

WATERSHED BASED MS4 PERMITTING PILOT  
MIDDLE RIO GRANDE, NEW MEXICO  
MAY 23, 2012



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EPA Region 6

# TOPICS

- ◉ Stormwater rulemaking update
- ◉ Phase I Phase II MS4 Regulations and Watershed Based MS4 Permit Program
- ◉ Update on proposed permit (Format/Requirements)
- ◉ Next Steps

# STORMWATER RULEMAKING UPDATE

Key elements being considered - no decisions yet:

1. Establish performance standards for discharges from newly developed and redeveloped sites?
  - ❖ Control a specific percentile storm event
  - ❖ Control a lesser percentile storm for redevelopment
  - ❖ Could apply standards to sites in MS4 and sites of a certain size outside of MS4
  - ❖ Flexibility for site constraints and allow for off-site mitigation, payment in lieu or treatment

Note: schedule for proposal/finalization being revised -  
Dates not yet available

# STORMWATER RULEMAKING UPDATE

## CONT...

2. Require MS4s to develop a program to address discharges from existing sites (retrofits)?
3. Extend protection of MS4 program to additional municipalities?
  - Urbanized clusters as defined by Census; set minimum population threshold (reaches unregulated densely populated areas)
  - Subwatershed boundaries (HUC12) which overlap with UA; set minimum population threshold (reaches areas of high growth, promotes watershed approaches)
4. Extend protection of MS4 program to principal arterial highways outside urbanized area?
5. Regulate government owned maintenance yards under Industrial Program?

# PHASE I PHASE II MS4 REGULATIONS AND WATERSHED BASED MS4 PERMIT PROGRAM

## ◉ Phase I - 1990

- Medium and large **municipalities** (over 100,000)
- **Industrial** activity (11 categories, including **construction** over 5 acres)
- Category 11 (light industry - only if exposure)

## ◉ Phase II - 1999

- Smaller **municipalities** in “urbanized areas”
- **Construction** sites (1-5 acres)
- “No exposure” revised and expanded, including certification every 5 years
- “Urbanized Areas” based on decennial Census & smaller MS4s designated by permitting authority
- Designation authority to bring in other MS4s
- Waivers < 1000 and < 5000 available, but problematic in waters with impairments

# PHASE I PHASE II MS4 REGULATIONS AND WATERSHED BASED MS4 PERMIT PROGRAM

## What Is the Phase II Program Approach?

- ◉ Encourages the use of general permits
- ◉ Provides flexibility for regulated operators to determine the most appropriate stormwater controls
- ◉ Allows for the recognition and inclusion of existing NPDES and non-NPDES stormwater programs in Phase II permits;
- ◉ Includes six minimum measures as primary elements of the small MS4 program to MEP

# CONT...

- ◉ facilitate and promote watershed planning and to implement the stormwater program on a watershed basis; and
- ◉ Works toward a unified and comprehensive NPDES stormwater program with Phase I of the program
- ◉ Operators of regulated small MS4s must fully implement their stormwater management programs by the end of the first permit term, typically a 5-year period.

# PILOT OUTCOMES TO DATE

- Agreed general permit format: General Permit with NOIs
- Defined watershed boundaries
- Drafted letter of agency inclusion for EPA signatures
- Agreed on watershed “menu-based” permit format
- Sustain Study (EPA Office of Research and Development)
- Agreed on basis for equitable cost sharing through estimated pollutant impact (cost-sharing algorithm)
  - Drainage area
  - Impervious percentage (or modeled peak discharge)
  - Population density

## Current activities:

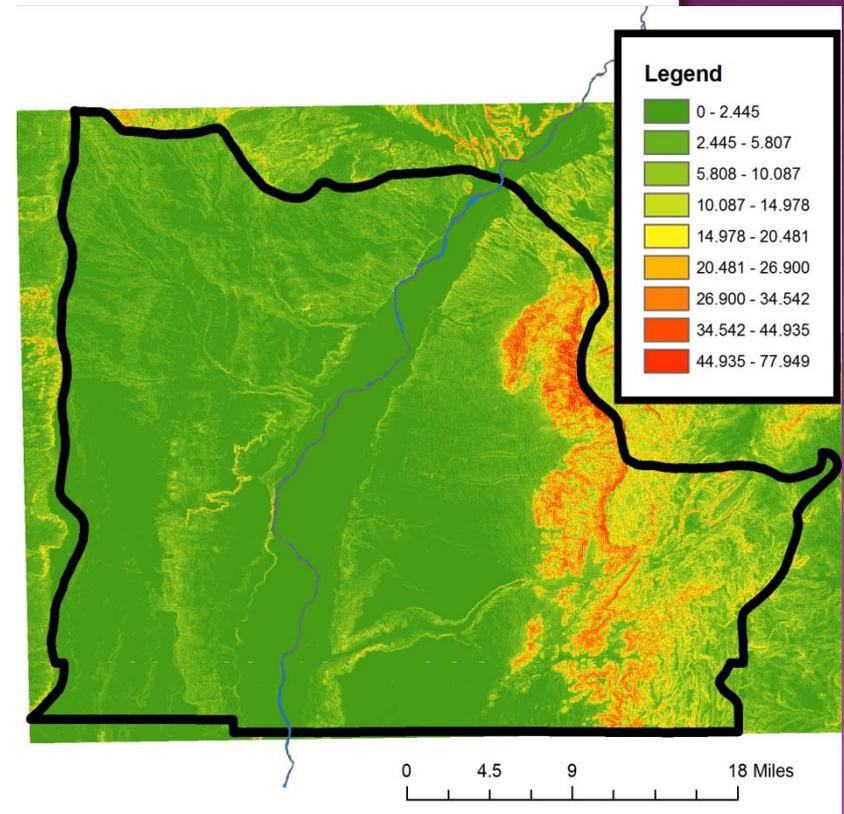
- Tribes /EPA R6 Consultations
- Analysis on new regulated MS4s: Residual Designation
- Analysis current Phase I permit - Activity Tables ?? (Trevol)
- Integrating “Sector” concept with:
  - Strategies Based Menu
  - Regional Monitoring Program
  - Equitable cost-sharing algorithm - (Grad Student Project)
  - Entity Characteristic Matrix
- Refining cost-sharing algorithm
- Grad Student Project Report

# DRAFT COST-SHARING ALGORITHM

## Help define Sectors and Responsibilities

### Variables

- Population Density
- Impervious Surface (%): National Land Cover Database 2006 - Percent Developed Impervious
- Average Slope: National Elevation Dataset
- Distance from Rio Grande



# AT LEAST WITH THIS DRAFT...

	Population Density	Impervious Surface %	Average Slope	Distance From Rio Grande	Points	Watershed Percent	Total Score
Bernalillo County	1	0	4	1	6	45	270
Albuquerque	5	4	1	2	12	22	264
Sandoval County	0	0	3	1	4	21	84
Rio Rancho	3	1	2	1	7	9	63
Bernalillo	3	3	1	5	12	1	12
Los Ranchos	3	2	0	4	9	1	9
Tijeras	2	0	5	0	7	1	7
Corrales	2	0	1	3	6	1	6

# ENTITY CHARACTERISTIC MATRIX

Binary	
ESCAFCA	0
SSCAFCA	7
EXPO	8
Tijeras	8
AMAFCA	8
UNM	8
Sandia Labs	10
Corrales	10
Bernalillo	10
KAFB	11
Sandoval Co	11
Los Ranchos	11
NMDOT	12
Rio Rancho	13
Albuquerque	14
Bernalillo Co	14

Weighted	
ESCAFCA	5
EXPO	75
SSCAFCA	95
Tijeras	100
AMAFCA	105
Los Ranchos	110
Corrales	110
NMDOT	115
UNM	125
Sandia Labs	135
Sandoval Co	150
KAFB	155
Bernalillo	170
Bernalillo Co	190
Rio Rancho	250
Albuquerque	250

# STRATEGIES BASED MENU PROPOSED BY WORKGROUP

## Strategies (BMP) Based Menu for Public Education & Outreach

	Individual	Joint
<b>Basic</b>	<ul style="list-style-type: none"> <li>▪ Adopt arroyos, highways, Bosque, public parks, storm drains.</li> <li>▪ B.E.M.P.4—Water quality monitoring performed by public.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hold forums and public meetings.</li> <li>▪ Set up clean up events for gross floatable debris control.</li> <li>▪ Enhance existing events e.g. Keep America Beautiful; Dia del Rio.</li> <li>▪ Set up a public tracking/reporting system, using phones and social media.</li> <li>▪ Establish a “311”-type number and system.</li> </ul>
<b>Enhanced</b>	<ul style="list-style-type: none"> <li>▪ Adopt arroyos, highways, Bosque, public parks, storm drains.</li> <li>▪ B.E.M.P.4—Water quality monitoring performed by public.</li> </ul>	
<b>Advanced</b>	<ul style="list-style-type: none"> <li>▪ Adopt arroyos, highways, Bosque, public parks, storm drains.</li> <li>▪ B.E.M.P.4—Water quality monitoring performed by public.</li> </ul>	

# PERMIT CONTENT

- ◉ PART 1. COVERAGE UNDER THIS GENERAL PERMIT
- ◉ PART 2 AUTHORIZATION UNDER THIS GENERAL PERMIT .
- ◉ PART 3. NOTICE OF INTENT REQUIREMENTS
- ◉ PART 4. SPECIAL CONDITIONS
- ◉ PART 5. STORM WATER MANAGEMENT PROGRAM (SWMP)
- ◉ PART 6. STANDARD PERMIT CONDITIONS
- ◉ PART 7. DEFINITIONS
- ◉ PART 8. PERMIT CONDITIONS APPLICABLE TO SPECIFIC AREAS OR INDIAN COUNTRY LANDS (pending Tribal Consultations)

Note: Section Titles: from current NM General Permit

# FACTSHEET AND PERMIT (CONTENTS/REQUIREMENTS)

Factsheet	Permit
Example federal regulations :	
System-wide permit coverage: watershed 40 CFR(a)(3)(ii)	← PART 1. COVERAGE UNDER THIS GENERAL PERMIT
Submit a NOI 40 CFR 122.28(b)(2)(i)	← PART 2 AUTHORIZATION UNDER THIS GENERAL PERMIT .
Notices of Intent (NOIs) (40 CFR 122.26(d)(2)(i), 122.33(b))	← PART 3. NOTICE OF INTENT REQUIREMENTS
Water Quality Protection 40 CFR §122.4(d)	← PART 4. SPECIAL CONDITIONS
Develop a SWMP document 40 CFR 122.26(d)(2)(iv), 122.34(a))	← PART 5. STORM WATER MANAGEMENT PROGRAM (SWMP)
Duty to comply under CWA 301, 302, 306, 307, 308, 318 or 405	← PART 6. STANDARD PERMIT CONDITIONS
Definitions 40 CFR 122.26 (b)	← PART 7. DEFINITIONS
40 CFR 122.31(b) (Tribes)	← PART 8. PERMIT CONDITIONS – INDIAN LANDS (*)
	* TBD under current Consultations

# PART 1. COVERAGE UNDER THIS GENERAL PERMIT

- ◉ Permit Area
- ◉ Eligibility
- ◉ Non-Storm Water Discharges
- ◉ Limitations on Coverage
- ◉ Endangered Species Act (ESA) Eligibility Provisions
- ◉ National Historic Preservation Act (NHPA) Eligibility Provisions

# PART 2 AND 3 AUTHORIZATION UNDER THIS GENERAL PERMIT AND NOTICE OF INTENT REQUIREMENTS

## ⦿ AUTHORIZATION UNDER THIS GENERAL PERMIT

- Obtaining Permit Coverage
- Terminating Coverage

## ⦿ NOTICE OF INTENT REQUIREMENTS

- Deadlines for Notification
- Contents of Notice of Intent
- Where to Submit
- Permittees Under a Joint SWMP

# NOIs

- Small MS4 with approved NOI: revise and update its written stormwater management program (SWMP) document and submit it to EPA Region 6 within \_\_\_\_\_
- New small MS4 and MS4 that have not submitted a NOI: submit a NOI with proposed SWMP document for public comment and submit it to EPA Region 6 within \_\_\_\_\_
- Phase I (City of Albuquerque): revise and update its SWMP document and submit it to EPA Region 6 within \_\_\_\_\_
- Co-permittees of phase I permit: (UNM, TXDOT, AMAFCA) - Optional approach. Submit individual NOI or joint NOI with the City of ALB.
- After two years of permit issuance: Opportunity to submit joint SWMP documents or/and (credit system)
- Allow joint SWMPs from the beginning??

# PART 4 SPECIAL CONDITIONS

- ◉ Compliance with Water Quality Standards
- ◉ Total Daily Maximum Loads (TMDLs)  
Allocations Established after Permit Issuance
  - Adopt WLAs as Measurable Goals
  - Targeted BMPs for Pollutants of Concerns
  - Monitoring/Assessment Plan

# PART 5 STORM WATER MANAGEMENT PROGRAM (SWMP)

- General Requirements
- Minimum control measures
  - *Public Education and Outreach on Storm water Impacts*
  - *Public Involvement/Participation*
  - *Illicit Discharge Detection and Elimination*
  - *Construction Site Storm Water Runoff Control*
  - *Post-Construction Storm Water Management in New Development and Redevelopment*
  - *Pollution Prevention/Good Housekeeping for Municipal Operations*
- Industrial Stormwater Sources (Applicable only to the City of Albuquerque)
- Qualifying State, Tribal (under Tribal Consultations) or Local Program
- Sharing Responsibility
- Reviewing and Updating SWMPs
- Monitoring
- Recordkeeping

# GENERAL REQUIREMENTS - STORM WATER MANAGEMENT PROGRAM

## Key Concepts/Requirements:

- ⦿ Requirement to develop a stormwater management program
- ⦿ Necessary legal authority
- ⦿ Compliance Measures and Tracking
- ⦿ Adequate resources

# *PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS*

## Key Concepts/Requirements

- ◉ Developing a comprehensive stormwater education/ outreach program
- ◉ Define the goals and objectives of the program based on at least three high priority, community-wide issues (e.g. general education on impacts of SW pollution, reduction of bacteria in discharges from the MS4, promoting LID GI techniques)
- ◉ Target residential, industrial, and commercial areas as appropriate

# *PUBLIC INVOLVEMENT/PARTICIPATION*

- Involve the public in the planning and implementation of activities related to the development and implementation of the SWMP

# ILLICIT DISCHARGE DETECTION AND ELIMINATION

## Key Concepts/requirements

- ◉ IDDE program development
- ◉ MS4 mapping
- ◉ Identification of priority areas
- ◉ Field screening
- ◉ IDDE source investigations and elimination
- ◉ Public reporting of non-stormwater discharges and spills
- ◉ Illicit discharge education and training

# CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

## Key Concepts/Requirements

- ◉ Construction requirements and control measures
- ◉ Construction site inventory
- ◉ Construction plan review procedures
- ◉ Construction site inspections and enforcement
- ◉ MS4 staff training
- ◉ Construction site operator education and public involvement

# POST CONSTRUCTION OR PERMANENT LONG TERM STORMWATER CONTROL MEASURES

## Key Concepts/Requirements:

- ◉ Post-construction stormwater management program
- ◉ Site performance standards
- ◉ Site plan review
- ◉ Long-term maintenance of post-construction stormwater control measures
- ◉ Watershed protection
- ◉ Tracking of post-construction stormwater control measures
- ◉ Inspections and enforcement
- ◉ Retrofit plan

# POLLUTION PREVENTION/GOOD HOUSE KEEPING

## Key Concepts/Requirements:

- ◉ Municipal facility and control inventory
- ◉ Facility assessment
- ◉ Development of facility-specific stormwater management SOPs and Implementation of facility stormwater controls
- ◉ Storm sewer system maintenance activities
- ◉ Flood management
- ◉ Pesticide, herbicide, and fertilizer application and management
- ◉ Training and education
- ◉ Contractor requirements and oversight
- ◉ Cross reference for sites with MSGP coverage?

# INDUSTRIAL STORMWATER SOURCES

(APPLICABLE ONLY TO THE CITY OF ALBUQUERQUE)

## Key Concepts/Requirements:

- ◉ Facility inventory
- ◉ Industrial facility stormwater control measures
- ◉ Industrial and commercial facility inspections
- ◉ Staff training

# MONITORING, EVALUATION & REPORTING

## Key Concepts/Requirements

- Consolidated information tracking system: (track the information required in the permit as well as the information required to be reported in the annual report) - Joint effort: Credit system
- Development of a comprehensive monitoring program - Joint effort credit system
- Evaluation of overall program effectiveness
- Requirements for annual reporting of MS4 activities

# CONT....

- ◉ Combination of: EPA proposal, Monitoring Subgroup proposal, FWS and State/Tribal expectations - Credit system for joint programs (optional items TBD)
- ◉ Two elements:
  - Watershed Survey
  - Discharge (outfall) Monitoring

# MONITORING PROGRAM

## Objectives of the Watershed Survey And Discharge (outfall) Monitoring Programs/Plans

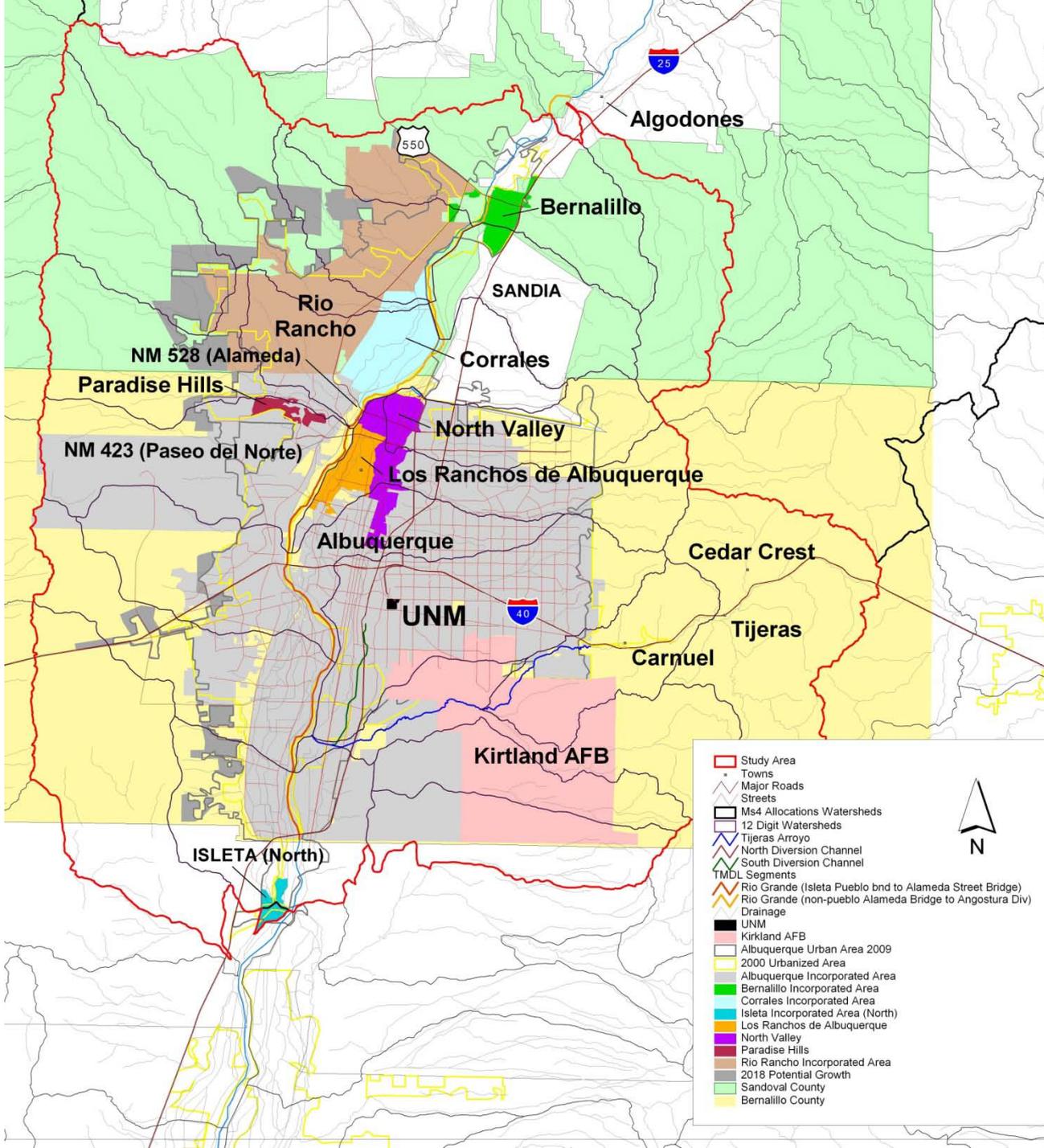
- ◉ Assess compliance with this permit
- ◉ Assess the effectiveness of the permittee's stormwater management program;
- ◉ Assess the impacts to receiving waters resulting from stormwater discharges
- ◉ Characterize stormwater discharges (largely already done by Phase I) confirm applicability to Phase Iis (e.g., system screens)
- ◉ Identify sources of specific pollutants - " Interim Reduction Program to control 303(d) list parameters"
- ◉ Protect endangered species
- ◉ Detect and eliminate illicit discharges and illegal connections to the MS4; and
- ◉ Assess the overall health and evaluate long-term trends in receiving water quality (credit system)

# OTHER PARTS:

- ◉ PART 6 STANDARD PERMIT CONDITIONS
- ◉ PART 7 DEFINITIONS
- ◉ PART 8 PERMIT CONDITIONS APPLICABLE TO SPECIFIC AREAS OR INDIAN COUNTRY LANDS (under Tribal Consultations)

# APPENDIXES

- ◉ Urbanized Area - Water Quality Tables
- ◉ Strategies (BMP) Based Menu Tables
- ◉ Middle Rio Grande Water Quality Monitoring Program Activity Table
- ◉ Tool Box
  - Sustain Model
  - Cost-Sharing Algorithm
- ◉ Credit System
- ◉ Annual Report Form



# NEXT STEPS

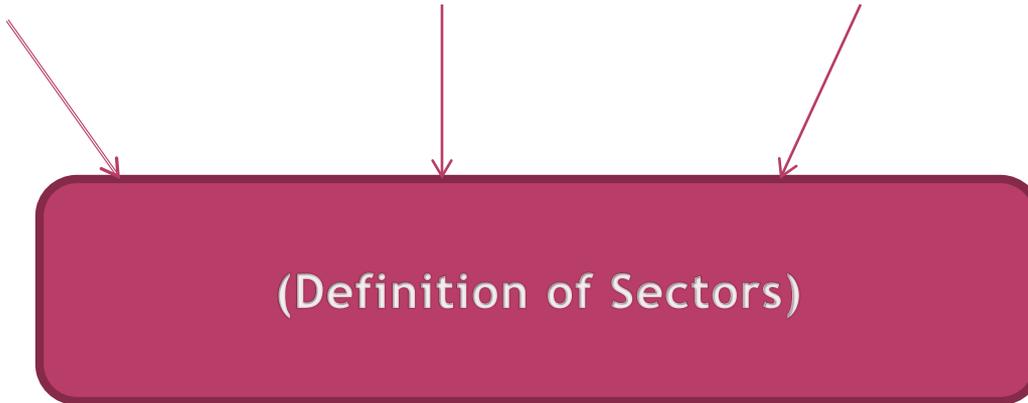
- ◉ Determine nature of involvement for Tribes /EPA R6 Consultations
- ◉ Finalize analysis on Residual Designation Authority
- ◉ Finalize proposed permit format
  - Sectors (Type ??)
  - Strategies Based Menu
  - Regional Monitoring Program
  - Equitable cost-sharing algorithm
- ◉ UNM Grad Student Professional Project (what will it take to develop an MOU?)
- ◉ SUSTAIN- Define the role in the permit
- ◉ Share draft with workgroup before proposal
- ◉ Propose and then issue a permit

# INTEGRATION OF CONCEPTS

Equitable cost-sharing algorithm

UNM Grad Student  
Professional Project

Entity Characteristic Matrix



# INTEGRATION OF SECTOR CONCEPT BMP BASED MENU

Revised Strategies (BMP) Based Menu for Public Education & Outreach- Permit (one of the App.)

Basic (Sector A)	<ul style="list-style-type: none"><li>- BMP 1</li><li>- BMP 2</li><li>- BMP 3</li></ul>
Enhanced (Sector B)	<ul style="list-style-type: none"><li>- BMP 1</li><li>- BMP 2</li><li>- BMP 3</li></ul>
Advanced (Sector C)	<ul style="list-style-type: none"><li>- BMP 1</li><li>- BMP 2</li><li>- BMP 3</li></ul>

Use Sectors, Types, Tiers??

# INTEGRATION OF SECTOR CONCEPT

Strategies (BMP) Based Menu for Public Education & Outreach-  
reported in the Annual Report

		Individual	Joint
Basic (Sector A)	<ul style="list-style-type: none"><li>- BMP 1</li><li>- BMP 2</li><li>- BMP 3</li></ul>	X	X X
Enhanced (Sector			
Advanced (Sector			

Permittee will populate the table in the SWMP document

# OTHER ITEMS TO BE RESOLVED..

- Funding agreements (MOUs)
- Enforcement/Ordinances
- Adequate resources(e.g.Stormwater Utility)
- Development of joint Storm Water Management Program (SWMP) document(s)
- Necessary legal authority

# TIMELINE

Time frame or Target Date	Event	Responsible Party
May , 2012	<ul style="list-style-type: none"> <li>- WBP Workgroup meeting</li> <li>(Discussions proposed Cost-sharing Algorithm project, Regional Monitoring Program ,and Sector Models/Concepts)</li> </ul>	EPA, WBP Workgroup
June, 2012	<ul style="list-style-type: none"> <li>- WBP Workgroup meeting</li> <li>(Resolution – cost-sharing algorithm project, Regional Monitoring Program , and Sector Models/Concepts)</li> <li>-Submit First Draft Watershed Based MS4 Fact Sheet and Permit to WBP Workgroup</li> <li>- Release Watershed Based MS4 Webpage on EPA Region 6 website</li> </ul>	EPA, WBP Workgroup  EPA
July, 2012	<ul style="list-style-type: none"> <li>-Submit comments on proposed factsheet and permit to EPA</li> <li>- First Draft Residual Designation ROD (coordinate with Village of Tijeras and NMED)</li> <li>-Update stormwater rulemaking to WBP Workgroup</li> </ul>	WBP Workgroup  EPA
July, 2012	<ul style="list-style-type: none"> <li>- WBP Workgroup meeting (Resolution to comments)</li> </ul>	EPA, WBP Workgroup
August, 2012	<ul style="list-style-type: none"> <li>- WBP Workgroup meeting</li> <li>(Resolution to comments)</li> </ul>	EPA, WBP Workgroup
September, 2012	<ul style="list-style-type: none"> <li>- Submit proposed permit to NMED for initial review (30-day review)</li> </ul>	EPA

# Questions?

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