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# Development on the Banks of the Letort Spring Run: What Can Be Done to Save Pennsylvania's Waterways From Post Construction Stormwater Runoff?

Douglas A. Miltenberger

## I. Introduction

Whether you live in the city or in the country, the problem is easy to spot. Every time it rains, water, channeled by gutters, curbs and ditches, freely flows off of roofs and over impervious paved streets, parking lots and rock surfaces. As it flows, the water collects oil, grease, heavy metals, and trash from roads, sediment from construction sites, and pesticides and fertilizers from lawns and farms.<sup>1</sup> This polluted water flows into storm drains that ultimately discharge it into rivers and streams.<sup>2</sup> Stormwater flushes pollutants into surface waters from the land and is a major cause of flash flooding, stream bank erosion, streambed sedimentation, habitat destruction, and water quality impairment.<sup>3</sup> Conveying the stormwater from the “point of generation” during rain events means, in many instances, that the groundwater table is unable to be recharged. The inability to recharge leads to inadequate ground water availability to provide stream base flow in times of drought.<sup>4</sup> Properly managed stormwater can be minimized by infiltration through the soil to recharge the ground water and to provide base flow for surface waters in times of drought.<sup>5</sup> Pennsylvania is realizing that it is critical to “keep stormwater at home” in order to address the water

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1. Peter Lehner, et al., *Stormwater Strategies: Community Responses to Runoff Pollution*, Natural Resources Defense Council, May 1999, available at <http://www.nrdc.org/water/pollution/storm/intro.asp>.

2. *Id.*

3. Commonwealth of Pennsylvania Department of Environmental Protection, *Proposed Comprehensive Stormwater Management Policy*, Draft, October 27, 2001, Document Number 392-0300-002, pg. 1 [hereinafter *Proposed Stormwater Policy*].

4. *Id.*

5. *Id.*

resource need of the state.<sup>6</sup>

'Wet weather discharges' refers to all point source discharges that result from precipitation events like rainfall or snowmelt.<sup>7</sup> Wet weather discharges include stormwater runoff, combined sewer overflows, and wet weather sanitary sewer overflows.<sup>8</sup> Stormwater alone can become almost as contaminated as these other sewage/stormwater mixtures.<sup>9</sup> Studies of pollution in urban stormwater runoff, conducted by the United States Environmental Protection Agency (EPA) and others, have consistently identified stormwater runoff as one of the nation's largest remaining sources of water impairment.<sup>10</sup> In a typical urban area, runoff during the first sixty minutes of a rainstorm can carry off more suspended solids than discharges from a secondary sewage treatment plant.<sup>11</sup>

The stormwater pollution problem has two main components: the increased volume and velocity of surface runoff and the concentration of pollutants in the runoff.<sup>12</sup> These components, working together, cause increasing changes in the hydrology and water quality that result in flooding, soil erosion and sedimentation, while decreasing aquatic biodiversity and habitat.<sup>13</sup> Water pollution caused by stormwater also affects human health and social and economic well-being.<sup>14</sup>

Man-made impervious cover in urban areas largely causes the volume and velocity problem.<sup>15</sup> Impervious cover is natural and not uncommon in the world around us. Exposed rock or hardpan soil is impervious cover in its natural state.<sup>16</sup> Man-made impervious cover comes primarily in three varieties: rooftop imperviousness from

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6. *Id.*

7. United States Environmental Protection Agency, Office of Wastewater Management, and Wet Weather Discharges, *available at* <http://cfpub.epa.gov/npdes.wetweather.cfm>.

8. *Id.*

9. Lehner, *supra* note 1, at Ch. 2, note 3 (citing Haile, R.W. et al., *An Epidemiological Study of Possible Health Effects of Swimming in Santa Monica Bay*, Santa Monica Restoration Project, 1996. 70 pp.; Novotny V.H. and H. Olem, *Water Quality: Prevention, Identification, and Management of Diffuse Pollution*, Van Nostrand Reinhold, New York, 1994, p. 36; Pitt. R., *Stormwater Quality Management*, CRC Press, forthcoming 1999; Moffa and Associates, R. Pitt, and SAVIN Engineers, *Assessment of Decision Criteria used to Determine Benefits of SCO/SSO/SW Investments*, WERF-sponsored report, forthcoming 1999).

10. Joel B. Eisen, *Toward a Sustainable Urbanism: Lessons Form Federal Regulation of Urban Stormwater Runoff*, 48 WASH. U. J. URB & CONTEMP. L. 1, 17 (1995).

11. *Id.* at 18.

12. Lehner, *supra* note 1, at Ch. 2.

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.*

buildings and other structures; transport imperviousness from roads, parking lots, and other transportation-related facilities; and impaired pervious surfaces, also called urban soils.<sup>17</sup> These are natural surfaces that become compacted or altered and less pervious because of human action.<sup>18</sup>

Trees, shrubs, meadows, and wetlands intercept and store significant amounts of precipitation. Vegetation also aids in reducing erosion caused by the rain and the subsequent runoff.<sup>19</sup> In one study, conversion of impervious cover resulted in an estimated 29 percent increase in runoff during a peak storm event.<sup>20</sup> Impervious surfaces reduce vegetation and magnify the effects of reduced infiltration.<sup>21</sup>

The effect of impervious surfaces on the volume of stormwater runoff can be striking. A one-inch rainstorm on a one-acre meadow typically produces 218 cubic feet of runoff—enough to fill a standard size office to a depth of two feet.<sup>22</sup> The same amount of rain over a one-acre paved impervious surface, like a parking lot, would produce 3,450 cubic feet of runoff—about 16 times more than a meadow and enough to completely fill three standard-size offices.<sup>23</sup>

Every square foot of roof, parking lot, or paved road created is one less square foot available for rainwater to permeate the earth and recharge groundwater wells and streams.<sup>24</sup> Alone, one square foot of impervious surface is fairly benign; in the aggregate, however, the problem becomes more obvious—especially if one considers that a local shopping mall has over 60 acres of impervious cover, including roof and parking lot.<sup>25</sup> During a one-inch rainfall, over 1.5 million gallons of rain in that mall complex are prevented from recharging groundwater.<sup>26</sup>

Impervious surfaces increase the speed of runoff as it drains off the land.<sup>27</sup> Unlike natural buffers, like trees and meadows, impervious

17. Lehner, *supra* note 1, at Ch. 2.

18. *Id.*

19. *Id.*

20. *Id.*

21. *Id.* citing American Forests, *Regional Ecosystem Analysis, Puget Sound Metropolitan Area*, (July 1998), available at <http://www.amf.org/frames.shtml?pubs/pubpage.html>.

22. *Id.* citing S.I. Apfelbaum, *The Role of Landscapes in Stormwater Management*, unpublished manuscript, pp. 2-3.

23. Lehner, *supra* note 1, at Ch. 2.

24. Bob Christoff, *Stormwater: Nuisance or Resource?*, in Q, the periodic newsletter for stormwater management planning in Dauphin County, Pennsylvania, 4-32 Environmental Law Forum (Pennsylvania Bar Institute, v.i 2001).

25. *Id.*

26. *Id.*

27. Lehner, *supra* note 1, at Ch. 2 (citing U.S. Environmental Protection Agency, *Handbook: Urban Runoff Pollution Prevention and Control Planning*, p. 3, EPA/625/R-93/004, (Sept. 1993) [hereafter referred to as *EPA Handbook*]).

surfaces, like parking lots, offer little resistance to the water flowing downhill, allowing it to pick up speed as it travels across these surfaces.<sup>28</sup> In addition, the faster the water runs, greater quantities of water get delivered into the receiving waters at a faster rate than what would occur during natural conditions.<sup>29</sup> The increased velocity and delivery rate greatly magnifies the erosive power of the water as it flows across the land and enters the stream.<sup>30</sup>

Impervious surfaces not only affect the volume and speed of stormwater flow, but they also change the distribution of flows over time.<sup>31</sup> On undeveloped land, flow is relatively low because the land absorbs and infiltrates much of the water.<sup>32</sup> Impervious cover causes water to run off the land immediately, resulting in a sharp peak in runoff directly following a storm or sudden melts.<sup>33</sup> Impervious cover can increase discharge during these periods from two to five times the normal amount.<sup>34</sup> Streams that receive urban peak flows and that are prone to sporadic and unstable discharges, flash floods, or sudden high pulses of storm flows are described as “flashy.”<sup>35</sup> Greater peak flow leads to increased flooding, channel erosion and widening, sediment deposition, bank cutting, and habitat loss.<sup>36</sup> Increased deposition of pollutants comes from many sources including roads and parking lots, home landscaping and public grounds maintenance, illicit connections to storm sewers from homes and businesses, septic systems, landfills, animals, litter, de-icing activities, and construction.<sup>37</sup> The Nationwide Urban Runoff Program report, published by the EPA in 1983, found that untreated stormwater runoff transports 40 to 80 percent of nutrient pollution into receiving waters, and bacterial contamination may be 10 to one 100 percent greater in concentration than acceptable safe drinking water levels.<sup>38</sup> Stormwater runoff is also highly laden with particulate

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28. *Id.*

29. *Id.*

30. *Id.*

31. *Id.*

32. Lehner, *supra* note 1, at Ch. 2; *EPA Handbook*.

33. *Id.*

34. *Id.* (citing *EPA Handbook: Urban Runoff Pollution Prevention and Control Planning*, EPA 625-R-93/004, September 1993, p. 3.; Schueler, T.R., *Mitigating the Adverse Impacts of Urbanization on Streams: A Comprehensive Strategy for Local Governments*,” in Metropolitan Council of Governments and the Anacostia Restoration Team, *Watershed Restoration Sourcebook*, a collection of papers presented at the conference “Restoring Our Home River: Water Quality and Habitat in the Anacostia”, November 6, and 7, 1991, College Park, Maryland, 1992, pp. 21-31).

35. *Id.*

36. *Id.*

37. Lehner, *supra* note 1, at Ch. 2.

38. Candice C. Wilderman, *An Assessment of Stormwater Runoff Quality in Middlesex Township, Cumberland County, PA, with a Comparison of the Composition*

heavy metals like PCBs, chlorinated hydrocarbons, lead, copper, chromium, and organic chemicals such as pesticides.<sup>39</sup> Agricultural sites have the highest concentrations of hardness, alkalinity, phosphates and nitrates resulting from the application of lime and fertilizers to the land.<sup>40</sup> Urban and suburban sites, in contrast, have the highest concentrations of chloride, total dissolved solids and conductivity.<sup>41</sup>

Construction activity is the largest direct source of human-made sediment loads.<sup>42</sup> Sediment runoff rates from construction sites are typically ten to twenty times greater than those from agricultural lands, and one thousand to two thousand times greater than those of forestlands.<sup>43</sup> During a short period of time, construction activity can contribute more sediment to streams than can be deposited over several decades, which causes physical and biological harm to the nation's waters.<sup>44</sup> Operators of large and small construction activities<sup>45</sup> must obtain coverage under the National Pollutant Discharge Elimination System (NPDES) construction stormwater permit.<sup>46</sup>

The most dramatic consequence of increases in the volume and rate of stormwater runoff is flooding.<sup>47</sup> Conventional urban stormwater

*and Effects of Stormwater Runoff from Four Land Uses in the Letort Spring Watershed 1* (Dec., 1997)(unpublished study, Dickinson College, on file with the Carlisle Borough Building).

39. *Id.*

40. *Id.*

41. *Id.*

42. Lehner, *supra* note 1 (citing H.B. Vice, et al, *Sediment Movement in an Area of Suburban Highway Construction, Scott Run Basin, Fairfax County, Virginia, 1961-1964*, Geological Survey Water Supply Paper 1591-E, USGS, Reston, VA, 1969).

43. United States Environmental Protection Agency, *Storm Water Phase II Final Rule: Small Construction Program Overview*, EPA 883-F-00-013, Jan. 2000.

44. *Id.*

45. A small construction activity (Phase II) is one that will disturb one or more and less than five acres of land; or that will disturb less than one acre but is part of a larger common plan of development or sale whose total land disturbing activities is between one and five acres (or is designated by the NPDES permitting authority); and will discharge stormwater runoff from the construction site into a municipal separate storm sewer system (MS4) or into waters of the United States.

A large construction activity (Phase I) is one that will disturb five acres or greater of land or will disturb less than five acres but is part of a larger common plan of development or sale whose total land disturbing activities total five acres or greater (or is designated by the NPDES permitting authority); and will discharge stormwater runoff from the construction site into a municipal separate storm sewer system (MS4) or into waters of the United States.

United States Environmental Protection Agency, Office of Water, *Storm Water Discharges Form Construction Activities: Who's Covered*; available at [http://cfpub.epa.gov/npdes/stormwater/swcover.cfm?program\\_id=6](http://cfpub.epa.gov/npdes/stormwater/swcover.cfm?program_id=6). See also United States Environmental Protection Agency, *Storm Water Phase II Final Rule: Small Construction Program Overview*, EPA 883-F-00-013, Jan. 2000.

46. *Id.*

47. Lehner, *supra* note 1, at Ch. 3.

management, which emphasizes flood control measures such as dams, dikes, levees and detention facilities, has helped to mitigate some of the worst flood damage.<sup>48</sup> These mitigation measures, however, have been vastly outpaced by urbanization.<sup>49</sup> Rather than providing for retention and infiltration, conventional stormwater management is essentially transferring the problems and hydrologic impacts further downstream by quickly channeling stormwater away from the rain activity area using channels, storm pipes, and stream bank stabilization techniques.<sup>50</sup>

## II. Home Depot and the Letort Spring Run: A Local Problem In Central Pennsylvania

The Letort Spring Run (Letort) is a tributary of the Conodoguinet Creek that flows into the Susquehanna River at a point north of Harrisburg, Pennsylvania.<sup>51</sup> The Letort provides surface drainage for 21.4 square miles (13,700 acres) of Cumberland County, Pennsylvania, which includes the small rural townships of Middleton and Middlesex and most of the Borough of Carlisle.<sup>52</sup> The Letort begins in South Middletown Township and travels 9.5 miles to its confluence with the Conodoguinet Creek, dropping an average of 18 feet per mile along the way.<sup>53</sup> The Letort passes through a commercial watercress production facility, past a limestone quarry, under Interstate 81, through the town of Carlisle—where it receives urban runoff from at least 4 major outfalls—past the U.S. Army War College, through farmlands and finally, through the Middlesex Township trucking area.<sup>54</sup>

The Borough of Carlisle, through which the Letort flows, was incorporated in 1751 and consists of approximately 3000 acres with a 1990 population of 19,500.<sup>55</sup> In August 1999, the Carlisle Borough Council approved a request by a developer to rezone a 10-acre tract of land, from residential to commercial use, for a proposed 116,000 square-foot Home Depot store, as well as a 4-acre adjoining lot.<sup>56</sup> The site for development is located 300 feet from the Letort.<sup>57</sup>

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48. *Id.*

49. *Id.*

50. *Id.* (citing United States Environmental Protection Agency, *Urbanization and Streams: Studies of Hydrologic Impacts*, Office of Water, 841-R-97-009, Dec., 1997, p. 4).

51. See Wilderman, *supra* note 38, at 2.

52. *Id.*

53. *Id.*

54. *Id.*

55. *Id.*

56. David Blymire, *Critics, Lawyers Clash: Home Depot Debated*, THE SENTINEL, October, 18, 2000, at B1.

57. Stephen Saunter, *A Shrine for Trout May Change Forever*, NEW YORK TIMES,

The middle section of the Letort, across from which the Home Depot is to be built, is a designated Heritage Wild Trout Water and as a Wild and Scenic River.<sup>58</sup> The Letort is also one of only eight streams in Pennsylvania that the Department of Environmental Protection (DEP) designated as "Exceptional Value."<sup>59</sup> Downstream from the proposed development are important spawning beds for the trout that live in the river.<sup>60</sup> Fishermen nationwide come to the Letort to fish for its exceptionally large and selective brown trout.<sup>61</sup> Made famous by the writings of Charles Fox and Vincent Marinaro, the Letort has given rise to its own fly patterns like the Letort Hopper, Letort Cricket, Jassid, and others which have become standards in the fly boxes of anglers worldwide.<sup>62</sup> In 2001, the Letort was featured on an ESPN fishing segment.<sup>63</sup>

The Cumberland Valley Chapter of Trout Unlimited (CVTU) is concerned that the development could jeopardize the trout population in the Letort because rainwater draining off the proposed parking lot could alter the stream temperature enough to harm the trout.<sup>64</sup> Trout begin to suffer when the water temperature reaches 70 degrees, and they become 'stressed' when the water temperature reaches 75 degrees; the Letort's temperature rarely rises above 68 degrees.<sup>65</sup> CVTU feels that the proposed plan ignores environmental concerns and poses a detrimental threat to the Letort.<sup>66</sup> CVTU is concerned that the design of the stormwater management plan seems to be "text-book" designed rather than individually designed to meet the environmental needs of the specific property and the Letort.<sup>67</sup> CVTU is also concerned with the loss of an important recharge area that will become 80 percent impervious surface.<sup>68</sup> A 1997 assessment of stormwater runoff quality in Middlesex

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February, 4, 2001, available at <http://www.nytimes.com/2001/02/04/sports/04OUTD.html>; also in *STREAMSIDE ON LINE*, Vol. 7, Issue 1, Spring 2001, available at <http://www.djlflyfishers.org/spring2001.htm>.

58. See generally The Cumberland Valley Trout Unlimited Website, available at <http://www.homestead.com/cvtu>; [Hereinafter, CVTU Website].

59. David Blymire, *Residents Mount Legal Opposition to Home Depot Plan*, THE SENTINEL, December 3, 1999, at B3. For a definition of Exceptional Value Water, see *infra* note 155.

60. See CVTU Website, *supra*, note 58.

61. See Saunter, *supra* note 57.

62. *Id.*

63. David Blymire, *OK Carries Conditions*, THE SENTINEL, November 11, 2001, at B7.

64. David Blymire, *Depot Record Debated: Home Depot Hearings Continue*, THE SENTINEL, October 24, 2000, at B1.

65. *Id.*

66. See CVTU Website, *supra* note 58.

67. *Id.*

68. *Id.*



Township, Cumberland County, Pennsylvania, with a comparison of the composition and effects of stormwater runoff from four land uses in the Letort Spring Run watershed, stated:

In the urban sections of the Letort, elevations of concentrations of most metals, petroleum hydrocarbons and pesticides analyzed . . . indicat[e] that stormwater is the major source of these pollutants and that better stormwater management practices could clearly mitigate the effect of urban activities on the Letort Spring Run.<sup>69</sup>

The study also indicated that the average concentrations of pollutants in the sediments of the areas studied “reflect patters that were found in the pollutant loads delivered by their respective dominant land uses.”<sup>70</sup> In other words, lead, zinc, copper, and petroleum hydrocarbons (urban and mechanical related pollutants) were found in consistently elevated concentrations in the sediment of the urban and/or trucking reaches.<sup>71</sup> In the agricultural and suburban land use regions, however, elevated concentrations of cadmium and nickel indicate that runoff from agricultural and suburban activities was detectable in the sediments.<sup>72</sup>

The concentrations of most pollutants in the urban Carlisle area and the Middlesex trucking area were less or equal to the concentrations of most pollutants in the Baltimore and Washington, D.C. areas.<sup>73</sup> In contrast, concentrations of pollutants in the suburban Carlisle areas tend to be slightly higher than those reported in suburban Washington, D.C.<sup>74</sup>

In order to address environmental concerns and to keep the development process moving, Olympic Development and Reality Corp. (Olympic) promised to follow several conditions requested by CVTU and the Letort Regional Authority when building the Home Depot.<sup>75</sup> The Carlisle Borough Council included those conditions in its approval of the plan.<sup>76</sup> The most relevant condition pertaining to stormwater runoff is condition 17, which sets strict standards for preventing polluted stormwater runoff from spilling into the Letort.<sup>77</sup>

In November 2001, the Carlisle Borough Council approved the final subdivision plan for the construction of the Home Depot, and the plan is

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69. See Wilderman, *supra* note 38, at v.

70. *Id.*

71. *Id.*

72. *Id.*

73. *Id.* at 86.

74. See Wilderman, *supra* note 38, at 86.

75. David Blymire, *Radio Square Zoning Discussed*, THE SENTINEL, Aug. 31, 2001, at B3.

76. *Id.*

77. *Id.*

now under review by the state DEP.<sup>78</sup> As of January 2002, however, Olympic asked Carlisle officials to extend the ninety-day deadline for recording the plan in Cumberland County Courthouse to give Olympic more time to obtain the necessary permits from the DEP.<sup>79</sup>

Although CVTU would rather see the land become parkland rather than a shopping center, the group realizes that the land is a “valuable piece of real estate and at some point in time it will be developed.”<sup>80</sup> CVTU remains active in its efforts to protect the Letort by participating in the two DEP review meetings along with the developer.<sup>81</sup>

#### A. *Protections for the Letort Spring Run*

##### 1. Condition 17: The Built-in Protection Provision

Condition 17 of the Subdivision/Land Development Plan contains seven objective design criteria for stormwater quality that are to be added to the final plan.<sup>82</sup> The first of the five conditions discussed, *infra*, states that in place of conventional on-site stormwater treatment facilities, Olympic will design and construct a wetland treatment system that will meet the following six minimum design criteria:

- i. The stormwater treatment cells will be sized to treat 90% of all runoff-producing storms.
- ii. The treatment cell area to watershed will be maintained at a ratio greater than 2%.
- iii. A minimum of 3 feet of soil must be maintained between the seasonal high water mark, bedrock or impermeable barrier, and the basin floor(s), which will be lined with a permeable geotextile membrane.
- iv. Soil used in the basin floor(s) cannot contain more than 30% clay, or more than 40% silt/clay mixture.
- v. Soil infiltration within the 3 feet of soil above the basin floor shall not exceed 2.4 inches per hour.
- vi. In order to maintain aerobic conditions within the floor of the basin(s), the basin(s) must drain the design

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78. See Blymire, *supra* note 63.

79. David Blymire, *Home Depot Developer Seeks Extension*, THE SENTINEL, Jan. 10, 2002, at B1.

80. See CVTU Website, *supra* note 58.

81. See Blymire, *supra* note 79.

82. Dauphin Engineering Co., on behalf of Holly Pike Partners, L.P., *Condition 17 of the Final Subdivision & Land Development Plan: Additional Conditions Notes Plan*, August 13, 2001, Blue Print available at Carlisle Borough Building [hereinafter *condition 17*].

storm in 24 hours or less.<sup>83</sup>

Part B of condition 17 provides that Stormceptors© will be used as pretreatment devices for all of the stormwater.<sup>84</sup> These devices will be sized to ensure that the minimum total suspended solids removal rate of 80% will be achieved prior to the discharge of any stormwater into on of the basins and a minimum of 75% for the other two on-site basins.<sup>85</sup>

Provision C of condition 17 provides that Olympic agrees to complete certain tasks prior to the discharge of any stormwater from the Home Depot site into a specified basin.<sup>86</sup> The most relevant of those tasks includes the removal of sediments from the basins and the removal of the existing construction outlet to ensure that the permanent outlet will function properly, as designed and permitted, with the addition of stormwater from the Home Depot.<sup>87</sup>

Provision D of condition 17 provides for the redesign of the flow-paths for all parts of the stormwater conveyance system to maximize the extent of the underground cooling that can be achieved prior to discharging the stormwater.<sup>88</sup> Finally, Section E of condition 17 provides that an outlet structure will be incorporated into the design of the “wetpond” in order to “minimize the rate of discharge from the pond so that the maximum protection can be provided to the EV [Exceptional Value] wetlands areas located between Home Depot and the Letort Spring Creek.”<sup>89</sup> The remaining two provisions of condition 17 provide for a written document detailing the maintenance and monitoring programs and a ‘catch-all’ provision that allows the Borough of Carlisle to add to the Subdivision/Land Development Plan after preliminary approval by the Borough.<sup>90</sup>

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83. *Id.* at A.

84. *Id.* at B. A Stormceptor is a water quality treatment device in which stormwater flows into the Stormceptor and is diverted by a U-shaped weir, through a pipe, and into the separation/holding chamber. Outlets, in the shape of right angles, direct flow around the chamber to the submerged outlet pipe. Fine and coarse sediments settle to the bottom of the tank, while petroleum products and floatables rise and become trapped underneath the weir. Available at <http://www.rinkermaterials.com/stormceptor/products/inline.html>.

85. *Id.* The interpretation of this Comment adds that the intended purpose is to provide pretreatment for discharge into high quality watersheds.

86. *Id.* at C.

87. See condition 17, *supra* note 82, at C. The interpretation of this comment states that this provision’s purpose is to improve the existing basin’s condition to improve the quality of the stormwater discharge.

88. *Id.* at D. The interpretation accompanying this comment states that its intent is to reduce the exposure of the runoff to sunlight and surface temperatures and to provide subsurface filtration to maximize pollutant removals.

89. *Id.* at E.

90. *Id.* at F, G.

## 2. *Federal and State Protection for Waterways*

Antidegradation is not explicitly mentioned in the Federal Clean Water Act (CWA).<sup>91</sup> Conceptually, antidegradation was created by the Department of Interior in 1968, and was included in the EPA's water quality standards regulations in 1975.<sup>92</sup> Six minimum requirements for water quality standard submission (WQS) exist.<sup>93</sup> The three principle requirements are a specification of designated uses, water quality criteria and an antidegradation policy.<sup>94</sup> The CWA establishes water quality standards (WQS) and divides the standards into two components: designated or beneficial uses and water quality criteria (WQC).<sup>95</sup> The designated use constitutes the purpose for which a body of water is to be protected, and WQC establish standards that must be maintained to support the uses.<sup>96</sup>

States have some latitude in determining the beneficial uses for the individual waters that should be protected.<sup>97</sup> The CWA provides minimal guidance for the states to follow on what is a beneficial use.<sup>98</sup> These minimum requirements are colloquially referred to as "fishable and swimmable" uses.<sup>99</sup> States may base beneficial use designation on a variety of considerations like scientific factors and economic or social policy considerations.<sup>100</sup>

Unlike beneficial use designation, WQC are to be based on objective, scientific considerations rather than economic or policy-based considerations.<sup>101</sup> The EPA issues WQC guidance<sup>102</sup> that must reflect the

91. R. Timothy Weston, Esq., *Water Quality Issues: Implementation of Antidegradation Regulations*, 4-61 Environmental Law Forum (Pennsylvania Bar Institute, v.i 2001). See also 33 U.S.C. §§ 1251-1387 (1996).

92. *Id.*

93. See 40 C.F.R. §131.6 (2001) for the six elements. (describing the six minimum requirements for water quality standard submission).

94. 40 C.F.R. § 131.6.

95. 33 U.S.C. § 1313(c)(2)(A) (1996).

96. *Id.* (providing that "[s]uch revised or new water quality standard shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.")

97. Robert W. Alder, *Integrated Approaches to Water Pollution: Lessons From the Clean Air Act*, 23 HARV. ENVTL. L. REV. 203, 210 (1999)

98. 33 U.S.C. § 1313(c)(2)(A) provides as pertinent:

Such standards shall be established taking into consideration their use and value for public water supplies, propagations of fish and wildlife, recreational purposes, and agricultural, industrial and other purposes, and also taking into consideration their use and value for navigation.

33 U.S.C. § 1313(c)(2)(A).

99. See Alder, *supra* note 97.

100. *Id.* at 210.

101. *Id.*

latest scientific knowledge on the “kind and extent of all identifiable effects on health and welfare.”<sup>103</sup>

Water quality standards are usually promulgated by the individual states with oversight by the EPA.<sup>104</sup> This discretion gives states an opportunity to design a plan specifically for their waters.<sup>105</sup> The EPA must review and approve the state-set standards.<sup>106</sup> If a state’s standards do not comply with the federal standards, or if the EPA deems them to be inadequate, then the EPA must establish the requisite WQS for that state.<sup>107</sup>

An antidegradation policy is one of the minimum requirements for water quality standard submission.<sup>108</sup> Title 40, § 131.12 of the Code of Federal Regulations divides the antidegradation policy into three tiers of water quality.<sup>109</sup>

The first tier requires “existing instream water uses and the level of water quality necessary to protect the existing uses [to] be maintained and protected.”<sup>110</sup> This provision requires that all existing uses be protected as well as all uses identified specifically in the WQS.<sup>111</sup> Tier two applies to waters whose quality exceeds tier one levels.<sup>112</sup> It also requires states to maintain and protect the water quality “necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water,” unless the state finds that lowering the water quality is “necessary to accommodate important economic or social development in the area.”<sup>113</sup> Tier three applies to high quality waters that constitute an “outstanding National resource” and requires the states to maintain and protect the water quality.<sup>114</sup>

102. *Id.*; see also 33 U.S.C. § 1314(a) (1996); see also 40 C.F.R. § 131.3(c) (2001).

103. *Id.* (citing 33 U.S.C. § 1314(a)(1)).

104. See 33 U.S.C. § 1313(c) (1996).

105. See 33 U.S.C. § 1313(c)(2) (1996); see 40 C.F.R. § 131.4 (2001).

106. See 33 U.S.C. § 1313(c)(2-4); see 40 C.F.R. § 131.5(b) (2001).

107. *Id.*

108. 40 C.F.R. § 131.6 provides the six elements that must be included in each state’s water quality standards submitted to EPA for review. Section 131.6 (d) specifically requires an “antidegradation policy consistent with sec. 131.12.” 40 C.F.R. § 131.6 (2001).

109. 40 C.F.R. § 131.12(a) provides that:

the state shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart.

The antidegradation policy and implementation methods shall, at a minimum be consistent with the following: . . . .

40 C.F.R. § 131.12(a) (2001).

110. 40 C.F.R. § 131.12(a)(1) (2001).

111. See Alder, *supra* note 97 at 214.

112. 40 C.F.R. § 131.12(a)(2) (2001).

113. *Id.*

114. See 40 C.F.R. § 131.12(a)(3) (2001) (stating “[w]here high quality waters constitute an outstanding National resource, such as waters of National and State parks

a. *NPDES Permits and Pennsylvania's Clean Streams Law*

The Total Maximum Daily Load (TMDL) is a calculation of the maximum amount of a pollutant that a body of water can receive and still meet water quality standards and an allocation of that amount to the pollutant's sources.<sup>115</sup> Water quality standards that identify the uses for each water body and the scientific criteria to support that use are set by states, territories, and tribes.<sup>116</sup> A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources.<sup>117</sup> The calculation must include a margin of safety to ensure that the water is for the purposes the state has designated.<sup>118</sup> The calculation must also account for seasonable variation in water quality.<sup>119</sup> The Clean Water Act (CWA), section 303, establishes the water quality standards and TMDL programs.<sup>120</sup>

Under § 303(d) of the CWA, states, territories, and authorized tribes are required to develop lists of impaired waters.<sup>121</sup> Impaired waters do not meet water quality standards that have been set for them despite the minimum required levels of pollution control technology that have been installed.<sup>122</sup> The law requires that priority rankings be established for waters on the lists and that TMDLs are set for these waters.<sup>123</sup> The EPA must approve or reject lists and TMDLs established

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and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.”)

115. Environmental Protection Agency, *Introduction to TMDLs*, available at <http://www.epa.gov/owow/tmdl/intro>; see generally 40 C.F.R. § 130.2(i), which defines “Total maximum daily load” as:

The sum of the individual WLAs [Wasteload allocation] for point sources and LAs [Load allocation] for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus the TMDL process provides for nonpoint source control tradeoffs.

40 C.F.R. § 130.2(i) (2001).

116. *Id.*

117. *Id.*

118. *Id.*

119. *Id.*

120. Environmental Protection Agency, *Introduction to TMDLs*, available at <http://www.epa.gov/owow/tmdl/intro> (last visited Aug. 2001); see also 40 C.F.R. § 130.2(j) (2001) (defining “Water quality limited segment”).

121. *Id.*

122. *Id.*

123. 40 C.F.R. § 130 (2001).

by states, territories, and authorized tribes.<sup>124</sup> If a submission is inadequate, EPA must establish the list or the TMDL.<sup>125</sup>

Section 1311(a) of the CWA provides that “the discharge of any pollutant by any person shall be unlawful.”<sup>126</sup> An important exception to § 1311(a) is the National Pollutant Discharge Elimination System (NPDES) permit program.<sup>127</sup> A NPDES permit is a permit issued for the “discharge or potential discharge of pollutants from a point source to surface waters.”<sup>128</sup> NPDES permits must be obtained from the EPA or from a state with an EPA-approved permit program. The EPA is authorized under 33 U.S.C. §1312(a) to establish water quality based effluent limitations whenever discharges from a point source will interfere with the attainment of water quality standards.<sup>129</sup> For point sources, the EPA may ensure that additional limitations of pollution discharge imposed by a TMDL program are implemented through the supervision of permits to discharge under the NPDES program.<sup>130</sup> 33 U.S.C. § 1313(1)(A) provides that:

Each State shall identify those waters within its boundaries for which the effluent limitations required by section 1311 (b)(1)(A) and section 1311(b)(1)(B) of this title are not stringent enough to implement any water quality standard applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters.<sup>131</sup>

States are required to adopt procedures equivalent to those that the EPA must follow in 40 C.F.R. § 124 in order to operate the NPDES permit

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124. 40 C.F.R. § 130.7 (2001).

125. *Id.*

126. 33 U.S.C. § 1311(a) (1996).

127. 33 U.S.C. § 1342 (1996).

128. 25 PA. CODE § 96.1 (2001).

129. 33 U.S.C. § 1312(a) states:

Whenever, in the judgment of the Administrator or as identified under section 1314(1) of this title, discharges of pollutants from a point source . . . would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities on the water, effluent limitations . . . for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality.

33 U.S.C. § 1312(a) (1996).

130. 33 U.S.C. § 1342(i) (1996), ELR Stat. FWPCA § 402(i) (EPA review of NPDES permits), in Oliver A. Houck, *The Clean Water Act TMDL Program: Law, Policy, and Implementation*, 60 (ENVTL. LAW INST. 1999).

131. 33 U.S.C. § 1313(1)(A) (1996).

program in lieu of the federal government.<sup>132</sup>

For example, Pennsylvania's Clean Streams Law 35 P.S. § 691.3 provides as pertinent that the

discharge of sewage or industrial waste or any substance into the waters of this Commonwealth, which causes or contributes to pollution as herein defined or creates a danger of such pollution is hereby declared not to be a reasonable or natural use of such waters, to be against public policy and to be a public nuisance.<sup>133</sup>

Those who wish to discharge substances into the waters of the Commonwealth, however, may be allowed to do so by obtaining a NPDES permit. A NPDES permit is required "for all discharge from a point source into navigable waters."<sup>134</sup> The NPDES permits are issued on a case-by-case basis, and they specify the limits of frequency of discharge, amount of discharge permitted, concentrations, and other specifications.<sup>135</sup>

To discharge more pollutants than the amount specified in the NPDES permit is a violation of the permit. The United States District Court for the Middle District of Pennsylvania stated that:

Discharging more pollutants than permitted by one's National Pollution Discharge Elimination System Permit constitutes a violation of 33 U.S.C. §§ 1311 and 1342. *Cf. Environmental Protection Agency v. California ex rel. State Water Resources Control Board*, 426 U.S. 200, 205, 96 S.Ct. 2022, 2025, 48 L.Ed.2d 578 (1976); *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369, 1374-1376 (D.C. Cir. 1977).<sup>136</sup>

In order to increase the amount of discharge, or to change the permit, one must either amend the existing permit or obtain a new one.<sup>137</sup> The

132. 40 C.F.R. § 124 (2001).

133. PA. STAT. ANN. tit. 35, § 691.3 (1993).

134. *Montgomery Township v. Commonwealth of Pennsylvania, Department of Environmental Resources and Borough of Mercersburg*, 1995 EHB 483, 39, 1995 WL 235702 (Pa. Env. Hrg. Bd).

135. Title 25 of the Pa. Code § 92.57 provides as pertinent:

NPDES permits shall specify average and maximum daily quantitative limitations for the level of pollutants in the authorized discharge in terms of weight except pH, temperature, radiation and any other pollutants not appropriately expressed by weight. Permits may in addition impose limitations on frequency of discharge, concentrations or percentage removal, and may include instantaneous maximum limits, BMPs or any other limitations, as necessary.

25 PA. CODE § 92.57 (2001).

136. *Pennsylvania Env'tl. Def. Found. v. Mazurkiewicz*, 712 F. Supp. 1184, 1192 (M.D. Pa. 1989).

137. Title 25 of the PA. CODE § 92.7 provides as pertinent:



Commonwealth Court of Pennsylvania stated if a discharger operating under a permit “desires to increase the approved capacity in excess of that in the plans and specifications attached to its permit,” the burden is then placed on the discharger to “obtain an amendment to its permit or obtain a new permit.”<sup>138</sup>

A violation of a permit or of the Clean Streams Law in Pennsylvania can range from a summary offense, with fines and imprisonment not exceeding \$10,000 for each offense and 90 days in prison, to a misdemeanor of the second degree with fines not exceeding \$50,000 for each offense and/or a prison term of 2 years.<sup>139</sup> In addition, civil penalties exist for violations of NPDES permits up to \$10,000 dollars per day for each violation.<sup>140</sup>

The legislative objective of the Clean Streams Law is not only to “prevent further pollution of the waters of the Commonwealth, but also to reclaim and restore to a clean, unpolluted condition every stream in Pennsylvania that is presently polluted.”<sup>141</sup> The Pennsylvania Supreme Court has interpreted this to mean that “[t]he objective of The Clean Streams Law, as amended, is to prevent the further discharge of pollution into the waters of the Commonwealth and not simply the cessation of future activities which are responsible for the creation of the polluting condition.”<sup>142</sup> Antidegradation requirements of 25 Pa. Code § 93.4a(b) state that “existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.”<sup>143</sup> Therefore, before a NPDES permit is issued for new or increased discharge, the state needs to ensure that the increased discharge will not harm the existing water quality of the body of water into which the increased discharge will flow.

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Facility expansions, production increases or process modifications, which result in new or increased discharges of pollutants, which discharges do not violate effluent limitations specified in the NPDES permit, shall be reported by submission to the Department of notice of the new or increased discharges. A new permit application shall be submitted and a new permit obtained before commencing a new or increased discharge, or change of the wastestream, which would violate effluent limitations in the NPDES permit or which would include any new or increased pollutant not identified in a previous permit application.

25 PA. CODE § 92.7 (2001).

138. *East Pennsboro Township Auth. v. Dep't of Env'tl. Res.*, 334 A.2d 798, 802 (Pa. Commw. Ct. 1975).

139. PA. STAT. ANN. tit. 35, § 691.602 (1993).

140. PA. STAT. ANN. tit. 35, § 691.605 (1993).

141. PA. STAT. ANN. tit. 35, § 691.4(3) (1993).

142. *Commonwealth v. Barnes & Tucker Co.*, 371 A.2d 461, 472 Pa. 115, 124 (Pa. 1977), *appeal dismissed*, 434 U.S. 807 (1977).

143. 25 PA. CODE § 93.4a(b) (2001).

*b. Pennsylvania's Antidegradation Statute*

The scope of Pennsylvania's Water Quality Standards regulations is broad. 25 Pa. Code § 93.2 sets forth water quality standards for "surface waters of this commonwealth, including wetlands."<sup>144</sup> In addition, any interstate agency, compact or international agreement that establishes water quality standard regulations applicable to surface waters and wetlands of the Commonwealth that are more stringent than those in Section 93 shall apply.<sup>145</sup>

The Antidegradation Requirements begin with 25 Pa. Code § 93.4a.<sup>146</sup> Section 93.4a(a) states that the scope of §§ 93.4a-93.9z is the surface waters of the Commonwealth.<sup>147</sup> Subsection (b) states that existing instream water uses and a level of water quality necessary to protect the existing uses shall be maintained and protected.<sup>148</sup> The protection of High Quality Waters<sup>149</sup> is to be maintained and protected; Section 93.4(c)(b)(1)(iii), however, provides one exception.<sup>150</sup> Section 93.4(c)(b)(1)(iii) allows DEP to reduce the water quality in a High Quality Water if it finds that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.<sup>151</sup> A reduction of water quality will not be allowed under this section unless the discharger demonstrates that the High Quality Water will "support applicable existing and designated water uses (other than the high quality and exceptional value uses) in § 93.3 Table 1 (relating to protected water uses)."<sup>152</sup> Such reduction may not happen unless the intergovernmental coordination and public participation provisions of the Commonwealth's continuing planning process are satisfied.<sup>153</sup> Under § 93.4a, the water quality of Exceptional Value Waters shall be maintained and protected.<sup>154</sup> In order to qualify as

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144. 25 PA. CODE § 93.2(a) (2001).

145. 25 PA. CODE § 93.2(b) (2001) (stating "[w]hen an interstate or international agency under an interstate compact or international agreement establishes water quality standards regulations applicable to surface waters of this Commonwealth, including wetlands, more stringent than those in this title, the more stringent standards apply").

146. 25 PA. CODE § 93.4a (2001).

147. 25 PA. CODE § 93.4a(a) (2001)(providing that "[t]his section applies to surface waters of this Commonwealth").

148. 25 PA. CODE § 93.4a(b) (2001).

149. High Quality Waters are "surface waters having quality which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying § 93.4b(a)." 25 PA. CODE § 93.1 (2001).

150. 25 PA. CODE § 93.4a(c) (2001).

151. 25 PA. CODE § 93.4(c)(b)(1)(iii) (2001).

152. *Id.*

153. *Id.*

154. 25 PA. CODE § 93.4a(d) (2001).

Exceptional Value Water, the qualifying chemistry and biology conditions for High Quality Water must be met.<sup>155</sup>

Section 93.6 of Pennsylvania's antidegradation requirements addresses general water quality criteria. Subsection (a) provides that water may not contain substances attributable to point or nonpoint source discharges in concentrations or amounts "sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life."<sup>156</sup> Subsection (b) expands the list of substances controlled under chapter 93 to include, but not limited to "floating materials, oil, grease, scum and substances which produce color, tastes, odors, turbidity or settle to for, deposits."<sup>157</sup>

### 3. Pennsylvania's Proposed Comprehensive Stormwater Management Policy<sup>158</sup>

The Proposed Comprehensive Stormwater Management Policy states that the Pennsylvania DEP will employ a comprehensive stormwater management program, under existing authority, to improve water quality, sustain water quality—including ground water recharge and stream base flow—and integrate federal stormwater management obligations.<sup>159</sup> The anticipated effective date of the program is February

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155. Exceptional Value Waters are defined as "[s]urface waters of high quality which satisfy § 93.4b(b) (relating to antidegradation)." 25 PA. CODE § 93.1 (2001). Under § 93.4b(b), a surface water that meets one or more of the following conditions is an Exceptional Value Water:

1. The water meets the requirements of subsection (a) and one or more of the following:
  - (i)The water is in a National wildlife refuge or State game propagation and protected area.
  - (ii)The water is located in a designated state park natural area or State forest natural area, National natural landmark, Federal or State wild river, Federal wilderness area or Natural recreational area.
  - (iii)The water is an outstanding National, State, regional or local resource water.
  - (iv)The water achieves a score of at least 92% (or its equivalent) using the methods and procedures described in subsection (a)(2)(i)(A) or (B).
  - (v)The water is designated as a "wilderness trout stream" by the Fish and Boat Commission following public notice and comment.
2. The water is a surface water of exceptional ecological significance.

156. 25 PA. CODE § 93.6(a) (2001).

157. 25 PA. CODE § 93.6(b) (2001).

158. The Comprehensive Stormwater Management Policy, Document Number 392-0300-002, went into effect on September 28, 2002. More than 600 comments were received from 234 individuals and organizations during the public comment period on the draft policy. See *Executive Summary* of the final policy available at <http://www.dep.state.pa.us/eps/docs> (last visited Oct. 2002).

159. See *Proposed Stormwater Policy*, *supra* note 3.

23, 2002.<sup>160</sup> The proposed policy is intended to “supplement existing requirements . . . [n]othing in the policies and procedures shall affect regulatory requirements.”<sup>161</sup> DEP proposes a ‘best management practices’<sup>162</sup> (BMP) approach to stormwater control that encourages minimization and infiltration of stormwater flows.<sup>163</sup> According to the proposal, this approach will “reduce pollutant loadings to streams, recharge groundwater tables, enhance stream base flow during times of drought, and reduce the threat of flash flooding and stream bank erosion resulting from storm events.”<sup>164</sup>

Permit conditions require BMPs as the means for managing stormwater from Phase I and Phase II construction as well as from post construction flows.<sup>165</sup> Administratively, DEP proposes to integrate its permitting programs with stormwater management plans developed on a watershed basis under the Stormwater Management Act (Act 167).<sup>166</sup> DEP will be developing the Phase II program for NPDES discharges from small construction sites, additional industrial activities, and for the 700 municipalities that are subject to the requirements for separate storm

160. *Id.*

161. *Id.* at Disclaimer.

162. Best Management Practices (BMP) are

Methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.

40 C.F.R. § 130.2 (2001) Definitions.

25 PA. CODE § 93.1 Definitions defines “best management practices” as

(i) Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce pollution to surface waters of this Commonwealth.

(ii) The term includes:

(A) Treatment requirements

(B) Operating procedures

(C) Practices to control plant site runoff, spillage, or leaks, sludge or waste disposal, or drainage from raw material storage.

25 PA. CODE § 93.1 (2001) Definitions.

163. *Proposed Stormwater Policy*, *supra* note 3, at 1.

164. *Id.*

165. *Id.* Phase II is described, *supra* note 45.

166. *Id.* The Stormwater Management Program, utilizing Act 16 of 1978, 32 P.S. § 680.1 *et seq.*, provides funding for county watershed planning for stormwater impacts, and it imposes requirements on counties and municipalities. The municipalities are to implement a county watershed plan by, *inter alia*, adoption and enforcement of a model ordinance. A county watershed plan typically takes several years to complete, and involves a consideration of a variety of physical and social/economic factors in predicting and planning for the impacts of stormwater from land development. Doug Brennan, *New Developments in Water Regulation—Selected DEP/EPA Programs*, Environmental Law Forum 4-1 (Pennsylvania Bar Institute, v.i 2001).

sewer systems.<sup>167</sup>

*a. Post Construction Stormwater*<sup>168</sup>

Control of post construction stormwater is “essential to maintaining the quality of Pennsylvania’s surface waters.”<sup>169</sup> Under Phase I of stormwater generated during construction, The Clean Water Act requires NPDES permits for construction activities of 5 acres or greater.<sup>170</sup> BMPs are used to minimize erosion and sediment pollution during construction and the applicant is required to list post construction controls as a part of the permit application.<sup>171</sup> A problem arises because the permit is traditionally terminated once the earth disturbance is completed and the site is stabilized—there is no continuing, carryover requirement to install, operate or maintain the post construction stormwater controls.<sup>172</sup> Pennsylvania proposes use of a BMP approach that encourages minimization of stormwater runoff and that includes infiltration for regulating post construction stormwater.<sup>173</sup>

Infiltration of stormwater provides a method to recharge local ground water tables that are “essential to maintaining base stream flow during times of drought.”<sup>174</sup> Infiltration also reduces the volume and the velocity of stormwater discharge to streams, which reduces the risk of both stream bank erosion and flash flooding.<sup>175</sup> The process proposed by DEP integrates post construction stormwater control into stormwater construction planning and permitting.<sup>176</sup> According to the language of the proposal, it “requires construction, operation and maintenance of the post construction stormwater BMPs described in the stormwater construction process. The BMPs will be designed to protect and maintain the uses of surface waters where the project is located.”<sup>177</sup> Consistent with the water quality protective measures of Act 167,<sup>178</sup> the

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167. *Id.* at 2.

168. *Proposed Stormwater Policy, supra* note 3, at 5.

169. *Id.* at 6.

170. *Id.* at 3. *See also supra* note 45.

171. *Id.*

172. *Id.*

173. *Proposed Stormwater Policy, supra* note 3, at 6.

174. *Id.*

175. *Id.*

176. *Id.*

177. *Id.*

178. *Proposed Stormwater Policy, supra* note 3, at 8.

Under Act 167, counties are required to establish a watershed based stormwater management plan that is implemented by affected municipalities. Both the statute and implementation guidelines require these plans to include water quality protective measures. These measures include water quality and water quantity provisions.

plans are to be developed by the counties and implemented by the municipalities on a watershed basis.<sup>179</sup> DEP calls it “essential” that permits are issued for post construction stormwater BMPs for both Phase I projects (5 acres or greater) and Phase II projects (1-5 acres with a point source discharge) that require a NPDES permit in order to ensure that the post construction stormwater controls identified during the construction phase of the project will be constructed, operated and maintained.<sup>180</sup>

Procedurally, to establish the post construction control requirements, DEP proposes to use a Water Quality Management Part II general permit.<sup>181</sup> As an alternative, DEP proposes to add the post construction requirements to the NPDES permit for Stormwater Discharges Associated with Stormwater Construction Activities and to have that portion of the permit remain active and enforceable after the construction is completed.<sup>182</sup>

Substantively, the proposal states that infiltration BMPs must be evaluated and used for all watersheds “unless stormwater quality or site-specific conditions limit their use.”<sup>183</sup> During the stormwater construction permitting process, the applicant must calculate a pre and post construction water budget for High Quality (HQ) and Exceptional Value (EV) watersheds.<sup>184</sup> Infiltration BMPs must be used for HQ watersheds unless it can be demonstrated by the applicant, during the stormwater permitting process, that the use is precluded.<sup>185</sup> Where the applicant cannot meet the post construction infiltration requirement on site for EV watersheds, an offsite compensation project that protects the base flow of the EV surface water must be implemented.<sup>186</sup> Under the current regulations for any direct discharge to an HQ or EV<sup>187</sup> surface water, the applicant must demonstrate that “post construction discharge will not degrade the physical, chemical or biological characteristics of the surface water.”<sup>188</sup> Discharge into HQ waters may result in some degradation if the requirements for Social and Environmental Justification (SEJ) can be met.<sup>189</sup> Discharge into other waters must be

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*Id* at 8.

179. *Id.* at 6.

180. *Id.*

181. *Id.* at 7.

182. *Proposed Stormwater Policy*, *supra* note 3, at 7.

183. *Id.*

184. *Id.* “In general, post construction infiltration must equal or exceed preconstruction infiltration.”

185. *Id.*

186. *Id.*

187. For a definition of HQ Water, *see supra* note 149. For a definition of EV Water, *see supra* note 155.

188. *Proposed Stormwater Policy*, *supra* note 3, at 7.

189. Social or economic justification (SEJ) in High Quality Waters.

managed to prevent flooding and to preserve and to protect the structural integrity of the waterway, and to protect the stream bank and the streambed.<sup>190</sup>

Administratively, the proposed approach will continue to be administered through delegated Conservation Districts during the review and approval of the NPDES stormwater construction permit review.<sup>191</sup> DEP will assist in evaluating the post construction controls, infiltration BMPs and water budgets for proposed projects in HQ and EV watersheds.<sup>192</sup>

*b. Analysis*

The real victory in Pennsylvania's Proposed Comprehensive Stormwater Management Policy does not lie in any specific provision of the proposal. It is a victory in the sense that the issue of post construction stormwater is being officially addressed and recognized in the state of Pennsylvania. The proposed Comprehensive Stormwater Management Policy is designed to work under existing authority, to improve water quality, sustain water quality—including ground water recharge and stream base flow,—and integrate federal stormwater management obligations.<sup>193</sup> The Comprehensive Stormwater Management Policy proposed by Pennsylvania is consistent with Pennsylvania's existing Antidegradation policy because it incorporates antidegradation, and all other related water policies, into the Comprehensive Stormwater Management Policy by reference. Specifically, the policy states that it "supplement[s] existing requirements" and notes, "[n]othing in the policies and procedures shall affect regulatory requirements."<sup>194</sup> Essentially, the Proposed Comprehensive Stormwater Management Policy is providing a scaffold

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The Department may allow a reduction of water quality in a High Quality Water if it finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Commonwealth's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. A reduction in water quality will not be allowed under this subparagraph unless the discharger demonstrates that the High Quality Water will support applicable existing and designated uses (other than the high quality and exceptional value uses) in § 93.3, Table 1 (relating to protected water uses).

25 PA. CODE § 93.4c (b)(iii) (2001).

190. *Proposed Stormwater Policy*, *supra* note 3, at 7.

191. *Id.*

192. *Id.*

193. *Id.* at Policy.

194. *Id.* at Disclaimer.

on which to hang all other existing regulations in order to create a cohesive entity. While the proposal lacks any real substantive ‘teeth,’ it does reflect DEP’s acknowledgment of the importance of addressing post construction stormwater runoff.

Regulation and enforcement seem to be the biggest problems that will need to be addressed and clarified as the Proposed Comprehensive Stormwater Management Policy is developed and implemented. The proposal states that the “program uses a combination of local, state, and federal authority to develop a common sense approach to stormwater planning.”<sup>195</sup> A “common sense approach” in general is a subjective process. What may be common sense to one person may not be seen as such to others. When local, federal, and state authorities combine, it seems inevitable that political, social, and environmental interests may not always be the same. Too many minds and interests can lead to confusion and gridlock. In the final draft of the Comprehensive Stormwater Management Policy, DEP needs to be more specific about what the intended meaning of subjective phrases like ‘common sense approach’ entails. The EPA or DEP should provide clear, unambiguous guidelines for the other groups to follow.

Likewise, DEP has delegated administration of the Phase I NPDES permits as well as individual permits for projects located in HQ and EV watersheds to the County Conservation Districts under the authority contained in the Conservation District Law.<sup>196</sup> This delegation of administration to the Conservation Districts may cause confusion in terms of regulation and enforcement of the permits. DEP does not clearly specify who is to regulate and enforce the permits. For example, are the conservation districts to enforce the permit when violations occur, or are they to report the violation to DEP to enforce? The latter could take much more time for the applicant to file and for the DEP to respond, allowing the violations to continue until DEP intervenes.

Conversely, if the Conservation District is to enforce permits, then the smaller, more local Conservation District is potentially viewed by the local population—with whom they try to establish good relations—as the ‘bad guys’ when violations arise. This evil image could potentially result in strained relations and an unwillingness by the people in the Conservation District to cooperate.

Also, a similar situation arises in permitting post construction stormwater BMPs for new construction. DEP proposes that permitting should be administered through delegated Conservation Districts during the review and approval of the NPDES stormwater construction permit

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195. *Proposed Stormwater Policy*, *supra* note 3, at Background.

196. *Id.* at 3.



review.<sup>197</sup> DEP also states that for projects proposed in HQ and EV watersheds, the “Department will assist in evaluating post construction controls, infiltration BMPs, and water budgets.”<sup>198</sup> Again, the potential for confusion and conflict exists under this scheme. DEP will assist the Conservation District in evaluating controls, BMPs and water budgets, but no mention of enforcement is present. DEP should tighten up the language of these sentences to clarify what ‘assisting’ and ‘evaluating’ entails. The final draft should also include more specific enforcement provisions so that confusion between Conservation Districts, DEP, and EPA will not arise.

The Proposed Comprehensive Stormwater Management Policy states that for HQ watersheds, infiltration BMPs must be used “unless the applicant demonstrates, during the stormwater construction permitting process, that their use is precluded.”<sup>199</sup> While this provision is consistent with Pennsylvania’s Antidegradation regulations, this provision is counterproductive to preventing water quality degradation if BMPs can be circumvented.<sup>200</sup>

The most promising feature of the Proposed Comprehensive Stormwater Management Policy is the carryover requirement to install, operate or maintain the post construction stormwater generated during Phase I construction.<sup>201</sup> The Clean Water Act requires NPDES permits for construction activities of five (5) acres or greater.<sup>202</sup> BMPs are used to minimize erosion and sediment pollution during construction and the applicant is required to list post construction controls as a part of the permit application.<sup>203</sup> Because the permit is traditionally terminated once the earth disturbance is completed and the site is stabilized, there is no continuing, carryover requirement to install, operate or maintain the post construction stormwater controls.<sup>204</sup> The proposed use of a BMP approach that encourages minimization of stormwater runoff and includes infiltration for regulating post construction stormwater fills in a void left by the existing Phase I requirements.<sup>205</sup>

Infiltration of stormwater provides a method to recharge local ground water tables that are “essential to maintaining base stream flow during times of drought.”<sup>206</sup> Infiltration also reduces the volume and the

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197. *Id.* at 7.

198. *Id.*

199. *Id.*

200. *See supra* notes 151-54 and accompanying text.

201. *Proposed Stormwater Policy, supra* note 3, at 3, 6.

202. *Id.* at 3; *see also supra* note 45.

203. *Id.*

204. *Id.*

205. *Id.* at 6.

206. *Proposed Stormwater Policy, supra* note 3, at 6.

velocity of stormwater discharge to streams, which reduces the risk of both stream bank erosion and flash flooding.<sup>207</sup> The process proposed by Pennsylvania DEP integrates post construction stormwater control into stormwater construction planning and permitting.<sup>208</sup> According to the language of the proposal, it “requires construction, operation and maintenance of the post construction stormwater BMPs described in the stormwater construction process. The BMPs will be designed to protect and maintain the uses of surface waters where the project is located.”<sup>209</sup>

### III. Conclusion

Protecting the future of the Letort and other Pennsylvania streams with impending development on their banks is not a lost cause. Pennsylvania’s Proposed Comprehensive Stormwater Management Policy is a step forward for stormwater management. The Comprehensive Stormwater Management Policy is consistent with Pennsylvania’s existing Antidegradation policy and Clean Steams Law, as well as, other federal and state regulations because it incorporates these related water policies into one policy without affecting existing regulatory requirements.<sup>210</sup> The built-in provisions of condition 17 are also positive steps to ensure that the needs of both parties can be met.<sup>211</sup> Olympic will get to develop the land and put the land to an economically beneficial use for the community, while working with CVTU and other concerned groups to try to responsibly and safely manage stormwater runoff that could be potentially devastating to the Letort, and to the fishing community.<sup>212</sup>

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207. *Id.*

208. *Id.*

209. *Id.*

210. *Id.* at Policy and Disclaimer.

211. *See supra* notes 78-90 and accompanying text.

212. It is estimated that the Home Depot will yield \$100,000 a year in local taxes, and it could help to attract other retailers to Carlisle. David Blymire, *Council Oks Plan*, THE SENTINEL, Nov. 9, 2001, at A1.

