* AASHTO Technical Committee on Hydrology & Hydraulics (TCHH)

Karuna Pujara, Maryland State Highway Administration
Chair, TCHH
* AASHTO Organization

AASHTO

Standing Committee on Highways

Standing Committee on the Environment

Subcommittee on Design (SCOD)

Subcommittee on Bridges (SCOB)

Subcommittee on Materials (SCOM)

Technical Committee (TC) on Hydrology and Hydraulics

TC Geometric Design

TC Environmental Design

TC Roadway Safety
AASHTO Mission: Voice for transportation and catalyst for organizational and technical excellence.

Subcommittee on Design (SCOD):
- development of guidelines for design,
- product evaluation,
- specification standards for construction and maintenance.

Technical Committees:
- development of technical publications,
- participate in nation research projects and
- comment on proposed federal regulations.
AASHTO M178
Alternative to ASTM Specs
Hydraulics is a broad category consisting of many perspectives and specialties.

- Hydrology
- Roadway Hydraulics
- Bridge Hydraulics
- Scour
- Pipe Materials & Standards
- Infrastructure Management

- Coastal Hydraulics
- Stream Stability
- Climate Change Impacts on Hydraulics Infrastructure
- Environmental -
  - Stormwater Management
  - Water Quality

TCHH has 20 members (State Transportation Agencies) and associate members (Canada, FHWA & AASHTO).

http://design.transportation.org/Pages/HydrologyandHydraulics.aspx
The AASHTO 2014 Drainage Manual provides transportation agencies with guidelines for establishing state-specific policy and procedures for the design of highway drainage facilities.

Two Volumes – Policy & Procedures

Highway Drainage Guidelines – 4th Edition Published in 2007
Guidelines are intended to provide an overview, discussion, and design philosophy for each of the covered topics, technical information is kept to a minimum by making reference to appropriate publications and to the AASHTO Model Drainage Manual.

* TC - Hydrology and Hydraulics Publications
Support Hydrology and Hydraulic Engineering in Transportation with Manuals, Research and being advocates on emerging issues and national policy.

* AASHTO Publications
* Research
  * Work closely with TRB committee AFB 60 on Hydrology, Hydraulics and Water Quality
  * Work closely with AASHTO Center for Environmental Excellence
  * Subcommittee on Environment
* Advocates (Review, comment, and participate and legislation in the efforts related topics of Hydrology, Hydraulics, Water Quality etc.)
* Support National Hydraulics Engineering Conference
TCHH promotes Hydrology & Hydraulics research, prioritize and recommendation needs and participate on project panels.

- NCHRP and Pooled Fund projects.

Recent NCHRP Hydraulics research:

- 20-07 synthesis “Hydrology for Water Quality Analysis and Design” was just funded.
- 24-40 “Design Hydrology for Stream Restoration and Channel Stability at Stream Crossings”
- Strategic Plan Development for Hydraulic Research
- Minimizing Roadway Embankment Damage from Overtopping
*NCHRP Projects:

* Scour at the Base of Retaining Walls and Other Longitudinal Structures
* Combining Individual Scour Components to Determine Total Scour
* Evaluation of Long Term Performance of Stormwater Controls
* Guidance for Achieving Volume Reduction of Highway Runoff in Urban Areas
* Bridge Runoff Treatment Analysis and Treatment Options
* Guidance for Complying with EPA Effluent Limitation Guidelines for Construction Runoff
* Culvert and Storm Drain Inspection Manual
* Publish Annual News latters for all member States
* Participate in Joint Committees with Materials, Bridge, Environmental Expertise and others
* Short publication in the specific practice area to document State of the Art Practices
* Maintain Drainage Manual updates on specific chapters - currently being evaluated Surface Water Environment, Bridge Hydraulics and LRFD considerations
* Evaluating need for chapter update needed to address Climate Change

* TC-Hydrology Hydraulics
* Other Activities and Initiatives
20 members across the country
3 members region 1, 3 members region 2, 3 in region 3, and 6 in region 4
Additional members in Regions 1, 2 and 3 are being solicited

Members can be nominated through AASHTO Subcommittee on Design (SCOD) members

SCOD members listed
http://design.transportation.org/Pages/Default.aspx
* Member State Funding and Staffing Levels

* Cross Functional Coordination
  * Overlap with roads, bridges, environmental, materials, construction, maintenance, climate change and others.

* Environmental Regulations
  * MS-4, NPDES, TMDL, Impaired Waters, Watershed District Requirements
  * Effluent Limits
  * Volume Control

* Climate Change and Impacts on Drainage Systems
  * Hydrology, Resiliency of Existing Systems, Asset Management

* TCHH Challenges and Interests
**TCHH Opportunities**

**Transportation TV**  
http://www.transportationtv.org/Pages/default.aspx

**AASHTO TCHH Web Page**  
http://design.transportation.org/Pages/HydrologyandHydraulics.aspx

- Meeting minutes
- Concerns of the States
- Member list and state DOT hydraulics contact list

* Publish “Hydrolink” newsletter (contact Andrea Hendrickson of MnDOT or me to get on the emailing list)
Thank you

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