



Final
Version
2 of 3

South Bend Wastewater Utility Rates 2010 and beyond

- Meeting the Federal CSO Mandate—a 20 year historic investment in environmental infrastructure
- Demonstrating commitment to best in class environmental stewardship
- Keeping rates as affordable as possible given these goals

March 8, 2010



CSO LTCP Status Report

Purpose of this meeting (2 of 3)

- Project needs next four years
- How that fits in CSO LTCP
- Costs, priorities
- Rate to support plan is meeting 3 of 3



Envision South Bend in 2025...

"We will use our imagination,
resources, talent
and commitment..."

- Mayor Stephen J. Luecke




www.SouthBendCityPlan.org

City Plan Phase II Topic Areas

The following Topic Areas will be the focus of discussion for Phase II of the City Plan process. They resulted from the visioning sessions during the City Plan meetings in the fall of 2003. The 12 topics have been divided into 7 Panels with Civic Alliance members assigned to each. Each Panel will be responsible for overseeing the analysis / planning of issues that exist within their Topic Areas.

1. TRANSPORTATION
2. INFRASTRUCTURE
3. LAND USE / ZONING
4. URBAN DESIGN
5. ENVIRONMENTAL MANAGEMENT
6. PARKS & OPEN SPACES
7. COMMUNITY BUILDING
8. HEALTH & SAFETY
9. HOUSING
10. ECONOMIC DEVELOPMENT
11. ARTS & CULTURE
12. EDUCATION

For further information on these Panels, please call the Division of Community Development at 574.235.9660

Getting Things Done

We design, bid, build and maintain the transportation system---make it reflect what community wants in terms of safety, capacity, pedestrian and bicycle friendliness

We design, bid, build and maintain water, sewer, road, drainage and metronet infrastructure

We manage the public right of way where private buildings interface with public space and are responsible for preserving balance of needs to serve the public with dense urban character that is durable and attractive

We manage Safe Drinking Water, Clean Water Act facilities such as wastewater treatment plant, combined sewer system improvements, Organic Resources, Brownfields Projects, and Energy/Environmental practices for a cleaner, greener City



CSO LTCP In Progress Status Report

- Green Solutions – Kennedy Park Area, others coming
- Phase 1 Combined Sewer Separations – in neighborhoods with chronic basement backups
- CSO LTCP Planning and Consent Decree Negotiation Status---next 4 years refer to as scope Phase 1 B



CSO LTCP In Progress Status Report

WWTP NEEDS

- Blower 1 A & 1B: Pending with energy payback
- Scum Handling: Pending
- Digester Evaluation: Pending... cost estimated higher than planned, rethinking
- Raw Pumping: At design stage
- Aeration: At design... improve step feed activated sludge biological process control and oxygen transfer efficiency upgrades

Wastewater Treatment Plant- Maximize Wet Weather Flow





CSO LTCP Status Report

SEPARATION PROJECTS IN PROGRESS

- Kennedy Park Area (Bendix to Olive, Lincoln Way West to Park) (construction)
- Twyckenham (River South to Ridgedale) (construction)
- Pleasant Street Phase 2 (design)
- Diamond Avenue (design)
- North of Lincoln Way West, near Bendix (design)



CSO LTCP Operations Improvements Report

O&M LEARNING CURVE PROGRESS:

- Large Diameter cleaning/grit removal
- Advances in PM – Real time monitoring
- Best Management Practices-- sweeping, Catch Basin cleaning, Inlets, manhole rehab, high pressure sewer cleaning/vac solids removal
- Camera digital video diagnostics/tie data to GIS
- Trenchless technologies
- Technology in the vehicles-notebooks and GIS map data
- Learning to work with much more information, what is normal vs. what requires emergency attention
- Proactive lift station maintenance
- Work on river crossings –looking for innovation in approach

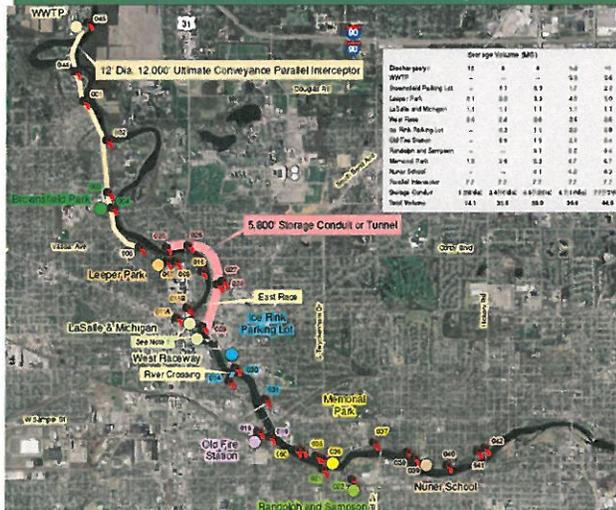


CSO LTCP Status Report

PROJECT MANAGEMENT IN CONSENT DECREE CONTEXT

- Stipulated penalties
- Performance certification
- Time, money, spec to ensure outcome meets performance standards.
- Scoping with technology innovations, with green solutions, with City Plan in mind to build a better city, with need to perform on time, on budget, and per spec.

Phase 2 - Preferred Alternative Alternative 1 - 9 Storage/Treatment Facilities with Ultimate Conveyance



•All wet weather flow receives treatment

•94.6% full secondary treatment

•5.4% screening and solids removal

•Level of control is 0 annual CSO overflows

•4 to 12 treated discharges per year

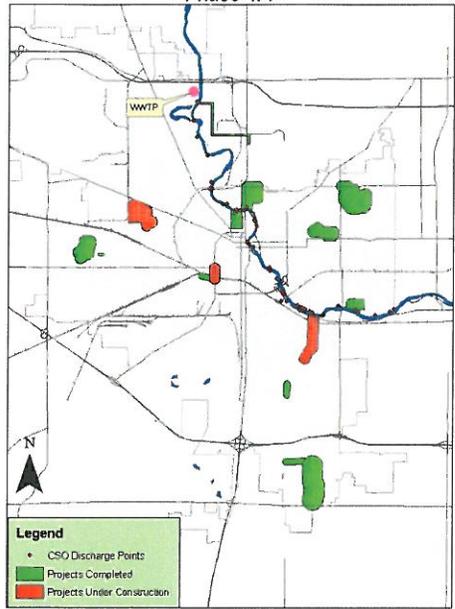
•Green solutions

•CSOnet

•2% median household income

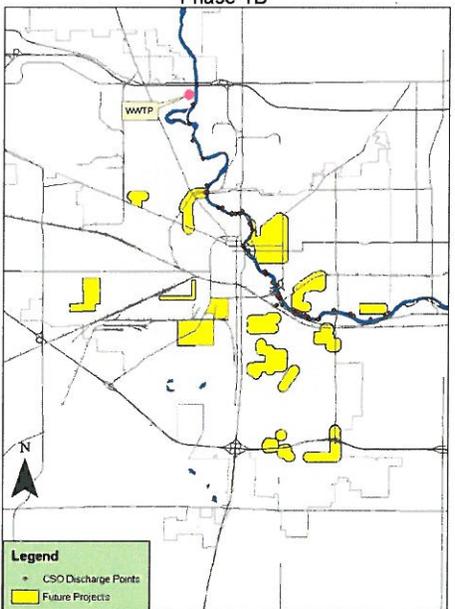


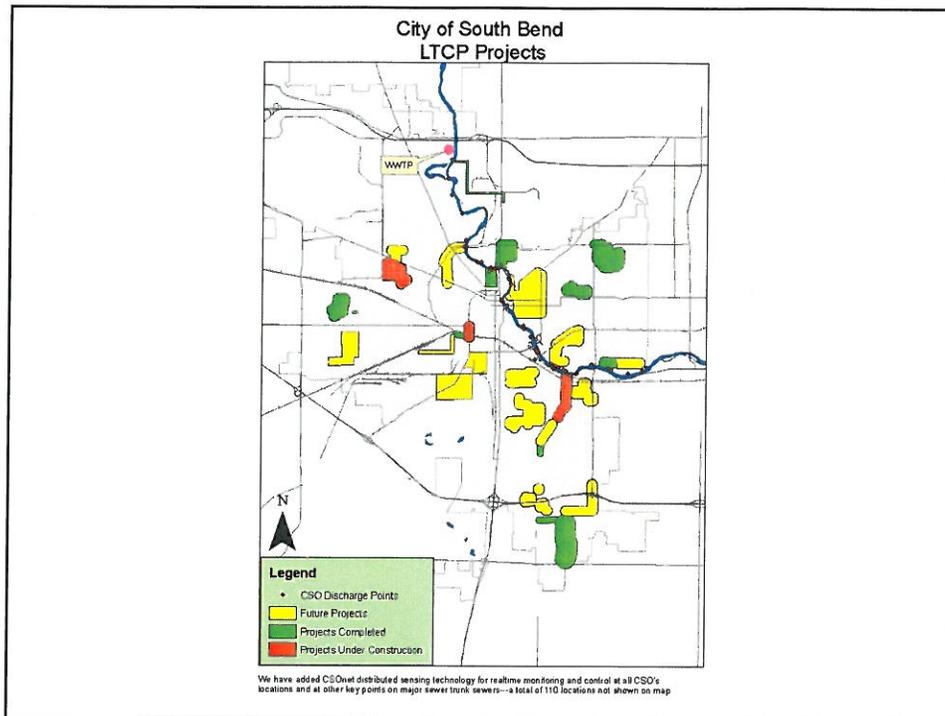
City of South Bend Phase 1A



We have added CSOnet distributed sensing technology for real-time monitoring and control at all CSO's locations and at other key points on major sewer trunk sewers—a total of 110 locations not shown on map

City of South Bend Phase 1B





Phase 1B Projects

Southwood

- This project is to separate the combined sewers along Southwood Avenue, Belmont Avenue and Hoover Avenue and discharge the stormwater runoff to the St. Joseph River. The alignment for this alternative is to take the stormwater west to Wall Street and Emerson Avenue and then to the south approximately ½ block west of Emerson Avenue, discharging to the St. Joseph River. This alternative would require acquisition of an easement for location of the proposed sewer. A segment of existing storm sewer along Emerson Street, north of Mishawaka Avenue is utilized in this alternative. The existing storm sewer utilized becomes a combined relief sewer south of Mishawaka Avenue.

Clyde Creek Basin Management

- There is a considerable amount of storage available in the Clyde Creek basin system. An alternative to more efficiently utilize the available storage would be to install automated controls at the outlets of the basins. This would allow for the storage and regulated discharge of large volumes of runoff. Also, the areas near the basins should be separated and the stormwater discharges placed in the available basins.

Phase 1B Projects

Haney-Dubail

- This project will separate an area along Haney Avenue and Dubail Avenue, east of Carroll Street as well as the intersections along Indiana Avenue. Stormwater would be discharged directly to Bowman Creek. This alternative would relieve basement flooding along Haney, Indiana and Dubail Avenues as well as provide some relief to the Bowman Creek trunk sewer.

Eastbank Sewer Separation

- The Eastbank Sewer Separation project includes the separation of the combined sewers in the area bound by Niles Avenue on the west, Cooper Street Bridge on the south, Eddy Street on the east and South Bend Avenue to the north.
- The former St. Joseph Regional Medical Center is within this area. Therefore, there is an opportunity for the City to redevelop this area, and provide adequate storm sewers could be included as a part of the redevelopment.

Diamond Ave Trunk Sewer

- This project will use open channel natural creek effect and green solutions look near Angela and Riverside approach to river storm outfall. Upstream this major storm only pipe line will follow Diamond around past Lincolnway to Walnut and Euclid where it will pick up a large previously separated area called Model Cities and allow that stormwater to be taken off the combined system.

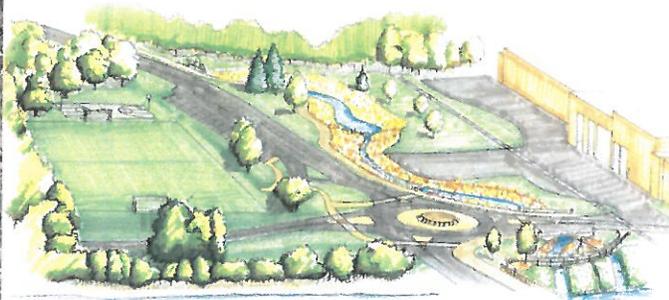


CSO LTCP Phase 1B



WHAT'S COMING OUT OF DESIGN WITH CITY PLAN IN MIND

Show Angela at Riverside Concept Design --
Diamond Ave Stormwater Project outfall at
Angela and Riverside



The City of South Bend
Diamond Avenue - Outfall to Bowman Creek



Phase 1B Projects

Sample/Gladstone/Huron/Kenmore

- This project is to separate a residential neighborhood currently served by combined sewers. This area had many reported basement floodings. The separate stormwater runoff would be diverted to the ditch that carries the Lombardy Street Storm Sewer discharge (in the Kankakee River Basin). This area is topographically within the Kankakee River Basin, however, stormwater is currently diverted to the St. Joseph River via the combined sewer system. This would relieve basement flooding in the area as well as provide some relief to the Northwest Trunk Sewer by removing stormwater runoff.

Pleasant Street Phase II

- Phase I of Pleasant Street project was completed to take advantage of a storm outfall and extend sewer separation along Pleasant to address chronic basement backups. A second phase is being designed under phase 1 A of CSO LTCP to be constructed under phase 1 B. Phase 2 of the Pleasant Street project would extend the storm sewer east down Pleasant to 36th Street.

LaSalle School Area

- This project would separate the combined sewer system in the residential area around the old LaSalle High School. The water would be directed to an existing pond to the north west of LaSalle.

Phase 1B Projects

Randolph/Sampson

- The Randolph Sampson Basin receives surface runoff from the adjacent Randolph Street and alley to the east of the Basin and is not connected to the combined sewer. From field investigation, it appears that additional separation could be achieved, and the basin expanded and modified to handle additional stormwater runoff. This alternative would provide basement flooding relief for the residential area to the south of the Randolph/Sampson Basin.

High Street

- This project will separate combined sewers along Eckman Street from Carrol to Miami as well as the area from High Street to Miami Street from Altgeld to Irvington. Stormwater would be discharged directly to Bowman Creek near the Studebaker Golf Course. Surface runoff from Riley School could also be incorporated into this project. This alternative would provide basement flooding relief as well as remove runoff from the Bowman Creek trunk sewer.

Phase 1B Projects

Kensington LS

- This project would connect the Crest Manor Basin to the new basin that was constructed in the Fairfax Estates Drainage Improvements & Separation. A pump station would be built to transport storm flow to the Ireland/Ironwood Retention Basin where there is available capacity. At this time the Crest Manor Basin drains back into the combined sewer system. This project would remove this storm flow from the CSO 022 service area.

Twyckenham Phase II

- This would extend the Twyckenham Trunk Storm Sewer that was constructed in Phase 1A to Ridgedale. This would allow additional stormwater to be collected and removed from the combined sewer system.

Oliver Plow Phase III

- The final phase of this project will provide an outlet for the basin that was constructed in Phase 1A. The outfall will direct flow west down Sample to existing basins near the TJX site.

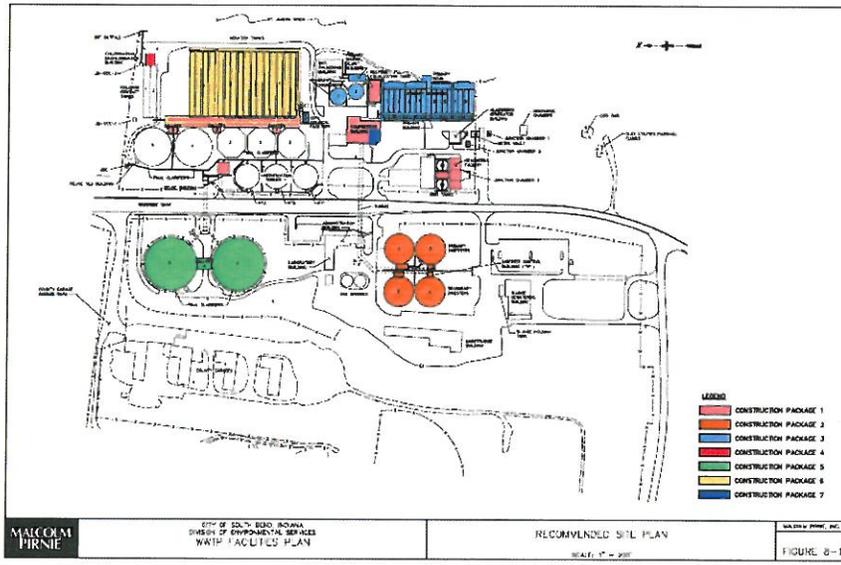
Prairie Ave

- The Prairie Avenue Sewer Separation project is to separate some of the combined sewers in the residential area generally bound by Ewing Avenue, William Street, Indiana Avenue and Grant Street. This area has experienced basement flooding due to the insufficient capacity in the local collector sewers.

Summary Phase 1B Sewer Projects

Project	Total Cost (2009 Dollars)
Southwood	\$770,000
Clyde Creek Basin Management	\$260,000
Haney-Dubail	\$2,000,000
Eastbank Sewer Separation	\$10,200,000
Diamond Ave Trunk Sewer	\$13,500,000
Sample/Gladstone/Huron/Kenmore	\$6,000,000
Pleasant Street Phase II	\$1,900,000
Lasalle School Area	\$1,800,000
Randolph/Sampson	\$660,000
High Street	\$3,700,000
Kensington LS	\$1,600,000
Twyckenham Phase II	\$2,500,000
Oliver Plow Phase III	\$1,200,000
Prairie Ave	\$6,000,000
Total	\$38,590,000

Upgrades Needed at Wastewater Treatment



Wastewater Treatment Plant Upgrades

- There are 7 upgrade packages totaling \$ 47 million that need to be done in order of priority over time to maintain compliance and handle additional wet weather flows
- Some but not all of this work will be done during Phase 1B over the next 4 years
- We need to balance the overall system benefits of plant improvements with the need to address localized chronic basement backup and the EPA drive to reach a 4 overflow per year level of control (we have to handle higher flows)

Public Education and Outreach on Green Solutions

<p>A GREENER SOUTH BEND A Six-Part Guide to Water-Sensitive Urban Design</p>	<p>A GREENER SOUTH BEND A Six-Part Guide to Water-Sensitive Urban Design</p>	<p>A GREENER SOUTH BEND A Six-Part Guide to Water-Sensitive Urban Design</p>
<p>PART ONE</p> <p>Managing Water Techniques to conserve and protect</p>  <p>BEST MANAGEMENT PRACTICE FOR LOW IMPACT DEVELOPMENT</p> <p><small>Illustration in Northern Indiana</small></p>	<p>PART TWO</p> <p>Bioswales Cleaning Stormwater as it Passes Through</p>  <p>A BEST MANAGEMENT PRACTICE DESIGNED TO CONVEY STORMWATER RUNOFF IN A NATURALIZED CHANNEL</p> <p><small>Illustration in Northern Indiana</small></p>	<p>PART THREE</p> <p>Constructed Wetlands Nature's Design for Treating Stormwater Runoff</p>  <p>A BEST MANAGEMENT PRACTICE USING WETLANDS TO FILTER AND REMOVE NUTRIENTS FROM STORMWATER RUNOFF</p> <p><small>Constructed wetland in Northern Indiana</small></p>

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<p>PART FOUR</p> <p>Infiltration Techniques Soaking Up Stormwater Runoff</p>  <p>A BEST MANAGEMENT PRACTICE TO FACILITATE INFILTRATION OF STORMWATER RUNOFF</p>	<p>PART FIVE</p> <p>Rain Gardens Reducing Floods, Improving Groundwater</p>  <p>A BEST MANAGEMENT PRACTICE FOR IMPROVING WATER QUALITY WHILE BEAUTIFYING THE COMMUNITY</p>	<p>PART SIX</p> <p>Protecting Waterways Buffers Against Pollutants</p>  <p>A BEST MANAGEMENT PRACTICE FOR FILTERING OUT SEDIMENT AND NUTRIENTS AT THE WATER'S EDGE</p>

Big Picture Scope of Phase 1 B

- We invested \$ 45 million 2006-2009 (average over 11 million per year---plan had been \$ 13 million per year raising \$ 53 million)
- We raised rates 79 % over 4 years to do that (average 20 % per year to raise from very low rates to start major 20 year Capital Improvement Plan for CSO LTCP)
- We won't raise by more than 9 % per year to complete the 20 year plan
- We plan to use across the board rates rather than change how much each class of customers pays
- We are not proposing outside city surcharge
- EPA looking for increasing level of effort toward CSO LTCP program that gets completed under consent decree in 20 years or less

Big Picture Scope of Phase 1 B

- Overall program is over \$ 400 million---need to ramp up base to more expensive phase 2 projects---long term average annual investment to get it all done needs to be \$ 20 million per year.
- If we did 4 years of 9 % going forward it will generate less than \$ 70 million or \$ 17 million per year, showing increased level of effort on track with long term plan, but buffering rate impact to ramp up resources for phase 2
- We also need to fund \$ 4 million of capital improvement projects out of the \$ 17 million each year.
 - Lab Equipment
 - WWTP Equipment Replacement
 - Sewer Lining Program
 - Sewer Repairs

Recap/Resolution on Numbers

- Wastewater Plant \$ 47 million over CSO LTCP period, but best if done in next 7-10 years... recommend \$15 million of that total in next 4 years
- Regular Wastewater and Sewer CIP replacement type capital \$ 16 million next 4 years
- CSO LTCP Phase 1 B is \$ 38.6 million over next 4 years
- \$ 70 million in 4 years is \$15 million WWTP upgrades, \$ 16 million CIP continuing replacements, and \$ 39 million CSOLTCP Phase 1 B sewer projects



CSO LTCP Next Meeting

Purpose of next meeting (3 of 3)

- Project needs next four years-explained
- How that fits in CSO LTCP-explained
- Costs, priorities explained, but add timing
- Rates necessary to support implementation of the plan