



Stormwater Requirements for Fire Department Activities



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Training Outline

- Introduction – Water Quality Issues
- Municipal Stormwater Permits
- Fire Department Activities
 - Non-Emergency
 - Fire Stations
 - Training
 - Post Emergency
 - Fire Hydrant/Sprinkler Testing
 - Emergency
 - Fire Fighting
 - Trauma Scenes

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Introduction

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Introduction

Water Resources are Crucial to Orange County



Water provides recreation for Orange County residents.

It attracts tourists, boosting the local economy.



It is home to many types of wildlife.

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Sources of Pollution

- Homes
- Businesses
- Construction sites
- Municipal facilities



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Introduction

It's Your Responsibility

- Everyone must help to reduce urban runoff and stormwater pollution.
- This training will help explain what Fire Department Personnel can do while conducting their daily activities to meet the requirements under the Orange County Stormwater Program.

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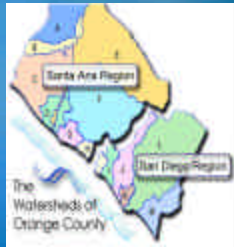
Municipal Permits

Clean Water Act

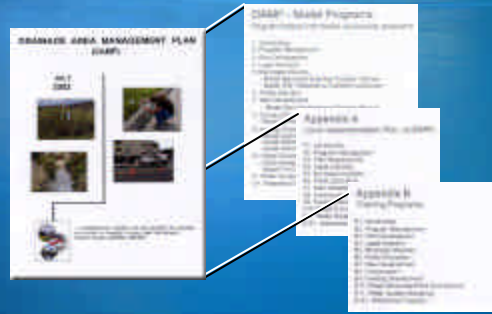
- Objective
 - "To restore and maintain the chemical, physical and biological integrity of the Nation's waters"
 - "Fishable" "Swimmable"
- Permitting of Discharges
 - The CWA established the National Pollutant Discharge Elimination System (NPDES) program to regulate discharges, including urban runoff and stormwater

Municipal Permits

- 5 Year Permit Terms 2002-07
 - Santa Ana Region
Order No. R8-2002-0010
January 18, 2002
 - San Diego Region
Order No. R9-2002-0001
February 13, 2002



OC Stormwater Program

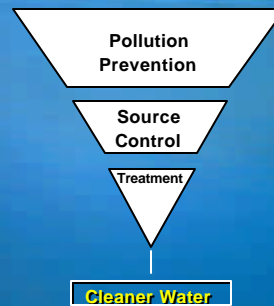


Compliance Approach

DAMP - Model Programs
Program history and model countywide programs

1. Introduction
2. Program Management
3. Plan Development
4. Legal Authority
5. Municipal Activities
6. Public Education
7. New Development
8. Construction
9. Existing Development
10. Illegal Discharges/Illicit Connections
11. Water Quality Monitoring - SDR/ SAR
12. Watershed Chapters

Program Approach



Best Management Practice (BMP)

Technique, measure or structural control that is used for a given set of conditions to manage the quantity and improve the quality of the stormwater runoff in a cost effective manner

EPA * Preliminary Data Summary of Urban Stormwater Best Management Practices

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Fire Department Activities



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Coordination with OC Fire Departments

- Orange County Fire Authority*
- Anaheim FD
- Brea FD
- Costa Mesa FD
- Huntington Beach FD
- Fountain Valley FD
- Fullerton FD
- Garden Grove FD
- Huntington Beach FD
- La Habra FD
- Newport Beach FD
- Laguna Beach FD
- Orange FD
- Santa Ana FD

* OCFA – Coordination with the County stormwater program

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Stormwater Program Requirements

- Santa Ana RWQCB
 - **Emergency** - fire fighting flows do not require BMPs and need not be prohibited (BMPs should be considered)
 - **Non-Emergency** - Develop a list of BMPs for non-emergency and emergency activities
- San Diego RWQCB
 - **Emergency** and **non-emergency** fire fighting flows need not be prohibited. (BMPs for non-emergency activities are encouraged)

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Training Program Goal

Increase understanding of stormwater program and identify BMPs that should be implemented in order to reduce potential water quality impacts from Fire Department activities



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Fire Department Activities Non-Emergency

- Fire Station Activities
- Fire Training Activities
- Post-Emergency Fire Fighting Activities
- Fire Hydrant and Sprinkler Testing



Photo courtesy of OCFA

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Fire Department Activities Emergency

- Fire Fighting Activities
- Trauma Scene Clean-up



Photo courtesy of OCHA

Stormwater Programs

Fire Department Activities	Municipal	Existing Development	ID/IC
Fire Stations	X		
Training Activities	X		
Post Emergency	X		
Hydrant & Sprinkler Testing		X	
Fire Fighting			X
Trauma Scene			X

BMP Fact Sheet FP-7 Fire Department Activities

- Fire Station Activities
- Fire Training Activities
- Post-Emergency Fire Fighting Activities
- Fire Hydrant/Sprinkler
- Emergency Fire Fighting
- Trauma Scene Clean Up



Fire Department Activities

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Fire Station Activities

- Building Maintenance and Repair: FF-2
- Equipment Maintenance and Repair: FF-3
- Fueling: FF-4
- Material Storage, Handling, and Disposal: FF-7
- Spill Prevention Control: FF-10
- Vehicle and Equipment Cleaning: FF-11
- Vehicle and Equipment Storage: FF-12
- Waste Handling and Storage: FF-13

Fire Stations

- May be identified as Municipal Owned/Operated Facility
- If so, City/County will
 - Include in facility inventory
 - Prioritize the facility
 - Work with the Fire Department to ensure that BMPs are implemented - inspections
 - Report on BMPs

Fire Department Activities

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Fire Training Activities

Fire Training Activities

- Source Control BMPs:
 - Conduct in facilities designed to protect storm drain system
 - Direct flows to landscaped or green areas when safe and practical
 - Remove debris and pollutants from flow path prior to drill
 - Divert to sewer if authorized by sanitation agency
 - Protect storm drains or incorporate appropriate BMPs
 - Block storm drains if foam is used



Photo courtesy of OCA

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Fire Department Activities

- Non-Emergency
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Post Emergency Activities

Post-Emergency Fire Fighting Activities

- Source Control BMPs:
 - Discharge hoses on landscaped areas, if possible
 - If discharged to street – remove debris along pathway
 - Rinse personal gear and equipment in area that discharges to the sanitary sewer or decon as appropriate



Photo courtesy of OCA

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Fire Department Activities

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Fire Hydrant Testing

Fire Hydrant Testing

- San Diego Region – Order No. R9-2002-0020
- Dewatering of water mains
 - Fire hydrant flushing/flow testing
- MAY need coverage - Contact Regional Board
 - Site Survey
 - Clear flow path
 - Prevent erosion
 - Control flow
 - De-chlorinate



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Fire Hydrant Testing

- BMPs described in Fact Sheet FP-6
 - Control measures must be in place to control potential pollutants (e.g. sediment, chlorine, trash and debris)
 - Remove debris along flow path
 - Monitor effectiveness of control measure during discharge and modify as needed



Photo courtesy of OCA

Fire Sprinkler Testing

- BMPs described in Fact Sheet IC 23
 - Conduct on non-rainy day for the shortest duration possible
 - De-chlorinate the water
 - Contain water on-site or direct water to landscaped or green areas
 - Divert the water to a sewer when practical and with the permission of the local sewer agency
 - No discharge to the storm drain

Fire Department Activities

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Fire Fighting

- Definition of “Emergency”
- Discharges occurring during emergency fire fighting activities are not prohibited
- To the extent possible, implement BMPs
- Refer to OC Hazardous Materials Area Plan



Fire Fighting BMPs

- To the extent allowed by the circumstances at the scene:
 - Minimize the use of water
 - Use foam
 - Protect storm drains or incorporate appropriate BMPs



Photo courtesy of OCA

Fire Department Activities

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Trauma Scene Waste Clean Up

- Trauma scenes are emergencies
- Wastes - tissue/blood
- Wastes require special handling procedures
- Use universal precautions and adequate personal protective equipment
- Incident commander has to use best professional judgment



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Public Property Clean Up

- Materials that can be picked up should be removed from the scene by Coroner's Office (fatal)
- Tissue, parts, fluids in solid state shall not enter the storm drain system
- Soak up *moderate* to *large* amounts of fluids
- Decontaminate/rinse *small* amounts of fluids (Small = 1 gallon of 10% chlorine)

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"Small" Spill Procedures

- 1 gallon sprayer - 90% tap water
Mix in ¼ cup household bleach
- Proper PPE during mixing and cleanup
- Sit for 10 minutes – wash with fire hose
- Non-emergency
 - Clear path of any trash/debris
 - Direct to sewer if feasible – permission required

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RTSMP

- Criteria
 - Moderate to Large spill
 - Public Agencies can not handle cleanup
 - Tissue on scene – non-fatal
- Request through dispatch
- Requesting Agency or other stay on scene
- Limitations – hours, call out

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Private Property Clean Up

- Hire RTSMP or clean up area themselves
- If they clean it themselves - Follow general procedures
 - Blood borne pathogen trained
 - Proper PPE
 - Use adequate disinfectant solution
 - Dispose of wastes properly
- Property owner can also use a RTSMP. A list of companies can be provided by public agency personnel

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Resources

- Medical Waste Management Act.
(www.dhs.ca.gov/ps/ddwem/environmental/Med_Waste/mdm_act.pdf)
- A Registered Trauma Scene Management Practitioner (RTSMP) – Use for Med/Large Spills-
(www.dhs.ca.gov/ps/ddwem/environmental/Med_Waste/medwa_steindex.practitioners.pdf) (916) 327-6904
- Bodily fluids cleanup policies and procedures
County of Orange Health Care Agency, Regulatory Health Services and/or Medical Waste Section
Business Hours (714) 667-3600 After Hours (714) 628-7008
- Storm drain system impacts
Contact County of Orange Public Facilities and Resources Department
Business Hours (714) 567-6363 After Hours (714) 628-7008

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Conclusion



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Conclusions

Conclusion

- Countywide program has been developed to improve water quality
- Fire Department activities may impact water quality
- Fire Departments should implement BMPs for their non-emergency activities as well as their emergency activities, when feasible
- BMP fact sheets have been developed to provide guidance



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Questions ?



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Remember

Conclusion

- Everyone benefits from clean water, and everyone has a responsibility to protect it by reducing urban runoff and stormwater pollution.



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Resources

Conclusion

For more information:
Visit www.ocwatersheds.com
or
Call the Orange County Stormwater Program at 714-567-6363.



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Handouts

- Hard Copy of Presentation
- FP-7 Fire Department Activities
- FP-6 Water and Sewer Utility O&M
- IC23 Fire Sprinkler Testing
- DAMP Section 10.2.9.1

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Acknowledgements

- OCFA - photos

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Thank You!

Thank you for attending and
learning how you can help!



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