

# Integrated Stormwater Management (iSWM) Subcommittee Meeting

Staff Planner: Carolyn Horner

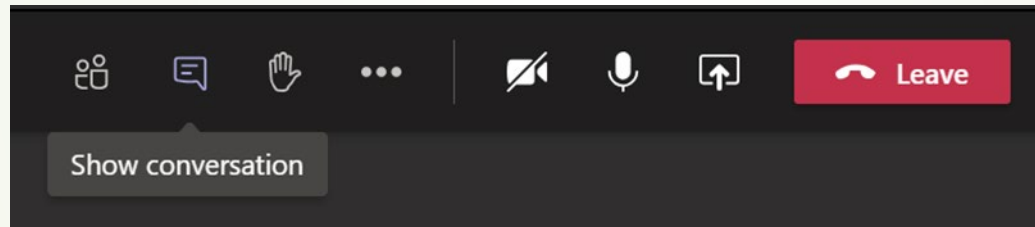
October 14, 2021



North Central Texas  
Council of Governments  
Environment & Development

## WELCOME AND INTRODUCTIONS

- The meeting agenda, presentation and handouts are located on the iSWM Subcommittee webpage - <https://www.nctcog.org/envir/committees/public-works-council/iswm-implementation-subcommittee>
- Please use the chat function to add your name and organization for attendance



- Approval of July 14, 2021, [Meeting Summary](#)

---

## SUMMARY OF TASKS

- Task 2 – Reorganize/Re-evaluate Site Development Controls
- Task 3 – BMP Design and Maintenance Training
- Task 4 – Technical Manual Updates
- Task 5 – Guidance on Forebay Design
- Task 6 – Hydrologic Mimicry Research
- Task 7 – Technical Assistance for Case Studies
- Task 8 – Benefits of iSWM

---

## TASK 2 – REORGANIZE/RE-EVALUATE SITE DEVELOPMENT CONTROLS

- Draft of summary pages and vegetation tables will be available for review at the next subcommittee meeting in

### **January 2022**

- Summary Pages in Site Development Technical

Manual to be updated:

- Multi-Purpose Detention Areas
- Organic Filter
- Green Roof
- Proprietary Structural Controls
- Open Conveyance Channel

- Vegetation Tables in

Landscape Design Manual to be

Updated:

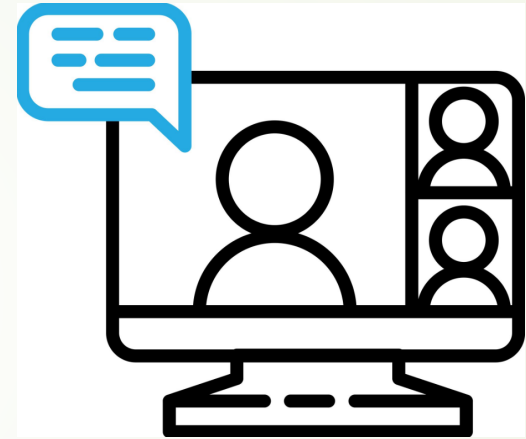
- Table 1.2 Wetland Plants
- Table 1.4 Commonly used species for bioretention
- Table 1.6 Common grass species for dry and wet swales and grass channels

- Feedback will be required at the next subcommittee meeting

---

## TASK 3 – BMP DESIGN & MAINTENANCE TRAINING

- Training planned for **Mid December 2021**
- More information to follow
- Training Topics
  - Recommend Topic: Permeable Pavement design, construction and maintenance
  - Additional Topics:
    - Hydrologic parameterization
    - Modeling/sizing, design and maintenance
    - Treatment trains
    - Common issues that should be incorporated into the design approach



---

## TASK 4 – TECHNICAL MANUAL UPDATES

- Draft updates are available to review for the:
  - Construction Controls Technical Manual
    - Section 3.9 Sediment Basin design
  - Hydraulic Technical Manual
    - Add guidance for calculations for an on-grade inlet for a parabolic crowned street.
  - Hydrologic Technical Manual
    - Revise wording in Section 1.3.7 Simplified SCS Peak Runoff section to refer to TR 55 for full description.
- Please review and provide feedback**



# TASK 5 – GUIDANCE ON FOREBAY DESIGN

## FOREBAYS

- Designed as pretreatment of runoff
- Can be used for a variety of stormwater management practices, including ponds, wet and dry swales and infiltration trenches
- Grass or riprap



PICTURES SOURCE: SARA LID MANUAL

---

# TASK 5 – GUIDANCE ON FOREBAY DESIGN

## CURRENT ISWM GUIDANCE

- Proposed volume: 0.1” of runoff/impervious acre of drainage area
  - Section 3: Enhanced Swales
  - Section 10: Dry Detention / Extended Detention
  - Section 20: Infiltration Trench (25% of WQv)
  - Section 22: Stormwater Ponds
  - Section 28: Stormwater Wetlands
- Forebay storage volume counts toward the total WQV requirement
  - Section 3: Enhanced Swales
  - Section 22: Stormwater Ponds
  - Section 28: Stormwater Wetlands

## CURRENT ISWM GUIDANCE

- Depth should be 4-6 feet
  - Section 22: Stormwater Ponds
  - Section 28: Stormwater Wetlands
- Recommended vertical sediment depth markers
  - Section 22: Stormwater Ponds



---

# TASK 5 – GUIDANCE ON FOREBAY DESIGN

## HYDRAULICS TECHNICAL MANUAL

- 4.5 Riprap Basins
  - Reduce exit velocities from stormwater outfalls
  - Used for transitions from culverts to stable channels
  - Length of the basin should be 15 x scour hole depth or 4 x width of culvert



---

## TASK 5 – GUIDANCE ON FOREBAY DESIGN

- **RECOMMENDED GUIDANCE**
- Recommended depth for all other applicable stormwater BMPs<sup>1,2,3,4</sup>
- Require sediment markers<sup>1,2,3,4</sup>
- Velocities from the forebay to the treatment device should be non-erosive for the 2-year design storm<sup>1,3,4</sup>
- Limit side slopes to 2:1 or flatter<sup>4</sup>
- Maintenance access must extend to the forebay<sup>4</sup>
- Consideration should be given for sediment fall-out<sup>5</sup>

Guidance Borrowed From:

1. iSWM Technical Manual
2. SARA LID
3. City of Dallas
4. Gwinnet County, Georgia
5. NRCS "Sediment Basin"  
Code 350

---

# TASK 6 – HYDROLOGIC MIMICRY RESEARCH

## KEY CONSIDERATIONS

### Scale:

- Evaluating the efficacy of small scale (site) versus large scale (sub-watershed) application
- Evaluating impacts of increased volume management requirements

### Context:

- Defining true pre-development conditions
  - Agricultural vs. Natural
  - Redevelopment scenarios
  - Restoring pre-development ecosystems

### Feedback:

- Review and comments needed for draft memorandum



IMAGE SOURCE: TBG PARTNERS

---

(Late November)

# TASK 8 – ECONOMIC BENEFITS OF ISWM

## KEY CONSIDERATIONS

### Development of educational document:

- Focus on non-technical document to inform regional leadership
- Emphasize holistic impacts long term for different scales of implementation stressing value of full regional participation
- Include commentary and summarized case studies from participating communities

### Feedback:

- General feedback on direction

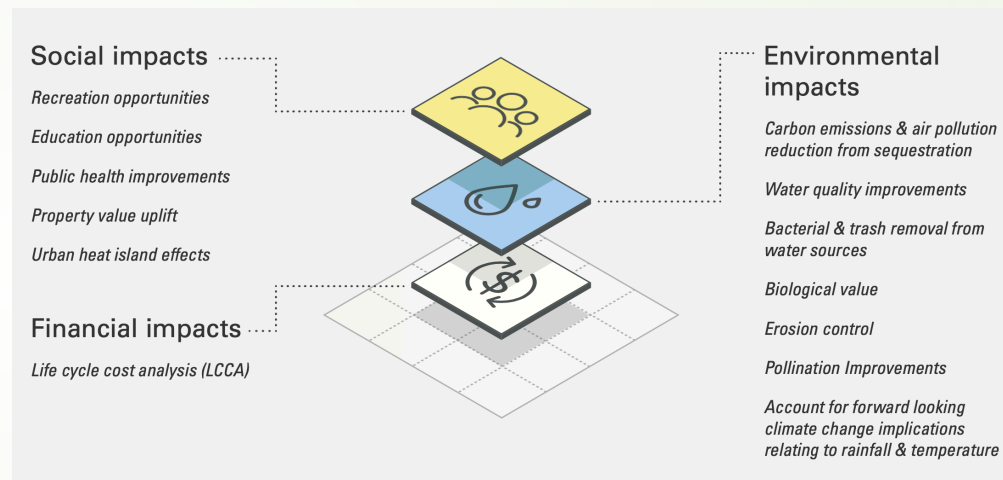


IMAGE SOURCE: TBG PARTNERS

# DISCUSSION OF OUTCOME NO. 17 - WATER QUALITY

**Background:** In 2014, the iSWM contractor was tasked with meeting with community members. NCTCOG learned that communities did not like the point system, and that the pass/fail grade was perceived as a barrier to communities becoming certified. The subcommittee determined that the point system would not be used moving forward. It was recommended that the water quality option 1 be revised or replaced.

17	Water Quality Protection			Require integrated site design practices; treat the water quality volume; and/or enact regional water quality programs	Section 1.3, Table 1.3; Section 3.2
----	--------------------------	--	--	--	-------------------------------------

## Status of Review

- Staff and a volunteer subcommittee met to discuss possible options for moving forward
- Volunteer members recommended asking the consultants, Halff, to review and come up with one or two options for their review.
- Halff has been reviewing options and will bring potential language forward to the volunteer members for discussion and review.

## Documents being considered

- [Outcome 17 - Criteria manual, Section 1.3 page 4, 3.2 page 18 and, table 1.3 page 6](#)
- [iSWM Implementation Tiered Measurement Form](#)
- [Certified iSWM community's implementation of outcome 17](#)

# ISWM PROGRAM UPDATES

---

## Ongoing iSWM Certification Review

- On September 27<sup>th</sup>, 2021, the City of Plano received their Silver iSWM Certification plaque and signs.



# ISWM PROGRAM UPDATES

---

## Website updates

- Technical Manual Updates
  - Notice of Revisions – June 2021
  - Site Development Controls – Addition of summary pages and schematics
- Task Order 4 documents can be found on the Other iSWM Related Documents page
  - Guidance on Developing a Regional Detention Program
  - Research of Volumetric Detention and Channel Protection Volume Design Guidance State of Practice
  - Re-evaluation of 85th Percentile Rainfall Requirements
  - 5-year Outreach and Implementation Strategy



## PUBLIC WORKS PROGRAM UPDATE

---

- Sustainable Public Rights-of-Way Subcommittee (SPROW), October 12<sup>th</sup> 1:30pm
  - SPROW discussed utility BMPs for the Utility Coordination chapter of the BMP Guidebook.
- Standard Drawings Subcommittee, November 15<sup>th</sup>, 10am
  - Trash rack drawing update from September meeting
- Public Works Council (PWC), November 11<sup>th</sup>, 9:30am
  - Cost share invoices were mailed to all cities in the NCTCOG region

For more information on the Public Works program please contact Olivia Kale at [okale@nctcog.org](mailto:okale@nctcog.org) or (817) 695-9213.

# PUBLIC WORKS PROGRAM UPDATE

---

- Upcoming trainings and event:
  - New Inspector Training, TBD

For more information on the Public Works program please contact Olivia Kale at [okale@nctcog.org](mailto:okale@nctcog.org) or (817) 695-9213.

# UPCOMING EVENTS, CONFERENCES AND OPPORTUNITIES

---

- International Erosion Control Association (IECA) Texas Regional Conference, October 19<sup>th</sup> – 20<sup>th</sup>, San Antonio
  - Link to register - <https://form.jotform.com/211583642067153>
  - American Meteorological Society Annual Meeting
    - January 23-27, 2022 in Houston, Texas
    - Hybrid option available at [registration](#)

# ROUNDTABLE DISCUSSION

NOW, IT'S YOUR TURN...

# UPCOMING NCTCOG MEETINGS

---

**Next iSWM Meeting: January 12, 2022** at 1:30 p.m.

- Public Works Council Sustainable Public Rights of Way, **December 14, 2021**
- Public Works Council Meeting, **November 11, 2021**
- Public Works Council Standard Drawings Subcommittee, **November 15, 2021**
- Regional Stormwater Management Coordinating Council, **November 17, 2021**

Meeting Information at:

<https://www.nctcog.org/envir/committees>

# UPCOMING iSWM Agenda Topic

---

**Next iSWM Meeting: January 12, 2022** at 1:30 p.m.

- Discussion of the proposed new iSWM contract Scope of Work and the expected need for volunteers for the review and scoring committee
- Timeline for process
- Budget: The Public Works Council approved a 3 year, with an option of 2 1-year extensions, with a maximum budget of \$80,000 per year.

# Contact Connect

## **Carolyn Horner**

Senior Environment & Development Planner  
North Central Texas Council of Governments  
[chornor@nctcog.org](mailto:chornor@nctcog.org)  
817.695.9217

## **Edith Marvin**

Director of Environment & Development  
North Central Texas Council of Governments  
[emarvin@nctcog.org](mailto:emarvin@nctcog.org)  
817.695.9211



<http://iswm.nctcog.org/>



[Facebook.com/nctcogenv](https://www.facebook.com/nctcogenv)



[@nctcogenv](https://twitter.com/nctcogenv)



[nctcogenv](https://www.instagram.com/nctcogenv)



[youtube.com/user/nctcoged](https://www.youtube.com/user/nctcoged)



[EandD@nctcog.org](mailto:EandD@nctcog.org)

