responsibility of complying with the General Permit until the permit for this site is transferred or deactivated.

Site Coordinates:

UTM 13 487479E 4492952N (NAD83/WGS84)

Lat Long: 40.5873 deg N, 105.1480 deg W

1.2 Sequence of Major Activities

Construction activities at the site include:

- Overlot grading
- Utilities installation
- Building construction
- Road and parking lot paving

¹ Colorado Discharge Permit System General Permit No. COR-030000, Stormwater Discharges Associated with Construction Activity, expires June 30, 2012.

- Landscaping

Construction is anticipated to begin in March 2008 and extend through December 2008.

1.3 Estimates of Site Areas

The overall area of the project site is approximately two acres. Prior to construction, the site consists of undeveloped land. Approximately 2.7 acres will be disturbed for construction (includes utilities trenching and staging area).

1.4 Soil Type/Erosion Potential

Based on the 1980 NRCS Larimer County soil survey², soil type in the disturbed areas appears to be primarily Garrett Loam, 1 to 3% slopes and is characterized by medium runoff potential and slight to moderate waterborne erosion potential.

1.5 Site Vegetation

The percentage of vegetative ground cover before construction is estimated to be 40 to 50 percent. Vegetation includes sparse native and non-native grasses.

1.6 Potential Pollution Sources

See Section 3.2 for a list of potential pollution sources applicable to this project.

1.7 Non-Stormwater Components of Discharge

No non-stormwater discharges are expected to be associated with the project during the construction phase. No dewatering during construction is anticipated at this time; however, if dewatering appears warranted, the General Contractor will apply for coverage and comply with the conditions of Permit No. COG-070000, Revised 2/7/2007, CDPS General Permit for Construction Dewatering Activities.

² "Soil Survey of Larimer County Area", Colorado, US Department of Agriculture, Soil Conservation Service and Forest Service in cooperation with Colorado Agricultural Experiment Station, December 1980.

1.8 Receiving Water Identification

The following information is based on a review of the “Colorado State University Foothills Campus Master Drainage Plan”, Anderson Consulting Engineers, June 26, 2002 and relevant USGS 7.4 Minute topographic maps.

The CMMAP project site is located within drainage subbasin number 40 of the CSU Foothills Campus subbasins. Drainage from this subbasin enters two conveyance features: Soldier Creek, an intermittent stream flowing southeast, and the Pleasant Valley and Lake (PV&L) Canal. Soldier Creek flows into the PV&L Canal at a location near subbasin 40’s southeast corner.

The PV&L Canal flows south, parallel to and east of the Horsetooth Reservoir to a point in Section 3 (T6N, R69W) where it appears to feed the Trilby Lateral and flow into an unnamed tributary of Fossil Creek. The PV&L Canal, Trilby Lateral and unnamed tributary confluence is approximately 4.5 miles south and 2 miles east of the CMMAP project site.

Stormwater impinging on and leaving this site is within CSU’s MS4 boundary.

2.0 SITE MAPS

The following site maps are included as part of this SWMP in Appendix A:

- Erosion Control Plan, Sheet Number ER1.00 prepared by The Engineering Company, dated 1/9/08
- Erosion Control Details, Sheet Number ER2.00 prepared by The Engineering Company, dated 1/9/08

The Erosion Control Plan will be marked up when construction BMPs are added or changed and a copy maintained with this SWMP.

3.0 STORMWATER MANAGEMENT CONTROLS

3.1 SWMP Administrator

The SWMP administrator is:

(Name, title)
Bryan Construction, Inc.
161 East Saturn Drive, Unit 2
Fort Collins, Colorado 80525

3.2 Potential Pollutant Sources

The following table identifies potential pollutant sources associated with this construction project:

Potential Pollutant Source Activity	Potential Pollutant Generated	Applicable to this Project
Disturbed areas (clearing, grading, access roads, staging areas)	Sediment	X
Soil stockpiles	Sediment	X
Travel to adjacent paved roads	Tracked sediment	X
Contaminated soils	Sediment, chemicals	
Loading and unloading of chemicals	Chemicals	X
Outdoor storage of chemicals	Chemicals	X
On-site equipment maintenance	Oil, grease	
On-site equipment fueling	Diesel, gasoline	
Dust-generating processes	Particulates, sediment	X
Use of fertilizers, pesticides, herbicides	Fertilizers, pesticides, herbicides	
Use of detergents, solvents, oils	Detergents, solvents, oil	X
Waste dumpsters, waste piles	Chemicals	X
Concrete washout	Concrete, sediment	X
On-site equipment washing	Detergents, oil	
On-site asphalt batch plant	Asphaltic cement, sediment	
On-site concrete batch plant	Cement, sediment	
Portable toilets	Domestic sewage	X
Other pollutant-generating activities		

3.3 Best Management Practices (BMPs)

The following BMPs during construction are applicable to this project and are shown on enclosed Erosion Control Plan.

Structural Practices

Structural BMP	Approx. Location on site	Applicable to this Project
Silt fence		X
Straw bale dams		X
Wattles		X
Earthen diversion berms		
Vegetated swales		
Sediment trap/pond		
Pipe slope drains		
Geogrids		
Inlet/outlet protection		
Culverts		
Rip-rap		
Erosion control blankets		
Inlet protection		

Non Structural Practices

Non-Structural BMP	Approx. Location on site	Applicable to this Project
Surface roughening		X
Soil stockpile height limit (no more than 10-feet)		X
Perimeter vegetative buffer		X
Minimization of site disturbance		X
Mulch		X
Seed and mulch stockpiles remaining after 30 days		X
Stockpile toe protection (ditches/silt fence/wattles)		
Preservation and protection of vegetation or trees		X
Good site house-keeping procedures including routine cleanup of construction debris and trash		X

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Non-Structural BMP	Approx. Location on site	Applicable to this Project
Heavy equipment staged on-site, properly maintained and inspected daily (no equipment maintenance to occur on site)		X

Phased BMP Implementation

Not applicable.

Materials Handling and Spill Prevention

Materials Handling and Spill Prevention BMP	Approx. Location on site	Applicable to this Project
Portable toilets – anchored, located away from drainages	TBD	X
Fuel storage in bulk tank(s) provided with secondary containment and spill kit		
Mobile fueling performed at least 200-feet away from drainages and full-time attended	Staging area	X
Fertilizers, form oil, solvents, cleaners, detergents stored in 55-gallon containers or smaller kept inside storage units	Staging area	X
Dumpsters containing used chemical containers or liquid wastes kept covered	Staging area	X
Equipment cleaning, if performed on-site, uses no detergents and flows to on-site retention basin		
In case of a release of fuel or other chemicals, absorbent booms or earthen berms will be immediately constructed to contain the spill and prevent runoff to adjacent surface waters. CSU’s emergency response team will be contacted to mobilize to the project site and cleanup the released materials.		X
MSDSs for on-site chemicals will be kept at the construction trailer to facilitate spill response and cleanup.	Contractor’s trailer	X

Dedicated Concrete or Asphalt Batch Plants

None on-site

Vehicle Tracking Control

Vehicle tracking pads are to be used on site, located as shown on the Erosion Control Plan and relocated as access areas are added or relocated.

Waste Management, Concrete Washout

A dedicated concrete washout area, as shown on the enclosed Erosion Control Plan and details, will be constructed prior to placement of any concrete. The as-built location of the concrete washout area will be shown on a drawing and enclosed with this SWMP.

Groundwater and Stormwater Dewatering

Not applicable to this project.

4.0 FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

Final stabilization at this site includes:

- Building and paved areas
- An on-site detention pond with a water quality structure, rip rap overflow, culvert and outlet protection
- Storm drain pipes with outlet protection (rip rap)
- Re-vegetation of disturbed areas with dryland seed mix.

5.0 INSPECTION AND MAINTENANCE

The General Contractor (GC) will perform a stormwater inspection of the site at least every 14 days and after any precipitation or snowmelt event that may cause erosion. The inspection will be documented on an inspection form similar to the one provided in Appendix B.

As stormwater maintenance issues are identified, the SWMP administrator will direct GC and subcontractor personnel to execute the appropriate maintenance in a timely fashion.

Documentation of the following events will be generated as they occur:

- Records of spills, leaks, or overflows, including time and date, weather conditions, etc.
- Implementation of specific items in the SWMP
- Training events (topics covered and who attended)
- Contacts with regulatory agencies and personnel
- Inspection activities

APPENDIX A

SITE MAPS

APPENDIX B

STORMWATER INSPECTION FORM