

City of Ladue

PROJECT IDENTIFICATION INFORMATION SHEET

Storm Water Management Program
 Phase II: Master Plan
 Ladue, Saint Louis County, Missouri

PROJECT NAME: South Tealbrook Drive
LOCATION: South Tealbrook Drive
PROJECT No: 1605

STATUS:	
Easements Required:	7
Properties Benefited:	4
Properties Impacted:	7
Project Benefit Points:	558
Property Benefit Multiplier: X	0.57
Priority WGT Multiplier: X	1.15
Adj Prjct Benefit Points:	366.69
EOPC, thousand:	\$419.62
Cost Sharing, MSD:	
Cost Sharing, Other:	
Adj EOPC, thousand:	\$419.62
Benefit to Cost Ratio:	0.87

Project Source:

- Citizen Complaint
- Ladue
- MSD
- Other:

Coordination Required:

- MSD
- Corps of Engineers
- MO DNR
- MODOT
- County Highways
- City Streets
- City Parks
- County Parks
- Municipality: City of Ladue
- Railroad:
- Subdivision Trustees
- Other: Local Utilities

Problem Categories:

- | <input checked="" type="checkbox"/> WGT | Description |
|--|---|
| <input checked="" type="checkbox"/> 1.15 | Habitable structural flooding & erosion from overland flow (non-floodplain) |
| <input type="checkbox"/> 1.15 | Public roadway flooding & erosion |
| <input type="checkbox"/> 1.10 | Private roadway flooding & erosion |
| <input type="checkbox"/> 1.05 | Flooding from inadequate sinkhole |
| <input type="checkbox"/> 1.05 | Maintenance of stormwater system facilities |
| <input checked="" type="checkbox"/> 1.05 | Non-habitable structural flooding & erosion |
| <input type="checkbox"/> 1.00 | Yard erosion & erosion of common ground or unmaintained area |
| <input checked="" type="checkbox"/> 1.00 | Yard flooding |
| <input type="checkbox"/> 0.85 | Structural flooding from creeks or rivers (floodplain) |

Benefited Property Definition:

- 1 A benefited property is one at which flooding and/or erosion is reduced;
- 2 A property that does not receive an actual reduction in flooding or erosion from the construction of storm water improvements is NOT a benefited property; and
- 3 A property that only receives a financial gain from the construction of storm water improvements is NOT a benefited property.

Impacted Property Definition:

- 1 An impacted property is one at which physical disturbance occurs to construct storm water improvements.

MSD/MO American Water Base Map Number(s): 18M

Laclede Gas Map Number(s): 156-26

FEMA FIRM Map Number(s): 29189C0192K

USGS Quadrangle Map(s): Creve Coeur, MO

Attachments

- Scope of Work
- Benefit Points Calculation
- Engineer's Opinion of Probable Construction Cost
- Property Contact Information
- Improvement Concept Plan

Notes:

PROJECT NAME: South Tealbrook Drive
PROJECT No: 1605

SCOPE OF WORK

Problem Description:

The lack of a stormwater collection system on the western side of the neighborhood allows uncontrolled runoff to concentrate in streets and yards along South Tealbrook Drive, flooding non-habitable structures. Runoff generally flows northwest to southeast to a stormwater collection system on the eastern side of Tealbrook and ultimately to an open channel between the subdivision and MICDS. Some ponding and erosion along the road at #5 South Tealbrook has also been observed.

Proposed Solution:

Construct approximately 523 lineal feet of 12-in to 18-in diameter storm sewer pipe and appurtenances with approximately 460 lineal feet of curb and gutter along the part of S. Tealbrook routing runoff to the existing stormwater system at #12 South Tealbrook Dr. Approximately 697 square feet of pavement wearing surface will be regraded to direct runoff to the new stormwater collection system. The proposed system will help alleviate yard flooding and erosion and collect runoff ponding in a low spot of the road.

Commentary:

Residents on the east side of the neighborhood have made complaints of the sanitary system backing up into their homes during some rain events. Public and private inflow and infiltration to the sanitary system is being address through MSD and is not a part of this project.

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BENEFIT POINTS CALCULATION

PROBLEM SOLVED CATEGORY		Chronic (<=2-Yr) Flooding		Frequent (>2<=15-Yr) Flooding		Infrequent (>15-Yr) Flooding		Total Points	
		Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	Points per Category	No. Lots Affected		
Note: Problem points are awarded only for those problems solved by the proposed solution.									
1.0 STREAM	1.1. FLOODING	1.1.1. Structure Flooding							
		Habitable 1st floor, residential; includes spaces with mechanical equipment (1 lot per structure) Address:	300		150		25		
		Basement (1 lot per structure) Address:	200		100		15		
		Attached Garage (1 lot per structure) Address:	100		50		8		
		Misc. structures including patio/decks, pools, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address:	50		25		4		
		Industrial, office, commercial and warehouse (1 lot per 2,500 sf of floor space flooded) Address:	300		150		25		
		Yard Flooding (1 per lot) Address:	10		5		0		
		1.1.2. Roadway Flooding (allocate 1 lot per 250' of roadway impacted & 2 lots per intersection impacted)							
		Emergency Access restricted (>12" water over only access route to habitable structure), pts per structure Address:	200		100		15		
	Traffic obstruction (> 6" of water) on arterial street Address:	50		25		4			
	Traffic obstruction (> 6" of water) on collector street Address:	25		12		2			
	Traffic obstruction (> 6" of water) on residential street Address:	10		5		1			
	1.2. EROSION	1.2.1. Threatening Structure (Ratio=Height of bank / distance from structure)		Pts. for Ratio > 0.70	No. Lots	Pts. for Ratio 0.36 - 0.70	No. Lots	Pts. for Ratio 0.15- 0.35	No. Lots
		Habitable structures, residential (1 lot per structure) Address:		300		200		50	
		Misc structures including pools, patio/decks, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address:		150		100		25	
		Industrial, office, commercial and warehouse (1 lot per structure) Address:		300		200		50	
		1.2.2. No. of lots (from 1.2.1) on outside of bend			lots	10 points per lot			
		1.2.3. Threatening Roadway (Ratio=Height of bank / distance from road)		Pts. for Ratio > 0.70	No. Lots	Pts. for Ratio 0.36 - 0.70	No. Lots	Pts. for Ratio 0.15- 0.35	No. Lots
		Arterial Road: Address:		75		50		12	
Collector Road: Address:		35		25		6			
Residential Road: Address:		20		12		3			

CONTINUED:

2.0 STORM SEWER / OVERLAND FLOW	2.1. FLOODING	PROBLEM SOLVED CATEGORY, CONT.	Chronic (<=2-Yr) Flooding		Frequent (>2<=15-Yr) Flooding		Infrequent (>15-Yr) Flooding		Total Points
			Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	Points per Category	No. Lots Affected	
			Note: Problem points are awarded only for those problems solved by the						
		2.1.1. Structure Flooding							
		Habitable 1st floor, residential; includes spaces with mechanical equipment (1 lot per structure)* Address:	350		250		65		
		Basement (1 lot per structure)* Address: #5, 7 S. Tealbrook	250		200	2	50		400
		Industrial, office, commercial and warehouse (1 lot per 2,500 sf of floor space flooded)* Address:	300		200		50		
		* If there is an existing public system and points are taken for any of the 3 items above, add 50 points.	Existing System Y/N						
		Attached Garage (1 lot per structure) Address:	100		75		25		
		Misc. structures including patio/decks, pools, sheds, tennis courts, detached garages, etc.(1 lot per structure) Address: #5, 7, 9 S. Tealbrook Dr	50		35	3	12		105
		Yard Flooding (1 per lot) Address: #5, 7, 9 S. Tealbrook Dr	10		6	3	0		18
		2.1.2. Roadway Flooding (allocate 1 lot per 250' of roadway impacted & 2 lots per intersection impacted)							
		Emergency Access restricted (>12" water over only access route to habitable structure), pts per structure Address:	200		150		25		
		Traffic obstruction (> 6" of water) on arterial street Address:	50		35		6		
		Traffic obstruction (> 6" of water) on collector street Address:	25		15		2		
		Traffic obstruction (> 6" of water) on residential street Address:	10		6		1		
		Ponding (per ponding area) Address: #5 S. Tealbrook	No. Ponds:		1		Points/pond:	5	5
		2.2. Moderate Risk Erosion of misc. structures Address:	No. Lots:				Points/lot:	20	
		2.3. Yard Erosion (1 per lot) Address:	No. Lots:				Points/lot:	10	
		2.4. Age of Existing System Points for Age	>50 yrs (30 pts)		26-50 yrs (15 pts)		<25 yrs (0 pts)		
		Note: Problem points are awarded only for those problems solved by the proposed solution.	TOTAL PROBLEM POINTS						528

CONTINUED:

SOLUTION BENEFIT CATEGORY						
3.0 REGIONAL	3.1. Reduction of flowrate leaving site	% reduction of peak flowrate :	0%	Max points:	1000	
	3.2. Combines smaller projects into regional solution (see note)	No. Add'l Projects:	0	Points per Add'l Proj.:	50	
4.0 ENVIRONMENTAL / WATER QUALITY	4.1. Addresses pollutants:	No. Units		Points per Unit		
	Bioswales		PER 100 LF	10		
	Forebays		AC	200		
	Wet Ponds		AC	100		
	Wetlands		AC	50		
	Biostabilization of banks (per bank)	0	PER 100 LF	10		
	Riffle Pool Complex		PER 100 LF	10		
	4.2. Eliminates combined sewer (per project)		EA	100		
4.3	Eliminates inflow into sanitary system (1 each per basement flooded, yard vent overtopped, street inlet or driveway drain connected to sanitary/combined system, etc.)	2	EA	10		20
5.0 MISC.	5.1. Ease of Implementation (No. of Easements)	0-5 (20 pts)	6-10 (10 pts)	11-15 (5 pts)	>15 (0 pts)	
	Points for Easements		10			10
	5.2. Recreational/Educational		Yes = 100, no = 0 pts	0		
TOTAL SOLUTION POINTS						30
TOTAL BENEFIT POINTS						558

Note: A regional solution combines several smaller projects into a watershed or subwatershed solution.

TOTAL COST IN THOUSANDS=

\$419.62

MSD BENEFIT/ COST RATIO= TOTAL POINTS/ TOTAL COST IN THOUSANDS=

1.33

PROJECT NAME:		South Tealbrook Drive			
PROJECT No:		1605			
<u>ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST</u>					
ITEM NUMBER	PAY ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
1	Mobilization	1	Lump Sum	\$6,310.15	\$6,310.15
2	Additional Fill	25	Cubic Yards	\$22.00	\$550.00
3	Asphalt Overlay (4")	697	Square Yards	\$40.00	\$27,880.00
4	Compaction of Fill	25	Cubic Yards	\$22.00	\$550.00
5	Curb & Gutter	460	Linear Feet	\$40.00	\$18,400.00
6	Double Inlet Manhole	1	Each	\$6,000.00	\$6,000.00
7	Excavation Class "A"	63	Cubic Yards	\$190.00	\$12,054.44
8	Excavation Class "B"	6	Cubic Yards	\$55.00	\$348.94
9	Inlet (Area,Street, etc.)	1	Each	\$2,500.00	\$2,500.00
10	Inlet Manhole	4	Each	\$3,200.00	\$12,800.00
11	Pipe Sewer 12-Inch	339	Linear Feet	\$201.70	\$68,377.29
12	Pipe Sewer 18-Inch	232	Linear Feet	\$213.18	\$49,457.53
13	Sodding - Bluegrass	1,269	Square Yards	\$9.00	\$11,420.00
14	Protection and Restoration of Site	1	Lump Sum	\$32,498.00	\$32,498.00
15	Utility Relocation (Allowance)	1	Lump Sum	\$4,333.00	\$4,333.00
*Excavation Class 'C' cost included in unit price					
Sub-Total:					\$253,479.36
Estimated Construction Engineering Fee:					\$5,645.72
Estimated Construction Survey Fee:					\$770.85
Estimated MSD Construction Permit Fee:					\$195.00
Estimated MSD Stormwater Construction Inspection Fee:					\$1,427.50
Estimated MSD Sanitary Construction Inspection Fee:					
Estimated area disturbed:					0.41 ac
Estimated MDNR Land Disturbance Permit Fee:					
Estimated CWA 404/401 Permit Fee:					
Sub-Total:					\$261,518.43
30% Contingency:					\$78,455.53
SUB-TOTAL - CONSTRUCTION:					\$339,973.96
Estimated Design Engineering Fee:					\$31,992.44
Estimated MSD Plan Review Submittal Fee:					
Estimated MSD Conceptual Review Fee:					
Estimated MSD Plan Review Fee:					
<i>Note: MSD submittal & review fees are waived by reciprocal agreement with the City of Ladue.</i>					
CWA 404/401 Permit Application Preparation:					
MDNR Land Disturbance Permit Application & SWPPP Preparation:					

			Sinkhole Report:	
			Floodplain Study:	
			No Rise Certification or LOMR:	\$5,000.00
	Estimated Geotechnical Engineering Fee:	2	Borings @ \$2000/each =	\$4,000.00
			Estimated Property Strip Map Survey Fee:	\$10,500.00
			Estimated Topographic Survey Fee:	\$2,569.50
	Estimated Property Title/Easement Search Report Fee:	7	ESR's @ \$500/each =	\$3,500.00
	Estimated Easement Preparation:	7	Plats @ \$450/each =	\$3,150.00
			Estimated Saint Louis County Recording Fee - Easements:	\$315.00
			Sub-Total:	\$61,026.94
			30% Contingency:	\$18,308.08
			SUB-TOTAL - DESIGN:	\$79,650.02
			TOTAL PROJECT:	\$419,623.98

PROJECT NAME: South Tealbrook Drive
PROJECT No: 1605

PROPERTY CONTACT INFORMATION

BENEFITED PROPERTY OWNERS			
Count	Property Address	Contact Name	Phone Number
1	5 S Tealbrook Dr	Forrester Katherine A	
2	7 S Tealbrook Dr		
3	9 S Tealbrook Dr	Stevinson Dennis J	
4	Subdivision Private Road R/W	S Tealbrook Subdivision Trustees	
5			
6			
7			
8			
9			
10			
IMPACTED PROPERTY OWNERS			
Count	Property Address	Contact Name	Phone Number
1	5 S Tealbrook Dr	Forrester Katherine A	
2	7 S Tealbrook Dr		
3	8 S Tealbrook Dr	Embse Richard A Vonder & Case Brenda L H	
4	10 S Tealbrook Dr	Mitchell James D & Amanda G H/W	
5	12 S Tealbrook Dr	Mckenna Brian T	
6	Subdivision Private Road R/W	S Tealbrook Subdivision Trustees	
7	9 S Tealbrook Dr	Stevinson Dennis J	
8			
9			
10			
EASEMENTS REQUIRED			
Count	Property Address	Contact Name	Phone Number
1	5 S Tealbrook Dr	Forrester Katherine A	
2	7 S Tealbrook Dr		
3	8 S Tealbrook Dr	Embse Richard A Vonder & Case Brenda L H	
4	10 S Tealbrook Dr	Mitchell James D & Amanda G H/W	
5	12 S Tealbrook Dr	Mckenna Brian T	
6	Subdivision Private Road R/W	S Tealbrook Subdivision Trustees	
7	9 S Tealbrook Dr	Stevinson Dennis J	
8			
9			
10			