CITY OF LAFAYETTE

WET WEATHER PROGRAM

Storm Water Technical Advisory Committee

May 14, 2009

Welcome and Introductions

Purpose of SWTAC

- Provide vital feedback for Storm Water Master Planning
- Bring a broad perspective to the Storm Water Program
- Give input on implementation of green and sustainable infrastructure
- Offer community perspective on the proposed storm water user fee rate and assessment structure
- Support community education and outreach initiatives

Overview of Proposed Storm Water Capital Program

Overview of Proposed Program

- Purpose
  - Improve quality of service
  - Improve water quality in waterways
  - Comply with state and federal requirements (Municipal Separate Storm Sewer (MS4) Permit)
- Program Components
  - Proposed necessary storm water capital improvement projects
  - Ongoing infrastructure operations and maintenance

Valley Street Drainage Improvements

Valley Street Drainage Improvements

- **Project:** Drainage improvements
- **Status:** Planning
- **Project Benefits:**
  - Reduced flooding in streets and yards
  - Improved water quality in the Wabash River
  - Reduced pollutants in local waterways
  - Enhanced aesthetics with rain gardens in neighborhood
  - Compliance with state and federal regulations

Valley Street Drainage Improvements: Capital Outputs

- 30" storm sewer pipe: 2,500 linear feet (LF)
- 12” sanitary sewer pipe: 695 LF
- Storm structures: 24
- Concrete flow channel: 2,300 LF
- Rain Gardens
- Seeding, mulching, erosion control: 6,600 LF
- 15” sanitary sewer pipe: 2,000 LF
- Sanitary laterals: 25
- Sanitary manholes: 10
- Sidewalk with integral curb and gutter: 2,300 LF
- Pavement removal: 6,133 square yards (SYD)
- Rebuilding of full depth HMA pavement: 4,050 tons
- Planning, design and construction inspection

Preliminary Estimated Construction Costs: $4,247,600

Armstrong Park Regional Detention Basin

Armstrong Park Regional Detention Basin

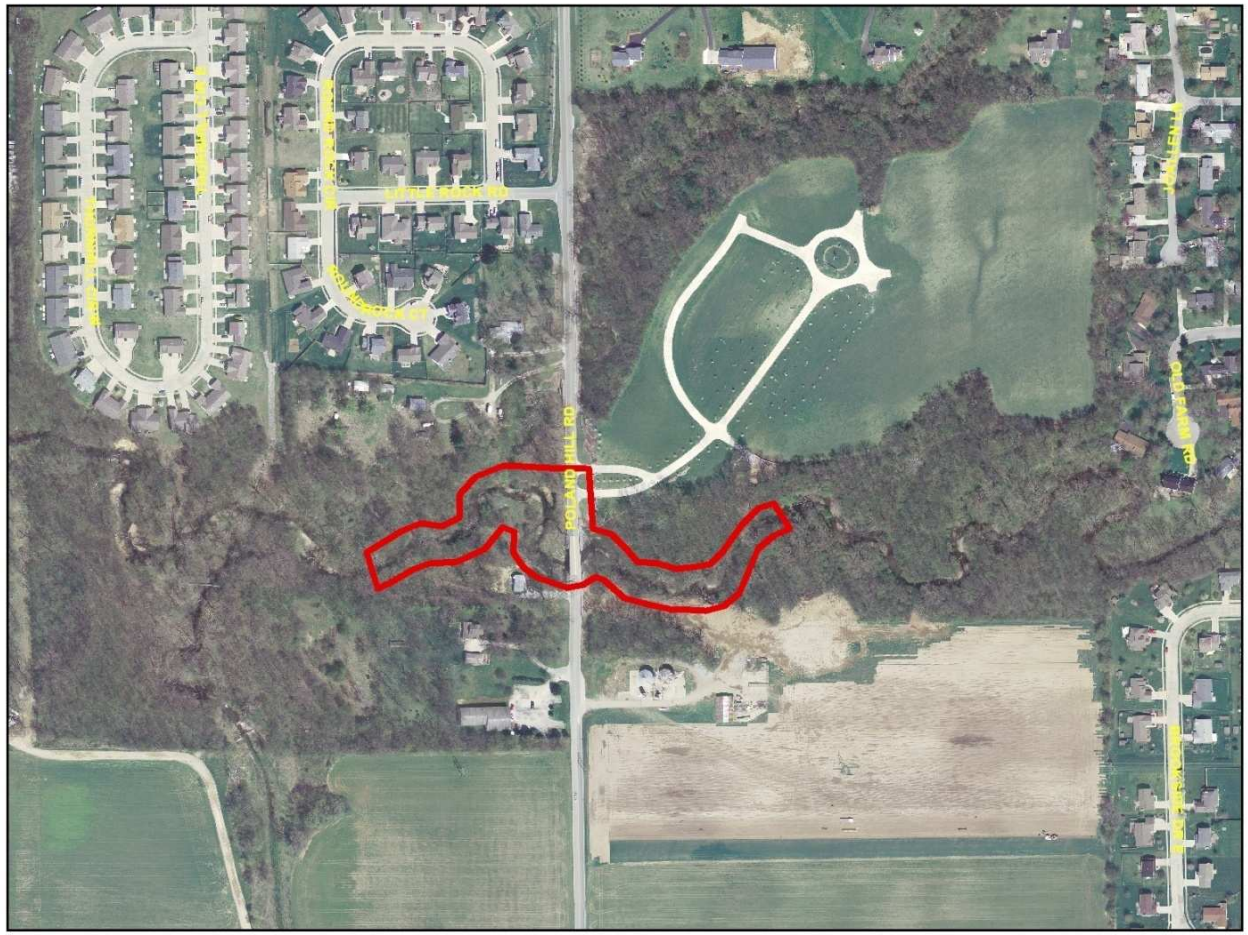
- **Project:** Water quality improvements
- **Status:** Planning
- **Project Benefits:**
  - Improved water quality in Armstrong Park detention basin, Durkees Run and Wabash River
  - Reduced pollutants in local waterways
  - Enhanced aesthetics of Armstrong Park as a result of wetlands
  - Compliance with state and federal regulations

Armstrong Park Regional Detention Basin: Capital Outputs

- Connection to existing drainage structure: 3 locations
- Wetland inlet/outlet control structures: 5 locations
- Earthwork (wetland, grading and berming): 400 cubic yards (CYD)
- Aquatic plantings: 2,450 square yards (SY)
- Rain garden plantings, curb/gutter restoration, inlet modifications: 50 locations
- Planning, design and construction inspection

Preliminary Estimated Construction Costs: $422,000

Elliott Ditch Stream Bank Restoration



Elliott Ditch Stream Bank Restoration

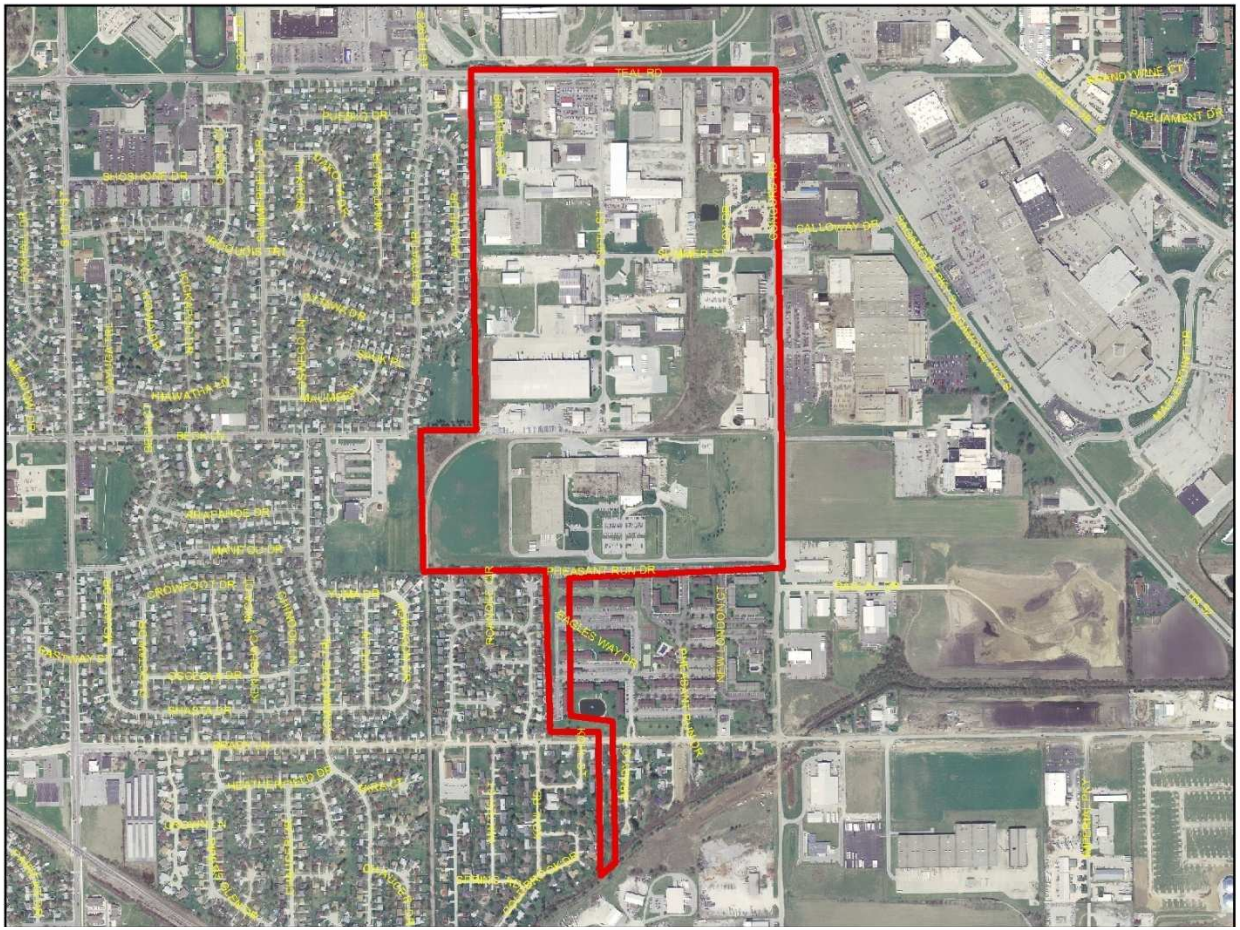
- **Project:** Stream bank restoration
- **Status:** Planning
- **Project Benefits:**
  - Reduced erosion to the stream banks of Elliott Ditch
  - Improved safety for driving and walking along Poland Road
  - Enhanced aesthetics of Elliott Ditch as a result of native vegetation

Elliott Ditch Stream Bank Restoration: Capital Outputs

- Mobilization and demobilization
- Excavation (high water channel): 400 CYD
- Excavation (sand bar): 220 CYD
- Dredged fill, placement and shaping: 400 CYD
- Embankment fill and benching (northeast bank): 1,010 CYD
- Riprap, revetment: 450 tons
- Gabions: 300 CYD
- Geoweb (channel): 4,650 square feet (SF)
- Planning, design and construction inspection

Preliminary Estimated Construction Costs: $600,400

South 30th Street Drainage Improvements



South 30th Street Drainage Improvements

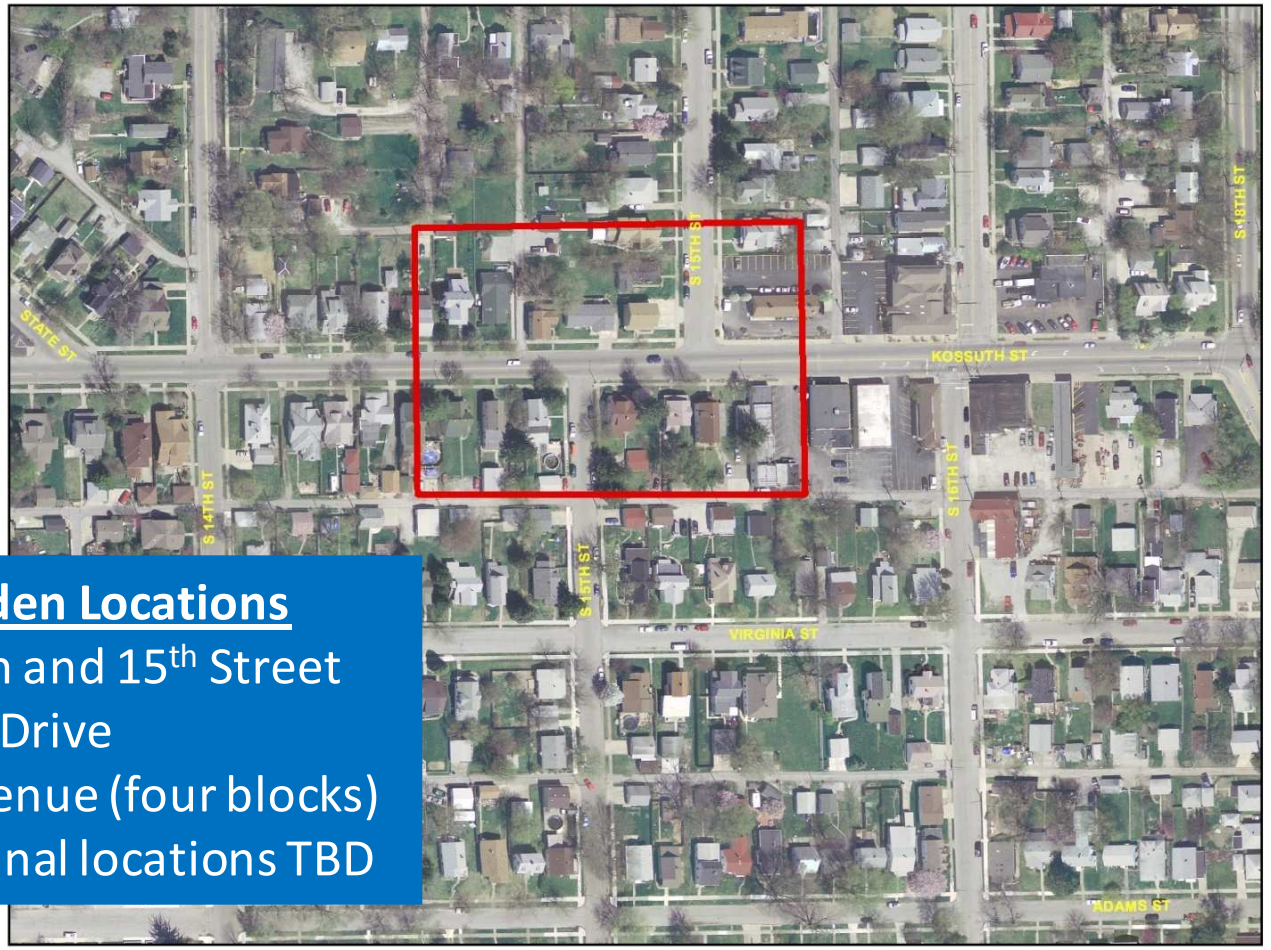
- **Project:** Drainage and water quality improvements
- **Status:** Planning
- **Project Benefits:**
  - Reduced street and yard flooding
  - Improved water quality in storm water runoff to the Wabash River
  - Reduced pollutants in local waterways
  - Educational opportunities for students and the general public
  - Resurfaced streets
  - Compliance with state and federal regulations

South 30th Street Drainage Improvements: Capital Outputs

- 54” storm sewer pipe: 7,600 LF
- 54” headwall
- Storm manholes: 17
- Concrete flow channel: 1,000 LF
- Drive aprons: 10
- Earthwork for basins: 10,000 CYD
- Seeding, mulching and erosion control: 6,600 LF
- Detention pond control structures: 2
- Curb and gutter: 2,600 LF
- Removal of pavement: 6,133 SY
- Pavement replacement: 5,200 SY
- Subbase: 1,800 tons
- Allowance for water main modifications
- Planning, design and construction inspection

Preliminary Estimated Construction Costs: $4,371,100

Rain Gardens



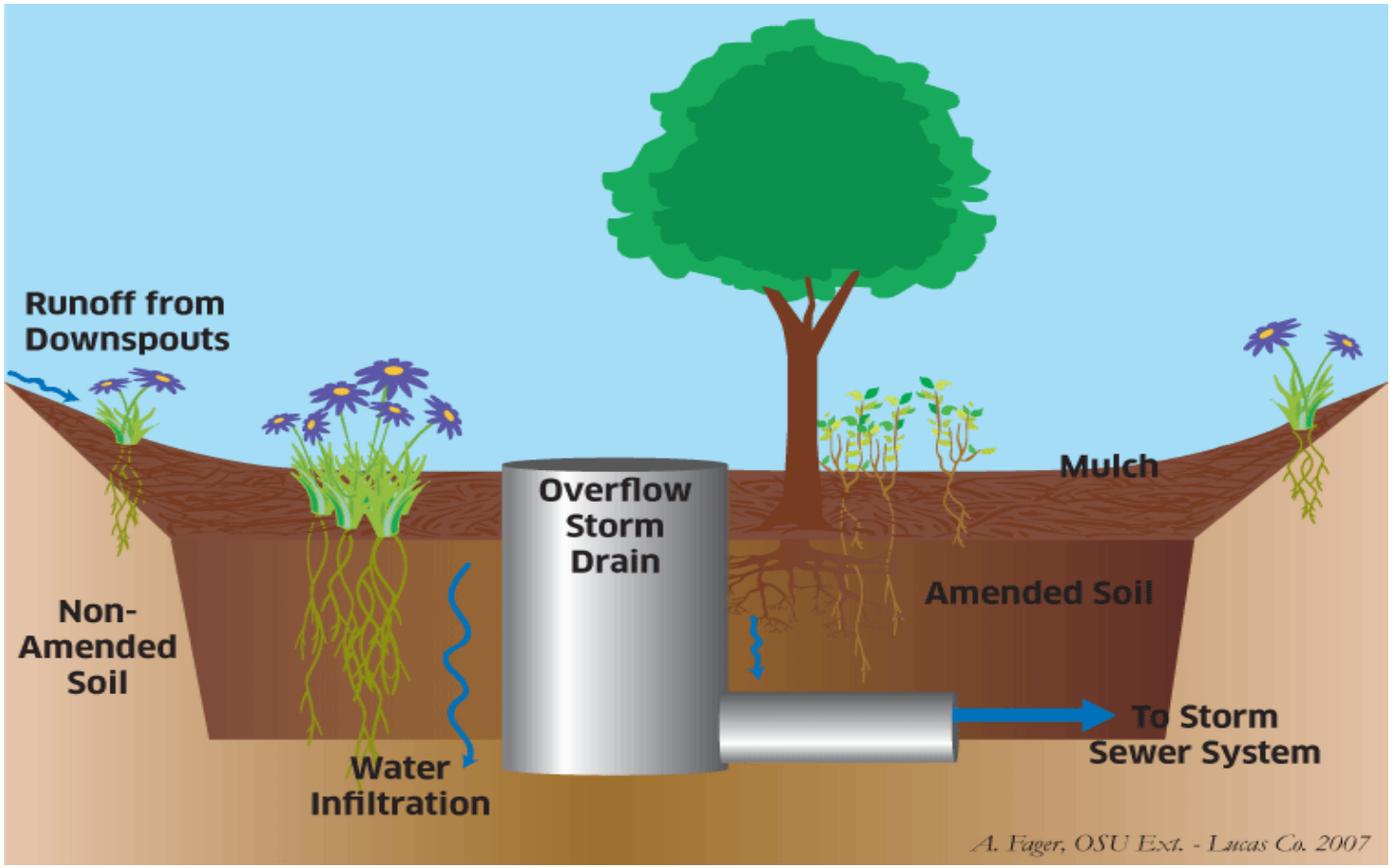
Rain Garden Locations

- Kossuth and 15th Street
- Prange Drive
- Earl Avenue (four blocks)
- Additional locations TBD

Rain Gardens

- **Project:** Drainage improvements
- **Estimated Project Cost:** $320,000
- **Status:** Planning
- **Project Benefits:**
  - Improved water quality of storm water runoff to the Wabash River
  - Reduced pollutants in local waterways
  - Enhanced aesthetics in neighborhood as a result of rain gardens
  - Compliance with state and federal regulations

Rain Gardens



Questions or Comments?

Budget Development, Financial Analysis and Preliminary Calculation for Proposed Storm Water User Fee

May 14, 2009

Program Costs

- Capital Improvement Projects
- Equipment
- Operations and Maintenance
- Staffing
- Municipal Separate Storm Sewer (MS4) Minimum Control Measures
- Contractors

Capital Improvement Projects

Proposed Project	Total Estimated Cost
Valley Street Drainage Improvements	$4,247,600
Elliot Ditch Stream Bank Restoration	$600,400
Southside Drainage Project– 30th Street Project	$4,371,100
Rain Gardens - Six total at 15th & Kossuth, Prange Drive & Earl Avenue	$320,000
Outfall Repairs	$100,000
Storm Water Regional Basin Retrofits (Armstrong Park)	$422,000
	$10,061,100

Equipment

- Personnel Equipment – computers, software, telephones, calculators etc.
- Vehicles – Pickup Trucks, Vactor Truck, Street Sweeper
- Annual Licensing for Software and Miscellaneous
- **Total Estimated Annual Costs: $445,600**

System Operations and Maintenance

- System Inspection / Televising – 59,400 LF / $77,220
- Sewer Jet Cleaned – 83,000 LF / $107,900
- Manhole Frames Raised – 75 / $31,125
- New Sewer installed – 410 LF / $36,000

System Operations and Maintenance

- Catch Basins Installed – 10 / $27,500
- Sewer Root Cut – 3,350 LF / $7,370
- Street Sweeping – 2,000 LA-MI / $9,000
- Other – Basin Cleaning, Manholes Repaired

Total Estimated Annual Cost: $412, 300

MS4 Minimum Control Measures

- Public Education and Outreach
- Public Involvement/Participation
- Illicit Discharge Detection/Elimination
- Construction Site Runoff Control
- Post-construction Runoff Control
- Good Housekeeping: Pollution prevention for MS4 operations and facilities

Total Estimated Annual Cost: $58,000

MCM 1: Public Education and Outreach

Add water quality education specialist—position will be tasked with activities including wet weather and groundwater programs.

Contract Services

- Legal Services
- Engineering – Planning and Design, GIS Updates, Drainage Standards Revisions
- Erosion Control Inspections
- Financial
- IT – Database and Billing

Total Estimated Annual Cost: $665,000

Program Staffing

- Cost Considerations – Salary, Social Security, PERF, Healthcare, Unemployment Insurance, Workman's Compensation
- Seven Employees

Total Estimated Annual Cost: $563,100

Preliminary Rate Calculation

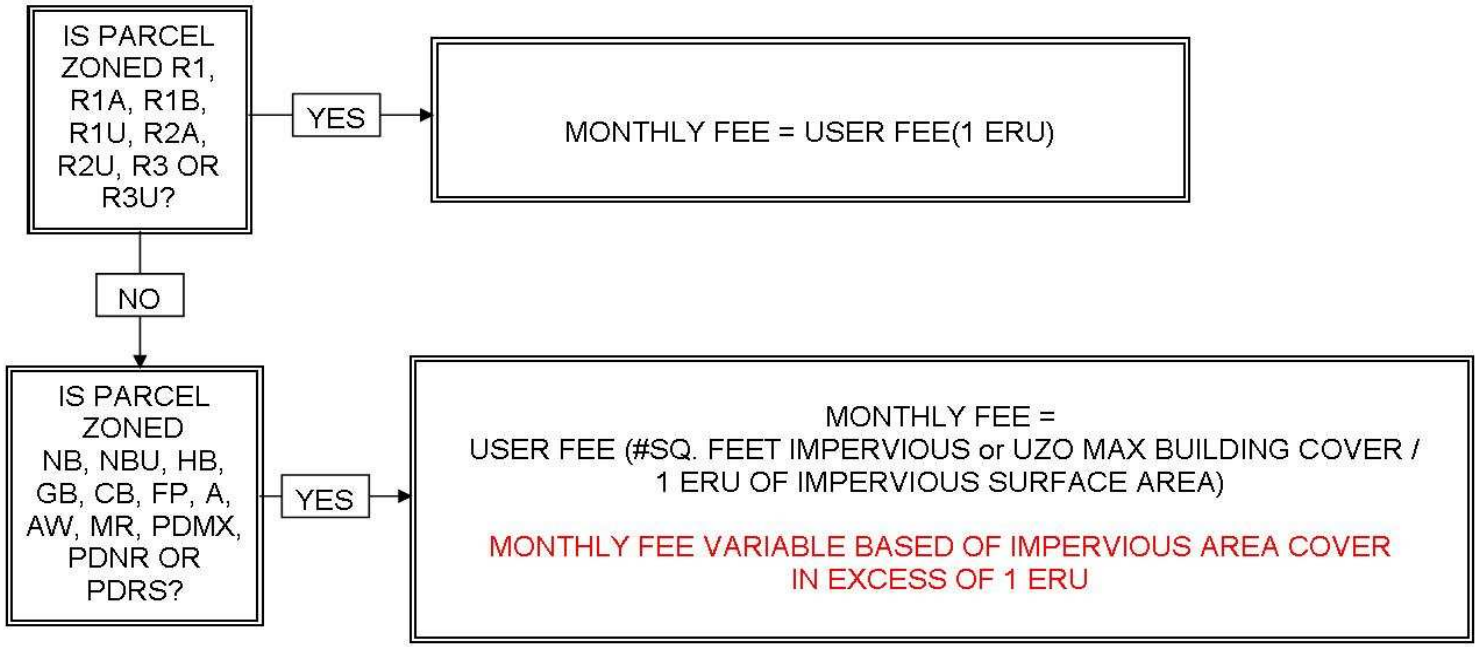
4-2-1 SUMMARY OF STANDARD AREA, WIDTH, COVERAGE, AND HEIGHT REQUIREMENTS (cont'd.):

ZONE	MINIMUM *LOT AREA*[1] (sq.ft)		MINIMUM *LOT WIDTH*[1] (ft.)	MAXIMUM LOT COVERAGE BY ALL BUILDINGS (pct.)	MINI-MUM VEGE-TATIVE COVER (pct.)	(Amend 10) MAXIMUM BLDG. HEIGHT (ft.)
	PER *USE*	PER D.U.[2]				
R3U	SF: 4000 MF: none	TF: 3000 2000[4]	SF: 40 TF: 60 70	40	30	35[9]
R3W **R4W**	SF: 6000 MF: none UP: none	TF: 3000 2000[4] **6**	60 70 70	40	30	**5**
NB	none	----	none	50	20	35
NBU (Ams 5, 10)	none UP: none	none **6**	none 70	60 40	none 30	35[9] **5**
OR	30000	----	100	25	30	50
MR	SF: 4000 MF: none NR: none	TF:2500 2000[4]	40 60 40	40	30	35 35 60
GB	none	----	none	60	10	35
HB	none	----	none	40	20	35
CB	none	none	none	100	----	100
CBW	none UP: none	none **6**	none none (Am 18)	100	----	35[7] 35[7]
I1	10000	----	75	25	30	35
I2	10000	----	75	35	25	50
I3	10000	----	75	45	20	100
A	SF: 15000 NR: none	TF: 7500 ----	100 none	20	50	35 none
AA **AW**	SF: 10000 NR: none	----	100 none	10	75	35[8]
FP	none	----	none	5	90	35[8]
RE (Amend 37)	**10**	2 acres	100[11]	10	80	35[8]

CITY OF LAFAYETTE

FLOWCHART FOR 2009 BILLING YEAR STORMWATER UTILITY FEE CALCULATION FLOWCHART

USER FEE ASSESSED TO ALL PARCELS
EQUIVALENT RESIDENTIAL UNIT IS BASIS FOR FEE



LAST REVISED: 4-06-2009

DLZ

4-2-1 SUMMARY OF STANDARD AREA, WIDTH, COVERAGE, AND HEIGHT REQUIREMENTS (cont'd.):

ZONE	MINIMUM *LOT AREA*[1] (sq.ft)		MINIMUM *LOT WIDTH*[1] (ft.)	MAXIMUM LOT COVERAGE BY ALL BUILDINGS (pct.)	MINI-MUM VEGE-TATIVE COVER (pct.)	(Amend 10) MAXIMUM BLDG. HEIGHT (ft.)
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NBU (Ams 5, 10)	none UP: none	none **6**	none 70	60 40	none 30	35[9] **5**
OR	30000	----	100	25	30	50
MR	SF: 4000 MF: none NR: none	TF:2500 2000[4]	40 60 40	40	30	35 35 60
GB	none	----	none	60	10	35
HB	none	----	none	40	20	35
CB	none	none	none	100	----	100
CBW	none UP: none	none **6**	none none (Am 18)	100	----	35[7] 35[7]
I1	10000	----	75	25	30	35
I2	10000	----	75	35	25	50
I3	10000	----	75	45	20	100
A	SF: 15000 NR: none	TF: 7500 ----	100 none	20	50	35 none
AA **AW**	SF: 10000 NR: none	----	100 none	10	75	35[8]
FP	none	----	none	5	90	35[8]
RE (Amend 37)	**10**	2 acres	100[11]	10	80	35[8]

Preliminary User Fee Calculation

Sample Calculation (non-residential parcel):

$$\frac{\text{PARCEL AREA } \mathbf{X} \text{ UZO MAXIMUM BLDG.}}{\text{Equivalent Residential Unit (ERU)}} \mathbf{X} \text{ USER FEE}$$

$$\frac{\text{22,000 SF } \mathbf{X} \text{ 50\% (Neighborhood Business [NB])}}{\text{3200 Square Feet}} \mathbf{X} \text{ USER FEE}$$

Preliminary User Fee Calculation

Sample Calculation (non-residential parcel):

$$\frac{22{,}000\ \text{SF} \times 50\%\ (\text{Neighborhood Business [NB]})}{3200\ \text{Square Feet}} \times \$6.00/\text{mo.}$$

= $20.63 / monthly

= $247.50 / annually

Questions or Comments?