

(1) What do you believe are the potential adverse impacts of the problem?

1. a. Dangerous conditions potential for injuries.
b. Loss of revenue.
c. Energy spent on communication of the issues.
2. No flooding is good.
3. Biz disruption/property damage hazards.
4. Disruption of business/flooded houses.
5. Increase insurance. Increase repair cost. Scouring destroys vegetation which stabilized banks. Decreased H2O quality. Increased cost to clean H2O drains damaged.
6. Environmental and Economical Impacts.
7. Repairs often to structures (once every few years). People not staying out of high flood areas or not knowing and needing assistance. Money cost for repair and not being able to be open due to the storm.
8. Loss of income to businesses that have to close. Damage to structures for people with and without flood insurance.
9. Economic hardship for cleanup. Possible health concerns. Sense of disenfranchisement: "the city/town/somebody doesn't care about us".
10. Dangerous to people. Economic burden. Disruption of ecosystem/interrupts natural ability of system to flood/recede.
11. Structural damage. Property loss.
12. Loss of property, business.
13. Loss, financial, personal irreplaceable tragedies. Overall hassle.
14. Loss of business revenue. Damage to streams from sediment. Cost of repair.
15. Property damage, business loss potentially life-threatening, loss of income.
16. Business and personal property damages.
17. Monetary issues related to replacing/repairing damaged property is a big concern.
18. Damage to property structures.
19. Pollutants, stream bank failure, loss of property value, loss of revenue.
20. Economic impacts to individuals and businesses.
21. Increased insurance rates, increases in prices to cover losses. Area that depreciate in sales value and then become empty. Health risk to people, animals, environment as whole.
22. Reduction of property values of existing properties by allowing new development which is not properly regulated.
- 23.
24. Many - property damage, increased costs, increased stress for property owners, hazardous, impact personal and public safety, increased insurance costs, environment and ecological damage.
25. It all costs money: fixing = money; leaving alone = money; controls = money.
- 26.
27. Water damage to inventory, houses cost money to fight mold and rot.
- 28.
29. A. Dangerous conditions potential for injuries.
B. Loss of revenue.
C. Energy spent on communications of the issues.
30. Property damage to affected property.

(2) Please identify what you believe are the causes of the problem?

1. a. Original sites with older standards.
b. Developments meeting minimum standards.
c. Lack of coordinated review of impacts of new and existing development.
2. What condition had the existing storm drain been maintained.
3. Structures in flood plain.
4. Structural flooding - structures in floodplain.
5. Built b/f floodplains rules. Increased impervious surface.
6. Building within known floodplain (built before floodplain regs. In 70's). Impervious surface upstream.
7. Less restrictive development regulations. Not enough information available.
8. Development in the floodplain with no consideration for base flood elevations. Development prior to stormwater requirements.
9. Changes in the floodplain:
Increased imp. Area
Planning, zoning, engineering decisions.
Changes in the mapping:
Better mapping.
10. a. Some areas were allowed to be developed in the past without regard to flood hazard.
b. Continuing development of watersheds (economic drivers).
11. Zoning at time of construction. Continuing upstream development.
12. (Floodplain Mapping) Increasing flood plan levels - based on revised FEMA mapping.
13. Restriction on the channeling of water pipes, drainage ditches, culverts, etc.
14. Allowed to build in floodplain? Floodplain survey not updated. No stream buffer.
15. Development on hill above mall; also development of mall in floodplain.
16. Development within the floodplain.
17. Overdevelopment of the land without proper planning for stormwater.
18. Inadequate information on the true nature of flooding. Inadequate regulations to prevent development in flood way fringe. Upstream development.
19. Poor planning. Lack of accountability for new development. Permissive regulations.
20. Floodplains development and upstream development with no controls.
21. Building and not enough drainage area allowed. Not adequate catch area.
22. Insufficient restrictions in zoning and flood control.
- 23.
24. Development regulations fail to take a long term view. Need to recognize how future growth will impact existing and proposed development. Need realistic view and long term perspective.
25. Seems to be a result of increased development and poor planning of the developments.
- 26.
27. Building in an area that is unsuitable.
- 28.
29. A. Original sites with older standards.
B. Developments meeting minimum standards.
C. Lack of coordinated review of impacts of new and existing development.
30. Because development was allowed in the floodway by government and because the primary purpose of stormwater management in years past was simply to get the water to the stream as fast as possible with no volume control

(3) How would you define a level of service expectation or requirement for any solution identified for correcting this problem?

1. Business and customers expect safe environments.
2. Expectation = No structural flooding anywhere.
3. Expectation = No structural flooding for 50-100 year/24 hour storm
4. Enough qualified people available to deal with issues. Prompt.
5. Notify property owners and potential buyer of risk.
6. Leaving enough room for businesses and habitable structures to be outside of the floodplain (parking could be ok).
7. Structural flooding should not occur less than 100 year storm.
8. By a return interval? And disclosure.
9. 25 year storm, no structural flooding. But for something like Crabtree, event his is not feasible.
10. In an emergency - people should not be fearful of loss of life.
11. High.
12. Prevention of real/personal property damage.
13. No structural flooding in 100 year storm.
14. Prevent increased flooding of structures.
15. It can be a simple cost benefit formula.
16. If this happens once every 10 years let it go - If it happens every year or so it needs to be addressed.
17. LOS - Eliminate public health and safety hazards.
18. LOS - Eliminate public health and safety hazards.
19. It can be a simple cost benefit formula.
20. If this happens once every 10 years let it go - If it happens every year or so it needs to be addressed.
21. LOS - Eliminate public health and safety hazards.
22. The level of service expectation should be to maintain the current state of stormwater management with an eye toward possible improvements based on future development.
23. Business and customers expect safe environments.
24. If residents are paying into an annual stormwater management fee, then expectation that it will in fact be maintained and work properly in storm event. Of course the absolute worst case scenario cannot be planned and designed for because too expensive, but majority of storms should be manageable.
- 25.
- 26.
- 27.
- 28.
- 29.
- 30.

(1) What do you believe are the potential adverse impacts of the problem?

1. obviously property values, hazards.
2. Property less in value.
3. Mostly superficial concerns. Affects property value supposedly; not aesthetically pleasing.
4. Someone loses a sale of the house typically most-homeowners are poor maintainers of drainage ways and costly.
5. It's a pain in the butt, but not really that bad.
6. Eyesore, slight danger.
7. Environment, Property damage, Mosquitoes breeding.
8. Water quality.
Cost of repair.
9. Property damage/de-valuation safety issues for people, wildlife domestic animals.
10. Property damage, erosion, ill-will.
11. Mostly visual problems and disturbance of landscaping.
12. Not too bad - perception.
13. Property damage - property value. Threats to
14. Loss of property's value.
15. Economic and emotional impacts on homeowners.
16. People expect that there should never be any flooding - unreasonable expectation. Citizens only see what's happening to them, don't think about the fact that what they do may too have adverse impacts on others.

(2) Please identify what you believe are the causes of the problem?

1. Probably poor singular enforcement of regulations. Little understanding of downstream conditions
2. Poor design; government agency did not properly review.
3. Developments built too close to waterways (in and out of the floodplain) prior to stricter regulations.
4. Houses built in wrong place. Poor Engineering. Poor review of plans.
5. a. Builders poor installation
b. Property owner modifications.
c. Upstream development.
d. Lack of maintenance of stormwater systems.
6. Upstream development, land use; Lack of education relating to danger & frequency; Encroachment at natural drainage ways.
7. Miss representation; Missing information; Violations of regulations.
8. Building too close to stream and/or no buffers on stream.
9. Upstream property not adequately handling stormwater. Also permits probably shouldn't have been issued. Engineered solution isn't working.
10. Building in flood prone areas.
11. Not enough research done by homeowners before they purchased the property; Developers not following guidelines are also part of the problem.
- 12.
13. Poor design - level spread not a good idea on a small single family lot. Not properly built or maintained. Local government head to use leverage to get developer to fix.
14. Developer just had to build a house on the level spreader property. Should have left it undeveloped. Should the drainage have been concentrated like it was.
15. Developer greed and deception.
16. Uninformed homeowners, whining homeowners, selfish homeowners. Those who do things on their property without consideration for how it will affect neighbors.

(3) How would you define a level of service expectation or requirement for any solution identified for correcting this problem?

1. Expectation = no nuisance flooding and match \$ to resolve.
2. See No. 4 above.
3. LOS critically depends on how much citizens are willing to pay.
4. No complaints from homeowner, this developer does no more developments, no more easements on private property.
5. Is it dangerous? If not, I don't feel it should be the municipalities problem.
6. I don't know, but it would be low.
- 7.
- 8.
- 9.
10. Technical assistance provided that, if correctly followed, will eliminate problem.
- 11.
12. Educate people that creeks flood periodically so don't build nearby.
- 13.
14. Low.
15. Any citizen who buys a home can be assured that the home will not flood (unless homeowner causes it himself).
16. It's a nuisance - nothing more, nothing less.

(1) What do you believe are the potential adverse impacts of the problem?

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| 1. Sickness, poor retain development. | 16. Health, economic, aesthetics. |
| 2. Homeowners lose; government agency seems to be holding the bag. | 17. Health issues for people; poor stream quality; impacts downstream. |
| 3. Illness, environmental degradation. | 18. Not safe for people and wildlife. |
| 4. The water quality problems of Pigeon House Branch are a danger to people if they come into contact with the stream. It also degrades tributaries to the Neuse and contributes to water quality problems there. | 19. Water quality. |
| 5. This can't be good for people downstream on the Neuse River, can it? | 20. Increase fecal. Decrease organisms. |
| 6. Water quality, especially downstream. | 21. Contaminants in the Neuse basin. |
| 7. Loss of stream habitat, decreased water quality, increased cost to provide clean drinking water, increased cost to meet increased regulations. | 22. Less biology in the streams; less recreational activities involving water. |
| 8. Illness. | 23. |
| 9. Environmental degradation, human health problems. | 24. |
| 10. Illness, death, impaired recreational opportunities, extinction of species. | 25. |
| 11. Loss of living things; loss of water (useable); loss of quality of life; loss of human health. | 26. |
| 12. Health; stormwater quality; excessive workload for stormwater mgt. | 27. |
| 13. Colony generation; health. | 28. |
| 14. General health, environmental. | 29. |
| 15. Lack of aquatic habitat/low bio diversity; safety/health issue to the public. | 30. |

(2) Please identify what you believe are the causes of the problem?

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| 1. Poor sewer lines, old sewer lines. Putting or letting business that can contaminate it the highest along river bank. | 16. Old developments; piping everything/paving everything. |
| 2. Poor design; government agency did not properly review. | 17. Urban development; built before regulations; infrastructure old and in need of repair. |
| 3. Unsanitary discharge of human waste. Illegal connections. | 18. Non-point source pollutants. |
| 4. Urban development. | 19. Impervious area. |
| 5. Everything. | 20. Old methods for dealing with streams - covering them up. |
| 6. Dense urbanization developed prior to stormwater controls. Failing sewer pipes. Human waste. | 21. Urbanization - old infrastructure. |
| 7. Unchecked pollution over decade, compounded by growth, inadequate infrastructure investment. | 22. Poor infrastructure maintenance; laziness on the part of people living and doing business (including government) in these areas. |
| 8. County wide problem seems to be leakage from sanitary sewer system. | 23. |
| 9. Development in excess of what should exist. | 24. |
| 10. To many people, too much traffic, too much impervious surface, lack of BMPs. | 25. |
| 11. We put a lot of people and infrastructure in concentrated areas. | 26. |
| 12. Several factors listed in presentation older development. | 27. |
| 13. Human waste/by-products. | 28. |
| 14. Urbanization industry, utility maintenance. | 29. |
| 15. Aging infrastructure. | 30. |

(3) How would you define a level of service expectation or requirement for any solution identified for correcting this problem?

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|--|---|
| 1. | 16. Reduce TMDL's. |
| 2. As it can be accomplished. Time/money and priorities. | 17. |
| 3. | 18. Maximum extent practicable for things you can't control. Repair if you can control. |
| 4. | 19. Stream monitoring; install BMPs. |
| 5. "Best that can be done" level of service. Monitoring and enforcement could be a "solution" to this issue. | 20. Ongoing. |
| 6. | 21. Expectation - meet the TMDL in all flows. |
| 7. Prioritize high impact solutions and quick low cost fixes. | 22. Lower possibility of health, welfare and safety problems. |
| 8. Level of service should be increased to reduce stream contaminates. | 23. |
| 9. All waters safe to touch without potential for disease spreading. | 24. |
| 10. | 25. |
| 11. | 26. |
| 12. High. | 27. |
| 13. I don't believe the public sees this as a high priority. | 28. Can't do much about domestic/wildlife but really enforce the illegal connections. |
| 14. Very high. All measures should be taken to reduce the pollutant loads where possible, almost regardless of cost. | 29. |
| 15. Need to get streams to the level such that they are "supporting". | 30. |

(1) What do you believe are the potential adverse impacts of the problem?

1. 303d:↑.
- 2.
3. fish kill. Loss of property.
4. Fish spawning, aesthetics.
5. Poor stream health.
Filling in of lakes/ponds/stormwater BMPs
- 6.
7. Environmental problems.
8. Visually unpleasant and contaminated water ways.
9. Downstream lakes filling with sediment stormwater pollution.
10. Poor stream and water quality for all uses and all people.
11. Stream destruction.
12. Death of marine life, erosion, poor water quality.
13. Poor water quality from too much sediment; decreased biological health of stream.
14. Fish and stream health are severely degraded, possibly could result in changes to the hydraulic performance of rivers and stream, which may lead to increased flooding.
- 15.

(2) Please identify what you believe are the causes of the problem?

1. Not enough staff.
2. Human activities.
3. Construction impervious surface.
4. Changes in the watershed increase impervious area/construction.
5. ? Too highly variable.
- 6.
7. Development w/o properly functioning controls.
8. Development and increased water flow through streams (causing erosion).
9. Design and construction practices that result in more disturbed land than needed. Inadequate training of those who install devices. Inadequate staffing for enforcement.
10. Development. No development = less sediment. But development is needed. Better tools?
11. Lack of appropriate design requirements and lack of adequate inspection and enforcement.
12. Developers not placing enough catch basins to control normal events. People encroaching on watershed and buffers. Removing buffers.
13. Volume of water entering the stream consequently causing stream bank erosion.
14. Standard construction techniques and it's just a side effect from construction.
- 15.

(3) How would you define a level of service expectation or requirement for any solution identified for correcting this problem?

- 1.
- 2.
3. More inspectors, more owner maintenance for erosion control measures and stabilization requirements for property owners stream restorations if possible (could be too costly).
4. Reduced sedimentation/move violations issued.
- 5.
- 6.
- 7.
- 8.
- 9.
10. For development, the major source of this issue, regulation and inspection MUST OCCUR. Hitting this first should help initially.
11. No violations of turbidity standard in streams.
- 12.
13. Citizens need to realize that some sediment runoff will result from development - all kinds - including that which occurred from the building of the house they live in.
14. I would use a typical short duration summer storm as the basis for controlling sediment. Larger storms can only be dealt with using site stabilization, which is often not an option.
- 15.