Simplifying Stormwater Permitting For Linear Utility Projects

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Stormwater permitting in the State of Colorado has seen dramatic changes over the past decade with implementation of Phase II of the National Pollutant Discharge Elimination System (NPDES), which lowered the threshold for projects requiring State stormwater permits coverage from five acres to one acre and now requires municipal stormwater permits for operators of small municipal separate storm sewer systems (MS4s), in addition to the larger MS4s already with discharge permits from Phase I of NPDES. The lowered threshold has led to a proliferation of projects requiring permit coverage, and the municipal stormwater permits have required permitted MS4s to develop their own construction-phase programs that meet or exceed minimum standards established by the State. For large MS4s, with municipal permit requirements already in place from Phase I of NPDES, construction program requirements have become more stringent in recent years, in part due to increased enforcement from the State, both on individual construction sites and via audits of municipal programs.

Linear wet and dry utility projects present both challenges and opportunities for utility providers and the municipalities in which this type of construction occurs. With dozens of utility projects in various stages of permitting and construction at any given time in most municipalities, the submittal review and approval process (not to mention inspections) can be burdensome and repetitive for staff. Most wet and dry utility projects use similar construction practices (trenching, boring, vault/manhole construction, etc.) and use similar best management practices (BMPs) (wattles or silt fence perimeter controls around disturbance, inlet protection, restoration by sod or paving, etc.) to protect water quality and comply with local and/or State stormwater permitting regulations. Consulting engineers and their clients are faced with the time and expense of preparing one Storm Water Management Plan (SWMP) after another with very similar construction activities and BMPs, while municipal review staff are faced with reviewing lengthy SWMP documents, when the differences from one project to the next (for a given type of utility construction) could typically be explained with only several pages of text/data and a set of site-specific BMP drawings.

Recognizing these challenges, Xcel Energy, Denver Water and the City and County of Denver, working with Wright Water Engineers Inc., partnered on a project to streamline the stormwater permitting process in Denver,

Silt fence and undisturbed vegetative buffers, right, serve as perimeter controls for non-potable water pipe installation. Straw wattle perimeter control and inlet protection safeguard water quality during underground electrical construction.

while at the same time enhancing compliance, through the creation of an "Umbrella" stormwater permitting strategy and SWMP template. An Umbrella SWMP is a plan that is submitted for a single Construction Activities Stormwater Discharge Permit (CASDP) to cover multiple small construction activities that are a part of an area-wide program of common construction activities (i.e., relocation of overhead electrical lines underground, water line repair/ rehabilitation, etc.). Each Umbrella SWMP contains a narrative report outlining construction phasing and sequencing; BMPs associated with construction activities; responsibilities (by job title) for implementation, inspection, and maintenance of BMPs; and other information required by local and/or State permits.

One of the most unique features of an Umbrella SWMP is the inclusion of "typical" BMP details ("Typicals"). Typicals go beyond standard stormwater BMP details by showing combinations of BMPs that are associated with specific construction activities. For example, a Typical for boring in landscape would show the layout of a bore pit, potholing locations, sediment control log perimeter control, inlet protection, temporary stockpile locations and protection, and other relevant BMPs associated with the specific construction activity. The Umbrella SWMP template has Typicals for roughly a dozen construction activities ranging from trenching and boring to utility pole installation/ removal and dewatering.

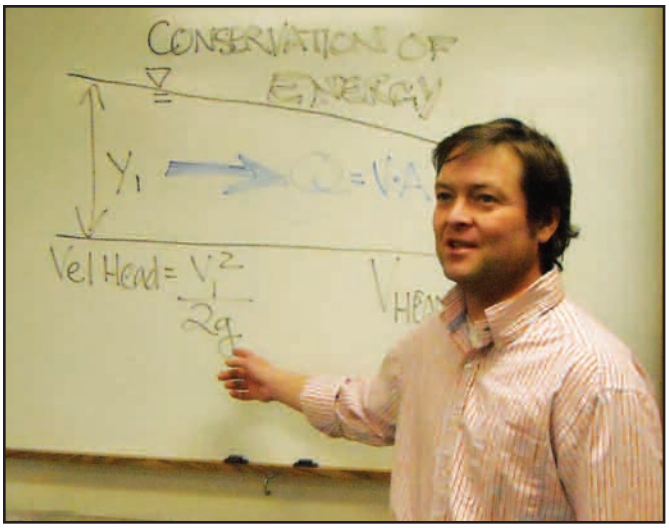
While Typicals provide excellent information on BMP layout and installation for a generic project location, site-specific information is still necessary for effective stormwater management on a location-by-location basis. To address this need, the project team developed requirements and a template for site-specific information that can be completed with relative ease by following the guidance in the main body and appendices of the Umbrella SWMP. A separate attachment, with site-specific information including location information, receiving waters, specific BMPs that will be used, and other required information, is provided for each individual project covered under the Umbrella SWMP, along with a photographic log characterizing pre-construction conditions and a BMP site plan with call outs to Typicals. To simplify and standardize the information provided in attachments, Wright Water Engineers created an Adobe Acrobat form for project-specific information that includes check boxes for specifying information relevant to stormwater permitting, including types of construction activities, BMPs, and other information. Generally, at least several site-specific attachments are included with the initial Umbrella SWMP submittal package for Denver approval and issuance of a CASDP; however, once the CASDP has been issued, additional attachments can be added to the SWMP for projects falling under the umbrella of that construction activity/ area-wide plan without a lengthy review and approval process.

Stormwater Team for ACEC Colorado member firm Wright Water Engineers Inc. includes Jennifer Keyes, Andrew Earles, Shannon Tillack and Hayes Lenhart. Earles is Vice President of Water Resources for the firm, and is a Certified Professional in Erosion and Sediment Control, as is Keyes. Tillack and Lenhart are Engineers-in-Training.

Celebrating 50 years in business this year, employee-owned WWE is currently working with Urban Drainage & Flood Control District and City & County of Denver to develop a similar streamlined permitting approach for small projects (less than one acre of disturbance) in and adjacent to waterways.

In addition to the Umbrella SWMP template for wet and dry utility construction projects, the project team also recognized the need for improved stormwater guidance for small, routine projects (typically less than one acre in areas without special concerns related to steep slopes, highly erosive soils, and/or proximity to wetlands and receiving waters) and maintenance activities that generally do not require a permit from Denver or the State. To address this need, a guidance document was developed, incorporating many of the Typicals from the Umbrella SWMP, to establish standard procedures and practices

Rock socks at street crown confine temporary stockpiles to one side of street.



WWE's Earles maintains a busy speaking schedule, conducting seminars and making presentations that focus on hydrology, hydraulics, best management practices, water quality, dewatering and stormwater management engineering.

for small, permit-exempt projects. This small-project guidance document is intended for use by utility providers as well as by municipal staff for their own small projects.

This Umbrella SWMP approach provides benefits to public and private utility providers as well as their consultants by simplifying submittal requirements and eliminating redundancy, as well as enabling a streamlined review and approval timeline, especially once an Umbrella SWMP has been created and approved. For municipalities, benefits include a reduced administrative burden for the review and approval process. All involved benefit from improved compliance and quasi-standardization of BMPs associated with specific construction activities through the Typicals. While this approach was originally conceived and developed for projects within the City and County of Denver, Wright Water Engineers has been working with utility clients and municipal stormwater managers to implement similar approaches in other municipalities, including the City of Aurora and the City of Westminster and for RTD FasTracks utility work along major corridors throughout the Denver metropolitan area. ●

Acknowledgements

Wright Water Engineers would like to acknowledge the valuable input and professional assistance of the representatives and skilled staff members of Xcel Energy, Denver Water, and the City and County of Denver, whose involvement has enhanced the efficient development and use of Umbrella SWMPs.