

National NEMO Network Presents



DENY
EVERYTHING,
ADMIT
NOTHINGU 007

Decoding LID & Recruiting Secret Change Agents *Stormwater Treatment Counterinsurgency in Coastal Maine Communities*

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Maine NEMO Program

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Presentation Overview

- Infiltration of Secret LID Change Agents in Maine
 - A...Why do we want it
 - B...How do we get it
 - C...How do we get more of it
- Clandestine Counterinsurgency in South Portland
 - Why we're doing it
 - What it is
 - Quick overview of key ordinance provisions
 - How we're doing it
- Q&A



The threat of impaired stream is motivating towns





It's way cooler
than
traditional
methods



LID creates unique opportunities



Why aren't we seeing more?





Try to make the
ride fun for
everybody

2008

- Three for Municipal officials
- One for the Development community
- What is LID, effectiveness in cold climates

91% would consider LID when making decisions relating to local development.



What can we make happen in small towns?



York Ordinance language

- Low Impact Design. Each applicant is *required* to *submit a statement* to the Planning Board *documenting proposed* Low Impact Design (LID) *for the site*, which will help to reduce stormwater volumes and help to enhance stormwater quality. LID includes, but *is not limited to* green roofs, rain gardens, tree wells, infiltration basins, and permeable pavement. The applicant shall submit technical documentation about the suitability of such designs with the request for LID features.



I'M SORRY

I can't hear you over the sound of how awesome I am

Most still didn't know how to use
the tools



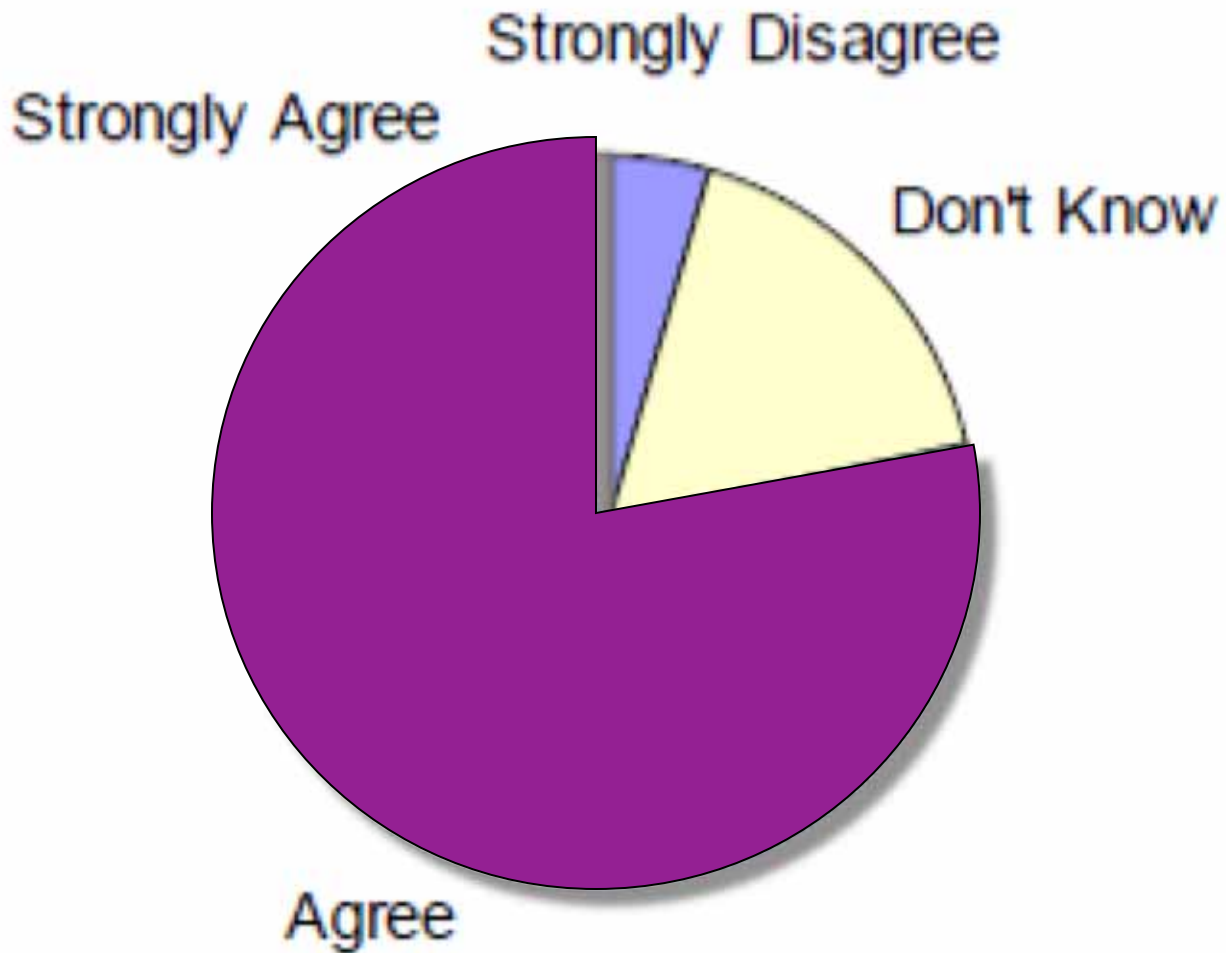
Towns needed more technical expertise

- Addressing barriers to LID in Maine
- Target audience is stormwater professionals.
- The need is for more technical training in LID design, installation and maintenance.

Technical workshop 2009

- LID as a design philosophy
- Porous pavement / Gravel wetland
- LID Design charette
- Case study of porous pavement
- Construction Do's and Don'ts.

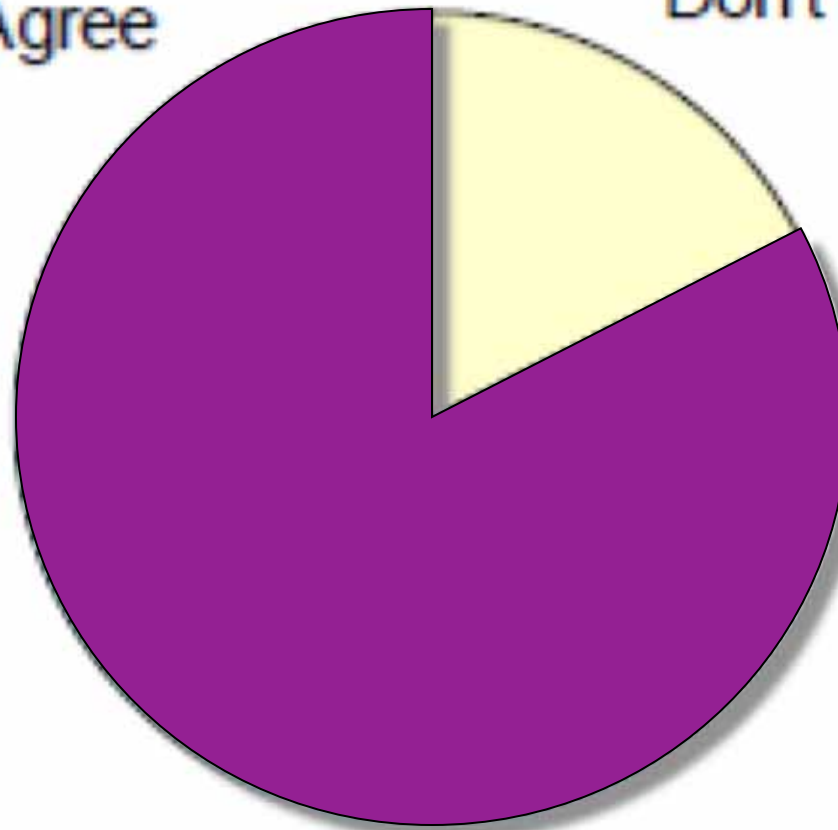
I am comfortable with incorporating LID into my community's developments



I intend to apply something to improve my town

Strongly Agree

Don't Know



Agree

Where do we go from here?

- Possible Webinar series
- Downloadable training sessions
- Ideas??
 - Basic LID intro- philosophy vs retrofit,
 - Where n how LID is used in Maine
 - Raingardens
 - LID use on Individual house lots
 - LID and changes to chapter 500
 - Climate change
 - Ordinances (York and other states)
 - LID for a typical subdivision

SoPo's Coastal Communities Stormwater Management Manual

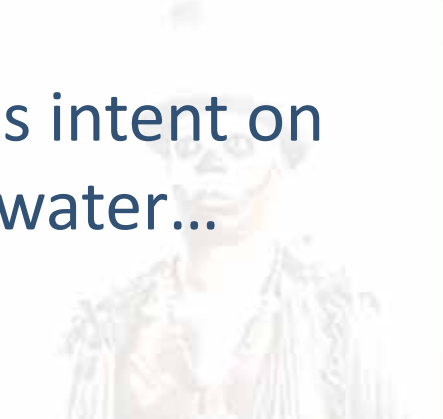
FIRST TO GIVE CREDIT WHERE IT'S DUE...
(The names have been changed to protect our covert operations)



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WHY WE'RE DOING IT

- Because there's a rouge's gallery of villains intent on destroying the world with polluted stormwater...



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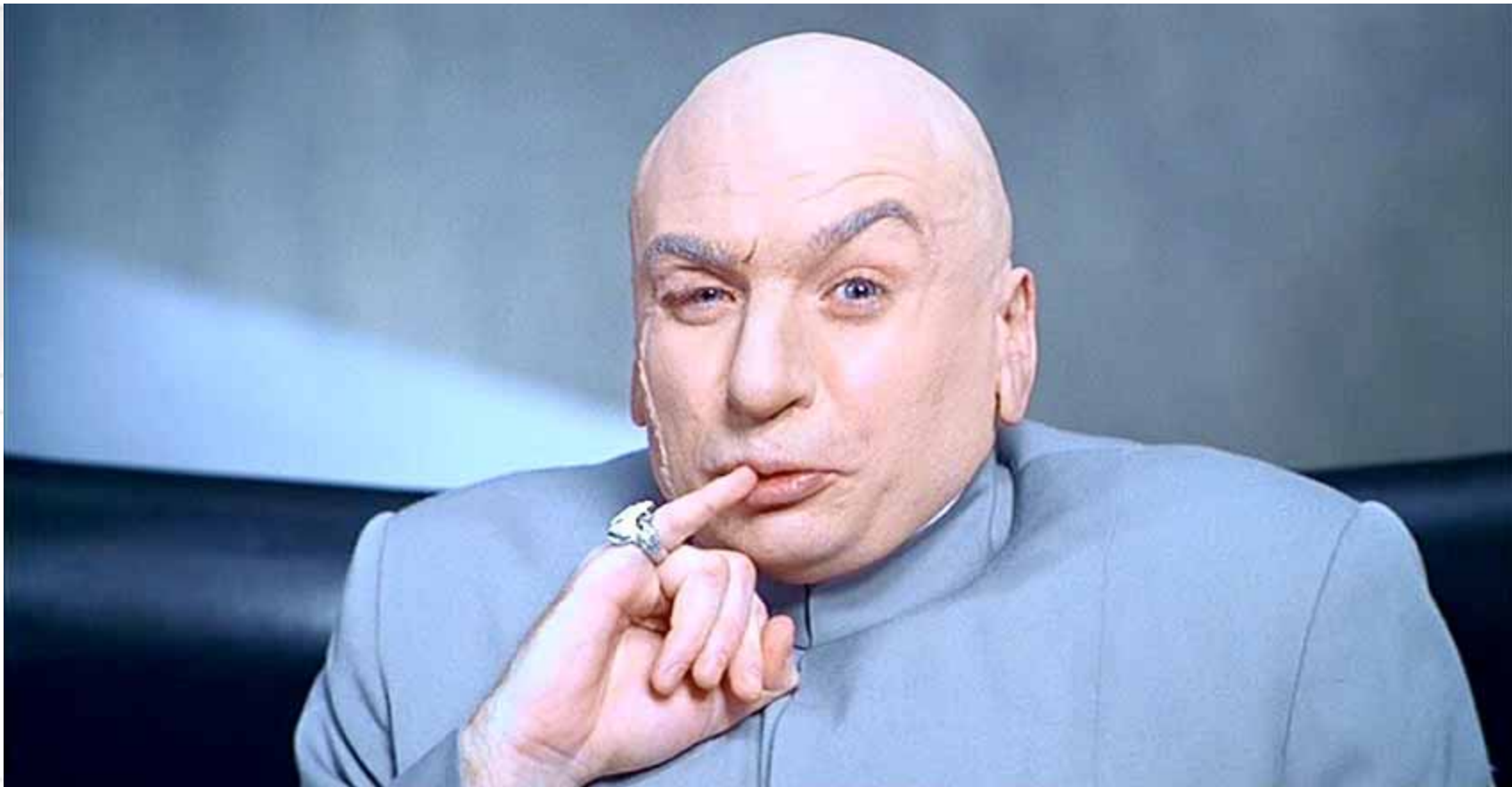
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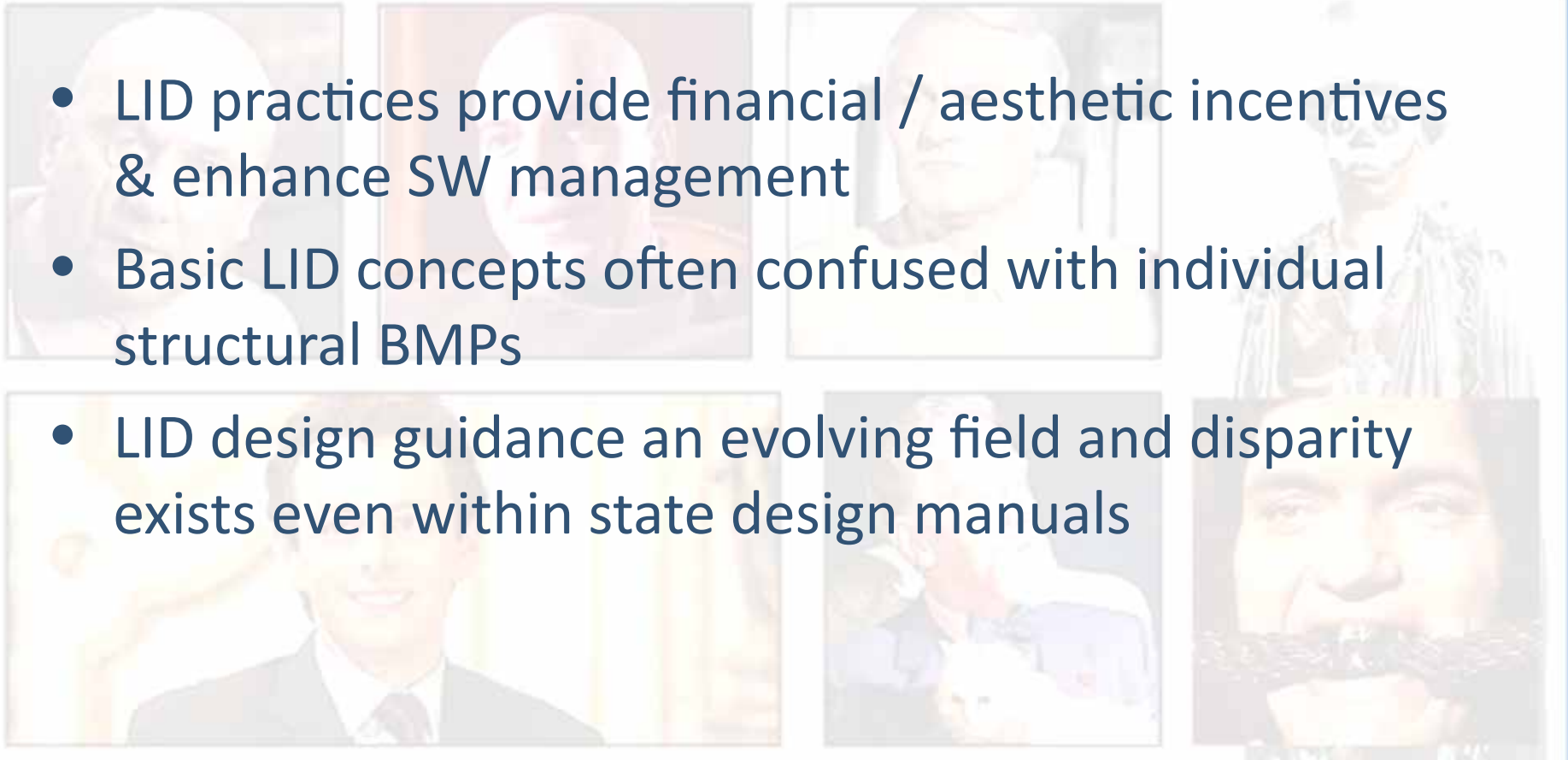
WHY WE'RE DOING IT



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WHY WE'RE *REALLY* DOING IT

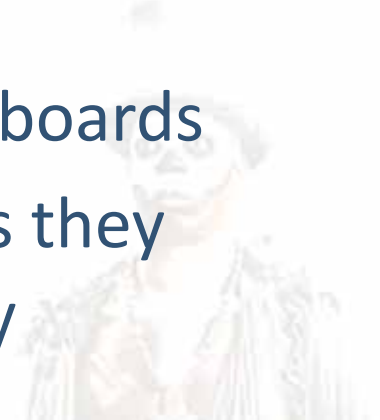
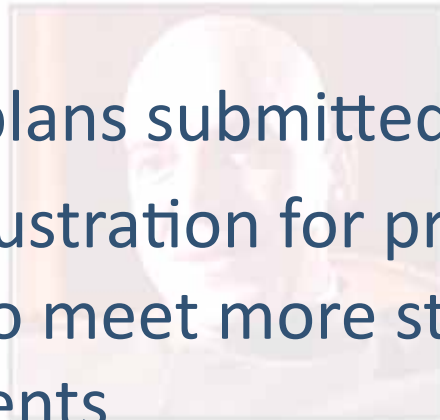
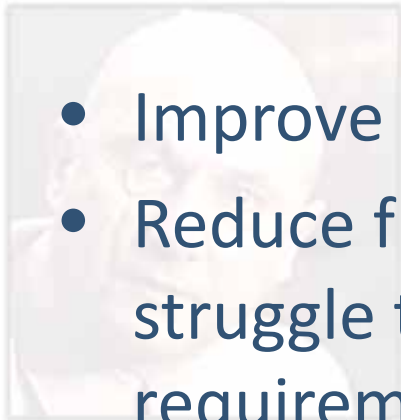
- LID practices provide financial / aesthetic incentives & enhance SW management
- Basic LID concepts often confused with individual structural BMPs
- LID design guidance an evolving field and disparity exists even within state design manuals



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WHY WE'RE *REALLY* DOING IT

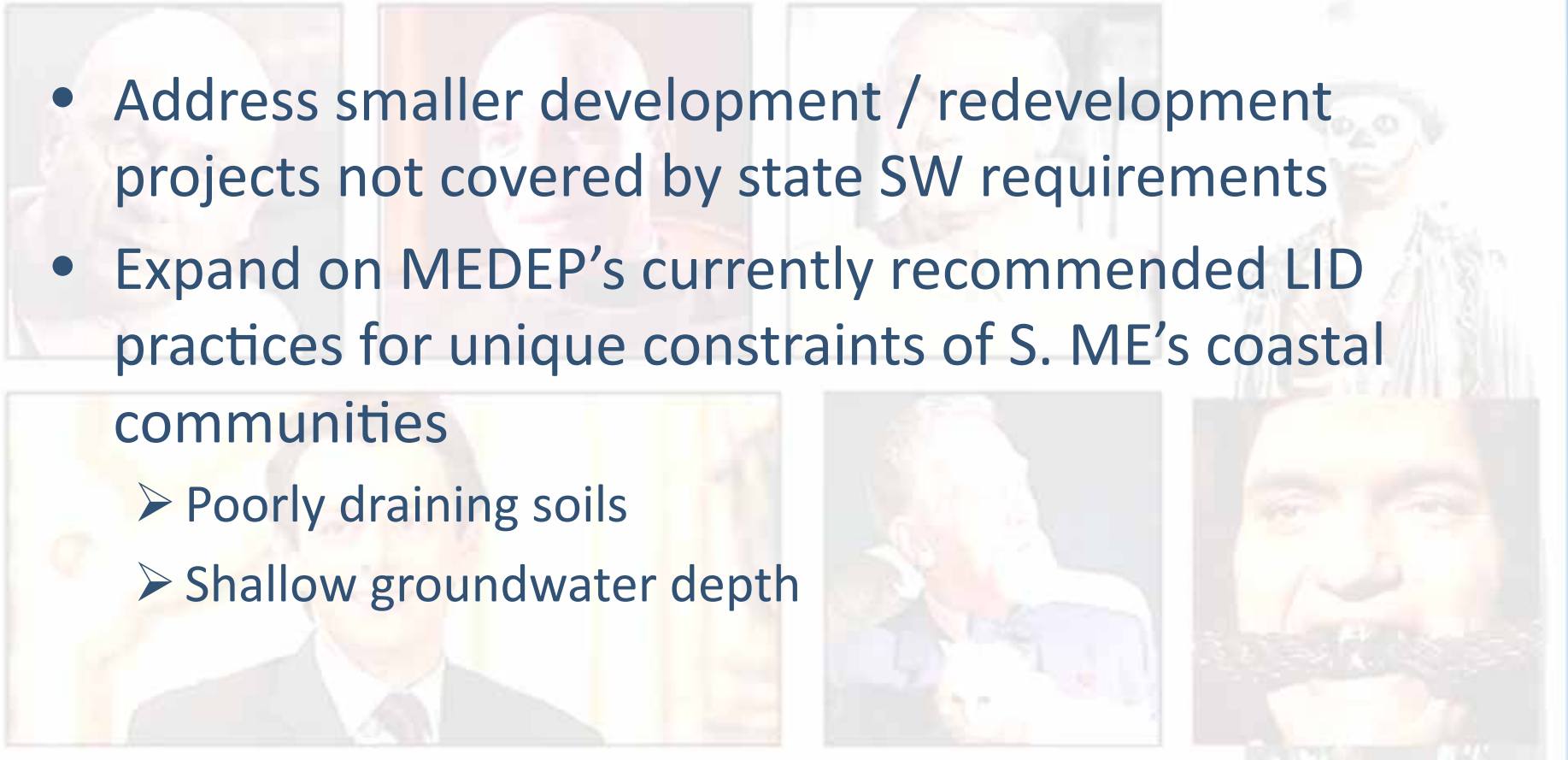
- Improve plans submitted to local planning boards
- Reduce frustration for project applicants as they struggle to meet more stringent SW quality requirements



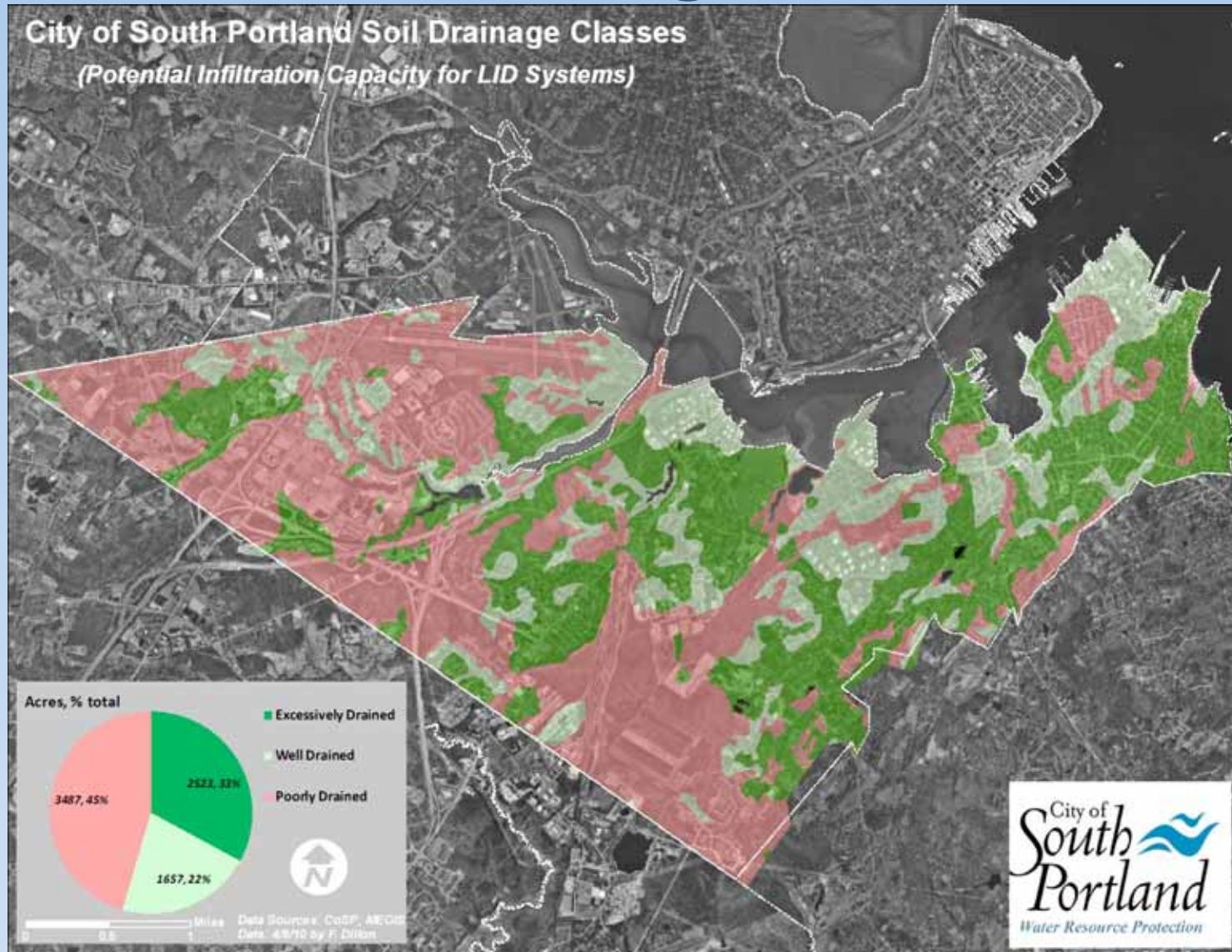
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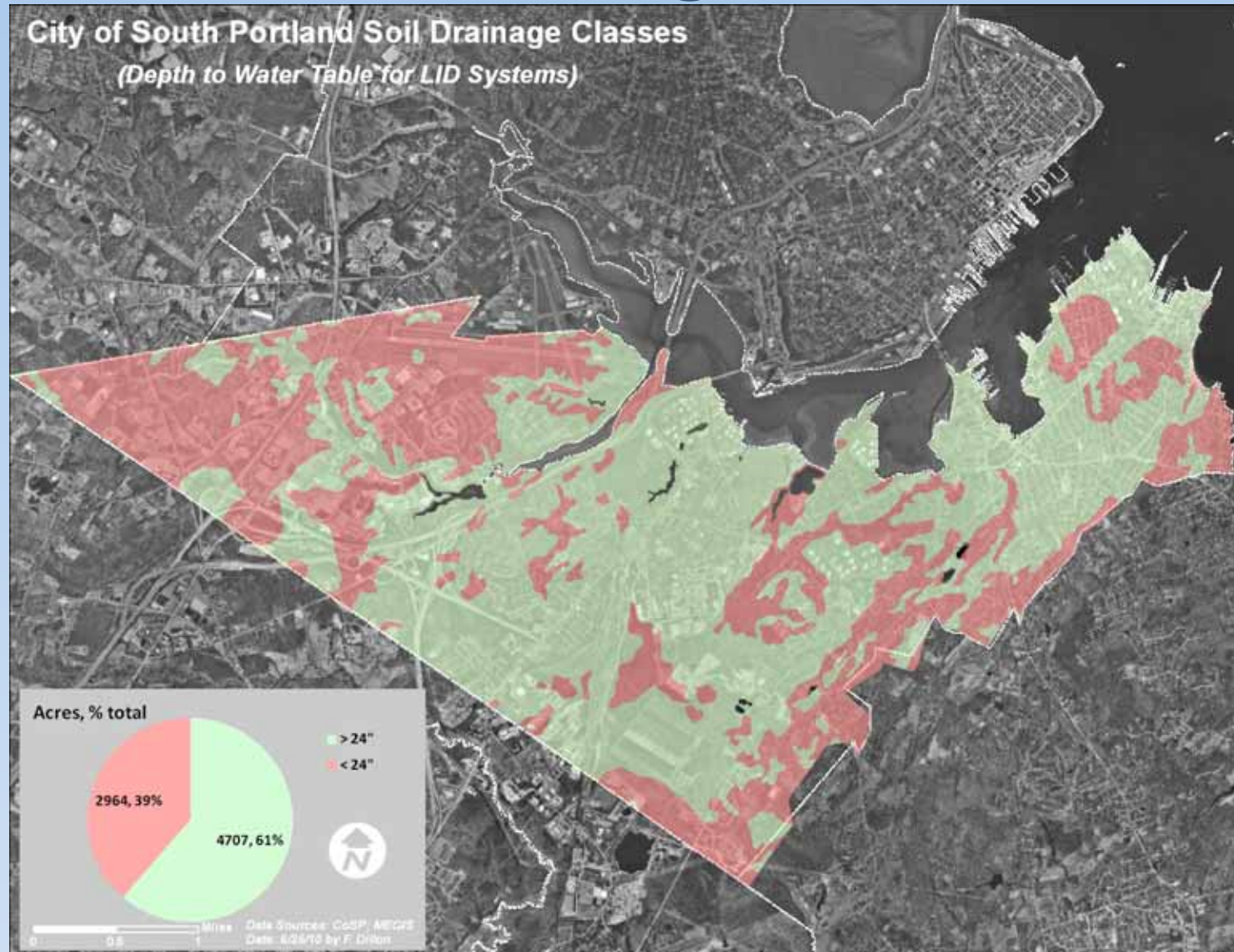
- Address smaller development / redevelopment projects not covered by state SW requirements
- Expand on MEDEP's currently recommended LID practices for unique constraints of S. ME's coastal communities
 - Poorly draining soils
 - Shallow groundwater depth



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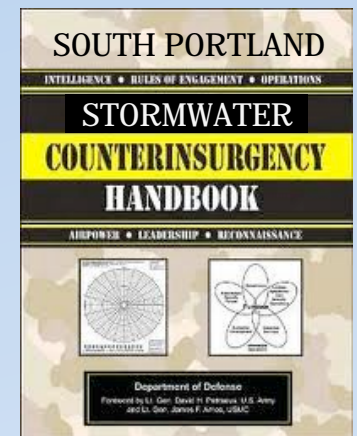
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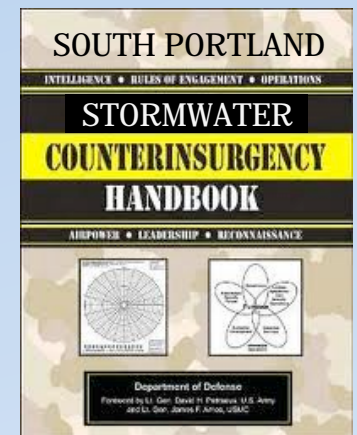
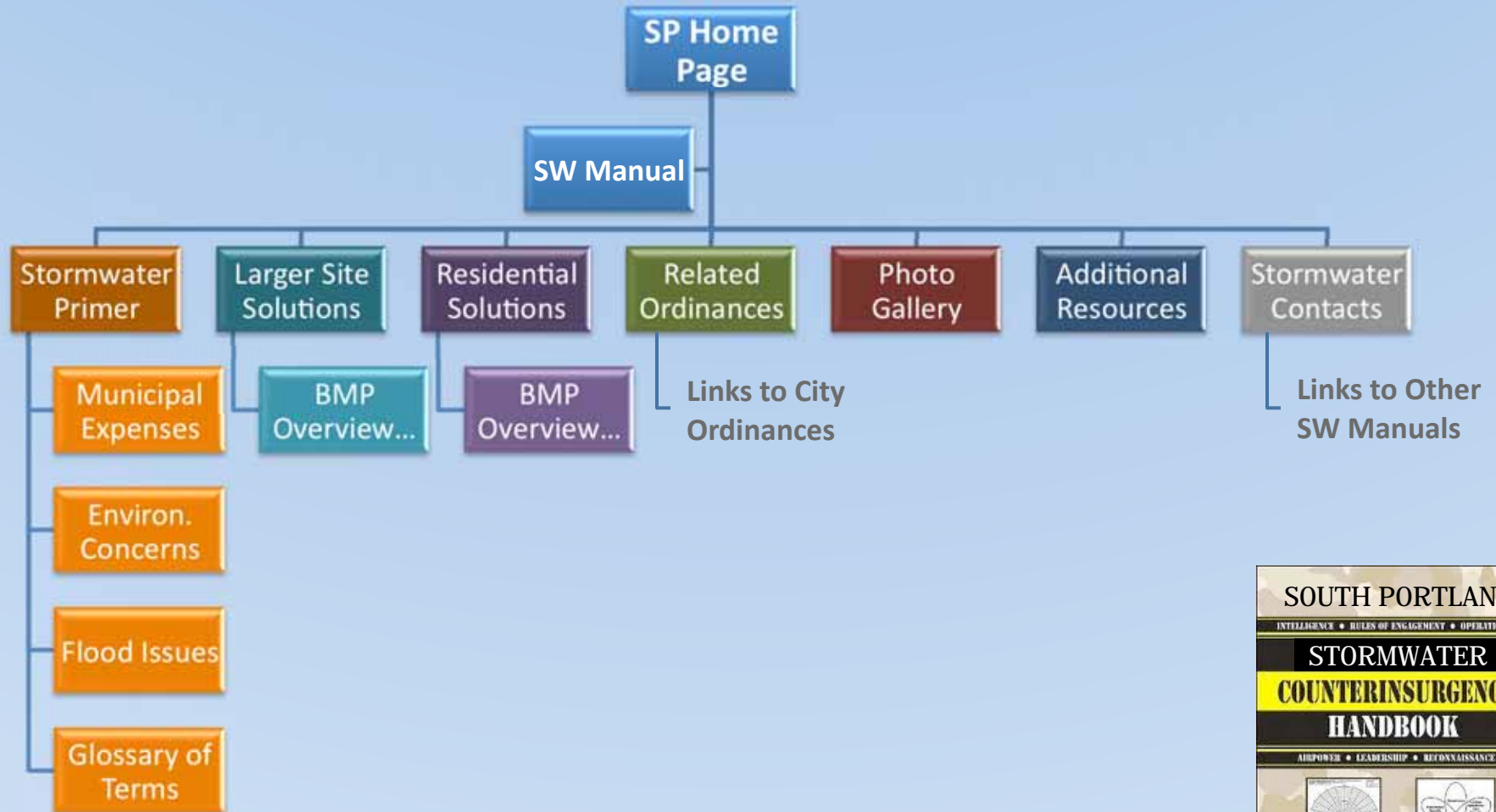
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WHAT IT IS...(OR WILL BE)

- LID guidance document for small projects (< 1 acre)
- Internet-based from the City's webpage
- Informative, easily accessible & understandable to laypeople (but also w/ design specs)
 - Extensive graphic orientation
 - Links to existing materials (no need to reinvent the wheel)



SoPo's Coastal Communities Stormwater Management Manual



SoPo's Coastal Communities Stormwater Management Manual



- HOME
- Online City Services
- About Us
- Agendas
- Boards & Committees
- Budget & Financial Reports
- City Calendar
- City Departments
- Code of Ordinance
- Job & Volunteer Listing
- S. P. Historical Society
- S. P. Land Trust
- Stormwater Manual
 - Stormwater Primer
 - Larger Site Solutions**
 - Residential Solutions
 - Related Ordinances
 - Photo Gallery
 - Additional Resources
 - Stormwater Contacts
- E-Newsletter
- Rec Center Registrations

Stormwater Solutions for Larger Sites

[Home](#) > [Stormwater Manual](#) > Larger Site Solutions

Why Stormwater Matters

Lorem ipsum dolor sit amet our consectetur adipiscing elit. Maece neque in nunc convallis porta eget id lorem. Phasellus quis felis Nam sodales convallis ante et rutrum. Maecenas interdum, purus placerat auctor. Nam magna sem, viverra vitae luctus convallis, sed For more information, please review our [Stormwater Primer](#),



Choosing Solutions for Larger Sites

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Large Site Solutions

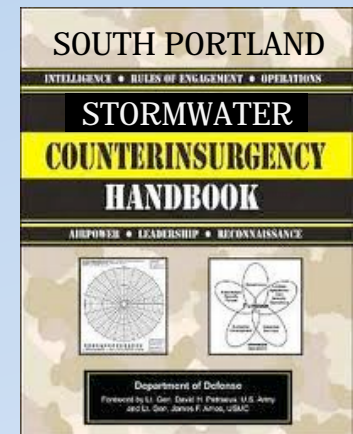
	Treatment Area	Complexity	Appropriate Zones
Best Management Practice 1	5,000-25,000 sft	Difficult	CSO, non-CSO, SLZ
Nullam fermentum bibendum turpis, sed eleifend nisi laoreet eu. Integer vitae aliquet arcu. Vivamus tempus, dui ut aliquam elementum, nulla erat mattis augue. Learn more.			
Best Management Practice 2	5,000-25,000 sft	Difficult	All
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Best Management Practice 3	10,000-25,000 sft	Moderate	non-CSO, SLZ
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Smaller Site Solutions

	Treatment Area	Complexity	Appropriate Zones
Site Solution 1	100-1,000 sft	Easy	CSO, non-CSO, SLZ
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Small Site Solution 2	100-500 sft	Difficult	All
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Small Site Solution 3	500-9,000 sft	Difficult	non-CSO, SLZ
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HOW WE'RE DOING IT ~ THE PROCESS

- Select consultant w/ extensive LID and web design experience
- Planning Dept manages project w/ WRP support
- Establish SC w/ consultants, City staff and CC members
- Establish stakeholder groups to review draft manual at key milestones through use of online surveys
 - Recommended LID / SW treatment practices
 - Web design & manual accessibility

SoPo's Coastal Communities Stormwater Management Manual *Ordinance Primer*

DRAINAGE PLAN

- **Use of LID encouraged but not required**
- Activities not subject to site plan review that increase IC by > 5,000 ft²
- Proposed improvements must minimize impacts of stormwater leaving the site
- Cannot create downstream problems or exceed MS4 capacity

BASIC SW MANAGEMENT PLAN

- **LID required as determined by Planning Board**
- Activities subject to site plan review but not Post-Construction Stormwater Management Plan requirements
- Treatment for 0.5" runoff from 90% of IC and 0.2" runoff from all disturbed pervious areas
- All stormwater treatment techniques must be maintained in perpetuity

POST-CONSTRUCTION SW MANAGEMENT PLAN

- **LID required as determined by Planning Board**
- Activities subject to site plan review > 15,000 ft² of disturbed area
- Ch. 500 or treatment for 0.5" runoff from 90% of IC and 0.2" runoff from all disturbed pervious areas of the site.
- All stormwater treatment techniques must be maintained in perpetuity; easements required allowing City access for periodic maintenance
- Annual 3rd party inspection required w/ certified report by 7/15

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HOW WE'RE DOING IT ~ THE CONTENT

- **General Public:** broad overview of SW concepts w/ numerous photos illustrating aesthetic appeal of LID
 - LID approaches presented as generic categories (media filters, storage and re-use, etc).
- **Voluntary Efforts:** DIY property owners / renters interested in reducing SW “footprint” at low cost (no other site modifications)
 - No engineering required & plans will be provided. LID approaches improve WQ without the need to quantify improvement.

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HOW WE'RE DOING IT ~ THE CONTENT

- ***Drainage Plans:*** building permit applicants w/ possible engineering required
 - Promote “off-the-shelf” technologies & cost estimates to streamline app process
 - WQ improvements don't need to be quantified
- ***Basic SW Management Plan:*** PB applicants w/ possible engineering required
 - Promote “off-the-shelf” technologies & cost estimates to streamline app process
 - WQ improvements must be quantified
- ***Post-construction SW Management Plan:*** PB applicants w/ likely engineering required
 - More expensive technologies
 - WQ improvements must be quantified

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LID / BMP TYPES (for simplicity of what works in constrained soils)

Voluntary	Drainage Plans	SW Mngmt Plans	Honorable Mentions
<ul style="list-style-type: none">• Rain Gardens• Rain Barrels• Drip-Edge Filters• Downspout Disconnection• Soils Restoration	<ul style="list-style-type: none">• Soils Restoration• Rain Gardens• Rain Barrels• Drip-Edge Filters• Downspout Disconnection• LID concepts	<ul style="list-style-type: none">• Surface Soil Filter• Below Grade Filter System (if space is limited)• Gravel Wetland• Storage and Reuse System• Soils Restoration• LID Concepts• Proprietary Systems*	<ul style="list-style-type: none">• Porous Asphalt• Porous Concrete• Green Roofs

** Most with but some without external performance evaluation certification*

A stylized illustration featuring a person standing inside a circular frame. The person is rendered in a simple, dark silhouette. The background consists of several thick, dark, curved lines that create a sense of depth and movement, resembling a tunnel or a series of overlapping loops. At the top of the image, there is a red, scalloped border that adds a decorative touch. The overall composition is centered and balanced.

QUESTIONS?