ASTM'S STANDARD GUIDE FOR GREENER CLEANUPS E2893

"The Protocol"

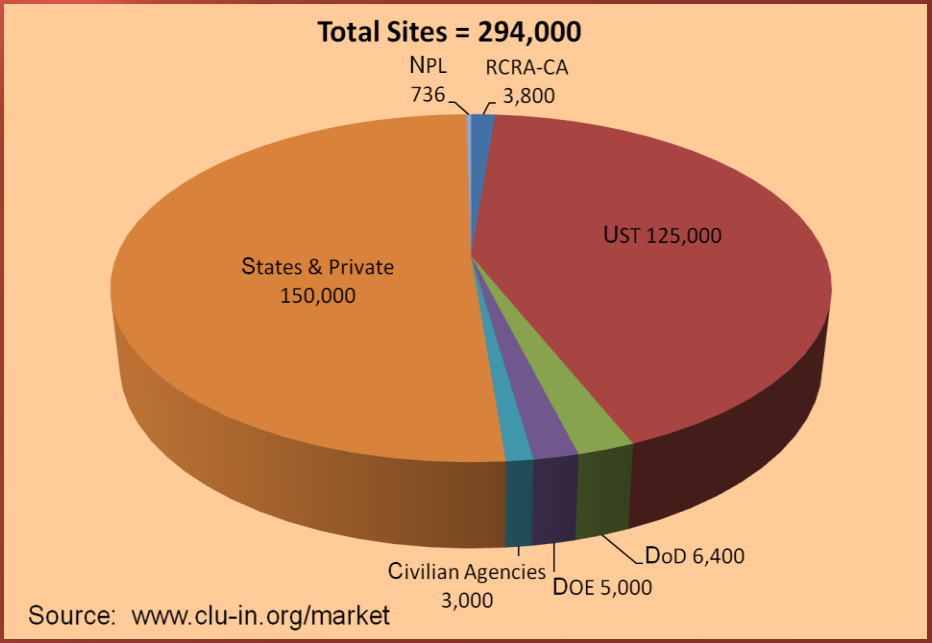
Deb Goldblum, EPA Region 3
MA LSPA Workshop
December 10 & 11, 2014

Standard Approach

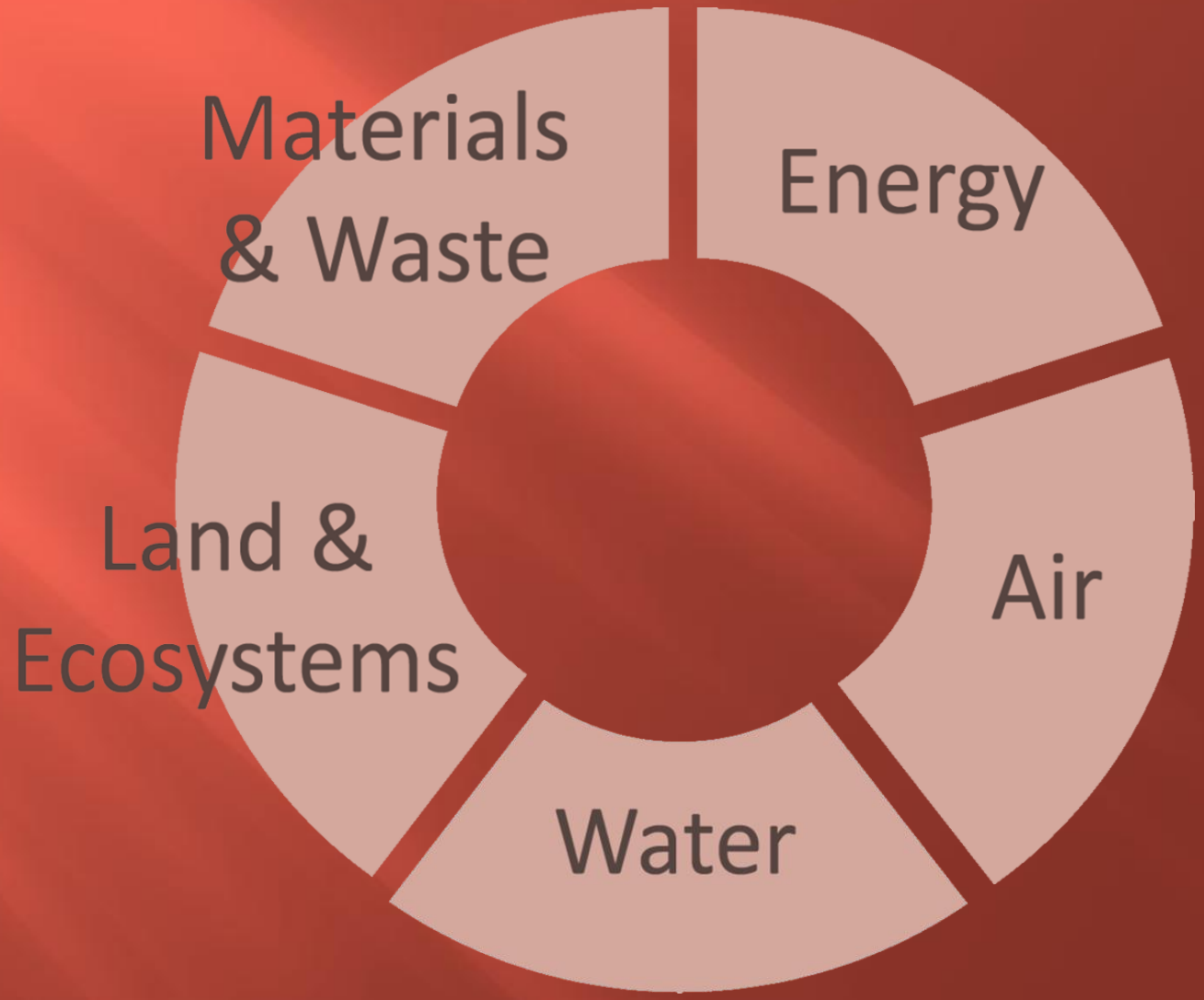
- Implementing
- Reporting
- Defining Greener Cleanups

Key Attributes

- Cost neutral
- Transparent
- Tool
- ASTM “brand”
- Program neutral



Core Elements



Standard Structure

1. Scope
2. Referenced Documents
3. Terminology
4. Significance and Use
5. Planning and Scoping
6. BMP Process
7. Quantitative Evaluation
8. Documentation and Reporting
9. Keywords

Administrative

Protocol

Appendices

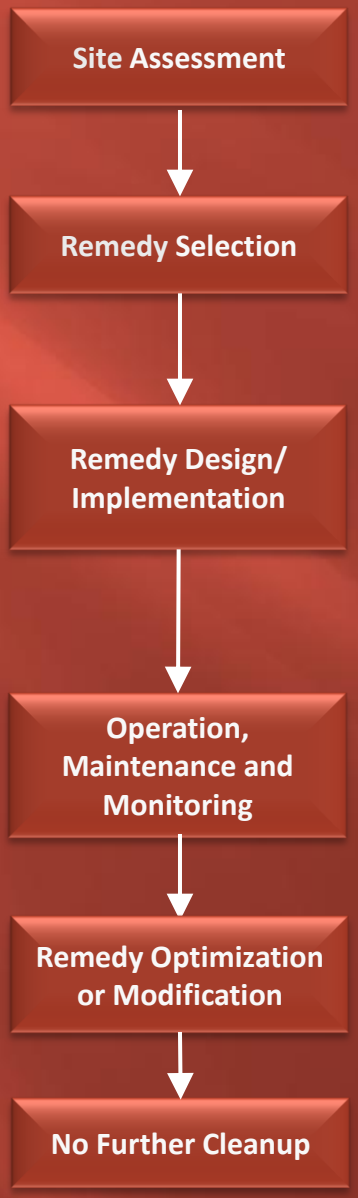
- X1 Supporting Documentation
- X2 Technical Summary Form
- X3 BMP Table
- X4 Supplemental Information for a Quantitative Evaluation

Adjuncts

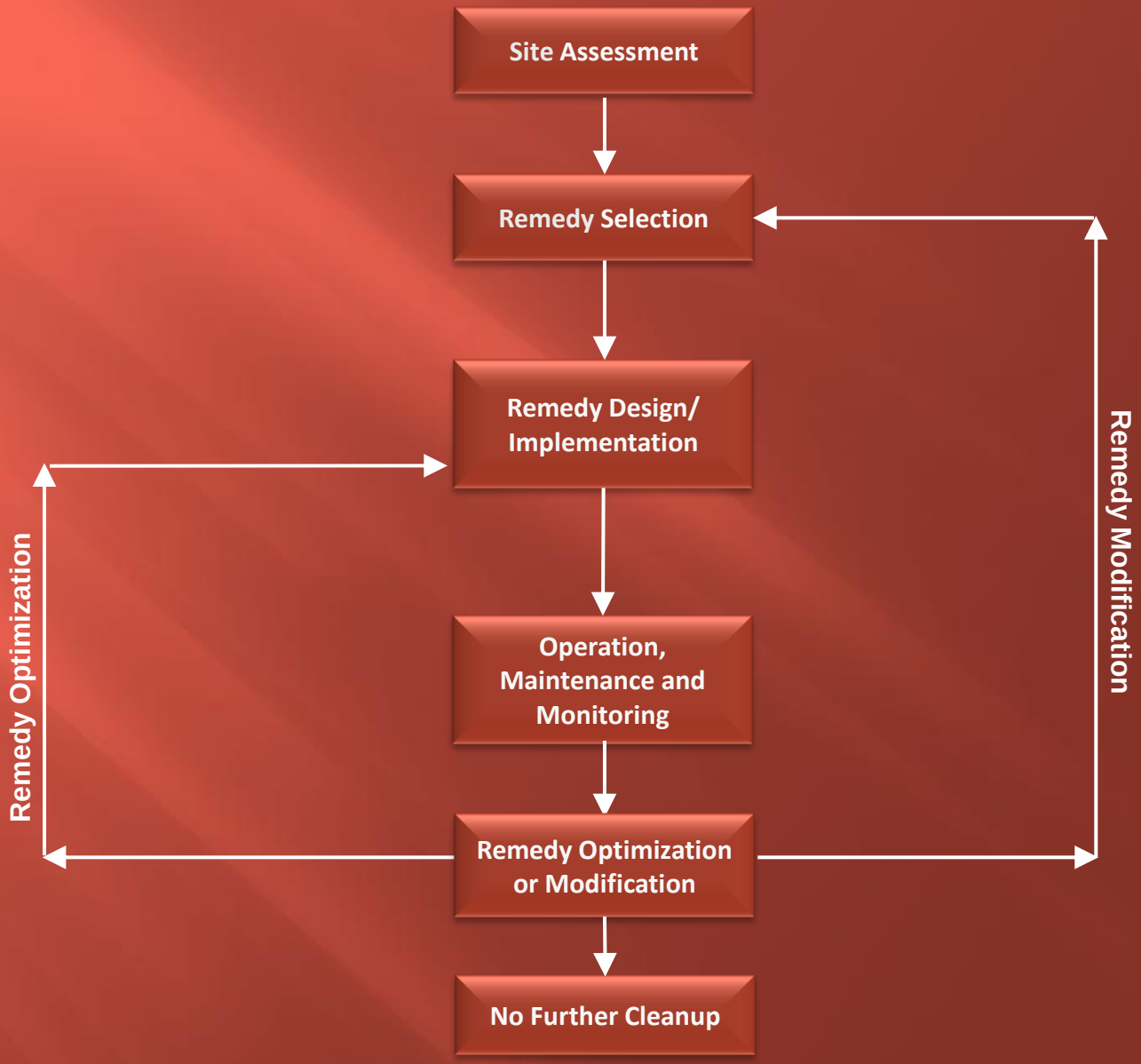
Section 5: Planning and Scoping

- Select lead environmental professional
- Assemble project team
- Identify the regulatory program
- Compile site data
- Develop a budget and schedule
- Determine which cleanup phases
- Choose BMP process or quantitative evaluation
- Plan for reporting results

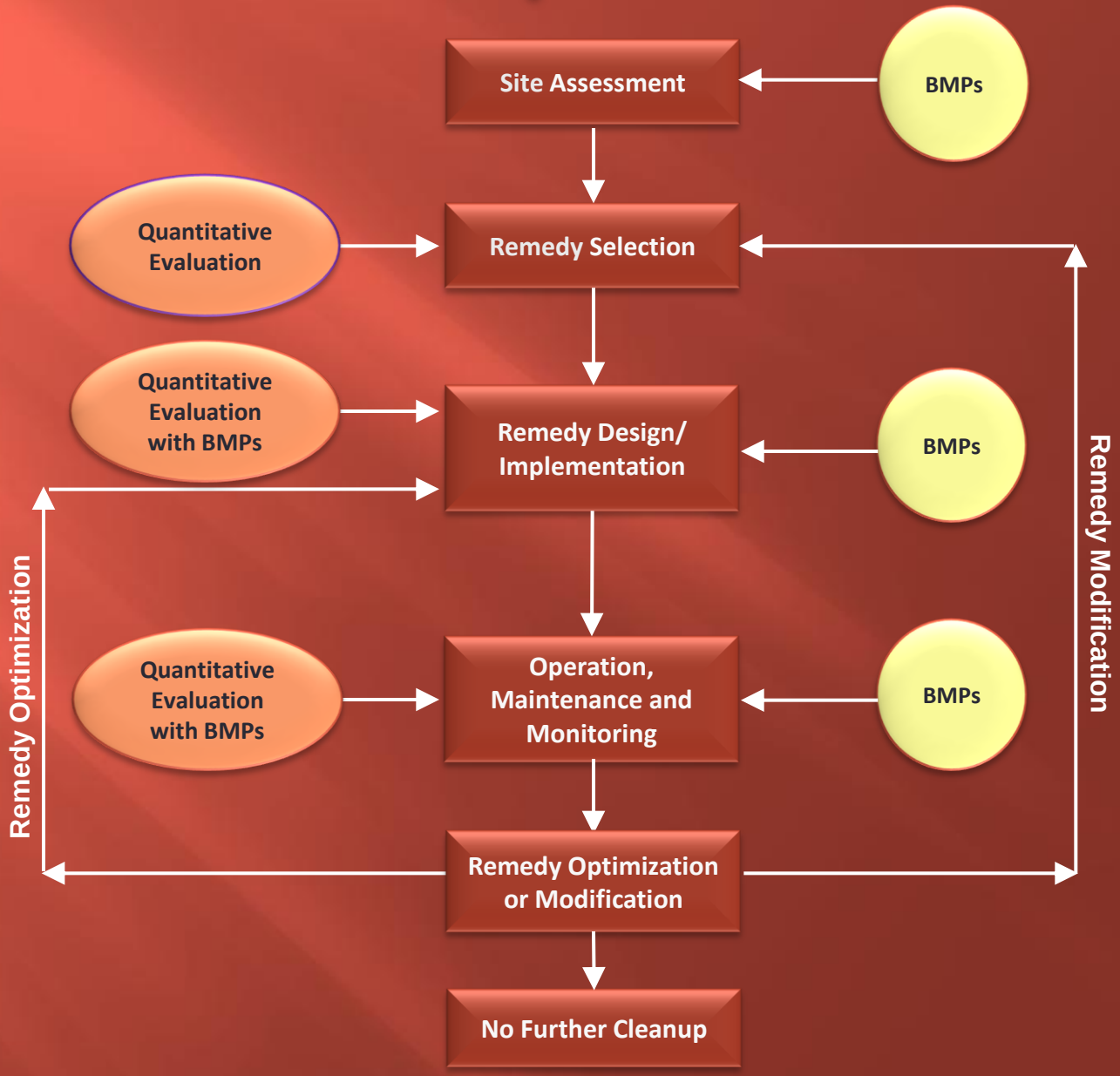
Cleanup Phases



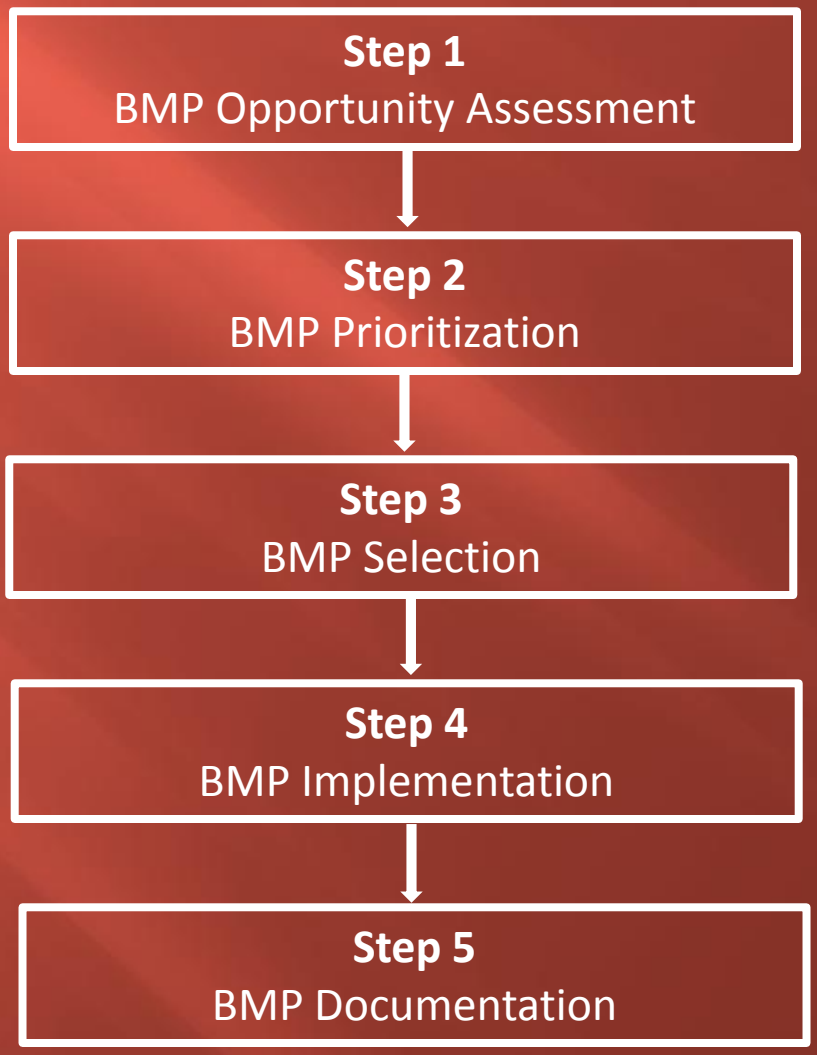
Cleanup Phases



Cleanup Phases



Section 6: BMP Process



Step 1 Opportunity Assessment

BMP Category	Best Management Practice	Core Elements					Remediation Technology										
		Energy	Air	Water	Materials & Waste	Land & Ecosystems	SVE	Air Sparging	Pump & Treat	In-Situ Chemical	Bioremediation	In-Situ Thermal	Phytoremediation	Subsurface Containment & Treatment Barriers	Excavation & Surface Restoration	Ex-Situ Bio/Chemical Oxidation	Vapor Intrusion Mitigation
Power & Fuel	BBMMMMP	X	X				X	X	X	X	X	X		X	X	X	
Power & Fuel	BBBMMMPPPP	X		X								X					
Power & Fuel	BBBBBBBMPPPPP	X			X	X				X	X						

Step 1 Opportunity Assessment

Best Management Practice	Applicable
BBBBBMMMMMPPPPPPPPP	X
BBBMMMPPPP	X
BMPPPPPPPPPPPP	X
BBBBBBBMPPPPPP	X
BBBBBMMMMMMMMP	X
	X

BBBMMMMMMP

BBBMMMP

BBMMMP

Step 2 BMP Prioritization

Best Management Practice	Priority
BBBBBMMMMPPPPPPPPP	Med
BBBMMMPPPP	Med
BMPPPPPPPPPPP	High
BBBBBBBMPPPPPP	Low
BBBBBMMMMMMMP	Low
BBMMMP	Med

Step 2 BMP Prioritization

Best Management Practice	Priority
BMPPPPPPPPPPPP	High
BBBMMMPPPP	Med
BBBBBMMMMPPPPPPPPP	Med
BBMMMP	Med
BBBBBBBMPPPPPP	Low
BBBBBMMMMMMMP	Low

Step 3 BMP Selection

Best Management Practice	Priority	Select/Rationale
BMPPPPPPPPPPPP	High	X
BBBMMMPPPP	Med	Cost
BBBBBMMMMPPPPPPPPP	Med	X
BBMMMP	Med	X
BBBBBBBMPPPPPP	Low	X – required by law
BBBBBMMMMMMMP	Low	Effectiveness

Step 4 BMP Implementation

Step 4 BMP Implementation

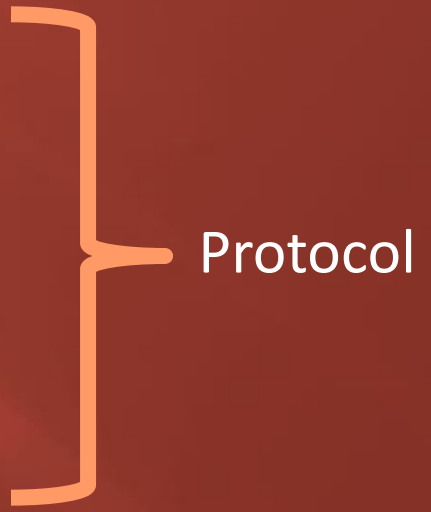
Best Management Practice	Priority	Select/Rationale
BMPPPPPPPPPPPP	High	X
BBBMMMPPPP	Med	Cost
BBBBBMMMMPPPPPPPPP	Med	X
BBMMMP	Med	X
BBBBBBBMPPPPPP	Low	X – required by law
BBBBBMMMMMMMP	Low	Effectiveness

Step 5 BMP Documentation

Best Management Practice	Priority	Select/Rationale
BMPPPPPPPPPPPP	High	X
BBBMMMPPPP	Med	Cost
BBBBBMMMMPPPPPPPPP	Med	X
BBMMMP	Med	Stuff Happens
BBBBBBBMPPPPPP	Low	X – required by law
BBBBBMMMMMMMP	Low	Effectiveness

Section 7: Quantitative Evaluation

5. Planning and Scoping
6. BMP Process
7. Quantitative Evaluation
8. Documentation and Reporting



Section 8: Documentation and Reporting

Step 1: Document BMP Tables for each phase

Remedy Design/Implementation		
Best Management Practice	**Priority**	**Select/Rationale**
BMPPPPPPPPPPPP	High	X
BBBMMMPPPP		
BBBBBMMMMPPPPPP		
BBMMMP		
BBBBBBBMPPPPPP		
BBBBBMMMMMMMP		

Operation Maintenance and Monitoring		
Best Management Practice	**Priority**	**Select/Rationale**
BMPPPPPP	High	X
BBBMMMMMMMPPPP	High	X
BBMMMMPPPPPPPP	Med	X
BBBBBBBBBMMMPPPPPPPPP	Med	Cost
BBBBBBBMPPPPPP	Low	Env. trade-offs
BBMMMPPPP	Low	X

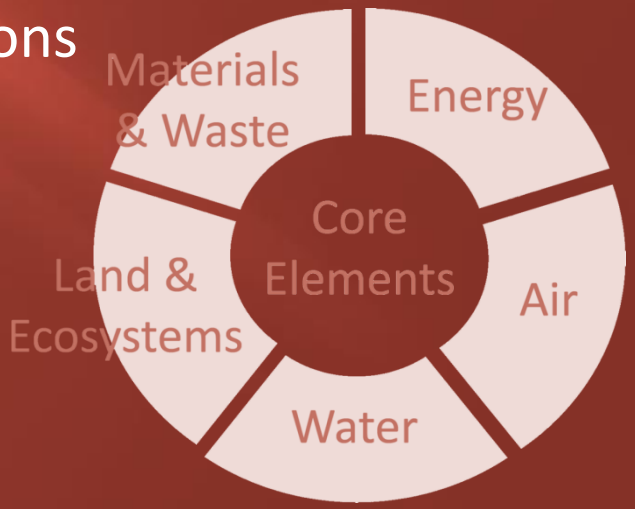
Section 8: Documentation and Reporting

Step 2: Report the information publicly

Best Management Practice	Priority	Select/Rationale
BMPPPPPPPPPPPP	High	X
BBBMMMPPPP	Med	Cost
BBBBBMMMMPPPPPPPPP	Med	X
BBMMMP	Med	
BBBBBBBMPPPPPP	Low	X – required by law
BBBBBMMMMMMMP	Low	Effectiveness

Make publicly available

- BMP Summary Tables
- Quantitative Evaluation Report(s), if applicable
- Technical Summary (Appendix X2 form)
  - General Information
  - Environmental Footprint Reductions
- Self-Declaration



Options for Public Availability

- Public repository
- Post on a website
- Submit to a regulatory agency, with prior agency consent

ASTM will post on website. Contact Kate McClung at:

kmcclung@astm.org

Timing for Reporting

- Based on:
  - Needs of the user
  - Requirements or agreements with a regulatory program
  - Commitments through contractual agreements or with stakeholders
- Recommends results be reported after implementation of cleanup activities

Access to the Standard Guide

Individuals

- Go to: http://www.astm.org/Standards/E2893.htm

Subscription

- E-mail: service@astm.org

Quiz: True/False

1. The standard can be used for contracting? **T**
2. Standard results must be reviewed by the regulator? **F**
3. Users must quantify results across the core elements? **F**
4. Users may rely on professional judgment to prioritize environmental benefits of BMPs? **T**
5. Users must make results publicly available after each cleanup phase? **F**