Financing Storm Water Management with a Storm Water Utility (SWU)

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Main Entry: **com·pre·hen·sive**
Function: *adjective*
1 : covering completely or broadly **: Inclusive**

Comprehensive Storm Water Management through *Integrated* BMP's

Goal: Reduce Storm Water Management Costs
through...
Decreased Storm Water Quantity
and...
Increased Storm Water Quality
through a...
Prioritized and Effective Storm Water Management Plan
that can be funded by a cost effective, understandable and acceptable to the public...
Storm Water Utility
with integrated...
Storm Water Best Management Practices (BMPs)
and...
Effective Storm Water Ordinances.

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Study of Funding Alternatives

In order to finance this process the City has requested this study of Storm Water Management Funding options and how the city might utilize the best of these options to finance their Storm Water Management Program. In this report we evaluated seven (7) alternative methods of funding Chippewa Falls Storm Water Management Program:

1. General Funds
2. Ad Valorem Taxes
3. Special Assessments
4. Impact Fees
5. Grants
6. Special Tax Districts
7. Storm Water Utility

Storm Water Utility (SWU)

Fair

Charges are based on runoff, not property value

Land Use (Intensity of Development)

Engineering sound. Utilizing commonly accepted engineering formulas for runoff. Calculations utilize runoff Curve Numbers (CN). This methodology is known as "Equivalent Hydraulic Area"

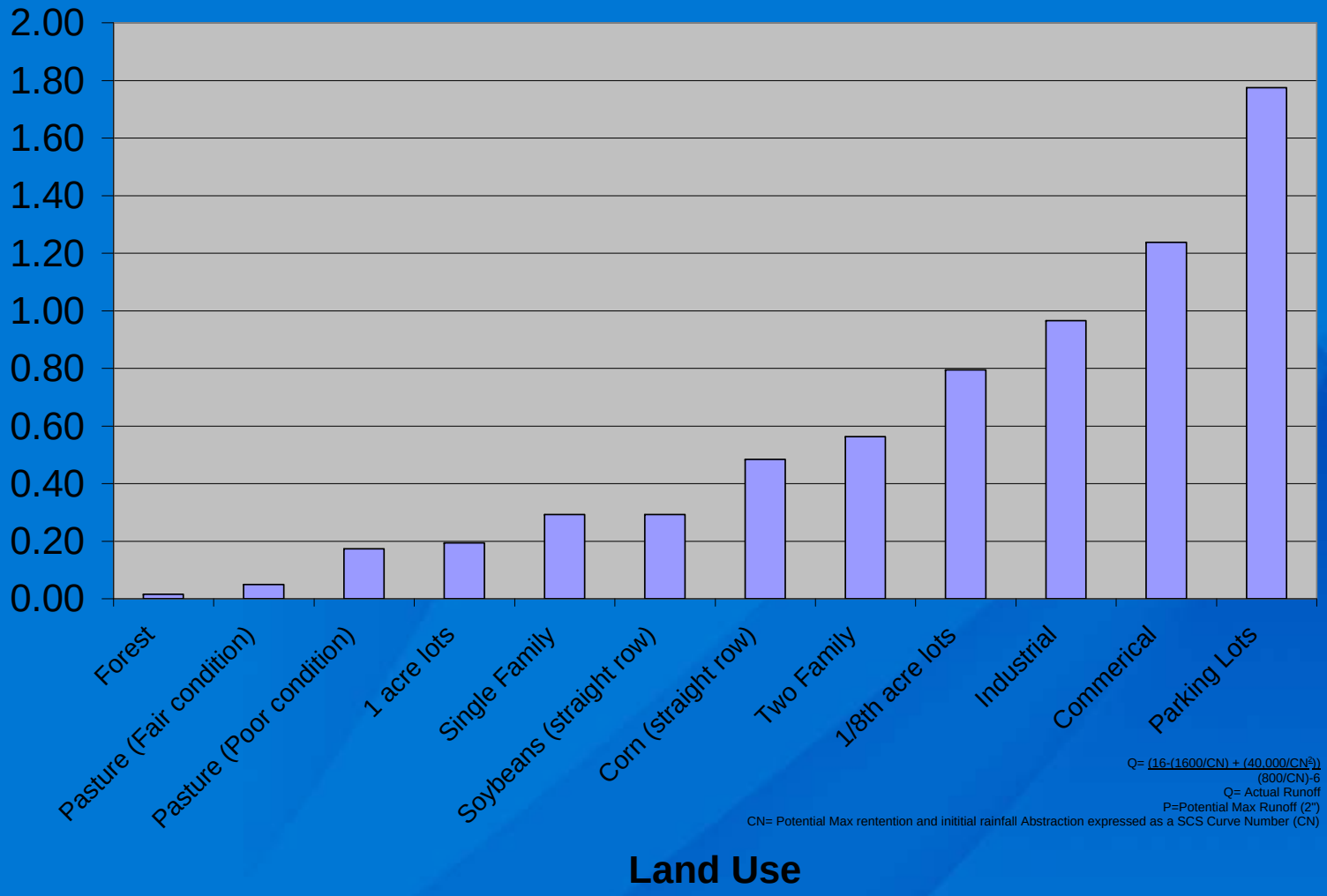
"Users pay" philosophy. The more runoff a user contributes, the more they should pay. If they discharge less… they should pay less.

Selection Criteria

Simple and Flexible

- Use current billing system
- Includes credits, exemptions and appeals process

Runoff by Land Use



$$Q = \frac{(16-(1600/CN) + (40,000/CN^2))}{(800/CN)-6}$$

Q= Actual Runoff
P=Potential Max Runoff (2")
CN= Potential Max rentention and inititial rainfall Abstraction expressed as a SCS Curve Number (CN)

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Your SWU can Finance…

- Maintenance of existing Storm Water Infrastructure
- Storm water infrastructure improvements as outlined in the Capital Improvements Plan (CIP)
- Standard storm water practices such as street sweeping, catch basin maintenance, etc. as outlined in your NPDES Phase II SWPPP.
- Salaries (%)
- Completion/updating of a Comprehensive Storm Water Management Plan
- Update and create ordinances
  - Erosion control
  - Shore land
  - Storm water

Storm Water Budget (2005)

							Chippewa Falls, WI	
Yard Waste Costs:								
Labor Cost							$ 20,000	
Material Cost							$ 6,700	
	Breakdown							
		Ton Truck -		149.5 Hrs x $10.48/Hr				
		Loader -		106 Hrs x $40.68/Hr				
		Small Backhole		20.5 Hrs x $36.68/Hr				
TOTAL YARD WASTE COST							**$ 26,700**	
Street Sweeping and Leaf Pickup								
Labor Cost							$ 70,000	
Material Cost							$ 101,140	
	Breakdown							
		Street Sweeper		1575 Hrs x $58.88/Hr				
		Leaf Vac.		200 Hrs x $42.02/Hr				
TOTAL SWEEPING AND LEAF PICKUP COST							**$171,140**	
Storm Sewer Maintenance								
Labor Cost							$ 50,000	
Material Cost							$ 54,501	
	Breakdown							
		Vac-all		160 Hrs x $75.36/Hr				
		Small Backhoe		300 Hrs x $36.68/Hr				
		Steamer		40 Hrs x $44.98/Hr				
		Ton Truck		400 Hrs x $10.48/Hr				
		3 Ton Truck		400 Hrs x $25.04/Hr				
		Track Backhoe		200 Hrs x $42.66/Hr				
		Loader		100 Hrs x $40.68/Hr				
		Jet Truck		40 Hrs x $27.96/Hr				
		Tanker		40 Hrs x $42.86/Hr				
TOTAL STORM SEWER MAINTENANCE COST							**$104,501**	
Storm Sewer Reconstruction								
Calculated a yearly average based on costs incurred and estimated for the years 2002-2006								
5-YEAR AVERAGE STORM SEWER RECONSTRUCTION COST							**$ 80,000**	
Engineering								
Calculated by using 5% of the costs for storm sewer reconstruction								
TOTAL ENGINEERING COST							**$ 4,000**	
WPDES Permit Activities								
Director of Public Works: 150 Hrs x $57.36/hr = $8,604						$ 8,604		
Civil Engineer: 400 Hrs x $39.34/Hr = $15,736						$ 15,736		
Senior Technician 100 Hrs x $38.64/Hr = $3864.00						$ 3,864		
Eng. Technician 100 Hrs x $28.95/Hr = $2895.00						$ 2,895		
City Inspector 200 Hrs x $37.20/Hr = $7440.00						$ 7,440		
Assistant City Inspector 200 Hrs x $34.10 = $6820.00						$ 6,820		
WPDES Best Management Practices: $35,000						$ 35,000		
TOTAL WPDES PERMIT ACTIVITIES COST							**$ 80,359**	
Administrative								
Civil Engineer: 700 Hrs x $39.34/Hr					$ 27,538			
Director of Public Works : 260 Hrs x $57.36/Hr					$ 14,914			
Administrative Assistant: 1040 Hrs x $25.00/Hr					$ 26,000			
Initial Utility Set up Cost					$ 50,000			
(Database, Mapping, Land Use, Misc.)								
TOTAL ADMINISTRATIVE COST							**$118,452**	
TOTAL ANNUAL STORMWATER RELATED COST								**$585,152**

Revenue Forecast

Chippewa Falls SWU Revenue Forecast

Land Use	Surface Area (ac)	Utility Factor	# Address	Monthly Charge	Total Revenue (monthly)	Credit Assumption	Credit $$ Estimate	Revenue Factor (per acre)	Curve Runoff Index (CN)	Retention (inches) (S)	Runoff Depth (inches) (Q)	Runoff Vol. (ac-ft) (QA)
Residential	1800	1.00	4500	$3.00	$13,500	NA	$0	$12.00	75	3.33	0.38	57
Commercial Multifamily	428	2.09	0	Per Acre	$10,720	0%	$0	$25.05	85	1.76	0.80	28
Commercial	300	3.25	0	Per Acre	$11,690	30%	$3,507	$38.97	92	0.87	1.24	31
Industrial	576	2.53	0	Per Acre	$17,513	50%	$8,757	$30.41	88	1.36	0.97	46
Institutional	392	3.25	0	Per Acre	$15,275	50%	$7,637	$38.97	92	0.87	1.24	40
Agricultural, Vacant	**EXEMPT**											
Road Right-of-Way	**EXEMPT**											
Airport	**TO BE DETERMINED**											
Open Water	**EXEMPT**											
Total	**3,496**				**$68,698**		**$19,901**					**203**

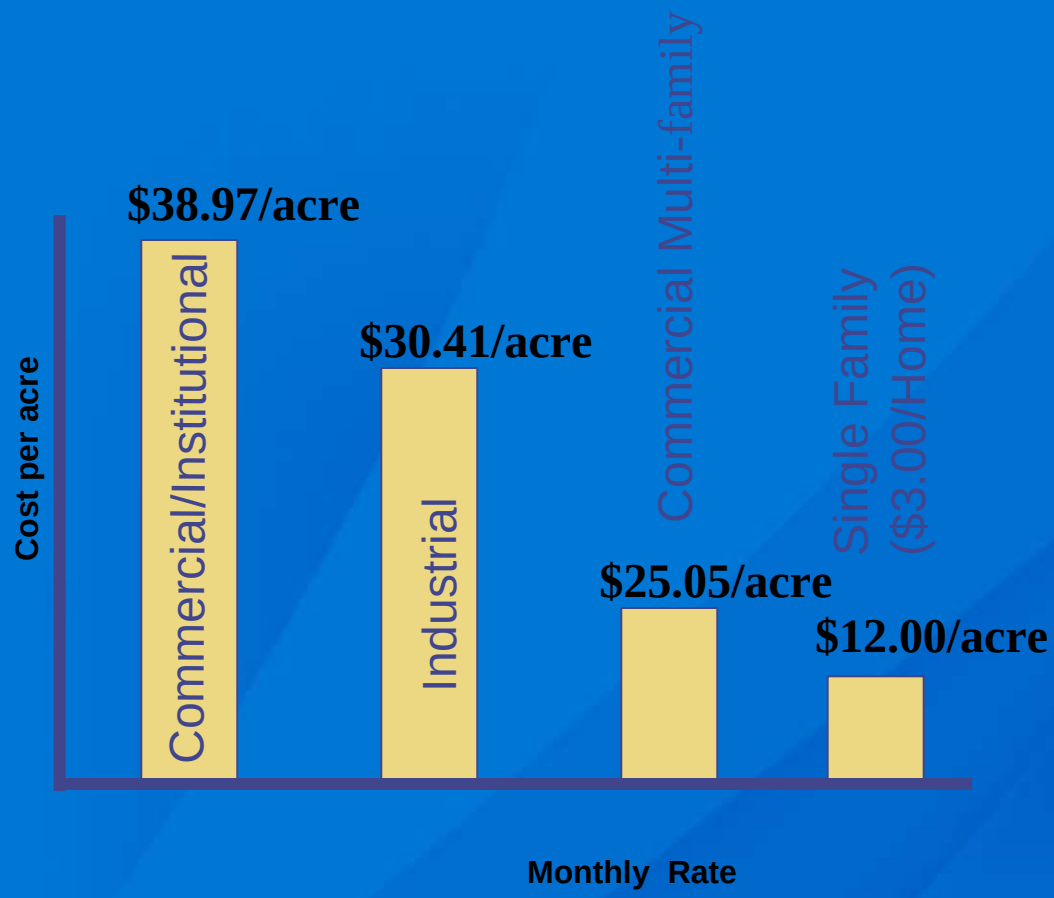
Notes:
1. Type B soils

Inputs:

Revenue/Single Family	$3.00	/mo.
Rainfall	2.0	inch
(ERU) Residential Lot Size	0.25	acre

	Gross	Est. Credits	Net
Annual Revenue	$824,376	$238,812	$585,564

Comparison of Utility Fees Illustrates the Contributors Pay Concept



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