



MEETING OF THE CITY COUNCIL
CITY HALL, Fifth Floor
6801 Delmar Blvd.
University City, Missouri 63130
October 23, 2017
6:30 p.m.

- A. MEETING CALLED TO ORDER
- B. ROLL CALL
- C. APPROVAL OF AGENDA
- D. PROCLAMATIONS
- E. APPROVAL OF MINUTES
 - 1. October 9, 2017 Regular session minutes
- F. APPOINTMENTS to BOARDS & COMMISSIONS
 - 1. Carl Hoagland is nominated to the Park Commission replacing Ed Mass's remaining term by Councilmember Crow
 - 2. Kevin Taylor is nominated to the Park Commission replacing Nancy McClain's remaining term by Councilmember Smotherson
 - 3. Gloria Nickerson is nominated to the Senior Commission by Councilmember Carr (Bill Thomas)
 - 4. Margaret Holly is nominated to the Plan Commission replacing Andrew Ruben's remaining term by Mayor Welsch
 - 5. David Neiers, Naomi Stevenson, Pamela Mason, Timothy Lemen and Robert Gadd are **reappointed** to Industrial Development Authority (I.D.A.) by Mayor Welsch
- G. SWEARING IN to BOARDS & COMMISSIONS
- H. CITIZEN PARTICIPATION (Total of 15 minutes allowed)
- I. PUBLIC HEARINGS
- J. CONSENT AGENDA
- K. CITY MANAGER'S REPORT
 - 1. 95 Gallon Recycling Carts
VOTE REQUIRED
 - 2. Planning Consultant Services Contract (Olive and I-170, Olive north redevelopment areas)
VOTE REQUIRED
 - 3. Restated and Amended Preliminary Funding Agreement with U. City, L.L.C.
VOTE REQUIRED
- L. UNFINISHED BUSINESS
 - BILLS*
 - 1. **Bill 9332** - AN ORDINANCE APPROVING A FINAL PLAT FOR A MINOR SUBDIVISION OF A TRACT OF LAND TO BE KNOWN AS 7430 DELMAR CONDOMINIUMS.
(7430 Delmar Blvd. – condominium form of ownership)
 - 2. **Bill 9333** – AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.
(7200 Block of Lindell Blvd., Residential Parking Permit)

3. **Bill 9334** – AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.
(7000-7100 Blocks of Northmoor Dr., Residential Parking Permit)
4. **Bill 9335** - AN ORDINANCE AMENDING VARIOUS SECTIONS OF CHAPTER 405, SUBDIVISIONS AND LAND DEVELOPMENT REGULATIONS, TO REVISE LAND DISTURBANCE TOTAL AREA REGULATIONS AS PROVIDED HEREIN.
5. **Bill 9336** – AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.
(Prohibit Parking – 7346 Forsyth Blvd.)

M. NEW BUSINESS
RESOLUTIONS

BILLS

1. **Bill 9337** - AN ORDINANCE ADOPTING REGULATIONS FOR CONSIDERATION OF STORM WATER QUALITY AND MANAGEMENT IN SITE DESIGN BY AMENDING CHAPTER 405, SUBDIVISIONS AND LAND DEVELOPMENT REGULATIONS, ARTICLE VI, LAND DEVELOPMENT REGULATIONS AS PROVIDED HEREIN.
(Post-Construction Land Disturbance Requirements)
2. **Bill 9338** - AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.
(Parking Restrictions – 6600-6800 Kingsbury Blvd., 400 Melville Ave., 400 Kingsland Ave., Trinity Ave.)
3. **Bill 9339** – AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF UNIVERISTY CITY, MISSOURI, DECLARING 1351 N. HANLEY AVENUE A BLIGHTED AREA AND APPROVING A REDEVELOPMENT PLAN FOR THE AREA.

N. COUNCIL REPORTS/BUSINESS

1. Boards and Commission appointments needed
2. Council liaison reports on Boards and Commissions
3. Boards, Commissions and Task Force minutes
4. Other Discussions/Business
 - a) **Neighborhood Etiquette Booklet**
DISCUSSION AND VOTE
Requested by Councilmembers Smotherson and Carr
 - b) **MSD – Storage Facility Project**
DISCUSSION AND VOTE
Requested by Councilmembers Smotherson and Carr

O. CITIZEN PARTICIPATION (continued if needed)

P. COUNCIL COMMENTS

- Q.** Roll-Call vote to go into a Closed Council Session according to RSMo 610.021 (1)Legal actions, causes of action or litigation involving a public governmental body and any confidential or privileged communications between a public governmental body or its representatives and its attorneys, and Section 610.021 and (3) – (hiring of a particular employees by a governmental body when personal information about the employee is discussed or recorded). "Personal information" means information relating to the performance or merit of individual employees

R. ADJOURNMENT

MEETING OF THE CITY COUNCIL
CITY HALL, Fifth Floor
6801 Delmar Blvd.
University City, Missouri 63130
October 9, 2017
6:30 p.m.

A. MEETING CALLED TO ORDER

At the Regular Session of the City Council of University City held on the fifth floor of City Hall, on Monday, October 9, 2017, Councilmember Terry Crow, Mayor Pro Tem, called the meeting to order at 6:30 p.m., in the absence of Mayor Shelley Welsch,

B. ROLL CALL

In addition to the Councilmember Crow, Mayor Pro tem, the following members of Council were present:

Councilmember Rod Jennings; (*excused*)
Councilmember Paulette Carr
Councilmember Steven McMahon
Councilmember Terry Crow
Councilmember Michael Glickert; (*via video conference*)
Councilmember Bwayne Smotherson
Mayor Shelley Welsch; (*excused*)

Also in attendance was Interim City Manager, Charles Adams, and City Attorney, John F. Mulligan, Jr.

C. APPROVAL OF AGENDA

Councilmember Smotherson made a motion to remove the appointment of Carl Hoagland until the next meeting, seconded by Councilmember McMahon and the motion carried unanimously

Voice vote on the motion to approve the agenda as amended, carried unanimously.

D. PROCLAMATIONS

E. APPROVAL OF MINUTES

1. September 20, 2017, Study Session minutes were moved by Councilmember Smotherson, seconded by Councilmember Carr, and the motion carried unanimously.
2. September 20, 2017, Special Session minutes were moved by Councilmember Carr, seconded by Councilmember McMahon, and the motion carried unanimously.
3. September 25, 2017, Regular Session minutes were moved by Councilmember Carr, seconded by Councilmember McMahon, and the motion carried unanimously.

F. APPOINTMENTS TO BOARDS & COMMISSIONS

1. Michael Warford and Irving Logan were nominated to the Storm Water Task Force by Councilmember Carr on behalf of Councilmember Jennings. Seconded by Councilmember Smotherson and the motion carried unanimously.
2. Carl Hoagland is nominated to the Park Commission replacing Ed Mass's remaining term by Councilmember Crow (***Postponed to the next meeting***)

G. SWEARING IN TO BOARDS & COMMISSIONS

1. Brian Burkett was sworn into the Board of Adjustment in the Clerk's office on October 5, 2017.

H. CITIZEN PARTICIPATION (Total of 15 minutes allowed)

Bryce Kehoe, 6552 Corbitt, University City, MO

Mr. Kehoe stated while researching several companies who manufacture inserts for trolley tracks he learned that;

1. Inserts are no longer used in the U.S. because of their inability to remain within the tracks, and
2. The use of signage, lines, arrows, and education have greatly reduced the number of accidents in most cities

He stated while most experienced cyclists understand the need to cross trolley tracks at a right angle, those who are inexperienced do not. So to commence this much-needed educational process within U City he would suggest that Mr. Edwards convert the window he now uses to display a model of the trolley into an educational safety center through the utilization of a big screen TV.

I. PUBLIC HEARINGS

J. CONSENT AGENDA

K. CITY MANAGER'S REPORT

1. Community Development Block Grant Approval – 7900 Westover Place.

Councilmember Carr moved to approve, seconded by Councilmember Smotherson and the motion carried unanimously.

L. UNFINISHED BUSINESS

BILLS

1. **BILL 9331** – AN ORDINANCE APPROVING AN AMENDED FINAL DEVELOPMENT PLAN FOR PROPOSED REDEVELOPMENT TO CROWN CENTER FOR SENIOR LIVING LOCATED AT 8348-8350 DEL CREST DRIVE IN THE PD-M PLANNED DEVELOPMENT MIXED-USE ZONING DISTRICT. Bill Number 9331 was read for the second and third time.

Councilmember McMahon moved to approve, seconded by Councilmember Smotherson.

Roll Call Vote Was:

Ayes: Councilmember Carr, Councilmember McMahon, Councilmember Glickert, Councilmember Smotherson, and Councilmember Crow.

Nays: None.

M. NEW BUSINESS
RESOLUTIONS

BILLS

Introduced by Councilmember McMahon

1. **Bill 9332** - AN ORDINANCE APPROVING A FINAL PLAT FOR A MINOR SUBDIVISION OF A TRACT OF LAND TO BE KNOWN AS 7430 DELMAR CONDOMINIUMS. Bill Number 9332 was read for the first time.

Introduced by Councilmember Smotherson

2. **Bill 9333** – AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN. Bill Number 9333 was read for the first time.

Introduced by Councilmember Carr

3. **Bill 9334** – AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN. Bill Number 9334 was read for the first time.

Introduced by Councilmember Carr

4. **Bill 9335** - AN ORDINANCE AMENDING VARIOUS SECTIONS OF CHAPTER 405, SUBDIVISIONS AND LAND DEVELOPMENT REGULATIONS, TO REVISE LAND DISTURBANCE TOTAL AREA REGULATIONS AS PROVIDED HEREIN. Bill Number 9335 was read for the first time.

Introduced by Councilmember Smotherson

5. **Bill 9336** – AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN. Bill Number 9336 was read for the first time.

N. COUNCIL REPORTS AND BUSINESS

1. Boards and Commission appointments needed
2. Council liaison reports on Boards and Commissions
3. Boards, Commissions, and Task Force minutes
4. Other Discussions/Business

- a) Neighborhood Etiquette Booklet

Requested by Councilmembers Smotherson and Carr

Councilmember Smotherson stated while conducting research to address issues that may be specific to his Ward, like residents who BBQ in their front yard or the removal of portable basketball hoops from the street, he discovered various brochures on property maintenance, courtesy warnings, motor vehicles, and other nuisances that can be found throughout neighborhoods. So what he is introducing tonight for Council and staff's review is a compilation of these brochures entitled the "*Neighborhood Etiquette Booklet*". He stated his hope, is that this booklet will assist residents, as well as members of Council, tackle some of the distinct problems they may be experiencing. Information contained on the City's Calendar has also been included in the booklet, which he thinks will enhance its value and be used as a reference throughout the year.

Councilmember Carr asked how the booklets would be disseminated? Councilmember Smotherson stated his thinking was that it could be distributed or mailed to anyone applying for an Occupancy Permit, as well as placed in strategic locations where residents could pick up a copy. Councilmember Carr asked if the booklet could be made available at public buildings like the Library? Councilmember Smotherson agreed that it should be.

Councilmember Glickert stated this is the type of information that needs to be distributed and reinforced on a regular basis. So he would like to make the following suggestions:

- That various segments of the booklet be featured in each issue of ROARS since it is delivered to every household, and
- That the booklet be included in the City's Welcome Packet provided to individuals when they apply for an Occupancy Permit.

He stated although he is uncertain whether the City still provides a Welcome Packet, he does think they are a great way to demonstrate the City's ambassadorship.

Councilmember Glickert stated residents also have a Public Nuisance Hotline they can call when experiencing problems with their neighbors. So perhaps, that could be included in the booklet as well.

Councilmember Smotherson stated although he thinks ROARS is a good idea, his goal is to make this information available as soon as possible. He stated he also wanted to make note of the fact that even though his name is on the front of the booklet he would like the entire body of Council to take ownership and make it a part of their responsibility to ensure that residents are both aware of, and understand its contents.

O. CITIZEN PARTICIPATION (continued if needed)

Thomas Jennings, 7055 Forsyth, University City, MO

Mr. Jennings stated he can attest to the fact that the problems identified by Councilmember Smotherson is not restricted to the 3rd Ward. He stated he had no idea that the City had regulations against residents barbecuing in their front yard, so he thinks the Neighborhood Etiquette Booklet is a great idea.

P. COUNCIL COMMENTS

Councilmember Carr stated she wanted to draw everyone's attention to a very good article written about the Midtown Farmer's Market which takes place in the Loop parking lot every Saturday. The article focuses on the Market's Assistant Training Program that it offers to the City's youth, as well as college students. She asked that everyone not only read the article, but lend their support by making it a point to stop by and visit. *(Councilmember Carr asked that a copy of the article be placed into the record.)*

Councilmember Carr announced the loss of her neighbor and good friend, Bill Thomas. Bill was a longtime resident and Episcopal Priest who served at Burrows as their Admissions Counselor and Instructor of English. He also was a member of the City's Senior Commission. Councilmember Carr stated it is with great sadness that she says goodbye to Mr. Thomas.

- Q.** Roll-Call vote to go into a Closed Council Session according to RSMo 610.021; (1) Legal actions, causes of action or litigation involving a public governmental body and any confidential or privileged communications between a public governmental body or its representatives and its attorneys, and Section 610.021 and (3) – (hiring of a particular employees by a governmental body when personal information about the employee is discussed or recorded). "Personal information" means information relating to the performance or merit of individual employees.

Councilmember Carr moved to go into executive session, seconded by Councilmember Smotherson.

Roll Call vote was:

AYES: Councilmember Smotherson, Councilmember Carr, Councilmember McMahon and Councilmember Crow.

NAYS: *(Councilmember Glickert abstained from voting due to his inability to attend the session.)*

R. ADJOURNMENT

Councilmember Crow closed the regular City Council meeting at 6:57 p.m. to go into a Closed Session on the second floor. The Closed Session reconvened in an open session at 7:18 p.m.

LaRette Reese
Interim City Clerk



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: 95 Gallon Recycling Carts

AGENDA SECTION: City Manager's Report

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The City of University City applied for and received a grant from the St. Louis Solid Waste Management District to provide recycling education as well as purchase 95 gallon recycling carts to replace the 65 gallon recycling carts utilized by many residents throughout University City. \$35,000 in grant funds with dedicated \$10,027.85 minimum City match funds for approximately 1,000 95 gallon recycling carts was specified in the grant.

When University City began single stream recycling in 2007, 45 gallon containers were used for recycling while 90 gallon containers were used for trash. Since then, the City has increased the size of the containers to primarily 65 gallon carts. Approximately 70% of residents have 65 gallon recycling carts and 30% have 95 gallon recycling carts. 65 gallon recycling containers are given to residents unless they request larger containers. The practice of using 65 gallon carts for recycling and 95 gallon carts for trash gives an inaccurate perception that there are less recyclable materials than trash. In reality, about 75% of all waste is recyclable, and therefore, recycling containers should be equal to or larger than trash carts. The 65 gallon carts which will be phased out will still be used for seniors or residents requesting the smaller size carts.

A request for bids was advertised in three local newspapers on September 6, 2017. The bids were due on September 21, 2017. The City performed a field test on the containers. The container sample supplied by Kelly Equipment performed the best during the testing. The sides are flexible and did not damage during grabbing, lifting, and lowering. This was not the case for the IPL Mastercart.

The bid results for the trash and recycling carts are as follows:

Company Name	Cart	Delivered Unit Price	Cost for 2,000 carts
IPL Inc.	IPL Mastercart 70269	42.68	\$85,360
Kelly Equipment	Otto MSD-95E Edge	48.35	\$96,700
Downing Sales and Service	Cascade Engineering 96 Gallon	49.15	\$98,300
Rehrig Pacific Company	ROC-95EG	49.35	\$98,700
Toter LLC	Toter Model 79296 - 96 Gallon	51.79	\$103,580
Schaefer Systems International Inc.	Schaefer USD95M	52.51	\$105,020

**90 – 96 Gallon Roll-out Cart
BID FORM**

Cart size: 90-96 gallon

Quantity: at least 1,000 (in partial shipments as applicable)

Specifications: Cart proposed must meet the specifications of an Otto MSD-95E Edge container or approved equal heat stamped with the City provided logos. Please read this full Request for Bid Document for detailed specifications.

Color: Medium (Cobalt) Blue

Logo specifications: Required logos and wording shall be affixed by hot stamp onto the cart body. See attached for exact logo specifications.

Serial Numbers: Each container must have an associated serial number (hot stamped) in white on the front face of its body. The final 8-9 character serial number shall be determined by the City. Bidder will maintain a file that will identify the date of manufacture by the serial number.

User Instruction: Instructions for the safe use of the container must be molded into each lid.

Load Rating: The load rating of the container must be raised-relief molded into the lid. Load rating shall be stated in both pounds and kilograms.

Deliverables: Bidder must include a color picture of the recycling containers, drawings of logos/hot stamps, product specification and assembly sheets, and a color sample if requested.

Warranty: Minimum of 7 years.

ITEM	RESPONSE
Cart Proposed	IPL Mastercart 70269
Delivery Days from Placement of Order	35 days A.R.O.
Photo Included (yes or no)	Yes
Logo drawings included (yes or no)	Yes
Warranty terms included (yes or no)	Yes
Height of Container (inches)	44 1/2"
Length of Container (inches)	34 3/8"
Width of Container (inches)	25 1/8"
Load Rating of Container (pounds)	335 lbs.
Maneuverability - Average tipping force required to maneuver a fully loaded container when tilted to the roll position (pounds)	71 lbs.
Resin weight of container (pounds)	29 lbs.
Body wall thickness (inches)	0.150"
Critical wear point thickness (inches)	0.150"
Weight of fully assembled container (pounds)	39 lbs.

Parts Availability – Please indicate the replacement parts available for the container:

Replacement parts list available is available attached.

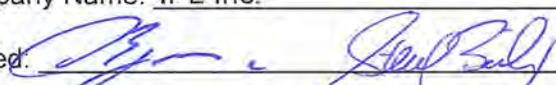
If the proposed product does not meet specifications, please describe:

N/A

Warranty: Bidder must submit with bid a document which clearly states the exact warranty of the bidder. The warranty must be for no less than seven (7) full years and must specifically provide for no-charge replacement of any component parts which fail in materials of workmanship for a period of seven (7) years after installation. The bidders warranty is understood to include, whether stated in bidder's warranty or not, the following coverage:

	YES	NO
Failure of the lid to prevent rain water from entering the container when in the closed position.	X	
Damage to the container body, lid, or any component parts through opening or closing the lid.	X	
Failure of the body and lid to maintain their original shape.	X	
Damage or cracking of the container body through normal operating conditions.	X	
Failure of the wheels to provide continuous, easy mobility, as originally designed.	X	
Failure of any part to conform to minimum standards as specified herein.	X	
Warranty specimen of exact warranty offered must be included with proposal.	X	

PRODUCT DESCRIPTION	PRODUCT MANUFACTURER & MODEL NUMBER	SPECIFY TRUCKLOAD QUANTITY	SPECIFY MINIMUM ORDER AT THIS PRICE	DELIVERED UNIT PRICE
90-96 Gallon Roll-Out Recycle Cart (Delivered Price)	IPL Mastercart 70269	720 units	720 units	\$ 42.68

Company Name: IPL Inc.
 Signed:  Date: 09-18-2017
 Printed Name: Stephen Byrns / Steve Boily
 Title: Director of Administrative Services / VP Finance
 Address: 165 Industrial Park Road, Forsyth, GA 31029

Is your company MBE or WBE? YES NO

**90 – 96 Gallon Roll-out Cart
BID FORM**

Cart size: 90-96 gallon

Quantity: at least 1,000 (in partial shipments as applicable)

Specifications: Cart proposed must meet the specifications of an Otto MSD-95E Edge container or approved equal heat stamped with the City provided logos. Please read this full Request for Bid Document for detailed specifications.

Color: Medium (Cobalt) Blue

Logo specifications: Required logos and wording shall be affixed by hot stamp onto the cart body. See attached for exact logo specifications.

Serial Numbers: Each container must have an associated serial number (hot stamped) in white on the front face of its body. The final 8-9 character serial number shall be determined by the City. Bidder will maintain a file that will identify the date of manufacture by the serial number.

User Instruction: Instructions for the safe use of the container must be molded into each lid.

Load Rating: The load rating of the container must be raised-relief molded into the lid. Load rating shall be stated in both pounds and kilograms.

Deliverables: Bidder must include a color picture of the recycling containers, drawings of logos/hot stamps, product specification and assembly sheets, and a color sample if requested.

Warranty: Minimum of 7 years.

ITEM	RESPONSE
Cart Proposed	Cascade Engineering - 96 Gallon Cart without Lift Bar
Delivery Days from Placement of Order	<i>Delivery is based on current production schedules and may vary at time of order.</i> Due to recent hurricanes in the U.S., Cascade estimates that carts can begin shipping within 45-90 days after receipt of order and final approved artwork.
Photo Included (yes or no)	Yes
Logo drawings included (yes or no)	No
Warranty terms included (yes or no)	Yes
Height of Container (inches)	46 Inches
Length of Container (inches)	31.5 Inches
Width of Container (inches)	23 Inches
Load Rating of Container (pounds)	336 Pounds
Maneuverability - Average tipping force required to maneuver a fully loaded container when tilted to the roll position (pounds)	76 Pounds
Resin weight of container (pounds)	34 Pounds
Body wall thickness (inches)	.175 Inches
Critical wear point thickness (inches)	.185 Inches
Weight of fully assembled container (pounds)	37.25 Pounds

Parts Availability – Please indicate the replacement parts available for the container:

See Attached 96 Gallon Spare Parts

If the proposed product does not meet specifications, please describe:

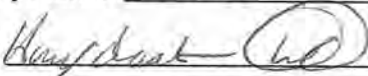
See Attached Exceptions Page

Warranty: Bidder must submit with bid a document which clearly states the exact warranty of the bidder. The warranty must be for no less than seven (7) full years and must specifically provide for no-charge replacement of any component parts which fail in materials or workmanship for a period of seven (7) years after installation. The bidder's warranty is understood to include, whether stated in bidder's warranty or not, the following coverage:

	YES	NO
Failure of the lid to prevent rain water from entering the container when in the closed position.	X	
Damage to the container body, lid, or any component parts through opening or closing the lid.	X	
Failure of the body and lid to maintain their original shape.	X	
Damage or cracking of the container body through normal operating conditions.	X	
Failure of the wheels to provide continuous, easy mobility, as originally designed.	X	
Failure of any part to conform to minimum standards as specified herein.	X	
Warranty specimen of exact warranty offered must be included with proposal.	X	

PRODUCT DESCRIPTION	PRODUCT MANUFACTURER & MODEL NUMBER	SPECIFY TRUCKLOAD QUANTITY	SPECIFY MINIMUM ORDER AT THIS PRICE	DELIVERED UNIT PRICE
90-96 Gallon Roll-Out Recycle Cart (Delivered Price)	Cascade Engineering 96 Gallon Cart without Lift Bar	580	1,000	\$ 49.15 Each

Company Name: Downing Sales & Service, Inc.

Signed:  Date: 09-21-17

Printed Name: Harry Gaab

Title: Sales Representative

Address: 3 Indigo Road, Phillipsburg, MO 65722

417-589-6227

Is your company MBE or WBE? YES NO

Downing Sales & Service, Inc. is 100% Woman owned, but not yet certified.

90 – 96 Gallon Roll-out Cart
 BID FORM

Cart size: 90-96 gallon
Quantity: at least 1,000 (in partial shipments as applicable)
Specifications: Cart proposed must meet the specifications of an Otto MSD-95E Edge container or approved equal heat stamped with the City provided logos. Please read this full Request for Bid Document for detailed specifications.
Color: Medium (Cobalt) Blue
Logo specifications: Required logos and wording shall be affixed by hot stamp onto the cart body. See attached for exact logo specifications.
Serial Numbers: Each container must have an associated serial number (hot stamped) in white on the front face of its body. The final 8-9 character serial number shall be determined by the City. Bidder will maintain a file that will identify the date of manufacture by the serial number.
User Instruction: Instructions for the safe use of the container must be molded into each lid.
Load Rating: The load rating of the container must be raised-relief molded into the lid. Load rating shall be stated in both pounds and kilograms.
Deliverables: Bidder must include a color picture of the recycling containers, drawings of logos/hot stamps, product specification and assembly sheets, and a color sample if requested.
Warranty: Minimum of 7 years.

ITEM	RESPONSE
Cart Proposed	Otto MSD-95E "Edge"
Delivery Days from Placement of Order	45 days
Photo Included (yes or no)	yes
Logo drawings included (yes or no)	yes
Warranty terms included (yes or no)	10-year non-prorated
Height of Container (inches)	45.375 inches
Length of Container (inches)	32.25 inches
Width of Container (inches)	27.5 inches
Load Rating of Container (pounds)	335
Maneuverability - Average tipping force required to maneuver a fully loaded container when tilted to the roll position (pounds)	85
Resin weight of container (pounds)	31.05 pounds
Body wall thickness (inches)	.15 inches
Critical wear point thickness (inches)	.15 inches
Weight of fully assembled container (pounds)	38.3 pounds

Parts Availability – Please indicate the replacement parts available for the container:
 Enclosed

If the proposed product does not meet specifications, please describe:
 Please see enclosed graphics for the front of the cart, and instructions for use.

Warranty: Bidder must submit with bid a document which clearly states the exact warranty of the bidder. The warranty must be for no less than seven (7) full years and must specifically provide for no-charge replacement of any component parts which fail in materials of workmanship for a period of seven (7) years after installation. The bidders warranty is understood to include, whether stated in bidder's warranty or not, the following coverage:

	YES	NO
Failure of the lid to prevent rain water from entering the container when in the closed position.	YES	
Damage to the container body, lid, or any component parts through opening or closing the lid.	YES	
Failure of the body and lid to maintain their original shape.	YES	
Damage or cracking of the container body through normal operating conditions.	YES	
Failure of the wheels to provide continuous, easy mobility, as originally designed.	YES	
Failure of any part to conform to minimum standards as specified herein.	YES	
Warranty specimen of exact warranty offered must be included with proposal.	YES	

PRODUCT DESCRIPTION	PRODUCT MANUFACTURER & MODEL NUMBER	SPECIFY TRUCKLOAD QUANTITY	SPECIFY MINIMUM ORDER AT THIS PRICE	DELIVERED UNIT PRICE
90-96 Gallon Roll-Out Recycle Cart (Delivered Price)	OTTO Edge-95	456	456	\$ 48.35

Company Name: Kelly Equipment
 Signed: Kathleen Saunders Date: 9/19/17
 Printed Name: Kathleen Saunders
 Title: Sales Manager
 Address: 1182 295th Avenue
Fort Madison, IA 52627

Is your company MBE or WBE? YES

NO

**90 – 96 Gallon Roll-out Cart
BID FORM**

REHRIG PACIFIC COMPANY

Cart size: 90-96 gallon

Quantity: at least 1,000 (in partial shipments as applicable)

Specifications: Cart proposed must meet the specifications of an Otto MSD-95E Edge container or approved equal heat stamped with the City provided logos. Please read this full Request for Bid Document for detailed specifications.

Color: Medium (Cobalt) Blue

Logo specifications: Required logos and wording shall be affixed by hot stamp onto the cart body. See attached for exact logo specifications.

Serial Numbers: Each container must have an associated serial number (hot stamped) in white on the front face of its body. The final 8-9 character serial number shall be determined by the City. Bidder will maintain a file that will identify the date of manufacture by the serial number.

User Instruction: Instructions for the safe use of the container must be molded into each lid.

Load Rating: The load rating of the container must be raised-relief molded into the lid. Load rating shall be stated in both pounds and kilograms.

Deliverables: Bidder must include a color picture of the recycling containers, drawings of logos/hot stamps, product specification and assembly sheets, and a color sample if requested.

Warranty: Minimum of 7 years.

ITEM	RESPONSE
Cart Proposed	ROC-95EG
Delivery Days from Placement of Order	30 Days ARO
Photo Included (yes or no)	Yes
Logo drawings included (yes or no)	Yes
Warranty terms included (yes or no)	Yes - 10 year non-prorated warranty
Height of Container (inches)	43.5"
Length of Container (inches)	33.3"
Width of Container (inches)	29.2"
Load Rating of Container (pounds)	332.5 lbs
Maneuverability - Average tipping force required to maneuver a fully loaded container when tilted to the roll position (pounds)	95.5 lbs
Resin weight of container (pounds)	32 lbs
Body wall thickness (inches)	0.165"
Critical wear point thickness (inches)	0.190"
Weight of fully assembled container (pounds)	35 lbs

Parts Availability – Please indicate the replacement parts available for the container:

See attached list of replacement parts.

If the proposed product does not meet specifications, please describe:

Rehrig Pacific does not offer branding on the front on the container, but would provide the City with the same color blue carts we provided them from 2010 through 2014. Please see the notes of clarification under the specifications.

REHRIG PACIFIC COMPANY

Warranty: Bidder must submit with bid a document which clearly states the exact warranty of the bidder. The warranty must be for no less than seven (7) full years and must specifically provide for no-charge replacement of any component parts which fail in materials or workmanship for a period of seven (7) years after installation. The bidder's warranty is understood to include, whether stated in bidder's warranty or not, the following coverage:

	YES	NO
Failure of the lid to prevent rain water from entering the container when in the closed position.	X	
Damage to the container body, lid, or any component parts through opening or closing the lid.	X	
Failure of the body and lid to maintain their original shape.	X	
Damage or cracking of the container body through normal operating conditions.	X	
Failure of the wheels to provide continuous, easy mobility, as originally designed.	X	
Failure of any part to conform to minimum standards as specified herein.	X	
Warranty specimen of exact warranty offered must be included with proposal.	X	

PRODUCT DESCRIPTION	PRODUCT MANUFACTURER & MODEL NUMBER	SPECIFY TRUCKLOAD QUANTITY	SPECIFY MINIMUM ORDER AT THIS PRICE	DELIVERED UNIT PRICE
90-96 Gallon Roll-Out Recycle Cart (Delivered Price)	Rehrig Pacific Company ROC-95EG	702	200	\$49.35

Company Name: Rehrig Pacific Company

Signed:  Date: September 19, 2017

Printed Name: Rebecca Engberg

Title: Customer Service Specialist

Address: 8875 Commerce Dr
DeSoto, KS 66018

Is your company MBE or WBE? YES NO

90 – 96 Gallon Roll-out Cart
 BID FORM

Cart size: 90-96 gallon

Quantity: at least 1,000 (in partial shipments as applicable)

Specifications: Cart proposed must meet the specifications of an Otto MSD-95E Edge container or approved equal heat stamped with the City provided logos. Please read this full Request for Bid Document for detailed specifications.

Color: Medium (Cobalt) Blue

Logo specifications: Required logos and wording shall be affixed by hot stamp onto the cart body. See attached for exact logo specifications.

Serial Numbers: Each container must have an associated serial number (hot stamped) in white on the front face of its body. The final 8-9 character serial number shall be determined by the City. Bidder will maintain a file that will identify the date of manufacture by the serial number.

User Instruction: Instructions for the safe use of the container must be molded into each lid.

Load Rating: The load rating of the container must be raised-relief molded into the lid. Load rating shall be stated in both pounds and kilograms.

Deliverables: Bidder must include a color picture of the recycling containers, drawings of logos/hot stamps, product specification and assembly sheets, and a color sample if requested.

Warranty: Minimum of 7 years.

ITEM	RESPONSE
Cart Proposed	Schaefer USD95M
Delivery Days from Placement of Order	30 Days
Photo Included (yes or no)	Yes (Brochure also included)
Logo drawings included (yes or no)	Yes
Warranty terms included (yes or no)	Yes
Height of Container (inches)	44.3"
Length of Container (inches)	31.5"
Width of Container (inches)	27.6"
Load Rating of Container (pounds)	335 pounds
Maneuverability - Average tipping force required to maneuver a fully loaded container when tilted to the roll position (pounds)	58 pounds
Resin weight of container (pounds)	30 pounds
Body wall thickness (inches)	0.173"
Critical wear point thickness (inches)	0.211"
Weight of fully assembled container (pounds)	36 pounds

Parts Availability – Please indicate the replacement parts available for the container:

Replacement parts price list provided with bid. Parts available are: Cart Body, Cart Lid, Lid Axle,

Lid Axle End Cap, Wheel(s), Wheel Axle, Lower Lift Bar

If the proposed product does not meet specifications, please describe:

The upper lift point of Schaefer containers are reinforced with support gussets and do not require seven support ribs for functionality.

Warranty: Bidder must submit with bid a document which clearly states the exact warranty of the bidder. The warranty must be for no less than seven (7) full years and must specifically provide for no-charge replacement of any component parts which fail in materials or workmanship for a period of seven (7) years after installation. The bidder's warranty is understood to include, whether stated in bidder's warranty or not, the following coverage:

	YES	NO
Failure of the lid to prevent rain water from entering the container when in the closed position.	X	
Damage to the container body, lid, or any component parts through opening or closing the lid.	X	
Failure of the body and lid to maintain their original shape.	X	
Damage or cracking of the container body through normal operating conditions.	X	
Failure of the wheels to provide continuous, easy mobility, as originally designed.	X	
Failure of any part to conform to minimum standards as specified herein.	X	
Warranty specimen of exact warranty offered must be included with proposal.	X	

PRODUCT DESCRIPTION	PRODUCT MANUFACTURER & MODEL NUMBER	SPECIFY TRUCKLOAD QUANTITY	SPECIFY MINIMUM ORDER AT THIS PRICE	DELIVERED UNIT PRICE
90-96 Gallon Roll-Out Recycle Cart (Delivered Price)	Schaefer Systems International, Inc. USD95M	549	Truckload	\$ 52.51

Company Name: Schaefer Systems International, Inc.

Signed: *Maria Frizzell* Date: September 18, 2017

Printed Name: Maria Frizzell

Title: CEO, Waste Technology Division

Address: 10021 Westlake Drive

Charlotte, North Carolina 28273

Is your company MBE or WBE? YES NO

**90 – 96 Gallon Roll-out Cart
BID FORM**

Cart size: 90-96 gallon

Quantity: at least 1,000 (in partial shipments as applicable)

Specifications: Cart proposed must meet the specifications of an Otto MSD-95E Edge container or approved equal heat stamped with the City provided logos. Please read this full Request for Bid Document for detailed specifications.

Color: Medium (Cobalt) Blue

Logo specifications: Required logos and wording shall be affixed by hot stamp onto the cart body. See attached for exact logo specifications.

Serial Numbers: Each container must have an associated serial number (hot stamped) in white on the front face of its body. The final 8-9 character serial number shall be determined by the City. Bidder will maintain a file that will identify the date of manufacture by the serial number.

User Instruction: Instructions for the safe use of the container must be molded into each lid.

Load Rating: The load rating of the container must be raised-relief molded into the lid. Load rating shall be stated in both pounds and kilograms.

Deliverables: Bidder must include a color picture of the recycling containers, drawings of logos/hot stamps, product specification and assembly sheets, and a color sample if requested.

Warranty: Minimum of 7 years.

ITEM	RESPONSE
Cart Proposed	Toter Model 79296 - 96 Gallon Cart
Delivery Days from Placement of Order	6-8 weeks from Toter's receipt in writing of City's Purchase Order, Order Confirmation and Markings Approvals form.
Photo Included (yes or no)	Yes
Logo drawings included (yes or no)	Yes
Warranty terms included (yes or no)	Yes
Height of Container (inches)	43.50 inches
Length of Container (inches)	35.50 inches
Width of Container (inches)	29.75 inches
Load Rating of Container (pounds)	335 pounds
Maneuverability - Average tipping force required to maneuver a fully loaded container when tilted to the roll position (pounds)	67.6 pounds
Resin weight of container (pounds)	30.5 pounds
Body wall thickness (inches)	nominal 0.15" inches throughout cart body
Critical wear point thickness (inches)	nominal 0.15" inches throughout cart body
Weight of fully assembled container (pounds)	35.4 pounds

Parts Availability – Please indicate the replacement parts available for the container:

Please see attached parts list and assembly instructions.

If the proposed product does not meet specifications, please describe:

Please see attached.

Warranty: Bidder must submit with bid a document which clearly states the exact warranty of the bidder. The warranty must be for no less than seven (7) full years and must specifically provide for no-charge replacement of any component parts which fail in materials of workmanship for a period of seven (7) years after installation. The bidder's warranty is understood to include, whether stated in bidder's warranty or not, the following coverage:

	YES	NO
Failure of the lid to prevent rain water from entering the container when in the closed position.	✓	
Damage to the container body, lid, or any component parts through opening or closing the lid.	✓	
Failure of the body and lid to maintain their original shape.	✓	
Damage or cracking of the container body through normal operating conditions.	✓	
Failure of the wheels to provide continuous, easy mobility, as originally designed.	✓	
Failure of any part to conform to minimum standards as specified herein.	✓	
Warranty specimen of exact warranty offered must be included with proposal.	✓	

PRODUCT DESCRIPTION	PRODUCT MANUFACTURER & MODEL NUMBER	SPECIFY TRUCKLOAD QUANTITY	SPECIFY MINIMUM ORDER AT THIS PRICE	DELIVERED UNIT PRICE
90-96 Gallon Roll-Out Recycle Cart (Delivered Price)	Toter, LLC - EVR II Universal/ Nestable 96 Gallon Cart	624 carts	624 carts	\$ 51.79

Company Name: Toter, LLC

Signed:  Date: September 18, 2017

Printed Name: James W. Pickett

Title: Vice President, Sales

Address: 841 Meacham Road

Statesville, NC 28677

Is your company MBE or WBE? YES NO

Recommendation: The grant budget would limit the number of carts ordered to 931 carts. Because the City is due to request bids for its annual cart order which includes recycling carts, it is recommended to accept the bid submitted by Kelly equipment for \$48.35 per cart delivered and order 2,000 recycling carts in the amount of \$96,700. \$35,000 grant funds would offset this cost; \$61,700 would be needed from the regular budgeted annual cart order.

Attachment: All bid documents.

City Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: Authorization for the Interim City Manager to Enter into a Contract for Planning Consulting Services to Prepare a Conditions/Qualification Analysis and Redevelopment Plan in accordance with the Real Property Tax Increment Allocation Redevelopment Act (the “TIF Act”) for the Olive and I-170, and Olive north redevelopment areas.

AGENDA SECTION: City Manager’s Report

CAN THIS ITEM BE RESCHEDULED? : No

BACKGROUND REVIEW: In March 2017, the City of University City issued a Request for Proposals (“RFP”) for the redevelopment of a multi-parcel site in the northwestern portion of the City generally located at the intersection of Olive Boulevard and I-170. One response was received and the City is currently evaluating the proposal. Public financing, specifically tax increment financing, will be sought for the proposed redevelopment, should the project move forward.

In anticipation of a formal request for public financing, the City sought the services of a consultant to prepare a conditions/qualification analysis and redevelopment plan in accordance with the Real Property Tax Increment Allocation Redevelopment Act (the “TIF Act”). The RFP was issued in September 2017 for two redevelopment areas: the redevelopment site and an expanded area (see map - Attachment 1).

Two responses were received. A brief comparison of the submittals is below:

*SITE ONLY					
<i>Firm</i>	<i>Scope of Work</i>	<i>Timeframe for Draft</i>	<i>Fee</i>	<i>Project Manager</i>	<i>Experience with Similar Projects</i>
PGAV	Analysis and C/B in accordance with TIF Act; includes meetings, publications, notices	6 weeks	\$35,000 NTE	Andy Struckoff	Relevant; Joplin - completed TIF process within 4 months
Development Strategies	Analysis and C/B in accordance with TIF Act. Meeting attendance, revisions etc. billed separately	60 days	\$52,500	Larry Marks	Relevant

EXPANDED STUDY AREA					
<i>Firm</i>	<i>Scope of Work</i>	<i>Timeframe for Draft</i>	<i>Fee</i>	<i>Project Manager</i>	<i>Experience with Similar Projects</i>
PGAV	As per TIF; includes meetings, publications, notices	2 months	\$95,000 for both areas	Andy Struckoff	Relevant
Development Strategies	Focus on Olive Boulevard; generalized by block in residential; does not include meetings	30 days for Olive	\$53,750	Larry Marks	Relevant

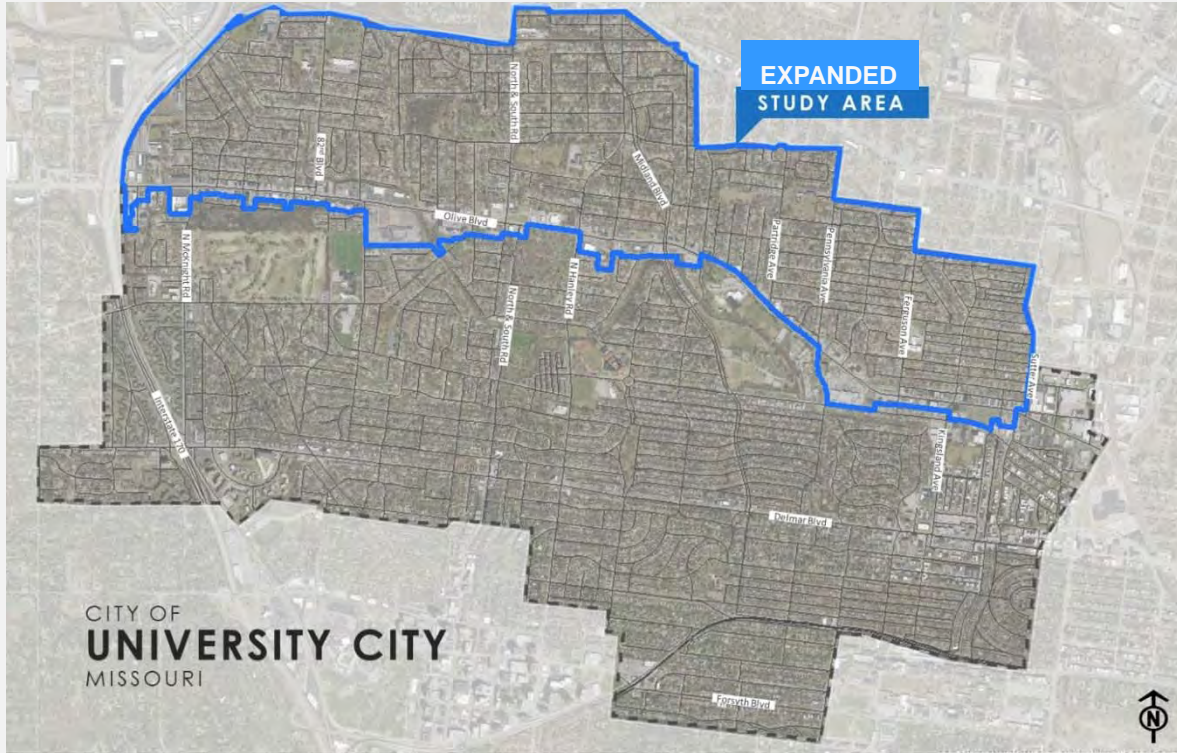
* Respondents were asked to submit a scope of work and associated information for the Redevelopment Site and a separate response for the Expanded Study area

City staff and special counsel reviewed the submittals and recommend PGAV be engaged to study the expanded area. A draft contract is attached and has been reviewed by the City Attorney and special counsel. The study will be funded by the proposed developer in accordance with a Funding Agreement. An amendment to that agreement is to be considered as a separate agenda item.

Recommendation: Authorization for Interim City Manager to Execute a Contract with PGAV for Expanded Study Area.

Attachments: 1: Study Area Map
2: Draft Contract with PGAV

Expanded Study Area



Redevelopment Site Study Area



**CONTRACT FOR PROFESSIONAL SERVICES
BETWEEN
CITY OF UNIVERSITY CITY, MISSOURI.
AND
PGAV PLANNERS, LLC**

THIS AGREEMENT, is entered into on the date and by execution shown hereafter by and between the City of University City, Missouri (hereinafter referred to as the “Client” or “City”) and PGAV Planners, LLC (hereinafter referred to as “PGAV”).

WITNESSETH:

Whereas, the Client is interested in the redevelopment and improvement of an area within the City; and

Whereas, the Client wishes to secure planning and economic development consulting services for the creation of a Tax Increment Financing (TIF) District under the provisions of the Tax Increment Allocation Redevelopment Act, Section 99.800 – 99.865 R.S. MO, as amended, (the "TIF Act"); and

Whereas, PGAV is duly experienced in providing planning and economic development services for such projects; and

Now, therefore, the parties hereto do mutually agree as follows:

I. SCOPE OF SERVICES

The following Scope of Services will be completed for the Study Area as outlined in the following sections of this Agreement in accordance with the tasks described therein:

A. Qualification Analysis and Boundary Refinement

1. PGAV will conduct an investigation of existing conditions to evaluate the potential for designation of the Area as a Tax Increment Financing (TIF) district in accord with the provisions of the TIF Act. This evaluation will include, but not necessarily be limited to, a review of current conditions and factors present in the Study Area based on the criteria as set forth in the TIF Act.
2. PGAV will review existing conditions and assessed value data to assist in establishing the preliminary boundary of the Redevelopment Area.
3. PGAV will meet with the Client, and other parties that the Client may designate, to present a recommended boundary before proceeding to develop the Plan.

B. Redevelopment Plan

PGAV will prepare a Redevelopment Plan for the designated redevelopment project area that addresses the following elements of a Redevelopment Plan under the TIF Act:

1. Plan objectives;
2. General description of the program to be undertaken to accomplish the objectives;
3. Estimated redevelopment project costs;
4. Anticipated sources of funds to pay the costs;
5. Evidence of the commitments to finance the project costs;
6. Anticipated type and term of the sources of funds to pay costs;
7. Anticipated type and terms of the obligations to be issued;
8. Most recent equalized assessed valuation of the redevelopment area;
9. An estimate as to the equalized assessed valuation after redevelopment;
10. General land uses to apply in the redevelopment area; and
11. Such other items necessary to establish a Redevelopment Area pursuant to Section 99.805 R.S.Mo., as amended, including (except as provided for in Section VI of this Agreement as outlined below):
 - (a) Development of a master address list for mailing notification letters to taxing districts and property owners, and development of draft newspaper notices required for compliance with TIF Act notification provisions. (Note: the City will be responsible for actually printing and mailing the notification letters and placement of the published notices in the newspaper);
 - (b) The required narrative, tabular, graphic data and map exhibits necessary to constitute the Redevelopment Plan document;
 - (c) Development of a project schedule to be used as the ongoing agenda for program and plan implementation; and

- (d) Coordination of program activities with other participants, including the key Client staff, City Attorney, Special TIF Counsel, Bond Counsel, and any Investment Banker/Bond Underwriter.

C. Revenue Analysis and Cost/Benefit Analysis

1. Using methodology that PGAV has developed and implemented on many similar projects, PGAV will prepare estimates of the various taxes to be generated from the implementation of the redevelopment project. These estimates will cover local taxes from real property, sales (including TDD or CID, if appropriate), utility, and personal property by the phases of the development program and full build-out. These estimates will form the basis for determining potential financing of certain eligible development costs to be financed publicly using TIF assistance that may be authorized by the City. As a component of the revenue projections, PGAV will work with the Client, the City, and St. Louis County to obtain the current base level assessed value and sales taxes within the proposed Redevelopment Area.
2. A cost/benefit analysis will be provided as a separate document for use by the Client and the City. The cost-benefit analysis will show the potential economic impact of the plan on each taxing district that is wholly or partially within the boundaries of the redevelopment area. The analysis will document the following potential impacts per the revised TIF Act:
 - If the project is not built;
 - If the project is built pursuant to the redevelopment plan; and
 - The fiscal impact on affected political subdivisions.
3. Neither the Revenue Analysis or the Cost/Benefit Analysis are intended to or shall be construed by the Client, the City, or third parties to satisfy the provisions of the TIF Act as contained in R.S. MO 99.810, 1 (5) relative to determination that “the project as proposed is financially feasible”. Such information documenting whether the project, as proposed, is financially feasible is to be provided by the Client. PGAV assumes no responsibility for the production or the evaluation of this information. Furthermore, the Revenue Analysis and/or the Cost/Benefit Analysis as provided for above are intended solely to demonstrate the elements and information as described above. These items are not intended to be a substitute for the responsible reviews of private lending institutions who may be contemplating or have conditionally committed to project financing.

D. Funding Program Development

PGAV Planners staff will work with the City and its development partners to draft application materials for a program for using and/or leveraging available TIF revenues to fund certain improvements to commercial and residential properties within the Expanded Study Area.

E. Assistance at Meetings

PGAV will attend the public hearing, make presentations, and meet with the TIF Commission, Client staff, and City officials as deemed necessary by PGAV and the Client to perform the services required by this Contract.

II. INFORMATION TO BE PROVIDED BY THE CLIENT

A. Depending upon where such information may be located and maintained, the Client will provide to PGAV available data as follows:

1. Data and/or contact persons who may provide information regarding proposed plans or projects that are contemplated in the Redevelopment Area;
2. Such Geographic Information Systems (“GIS”) mapping information PGAV requires in order to create map exhibits for the Redevelopment Plan including, but not necessarily limited to, parcel boundaries, road centerlines, project boundary, infrastructure, floodplain, water features, etc.;
3. Data which the City has or which may be readily acquired without extensive research which may assist in the establishment of blighting conditions in the area, including information regarding, but not necessarily limited to, building code violations, crime data, fire data, and infrastructure problems;
4. Data provided by a recognized financial advisor, bond underwriter, or other sources that can be used to fulfill the statutory requirement regarding evidence of commitment to finance Redevelopment Plan and Project costs;
5. A written boundary description for the area selected as the final boundary of the Redevelopment Area prepared by a Land Surveyor registered in the State of Missouri; and
6. The services of the Client Attorney (and Special/Bond Counsel, if appropriate) for counsel, review, and assistance in establishing and monitoring a project schedule, including verification of compliance with the TIF Act of the timing and performance by Client staff, Client Attorney, City Attorney, or Special Counsel of published notices and certified mailings. Review comments on materials submitted by PGAV to these parties for review shall occur within 5 business days of receipt by the reviewing party.

B. In addition, the Client will provide the following items necessary for notification compliance for implementation of the Redevelopment Plan:

1. Printing and mailing of the taxing district notification letters;

2. Actual placement of newspaper public notices (including associated costs); and
3. Printing and mailing of the notices to the person in whose name taxes were paid and notices for Requests for Proposals.

III. TIMING OF PERFORMANCE

The work on all tasks as provided for herein will begin upon execution of this agreement (which shall constitute “notice to proceed” unless otherwise provided in written or electronic form by the Client) and will be conducted based on a mutually agreed upon schedule.

IV. COMPENSATION

The fee for the completed services will be as stated below. All fees as stated are exclusive of reimbursable expenses which are defined below.

- A. Work Tasks I.A – Qualification Analysis and Boundary Refinement, I.B – Redevelopment Plan, I.D – Funding Program Development and I.E – Assistance at Meetings will be conducted for the lump sum amount of Seventy-Five Thousand Dollars (\$75,000). Compensation shall be made to PGAV based on submission of an invoice on a monthly basis outlining the work performed and based on the staff time associated with the conduct of the work, plus the actual cost of any reimbursable expenses.
- B. The work task I.C – Cost Benefit Analysis will be conducted on an hourly basis for an amount not to exceed Twenty Thousand Dollars (\$20,000), plus reimbursable expenses, and will be billed to the Client in accord with the schedule of hourly rates as set forth below:

Project Staff	Staff Members	Hourly Rate
Vice President	John Brancaglione, Andy Struckhoff	\$230
Director	Mike Weber	\$200
Senior Project Manager	Andrew Murray	\$175
Project Manager/GIS Manager & Project Planner	Jenny Ryan; Adam Stroud; Mike Cummings	\$135
Administrative/Technical Assistance		\$90

- C. Reimbursable expenses will consist of reasonable travel expenses (if necessary and approved by the client in advance), local mileage, long distance telephone charges, express delivery charges, photographic expenses, the cost of printing or other reproduction of documents, fees or charges for documents owned by others, and other "out-of-pocket" expenses required to provide the services described. Such expenses will be billed at their direct cost to PGAV.
- D. If the Client fails to make payment due PGAV for services and reimbursable expenses within 30 days after receipt of our statement, the amount due shall include a charge at the rate of 1½% per month from the 31st day. In addition, if no payment has been received within 60 days after receipt of our initial statement, PGAV will suspend services under this agreement until PGAV has been paid in full the amounts due for services and expenses.

V. TERMINATION OF AGREEMENT

If for any reason the Client determines that the work should be terminated, the Client will inform PGAV in writing that it wishes to terminate this agreement. The date of said

termination shall occur upon receipt of the written notice of termination by PGAV via the U.S. Postal Service or facsimile (followed by receipt of an original signature copy).

The Client will pay PGAV an amount representing the work performed to the date of termination, plus any expenses which have been incurred by PGAV to that date.

VI. SERVICES OUTSIDE THE SCOPE OF THIS AGREEMENT

The scope of work to be performed by PGAV shall be as provided for herein. The following work elements are hereby specifically noted as not included as tasks to be performed in conjunction with the terms of this agreement:

- A. Data collection and analysis relating to the parcels to be included within the boundaries of the proposed Redevelopment Area including:
 - 1. Preparation of notification letters to “the person or persons in whose name the taxes are paid.”
 - 2. Mailing and publication of all notices.
 - 3. Preparation of any legal descriptions associated with creation of a redevelopment area.
- B. Changes in the Redevelopment Plan document and map exhibits which occur after the version of the Redevelopment Plan is completed which is the result of the initial TIF Commission review, and where such changes are the result of one or more of the following actions on the part of the Client or the TIF Commission (to the extent that such changes are not the result of PGAV error or omission):
 - 1. Addition of properties;
 - 2. Substantial modification of the Redevelopment Area boundaries; and
 - 3. Substantial changes in the Redevelopment Plan and Project costs.
- C. A financial feasibility analysis sufficient to satisfy the provisions of the TIF Act as contained in R.S. MO 99.810, 1 (5) relative to determination that “the project as proposed is financially feasible”. Such information documenting whether the project, as proposed, is financially feasible is to be provided by the Client and PGAV assumes no responsibility for its production under any circumstances either as a part of this Agreement or as this Agreement may be modified subsequent to its execution by mutual decision of the Client and PGAV.

These services shall be considered additional work beyond the scope of this proposal. The Client may acquire the provision of such services by PGAV at an additional cost to be negotiated and provided for in the form of an addendum, or separate agreement, between the Client and PGAV.

VII. PROJECT STAFFING & MANAGEMENT

- A. PGAV hereby agrees to provide the qualified professional, technical, and clerical staff available within the firm to conduct the work in accordance with the tasks as outlined in Section I of this Agreement.

- B. If, in the opinion of PGAV and the Client, a particular assignment requires specialized expertise not available within the PGAV staff, the accomplishment of such tasks may be achieved through subcontract with firms or individuals subject to prior approval of the Client.

VIII. OWNERSHIP OF DOCUMENTS

PGAV agrees that any and all reports prepared, and conclusions reached hereunder, are for the confidential information of the Client and that neither PGAV nor any member of the PGAV staff will disclose any of the same with any person whatsoever, other than the Client or their authorized representatives, except when called upon to testify in relation to such report or conclusion under oath in a judicial forum, or as may be otherwise required by law. Except to the extent that documents, reports or other information are prepared under the provisions of this agreement and submitted to municipalities or other public entities wherein they become subject to Federal or State “sunshine law” provisions, the Client have sole ownership of all reports, maps, etc. prepared under this contract, including rights of copying and distribution.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be executed this _____ day of _____ 2017.

ATTEST:

CITY OF UNIVERSITY CITY, MISSOURI.

ATTEST:

PECKHAM GUYTON ALBERS & VIETS, INC.



Andy Struckhoff, AICP, DFCP
Vice President



John Brancagione
Vice President



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: Restated and Amended Preliminary Funding Agreement with U. City, L.L.C.

AGENDA SECTION: City Manager's Report

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The City issued a Request for Proposal (RFP) on March 29, 2017 to solicit redevelopment proposals for a 31-acre multi-parcel site under private ownership adjacent to the intersection of Olive Boulevard and Interstate 170. The City's intent was to encourage retail or office, hospitality and residential development of the site and help stimulate the overall redevelopment of the Olive Boulevard corridor and adjacent residential areas.

The RFP was directly mailed to 41 local, regional, and national developers; placed on the City's website; published in the local news media; and sent to existing property owners, the City of Olivette and local commercial real estate brokers. One response was received, from Novus Development Company, provided to the City Council on May 15, 2017.

A Preliminary Funding Agreement with the development entity, U. City, L.L.C., was approved by the City Council on August 14, 2017, and signed by the parties on August 30, 2017. Pursuant to the Agreement, U. City, L.L.C. advanced \$40,000 to the City to pay or reimburse the City for payment of actual costs incurred by the City for services provided by consultants and advisors (including attorneys, planners, and financial consultants) as the City deems advisable regarding its review of redevelopment plans, blight studies, and related documents, and negotiation of a redevelopment agreement, and for expenses incurred by the City (such as mailing, publication and similar costs) in connection with the foregoing.

The parties now wish to explore the feasibility of financing costs of redeveloping an expanded area that would include the site adjacent to Olive Boulevard and Interstate 170 and generally be bounded on the west by Interstate 170, on the east by Sutter Avenue, on the north by the City limits, and on the south by the commercial properties south of Olive Boulevard, and would also include the 8600 block of Mayflower Court and 1151 and 1157 North McKnight Road.

A Restated and Amended Preliminary Funding Agreement has been negotiated with U. City, L.L.C. that calls for U. City, L.L.C. to advance an additional \$55,000, for a total initial advance of \$95,000, and to thereafter maintain a balance of at least \$10,000, for the costs associated with the expanded area.

RECOMMENDATION:

Approval

ATTACHMENTS:

Restated and Amended Preliminary Funding Agreement with U. City, L.L.C.

AMENDED AND RESTATED PRELIMINARY FUNDING AGREEMENT

THIS AMENDED AND RESTATED PRELIMINARY FUNDING AGREEMENT (the "Agreement") is made and entered into as of the ____ day of _____, 2017, by and between the CITY OF UNIVERSITY CITY, MISSOURI (the "City") and U. CITY, L.L.C. (the "Company").

RECITALS

1. The Company has submitted a proposal to the City for the redevelopment property adjacent to the intersection of Interstate 170 and Olive Boulevard (the "Site").
2. The City is willing to explore the feasibility of financing a portion of the costs of redeveloping the Site through the use of tax increment financing or other economic development incentives, if the Company advances funds to pay the City's costs of exploring such incentives.
3. The City also wishes to explore the feasibility of financing costs of redeveloping an expanded area that would include the Site and generally would be bounded on the west by Interstate 170, on the east by Sutter Avenue, on the north by the City limits, and on the south by the commercial properties south of Olive Boulevard, and would also include the 8600 block of Mayflower Court and 1151 and 1157 North McKnight Road (the "Proposed Redevelopment Area").
4. The City and the Company entered into a Preliminary Funding Agreement dated as of August 30, 2017 (the "Original Funding Agreement"), pursuant to which the Company agreed to advance funds to pay certain costs of the City relating to the Site as described therein. The City and the Company desire to enter into this Agreement to provide for the payment of costs relating to the entire Proposed Redevelopment Area.

NOW THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. **Advance of Funds.** The City hereby acknowledges receipt from the Company of \$95,000 (which includes the sum of \$40,000 advanced by the Company pursuant to the Original Funding Agreement) to be used as initial preliminary funding in connection with the City's consideration of the adoption of tax increment financing or other economic development incentives in the Proposed Redevelopment Area (the "Preliminary Funds"). The City shall use the Preliminary Funds to pay or reimburse the City for payment of actual costs incurred by the City for services provided by such consultants and advisors (including, but not limited to attorneys, planners, and financial consultants) as the City deems advisable regarding the City's review of redevelopment plans, blight studies and related documents, and negotiation of a redevelopment agreement, and for expenses incurred by the City (such as mailing, publication and similar costs) in connection with the foregoing. The parties acknowledge that such amount is a substantial sum and agree to use their best efforts to work together to reduce the total costs to be paid out of the Preliminary Funds.
2. **Disbursement.** Subject to the remaining provisions of this Agreement, the City shall disburse Preliminary Funds for fees and expenses incurred or to reimburse the City for fees and expenses previously paid by the City upon receipt of (a) invoices for work performed by consultants and advisors, (b) invoices and/or receipts for out-of-pocket expenses incurred by such parties or the City for the planning, legal and financial work described above, and (c) such other supporting documentation as may be requested by the City. The City shall use reasonable care in ascertaining that the fees and expenses paid from the Preliminary Funds are fair and reasonable.

3. **Copies of Disbursement Requests.** The Company may request copies of all disbursement records (as maintained pursuant to Section 2 above) detailing costs paid from the Application Fee and from the Preliminary Funds.

4. **Consideration of Incentives.** Nothing herein shall obligate the City to approve tax increment financing or any other incentives for the Company's proposed project.

5. **Company's Right of Termination.** The Company may terminate this Agreement at any time in its sole discretion upon giving the City 10 days' written notice; whereupon 10 days following the Company's delivery of said notice this Agreement shall be deemed terminated. Upon receipt of such notice, the City will cease incurring expenditures under this Agreement as soon as reasonably possible. The City shall pay to Company, within 60 days after the Company delivers notice of its termination under this Section, all Preliminary Funds remaining after the City's payment of any fees and expenses submitted pursuant to this Agreement for work performed through the date of termination.

6. **City's Right of Termination.** The City may terminate this Agreement upon giving the Company 10 days' written notice if (a) a redevelopment agreement is not executed within a reasonable time (as determined by the City in its reasonable discretion) or (b) the balance from the initial Preliminary Funds or subsequent funds advanced hereunder falls below \$10,000 and the Company does not provide additional Preliminary Funds to the City. Upon giving such notice under this Section, the City shall cease incurring expenditures under this Agreement. The City shall pay to the Company, within 60 days after the City delivers notice of its termination of this Agreement under this Section, all Preliminary Funds remaining after the City's payment of any fees and expenses submitted pursuant to this Agreement for work performed by the City or its consultants, as specified in Section 1 hereof, through the date of termination.

7. **Excess Preliminary Funds.** If the City does not expend all the Preliminary Funds as provided herein, the City shall immediately return the remainder to the Company.

8. **No Third-Party Beneficiaries.** This Agreement constitutes a contract solely between the City and the Company. No third party has any beneficial interest in or derived from this Agreement.

9. **Notices.** All notices and correspondence hereunder shall be in writing and shall be delivered by hand delivery, facsimile, or first class mail, postage prepaid, to the parties as set forth below:

If to the City:

City of University City
Attention: Andrea Riganti
6801 Delmar Boulevard
University City, Missouri 63130

If to the Company:

U. City, L.L.C.
c/o Novus Development Company
20 Allen Avenue, Suite 400
Webster Groves, Missouri 63119
Attention: Jonathan Browne

10. **Miscellaneous.**

a. **Severability.** If any provision of this Agreement is unenforceable, the remainder of this Agreement shall be enforced as if such provision were not contained herein.

b. **No Waiver.** Failure of any party hereto to enforce its rights hereunder at any time shall not be deemed a waiver of any such rights.

c. **Representations and Warranties.** The Company and the City each represent and warrant that (i) this Agreement has been duly executed by them or on their behalf, as the case may be, pursuant to due authorization, and is not in violation of any such party's governing documents, charter or ordinances, as the case may be, (ii) no consents are necessary for the execution, delivery, and performance of this Agreement by such party, and (iii) this Agreement is valid, binding and enforceable against such party in accordance with its terms.

d. **Assignment.** This Agreement may not be assigned by either party without the written consent of the other.

11. **Limitation of Liability.** Notwithstanding any provision hereof to the contrary, the City and its officials, agents, employees and representatives shall not be liable to the Company for damages or otherwise if this Agreement, any prospective adoption of tax increment financing, the Plan or the Redevelopment Agreement is declared invalid or unconstitutional in whole or in part by the final (as to which all rights of appeal have expired or have been exhausted) judgment of any court of competent jurisdiction, and by reason thereof either the City is prevented from performing any of the covenants and agreements herein or the Company is prevented from enjoying the rights and privileges contemplated hereunder.

[Remainder of Page Intentionally Left Blank.]

IN WITNESS WHEREOF, the parties hereto have caused this Preliminary Funding Agreement to be duly executed as of the date first above written.

CITY OF UNIVERSITY CITY, MISSOURI

By: _____
City Manager

U. CITY, L.L.C.

By: _____
President



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: Ordinance to approve a Final Plat for a proposed Minor Subdivision at 7430 Delmar Boulevard to subdivide a two-family dwelling into two condominium units in the "MR" – Medium Density Residential District

AGENDA SECTION: Unfinished Business

COUNCIL ACTION: Passage of Ordinance required for Approval

CAN THIS ITEM BE RESCHEDULED? : No

BACKGROUND REVIEW: Attached are the Staff Report and documents for the above-referenced Minor Subdivision application.

The Plan Commission recommended approval at their September 27, 2017 meeting. Passage of an ordinance is needed to approve the Final Plat. A public hearing is not required. The first reading should take place on October 9, 2017 and the second and third readings could occur at the subsequent meeting on October 23, 2017.

Attachments:

- 1: Transmittal Letter from Plan Commission
- 2: Staff Report and Final Plat
3. Draft Ordinance and Exhibits

RECOMMENDATION: Approval



Plan Commission

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 862-6767, Fax: (314) 862-3168

September 29, 2017

Ms. LaRette Reese, Interim City Clerk
City of University City
6801 Delmar Boulevard
University City, MO 63130

RE: Final Plat Submittal for the minor subdivision of 7430 Delmar Boulevard to create a condominium form of ownership

Dear Ms. Reese,

At its regular meeting on September 27, 2017 at 6:30 pm in the Heman Park Community Center, 975 Pennsylvania Avenue, the Plan Commission considered the above-referenced application by Period Restoration, c/o Randy Renner.

By a vote of 5 to 0, the Plan Commission recommended approval of the application.

Sincerely,

A handwritten signature in black ink, appearing to read "Cirri Moran". The signature is fluid and cursive, with a large loop at the top.

Cirri Moran, Chairperson
University City Plan Commission



Department of Community Development

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 862-6767, Fax: (314) 862-3168

STAFF REPORT

MEETING DATE: September 27, 2017

FILE NUMBER: PC 17-11

COUNCIL DISTRICT: 1

Applicant: Period Restoration, LLC c/o Randy Renner (property owner)

Location: 7430 Delmar Boulevard (south side of Delmar Boulevard, approximately 400 feet west of Jackson Avenue)

Request: Minor Subdivision – Final Plat to subdivide existing two-family dwelling into two condominium units

Existing Zoning: “MR” – Medium Density Residential District

Existing Land Use: Two-family residential building

Proposed Zoning: No change – “MR” District

Proposed Land Use: No change – two-family residential building

Surrounding Zoning and Land Use:

North: MR- Medium Density Residential District	Two-family / multi-family residential
East: MR- Medium Density Residential District	Two-family residential
South: MR- Medium Density Residential District	Single-family residential
West: MR- Medium Density Residential District	Two-family / multi-family residential

COMPREHENSIVE PLAN CONFORMANCE
 Yes No No reference

STAFF RECOMMENDATION
 Approval Denial

ATTACHMENTS:
 A. Map
 B. Final Plat

Existing Property

The subject property, approximately 0.14 acre in area, is occupied by a vacant two-story, two-family dwelling built in 2017. The existing units are each approximately 1,750 square feet in area and have separate finished basements. There is one curb-cut onto Delmar Boulevard providing vehicular access to an existing two-car detached garage at the rear of

the building. The existing use of two-family dwelling is permitted in the “MR” – Medium Density Residential District.

Applicant’s Request

The current request is to subdivide the existing two-family dwelling into two individual condominium units. No changes to the property or modifications to the building are proposed. This is only a change in the form of ownership which will result in two separate properties with common areas as shown on the Final Plat.

Analysis

Creation of a condominium form of ownership is considered a Subdivision; however, this is being reviewed as a Minor Subdivision because the proposal does not meet any of the characteristics of a Major Subdivision as described in Section 405.165.A of the Subdivision Regulations. It is therefore not required to go through the Preliminary Plan process but the Final Plat process. No public hearing is required. On review, staff has determined that the request is in compliance with the requirements of the Zoning Code and Subdivision Regulations.

Conclusion/Recommendation

The proposal meets all Zoning Code and Subdivision Regulation requirements for a Final Plat. Thus, staff recommends approval of the Final Plat for the proposed Minor Subdivision.

ZONING & LAND USE
7430 Delmar Boulevard



ZONING: LC

Auto Service Offices
Store

ZONING: SR
Single-Family Homes

ZONING: PA
City Park

ZONING: MR
Multi-Family Homes

ZONING: PA
Church

ZONING: LC

Gas Station
Dry Cleaners

ZONING: MR
Multi-Family Homes

7451

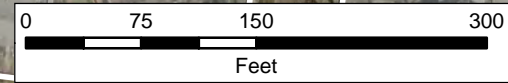
ZONING: SR
Single-Family Homes

ZONING: SR
Single-Family Homes

Legend

- Subject Parcel
- Parcel Boundary
- Zoning Districts**
- LC-Limited Commercial
- MR-Medium Density Residential
- PA-Public Activity
- SR-Single Family Residential

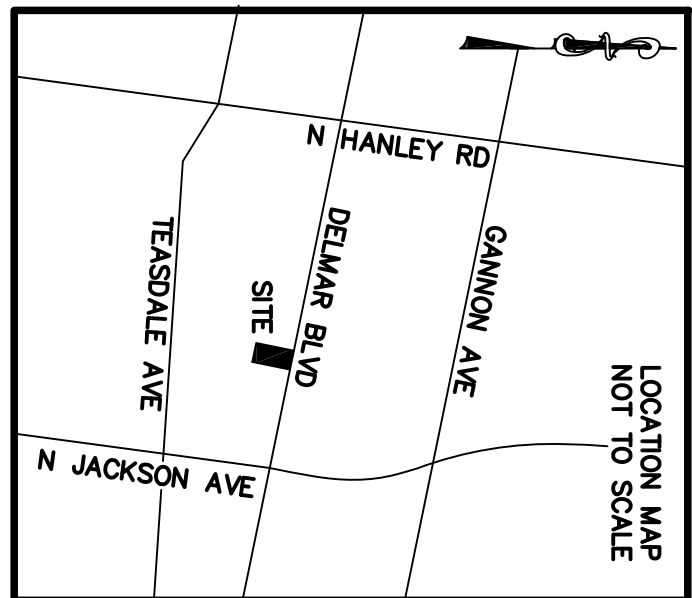
Prepared by: University City Dept. of Community Development Staff - September, 2017;
Data Source: St. Louis County Department of Revenue, GIS Datasets 2017;



LOT 15 IN BLOCK 2 OF WEST DELMAR NO. 2, PLAT BOOK 10 PAGE 81 ST. LOUIS COUNTY, MISSOURI

MINOR SUBDIVISION PLAN FOR THE CREATION OF 7430 DELMAR CONDOMINIUMS

DELMAR BOULEVARD (80'W)



OWNER'S CERTIFICATE
 WE, THE UNDERSIGNED OWNERS OF THE PARCEL OF LAND HEREIN PLATTED AND DESCRIBED IN THE SURVEYOR'S CERTIFICATE HAVE CAUSED THE SAME TO BE SURVEYED AND HAS CAUSED A CONDOMINIUM PLAT TO BE PREPARED IN THE MANNER STATED ON THIS PLAT WHICH SHALL HEREAFTER BE KNOWN AS "7430 DELMAR CONDOMINIUMS". THIS PLAT MARKED AS EXHIBIT "B" IS PART OF A DECLARATION OF CONDOMINIUM, WHICH DECLARATION IS RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF THE COUNTY OF ST. LOUIS, MISSOURI.

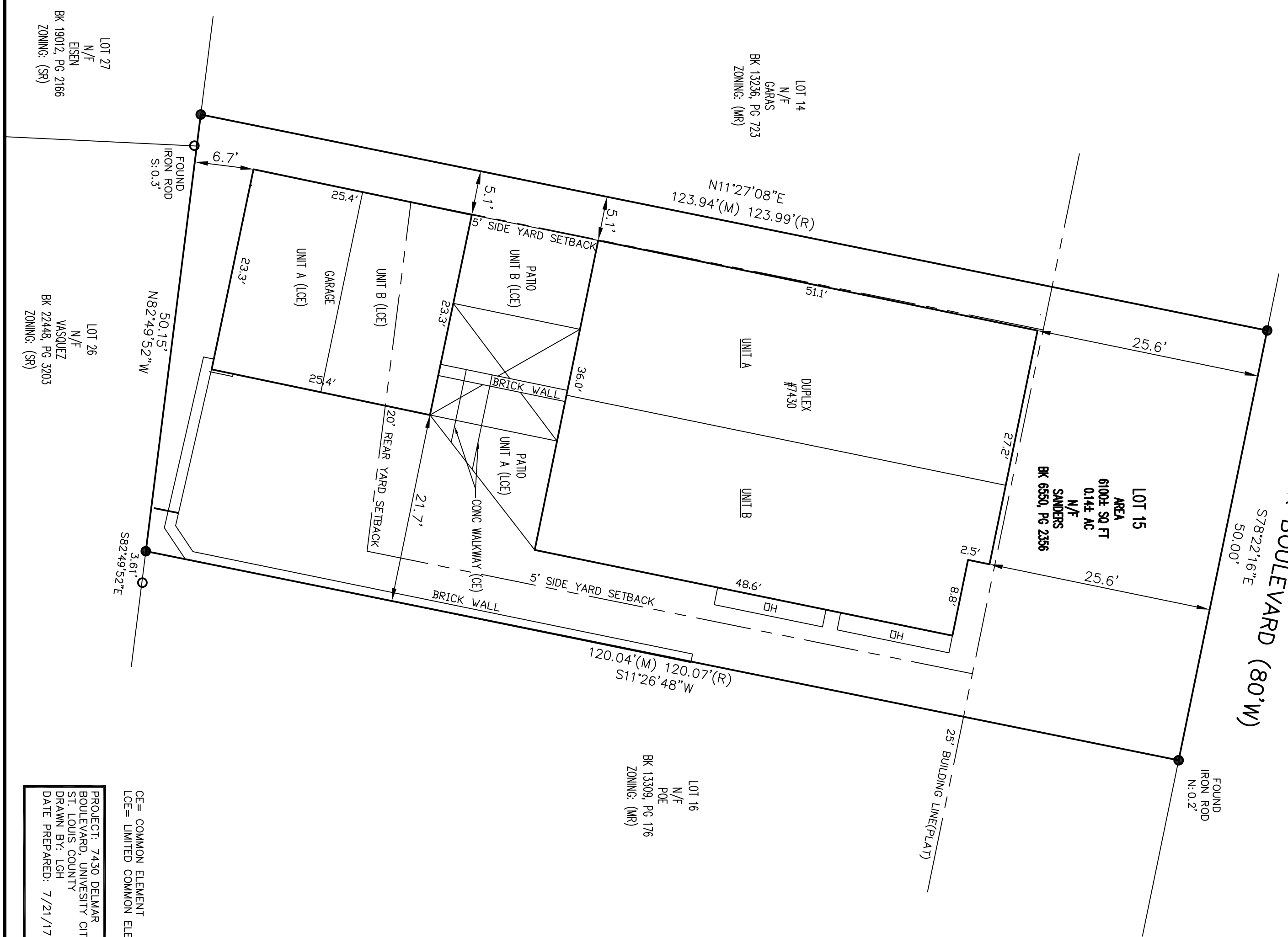
STATE OF MISSOURI)
) S.S.
 CITY OF ST. LOUIS)
 ON THIS DAY OF 2017, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE, PERSONALLY APPEARED RANDALL L. RENNERT, MEMBER OF PERIOD RESTORATION, LLC, KNOWN TO ME TO BE THE PERSON WHO EXECUTED THIS PLAT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES THEREIN STATED.

MY COMMISSION EXPIRES: _____
 NOTARY PUBLIC
 (SIGNATURE)
 NOTARY PUBLIC
 (PRINT)

CITY APPROVALS
 THIS IS TO CERTIFY THAT THIS PLAT OF "7430 DELMAR CONDOMINIUMS" WAS APPROVED BY THE CITY COUNCIL OF THE CITY OF UNIVERSITY CITY, MISSOURI THIS DAY OF 2017 BY ORDINANCE NO. _____

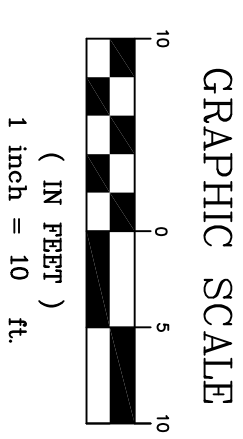
CITY CLERK _____ **DATE** _____
 CHAIRPERSON OF THE CITY PLAN COMMISSION _____ **DATE** _____

PARCEL DESCRIPTION:
 LOT 15 IN BLOCK 2 OF WEST DELMAR NO. 2, ACCORDING TO THE PLAT THEREOF RECORDED IN PLAT BOOK 10 PAGE 81 OF THE ST. LOUIS COUNTY RECORDERS' OFFICE.
 ZONED: MR-MEDIUM DENSITY RESIDENTIAL DISTRICT



LEGEND

[Symbol]	CONC
[Symbol]	WOOD
[Symbol]	ASPH
[Symbol]	BRICK
[Symbol]	GRAVEL
[Symbol]	STONE
[Symbol]	FOUND
[Symbol]	IRON PIPE
[Symbol]	FOUND IRON ROD



CE= COMMON ELEMENT
 LCE= LIMITED COMMON ELEMENT
 PROJECT: 7430 DELMAR
 ST. LOUIS COUNTY
 DRAWN BY: LGH
 DATE PREPARED: 7/21/17

No.	Date	Revision Description
1	7/21/17	PRELIMINARY PLAT

MINNICK SURVEYING, LLC
 3520 HAMPTON AVENUE
 ST. LOUIS, MO 63139
 PHONE: (314) 721-9500
 MINNICKSURVEYING.COM
 LC-2009001156

JOB NUMBER: 5916

SHEET 1 OF 2

NOTES:
 - THIS CONDOMINIUM PLAT WAS PERFORMED AT THE REQUEST OF PERIOD RESTORATION, LLC DURING THE MONTH OF JUNE, 2017.
 - THIS SURVEY WAS EXECUTED IN ACCORDANCE WITH THE CURRENT MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS, CLASS OF SURVEY: URBAN PROPERTY, BOUNDARY LOCATIONS HAVE BEEN ESTABLISHED USING EVIDENCE FOUND AND SHOWN ON THIS PLAT. THIS PLAT CONTAINS ALL INFORMATION REQUIRED BY SECTION 448.2-109 RSMo.
 - THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR. ALL INFORMATION REGARDING RECORD EASEMENTS, AND OTHER DOCUMENTS WHICH MIGHT AFFECT THE QUALITY OF TITLE TO TRACT AS SHOWN HEREON WAS GAINED FROM TITLE COMMITMENT NUMBER 13021SEC PREPARED BY OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY DATED JUNE 9, 2017. ANY ADDITIONAL EASEMENTS AND/OR EXCEPTIONS REPORTED IN SCHEDULE B - SECTION 2 OF THE ABOVE REFERENCED COMMITMENT SHOWN OR NOTED ON THIS SURVEY.
 - BUILDING LINES, EASEMENTS, COVENANTS AND RESTRICTIONS ESTABLISHED BY THE PLAT RECORDED IN PLAT BOOK 10 PAGE 81. (AS SHOWN)
 - CONDO DESIGN AND CONFIGURATION PROVIDED BY OTHERS. CONCRETE PATIO AND WALKWAY DESIGN AND CONFIGURATION PROVIDED BY OTHERS.
 - SUBJECT PROPERTY NOW OR FORMERLY OWNED BY: PERIOD RESTORATION, LLC BK 22052 PG 1344.
 - BASIS OF BEARING: PLAT BOOK 07092000 PG PAGE 91.
 - ALL AREAS, NOT ENCUMBERED BY THIS PLAT, ARE COMMON ELEMENTS.
 - THIS IS TO CERTIFY THAT I HAVE AT THE REQUEST OF PERIOD RESTORATION, LLC PREPARED THIS CONDOMINIUM PLAT DURING THE MONTH OF JULY, 2017, ACCORDING TO RECORD SOURCES AND ACTUAL FIELD SURVEY IN ACCORDANCE WITH THE CURRENT MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS OF THE BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS, PROFESSIONAL SURVEYORS, AND LANDSCAPE ARCHITECTS. MINNICK SURVEYING, LLC PRELIMINARY, NOT FOR CONSTRUCTION.
 JARED M. MINNICK, P.L.S. NO. 126070172688

INTRODUCED BY: _____

DATE: _____

BILL NO. 9332

ORDINANCE NO. _____

AN ORDINANCE APPROVING A FINAL PLAT FOR A MINOR
SUBDIVISION OF A TRACT OF LAND TO BE KNOWN AS 7430 DELMAR
CONDOMINIUMS.

WHEREAS, an application was submitted by Period Restoration c/o Randy Renner, property owner, on September 13, 2017 for the approval a final subdivision plat of a tract of land to be known as 7430 Delmar Condominiums of Lot 15 in Block 2 of West Delmar No. 2, Plat Book 10 Page 81, University City, Missouri; and

WHEREAS, at its meeting on September 27, 2017, the University City Plan Commission reviewed the final plat for the minor subdivision, determined that the final plat is in full compliance with the requirements of the University City Municipal Code, and recommended to the City Council of University City approval of the final plat; and

WHEREAS, the final plat for the minor subdivision application, including all required documents and information submitted therewith, is before the City Council for its consideration;

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF
UNIVERSITY CITY, MISSOURI, AS FOLLOWS:

Section 1. Attached, marked Exhibit "A" and made a part hereof is a final subdivision plat of a tract of land to be known as 7430 Delmar Condominiums. The final plat for the minor subdivision subdivides the two-family dwelling, thereby converting it into two condominium units, zoned "MR" – Medium Density Residential District.

Section 2. It is hereby found and determined that the final plat for the minor subdivision is in full compliance with the University City Municipal Code, including Section 405.390 thereof. Accordingly, the final plat for the minor subdivision marked Exhibit "A" is hereby approved.

Section 3. The City Clerk is hereby directed to endorse upon the final plat for the minor subdivision the approval of the City Council under the hand of the City Clerk and the seal of University City.

Section 4. This ordinance shall take effect and be in force from and after its passage as provided by law.

PASSED this _____ day of _____, _____.

MAYOR

ATTEST:

INTERM CITY CLERK

CERTIFIED TO BE CORRECT AS TO FORM:

CITY ATTORNEY

DRAFT



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: 7200 Block of Lindell Blvd. – Residential Permit Parking

Area **AGENDA SECTION:** Unfinished Business

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The Traffic Commission reviewed a petition to create a Residential Permit Parking Area in the 7200 Block of Lindell Boulevard., between Asbury Ave and Manhattan Ave.

According to the Municipal Code Section 355.030 Residential Parking Permit Plan, parking on public streets within residential neighborhoods may be restricted to the residents along not more than three (3) blocks of a street if the street is within two (2) blocks of Washington University or another municipality's boundary and if the problems caused by non-resident parking on the block are chronic and well documented.

The petition submitted by property owners at 7244 Lindell Boulevard documents the parking problems on both sides of the 7200 block of Lindell Blvd, and requests to restrict parking for residents on the both sides of the block.

The signatures in the petition exceeded the minimum requirement. The petition was signed by 100% of the affected households. Restricted hours are not to exceed twelve (12) hours daily. Proposed hours are from 9 am to 9 pm every day of the week except Sunday.

The Traffic Commission reviewed this request at their September 13 2017 meeting and recommended approval of this petition by City Council to alleviate a reoccurring parking problem existing in this residential road within University City.

RECOMMENDATION:

Staff recommends approval of the request, based on the parking issues documented and submitted to the City through the petition attached, and compliance with the requirements outlined on the University City Municipal Code section 355.030; thus amending the Traffic Code Schedule III-D Residential Permit Parking Areas to add both sides of 7200 Lindell Ave between Asbury Ave Manhattan Ave

ATTACHMENTS:

1. Bill amending Schedule III-D Residential Permit Parking Areas
2. Staff Report
3. Petition submitted affected property owners of the 7200 block of Lindell Boulevard

INTRODUCED BY:

DATE:

BILL NO: 9333

ORDINANCE NO. _____

AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF UNIVERSITY CITY, MISSOURI, AS FOLLOWS:

Section 1. Schedule III of the Traffic Code, of the University City Municipal Code is amended as provided herein. Language to be added to the Code is represented as highlighted. This Ordinance contemplates no revisions to the Code other than those so designated; any language or provisions from the Code omitted from this Ordinance is represented by an ellipsis and remains in full force and effect.

Section 2. Schedule III of the University City Municipal Code is hereby amended to add both sides of Lindell Boulevard from Asbury Avenue to Manhattan Avenue where the City has designated as a Residential Permit Parking Area, to be edited to the Traffic Code as the “Schedule” – Schedule III, as follows:

Traffic Schedules

Schedule III: Parking Restrictions

Table III-D Residential Permit Parking Areas

The following areas are “Residential Permit Parking Areas” and are regulated as set forth in section 355.030 of this Code:

Street	Block	Scope
Lindell Boulevard	7200	Both Sides

* * *

Section 3. This ordinance shall not be construed so as to relieve any person, firm or corporation from any penalty heretofore incurred by the violation of the sections revised by this amendment nor bar the prosecution for any such violation.

Section 4. Any person, firm or corporation violating any of the provisions of this ordinance shall be punished in accordance with the provisions of the University City Municipal Code.

Section 5. This ordinance shall take effect and be in force from and after its passage as provided by law.

PASSED THIS _____ day of _____ 2017

MAYOR

ATTEST:

INTERIM CITY CLERK

CERTIFIED TO BE CORRECT AS TO FORM:

CITY ATTORNEY



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

STAFF REPORT

MEETING DATE: September 13, 2017
APPLICANT: Cecilia Hanan Reyes and William Acree – 7244 Lindell Boulevard
Location: 7200 Lindell Boulevard - Between Asbury Ave and 7254 Lindell Blvd
Request: Residential Parking Permit request
Attachments: Traffic Request Form

Existing Conditions:

Lindell Blvd from Asbury Ave and Manhattan Ave.



A portion of this request was submitted at the June 14, 2017 Traffic Commission Meeting for half of the block. After further review and participation the residents would like the entire block to be included in the Residential Parking Permit Request.

Lindell Boulevard between Asbury Ave and Manhattan Ave has no parking restrictions. Both sides are available for parking.

The Street is within one (1) block from both a municipal boundary and Washington University, thus is eligible for a Residential Parking Permit system.

Request:

Implement a Residential Parking Permit System on Lindell Boulevard between Asbury Ave and Manhattan Ave, on both sides of the street.

The petition submitted included signatures from 42 property owners, out of 46 properties in the requested area. This constitutes 91% of property owners in agreement.

Conclusion/Recommendation:

It is recommended that the Traffic Commission approve the newly submitted petition that includes that entire 7200 Block of Lindell Avenue.



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

TRAFFIC REQUEST FORM

LOCATION OF REQUEST:

7200 block of Lindell. See attached property map.

STATE THE NATURE OF YOUR REQUEST: The residents would like to establish a residential permit parking zone that would be in effect for about 2/3 of the 7200 block of the Lindell. The surrounding blocks of Forsyth, Maryland and Westmoreland have Residential Permit Parking restrictions in place. The 7100 block of Lindell is also pursuing Residential Permit Parking. The area under consideration is primarily single family homes. The remainder of the block has more multi-family and rental units.

WHAT ACTION ARE YOU REQUESTING THAT THE CITY TAKE CONCERNING YOUR REQUEST? There is substantial agreement from about 75% of the residents who want to pursue Residential Permit Parking in the area indicated on the map. We would like the City's support of this request.

WHAT IMPACT WOULD THE ACTION HAVE ON ANY ADJACENT RESIDENTS OR STREETS? This should have limited impact on adjacent streets, which already have restrictions. In addition, most of the homes on the streets to the north of Lindell have garages. Many of the homes on the 7100 block of Lindell do not have garage or off-street parking and therefore residents need to park on the street.

NOTE: The Public Works Department staff will review this request and, if warranted, this matter will appear as an agenda item for a traffic commission meeting. If a meeting is held, you will be encouraged to attend so that you may state your concerns.

NAME: Cecilia Hanan Reyes and William Acree

ADDRESS: 7244 Lindell

PHONE (HOME): 314-640-5774 **PHONE (WORK):** 314-935-6474

Email: wacree15@gmail.com

Date: May 18, 2017

Please return the completed form to the Public Works and Parks Department, 3rd floor of City Hall, attention Errol Tate, Public Works Liaison of the Traffic Commission, via email at etate@ucitymo.org.

Or, by mail/fax: Traffic Commission
C/O Public Works Department
6801 Delmar Blvd. 3rd Floor
University City, MO 63130
(314) 505-8560
(314) 862-0694 (fax)



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

PETITION

Block: 7200 Name of Street: Lindell
 Hours restricted: 9 a.m. to 9 p.m.

NAME (PRINTED)	SIGNATURE	ADDRESS
Andrew Sobel or Pamela Lokken	<i>Pamela Lokken</i>	7200 Lindell
John or Elizabeth Cahill	<i>Elizabeth Cahill</i>	7201 Lindell
Bradley Hines or Rachel Byrd	<i>Bradley Hines</i>	7204 Lindell
John or Mary Ellen Skilling	<i>Mary Ellen Skilling</i>	7206 Lindell
Taylor Olson	<i>Taylor Olson</i>	7209 Lindell
Richard or Genevieve Haas	<i>Genevieve Haas</i>	7210 Lindell
Carols Carvajal or Catherine Williamson	<i>Carols Carvajal</i>	7214 Lindell
Greg Pohlman aka C Ford Option LLC	<i>Greg Pohlman</i>	7216 Lindell
Donna Schwarz	<i>Donna Schwarz</i>	7219 Lindell
Greg Pohlman	<i>Greg Pohlman</i>	7220 Lindell
George or Vicki Ibera	<i>George Ibera</i>	7222 Lindell
Constance ^{BERNI} Berri	<i>Constance Berni</i>	7228 Lindel
David Ganz	<i>David Ganz</i>	7229 Lindell
Robert or Bethany Miller	<i>Bethany Miller</i>	7230 Lindell
Grant Ankrom or Nichole Frankenberg	<i>Grant Ankrom</i>	7234 Lindell
Mary Patricia Coffelt	<i>Mary Patricia Coffelt</i>	7237 Lindell
Jesse Harris or Elizabeth Tarpey	<i>Jesse Harris</i>	7239 Lindell
Mark Bisch		7243 Lindell



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

PETITION

Block: 7200 Name of Street: Lindell
Hours restricted: 9 a.m. to 9 p.m.

Table with 3 columns: NAME (PRINTED), SIGNATURE, ADDRESS. Contains handwritten entries for William Acree or Cecelia Hanan Reyes, Renato Feres, Jeremy or Megan Irwin, Douglas or Mary Norton, Don or Celeste Dwyer, and Osman Bayazit.

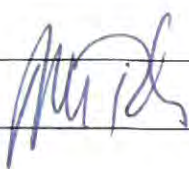


Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

PETITION

Block: 7200 Name of Street: Lindell
 Hours restricted: 9 a.m. to 9 p.m.

NAME (PRINTED)	SIGNATURE	ADDRESS
Andrew Sobel or Pamela Lokken		7200 Lindell
John or Elizabeth Cahill		7201 Lindell
Bradley Hines or Rachel Byrd		7204 Lindell
John or Mary Ellen Skilling		7206 Lindell
Taylor Olson		7209 Lindell
Richard or Genevieve Haas		7210 Lindell
Carols Carvajal or Catherine Williamson		7214 Lindell
Greg Pohlman aka C Ford Option LLC		7216 Lindell
Donna Schwarz		7219 Lindell
Greg Pohlman		7220 Lindell
George or Vicki Ibera		7222 Lindell
Constance Berri		7228 Lindel
David Ganz		7229 Lindell
Robert or Bethany Miller		7230 Lindell
Grant Ankrom or Nichole Frankenberg		7234 Lindell
Mary Patricia Coffelt		7237 Lindell
Jesse Harris or Elizabeth Tarpey		7239 Lindell
Mark Bisch		7243 Lindell



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

PETITION FOR RESIDENTIAL PARKING PERMIT

Block: 7200 Name of Street: Lindell
 Hours restricted: 9 a.m. to 9 p.m.

NAME (PRINTED)	SIGNATURE	ADDRESS
Patrick Hertel	<i>Patrick Hertel</i>	7251 Lindell
Takoaki Sugitani	<i>Takoaki Sugitani</i>	7255 Lindell
Louise Prindable		7257 Lindell
Dana Plonka		7258 Lindell
George or Suzanne Mahe	<i>Suzanne Mahe George Mahe</i>	7259 Lindell
James or Patricia Martin	<i>Tij Uter</i>	7261 Lindell
John or Louise Vanlandingham	<i>John Van Landingham</i>	7262 Lindell
Cynthia Bick or Mark Tabscott	<i>Cynthia Bick</i>	7263 Lindell
Andreas or Friesennorma Krause	<i>Andreas Krause</i>	7266 Lindell
Lawrence Saguto or Nancy Best		7267 Lindell
Carol Wolowsky		7270 Lindell
Patrick Barry or Julie Sahrman	<i>Patrick Barry</i>	7271 Lindell
John Bayless		7273 Lindell
Phillip Zinser	<i>Phillip Zinser</i>	7274 Lindell
Dana or Kimberly Dann-Messier	<i>Dana Dann</i>	7275 Lindell
Ryan Meesey	<i>Ryan Meesey</i>	7276 Lindell
Richard or Barbara Zaegel	<i>R. Zaegel</i>	7278 Lindell
Jan Bieschke or Katy Hartmann		7280 Lindell



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: 7000-7100 Blocks of Northmoor Drive – Residential Permit Parking Area

AGENDA SECTION: Unfinished Business

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The Traffic Commission reviewed a petition to create a Residential Permit Parking Area on both sides of 7000-7100 Northmoor Drive, from Big Bend Boulevard to Asbury Avenue.

According to the Municipal Code Section 355.030 Residential Parking Permit Plan, parking on public streets within residential neighborhoods may be restricted to the residents along not more than three (3) blocks of a street if the street is within two (2) blocks of Washington University or another municipality's boundary and if the problems caused by non-resident parking on the block are chronic and well documented.

The petition submitted by property owners at 7052 Northmoor Drive documents the parking problems on both sides of the 7000-7100 Northmoor Drive, and requests to restrict parking for residents on the both sides of the block.

The signatures in the petition exceeded the minimum requirement. The petition was signed by 87% of the affected households. Restricted hours are not to exceed twelve (12) hours daily. Proposed hours are from 8 am to 5 pm Monday thru Friday.

The Traffic Commission reviewed this request at their September 13, 2017 meeting and recommended the City Council's approval of this petition to alleviate a reoccurring parking problem existing on this residential road within University City.

RECOMMENDATION:

Staff recommends approval of the request, based on the parking issues documented and submitted to the City through the petition attached, and compliance with the requirements outlined on the University City Municipal Code section 355.030; thus amending the Traffic Code Schedule III-D Residential Permit Parking Areas to add both sides of 7000-7100 Northmoor Drive.

ATTACHMENTS:

1. Bill amending Schedule III-D Residential Permit Parking Areas
2. Staff Report
3. Petition submitted by affected property owners of the 7000-7100 blocks of Northmoor Drive

INTRODUCED BY:

DATE:

BILL NO: 9334

ORDINANCE NO. _____

AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF UNIVERSITY CITY, MISSOURI, AS FOLLOWS:

Section 1. Schedule III of the Traffic Code, of the University City Municipal Code is amended as provided herein. Language to be added to the Code is represented as highlighted. This Ordinance contemplates no revisions to the Code other than those so designated; any language or provisions from the Code omitted from this Ordinance is represented by an ellipsis and remains in full force and effect.

Section 2. Schedule III of the University City Municipal Code is hereby amended to add both sides of Northmoor Drive from Big Bend Boulevard to Asbury Avenue where the City has designated as a Residential Permit Parking Area, to be edited to the Traffic Code as the “Schedule” – Schedule III, as follows:

Traffic Schedules

Schedule III: Parking Restrictions

Table III-D Residential Permit Parking Areas

The following areas are “Residential Permit Parking Areas” and are regulated as set forth in section 355.030 of this Code:

Street	Block	Scope
Northmoor Drive	7000-7100	Both Sides

* * *

Section 3. This ordinance shall not be construed so as to relieve any person, firm or corporation from any penalty heretofore incurred by the violation of the sections revised by this amendment nor bar the prosecution for any such violation.

Section 4. Any person, firm or corporation violating any of the provisions of this ordinance shall be punished in accordance with the provisions of the University City Municipal Code.

Section 5. This ordinance shall take effect and be in force from and after its passage as provided by law.

PASSED THIS _____ day of _____ 2017

MAYOR

ATTEST:

CITY CLERK

CERTIFIED TO BE CORRECT AS TO FORM:

CITY ATTORNEY



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

STAFF REPORT

MEETING DATE: September 13, 2017
APPLICANT: Betty and Tad Dageforde – 7052 Northmoor Drive
Location: 7000-7100 Northmoor Drive – Between Big Bend Blvd and Asbury Ave
Request: Residential Parking Permit request
Attachments: Traffic Request Form

Existing Conditions:

Northmoor Drive from Big Bend Blvd to Asbury Ave



At the July 12, 2017 Traffic Commission meeting, a motion was passed to request a petition for the Residential Parking Permit.

Request

Implement a Residential Parking Permit System in the 7000-7100 block of Northmoor Drive between Big Bend Blvd and Asbury Ave Asbury Ave, on both sides of the street (per the Traffic Commission recommendation from July 12, 2017).

Residential Parking Only from 8 a.m. to 5 p.m., Monday through Friday.

The petition submitted included signatures from 40 property owners, out of 46 properties in the requested area. This constitutes 87% of property owners in agreement.

Conclusion/Recommendation:

City Staff recommends that the Traffic Commission approve the petition as presented.



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

TRAFFIC REQUEST FORM

LOCATION OF REQUEST:

7000 and 7100 blocks of Northmoor. See attached property map.

STATE THE NATURE OF YOUR REQUEST:

The residents would like to establish a residential permit parking zone for the 7000 and 7100 blocks of Northmoor Dr. The surrounding blocks of Forsyth, (north side) and Lindell 7000 (and 7100 and 7200 are under consideration) have Residential Permit Parking restrictions in place. The area under consideration is primarily single family homes with the exception of a few park parcels owned by the City of University City and three parcels owned by the Archdiocese of St. Louis for use of Our Lady of Lourdes school and rectory buildings. Residential Permit parking is being pursued because Northmoor is immediately adjacent to Washington University's South 40 housing area. Freshman and Sophomore who reside on the South 40 are prohibited from bringing cars to campus and sometimes park vehicles for several days at a time on Northmoor.

WHAT ACTION ARE YOU REQUESTING THAT THE CITY TAKE CONCERNING YOUR REQUEST?

There is substantial agreement from more than 75% of the residents who want to pursue Residential Permit Parking in the area indicated on the map. We would like the City's support of this request.

WHAT IMPACT WOULD THE ACTION HAVE ON ANY ADJACENT RESIDENTS OR STREETS?

The request could have an impact Our Lady of Lourdes School and Church. To remedy that, we would ask that the Residential Permit Parking hours are 8 a.m. to 5 p.m. Monday-Friday. Further we would request that Lourdes teacher be considered "residents" and that they be able to park on Northmoor without restrictions as they have no other place to park. If these concerns cannot be addressed, that we would seek to have only a portion of the 7100 block included in the Residential Permit Parking district to accommodate the concerns of Our Lady of Lourdes School.

NOTE: The Public Works Department staff will review this request and, if warranted, this matter will appear as an agenda item for a traffic commission meeting. If a meeting is held, you will be encouraged to attend so that you may state your concerns.

NAME: Betty And Tad Dageforde

ADDRESS: 7052 Northmoor Drive

PHONE (HOME): 314-721-6240 PHONE (WORK):

Email: Dage4de@att.net

Date: June, 21, 2017

Please return the completed form to the Public Works and Parks Department, 3rd floor of City Hall, attention Errol Tate, Public Works Liaison of the Traffic Commission, via email at etate@ucitymo.org.

Or, by mail/fax: Traffic Commission

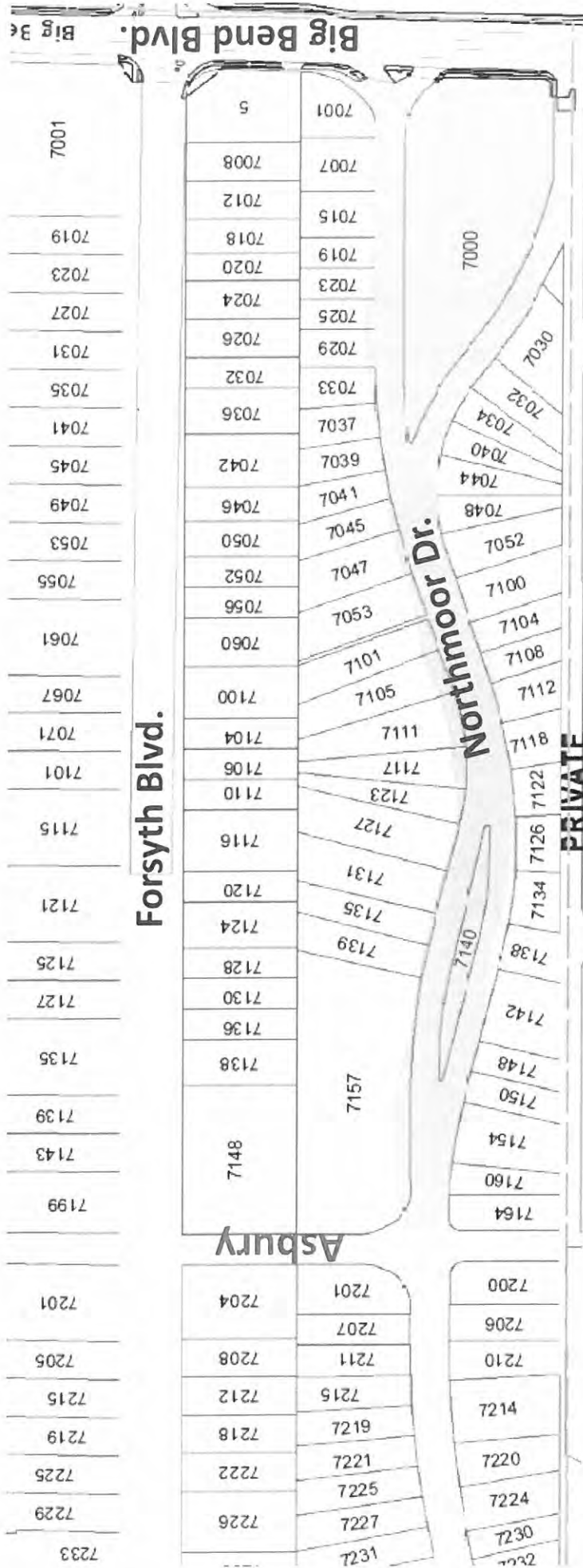


Possible
End of District

PRIVATE

Big 3e

Residential Permit Parking Request 7000 and 7100 Blocks of Northmoor





Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

RESIDENTIAL PARKING PERMIT PETITION

TO: UNIVERSITY CITY- TRAFFIC COMMISSION

PROBLEMS CAUSED BY NON-RESIDENT PARKING (PROBLEMS SHOULD BE CHRONIC AND WELL DOCUMENTED). USE ADDITIONAL PAGE IF NECESSARY

The residents would like to establish a residential permit parking zone in the 7000 and 7100 block of Northmoor Drive in effect from 8 a.m. to 5 p.m. The surrounding blocks of Forsyth, Lindell, Maryland and Westmoreland have Residential Permit parking restrictions in place. We have frequent non-resident parkers associated with Washington University who remained parked throughout the day.

The area under consideration is primarily single family homes with the exception of a few park parcels owned by the City of University City and three parcels owned by the Archdiocese of St. Louis for use of Our Lady of Lourdes school and rectory buildings. Residential Permit parking is being pursued because Northmoor is immediately adjacent to Washington University's South 40 housing area. Freshmen and sophomores who reside on the South 40 are prohibited from bringing cars to campus and sometimes park vehicles for several days at a time on Northmoor Drive. Non-resident parking makes it difficult to access our driveways or park in front of our homes.

The request could have an impact Our Lady of Lourdes School and Church. To remedy that, we would ask that the Residential Permit Parking hours are 8 a.m. to 5 p.m. Monday-Friday. Further we would request that Lourdes teacher be considered "residents" and that they be able to park on Northmoor without restrictions as they have no other place to park.

SPECIFIC AREA REQUESTED TO BE RESTRICTED:

7000 and 7100 Blocks of Northmoor Drive

REQUESTED RESTRICTED TIME PERIOD (SHALL NOT EXCEED 12 HOURS DAILY)

8 a.m. to 5 p.m. Monday - Friday

NOTE:

THIS PETITION SHOULD BE SIGNED BY AT LEAST SEVENTY-FIVE (75%) PERCENT OF THE PROPERTY OWNERS ADJACENT TO THE BLOCK OF THE PUBLIC STREET INVOLVED.

The Public Works Department staff will review this petition and, if warranted, this matter will appear as an agenda item for a traffic commission meeting. If a meeting is held, you will be encouraged to attend so that you may state your concerns.

NAME: Betty And Tad Dageforde

ADDRESS: 7052 Northmoor Drive

PHONE (HOME): 314-721-6240

PHONE (WORK): _____

Date: _____



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

PETITION FOR RESIDENTIAL PARKING PERMIT

Block: 7000 Name of Street: Northmoor Hours restricted: 8 a.m. - 5 p.m. - M-F

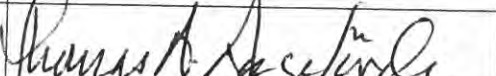
new owners

NAME (PRINTED)	SIGNATURE	ADDRESS
Mark or Lisa Pratzel <i>Lindsay & Charles Mullenger</i>	<i>[Signature]</i>	7001 Northmoor Dr
Daniel or Jane Keating	<i>[Signature]</i>	7007 Northmoor Dr
Daniel E. Farrow	<i>[Signature]</i>	7015 Northmoor Dr
Tzvi or Chana Novack		7019 Northmoor Dr
Douglas H. Brown or Cynthia A. Russell	<i>[Signature]</i>	7023 Northmoor Dr
DBA Northmoor Homes LLC		7025 Northmoor Dr
Benjamin or Claire Legrand	<i>[Signature]</i>	7029 Northmoor Dr
Michael or Christi Brandenstein	<i>[Signature]</i>	7030 Northmoor Dr
Mark or Lynn Valeri	<i>see attached sheet</i>	7032 Northmoor Dr
James or Diane Daly	<i>[Signature]</i>	7033 Northmoor Dr
Paul Kennedy or Julie McMahon	<i>[Signature]</i>	7034 Northmoor Dr
Clayton Cummings		7037 Northmoor Dr
Elaine Carter	<i>[Signature]</i>	7039 Northmoor Dr
Marvin Polinsky		7040 Northmoor Dr
David or Marisa Human	<i>[Signature]</i>	7041 Northmoor Dr
Peter Burgers or Bonita Yoder	<i>[Signature]</i>	7044 Northmoor Dr
Patrick Kelly	<i>see attached sheet</i>	7045 Northmoor Dr
Carmen Molina or James C Bowman	<i>[Signature]</i>	7047 Northmoor Dr
Michael or Cathy Reilly	<i>[Signature]</i>	7048 Northmoor Dr



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

NAME (PRINTED)	SIGNATURE	ADDRESS
Thomas or Betty Dageforde		7052 Northmoor Dr
DBA Five T Enterprises LLC	see attached sheet	7053 Northmoor Dr



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

Block: 7100 Name of Street: Northmoor Hours restricted: 8 a.m. - 5 p.m. - M-F

NAME (PRINTED)	SIGNATURE	ADDRESS
Kirsten Skogerson	<i>Kirsten Skogerson</i>	7100 Northmoor Dr
Andrea Lubershane Gardner	<i>Andrea Lubershane Gardner</i>	7101 Northmoor Dr
Dana Barhard	<i>Dana Barhard</i>	7104 Northmoor Dr
Mark or Miriam Adkins	<i>Mark or Miriam Adkins</i>	7105 Northmoor Dr
Howard A Shalowitz	see attached sheet	7108 Northmoor Dr
Xia Li or Yang Lin	<i>Lin Yang</i>	7111 Northmoor Dr
Daniel Zahm	<i>Daniel Zahm</i>	7112 Northmoor Dr
Eric L or Danielle Schlottman	<i>Eric L or Danielle Schlottman</i>	7117 Northmoor Dr
Mary Kathleen Rice	<i>Mary Kathleen Rice</i>	7118 Northmoor Dr
Nancy E or William R Martin	<i>Nancy E or William R Martin</i>	7122 Northmoor Dr
James Richard Taylor	<i>James Richard Taylor</i>	7123 Northmoor Dr
Patrick Duda	see attached sheet	7126 Northmoor Dr
Sean C Barry	<i>Sean C Barry</i>	7127 Northmoor Dr
Marianne L Przetak	<i>Marianne L Przetak</i>	7131 Northmoor Dr
Manoohar Mofidi or Mina Charepoo		7134 Northmoor Dr
St Louis County Catholic Church Real Estate		7135 Northmoor Dr
Renu Boonob	<i>Renu Boonob</i>	7138 Northmoor Dr
St Louis County Catholic Church Real Estate		7139 Northmoor Dr
Joseph A or Lisa A Murphy	<i>Joseph A or Lisa A Murphy</i>	7142 Northmoor Dr
Jonathan R or Kathleen C Falk	<i>Jonathan R or Kathleen C Falk</i>	7148 Northmoor Dr



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

NAME (PRINTED)	SIGNATURE	ADDRESS
Joseph F or Jeannine A Dwyer	<i>Jeannine Dwyer</i>	7150 Northmoor Dr
Richard E Finneran	<i>R. Finneran</i>	7154 Northmoor Dr
St Louis County Catholic Church Real Estate	<i>[Signature]</i>	7157 Northmoor Dr
Paul A or Mollie Zolkind	<i>[Signature]</i>	7160 Northmoor Dr
Judith C Sweeney	<i>Judith C Sweeney</i>	7164 Northmoor Dr

*Church
School*

From: Lynn M Valeri lvalen@mac.com
 Subject: Northmoor Parking Permit Petition signature
 Date: Today at 3:29 PM
 To: dage4de@att.net



Department of Public Works and Parks
 6801 Delmar Boulevard, University City, Missouri 63130 Phone: (314) 505-8560 Fax: (314) 862-0924

PETITION FOR RESIDENTIAL PARKING PERMIT

Block 7000 Name of Street Northmoor Hours restricted 8 a.m. - 5 p.m. - M-F

NAME (PRINTED)	SIGNATURE	ADDRESS
Mark or Lisa Pratzel		7001 Northmoor Dr
Daniel or Jane Keating		7007 Northmoor Dr
Daniel E. Farrow		7015 Northmoor Dr
Trvi or Chana Novack		7019 Northmoor Dr
Douglas H. Brown or Cynthia A. Russell		7023 Northmoor Dr
DBA Northmoor Homes LLC Benjamin or Claire LeGrand		7025 Northmoor Dr
Michael or Christi Brandenstein		7029 Northmoor Dr
Mark or Lynn Valeri	<i>Mark Valeri</i>	7030 Northmoor Dr
James or Diane Daly		7032 Northmoor Dr
Paul Kennedy or Julie McMahon		7033 Northmoor Dr
Clayton Cummings		7034 Northmoor Dr
Elaine Carter		7037 Northmoor Dr
Marvin Polinsky		7039 Northmoor Dr
David or Marisa Human		7040 Northmoor Dr
Peter Burgers or Bonita Yoder		7041 Northmoor Dr
Patrick Kelly		7044 Northmoor Dr



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

PETITION FOR RESIDENTIAL PARKING PERMIT

Block: 7000 Name of Street: Northmoor Hours restricted: 8 a.m. – 5 p.m. – M-F

NAME (PRINTED)	SIGNATURE	ADDRESS
Mark or Lisa Pratzel		7001 Northmoor Dr
Daniel or Jane Keating		7007 Northmoor Dr
Daniel E. Farrow		7015 Northmoor Dr
Tzvi or Chana Novack		7019 Northmoor Dr
Douglas H. Brown or Cynthia A. Russell		7023 Northmoor Dr
DBA Northmoor Homes LLC		7025 Northmoor Dr
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Michael or Christi Brandenstein		7030 Northmoor Dr
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Marvin Polinsky		7040 Northmoor Dr
David or Marisa Human		7041 Northmoor Dr
Peter Burgers or Bonita Yoder		7044 Northmoor Dr
Patrick Kelly		7045 Northmoor Dr
Carmen Molina or James C Bowman		7047 Northmoor Dr
Michael or Cathy Reilly		7048 Northmoor Dr

From: **nick bhambri** nickbhambri@yahoo.com
Subject: signed parking petition
Date: Today at 4:08 PM
To: dage4de@att.net

Please see attached.

Many thanks for taking the lead on this.

Nick Bhambri
7053 Northmoor

314-616-6177



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone (314) 505-8560, Fax (314) 882-0694

NAME (PRINTED)	SIGNATURE	ADDRESS
Thomas or Betty Dageforde		7052 Northmoor Dr
DBA Five T Enterprises LLC		7053 Northmoor Dr




Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

Block: 7100 Name of Street: Northmoor Hours restricted: 8 a.m. – 5 p.m. – M-F

NAME (PRINTED)	SIGNATURE	ADDRESS
Kirsten Skogerson		7100 Northmoor Dr
Andrea Lubershane Gardner		7101 Northmoor Dr
Dana Barhard		7104 Northmoor Dr
Mark or Miriam Adkins		7105 Northmoor Dr
Howard A Shalowitz	<i>Howard A. Shalowitz</i>	7108 Northmoor Dr
Xia Li or Yang Lin		7111 Northmoor Dr
Daniel Zahm		7112 Northmoor Dr
Eric L or Danielle Schlottman		7117 Northmoor Dr
Mary Kathleen Rice		7118 Northmoor Dr
Nancy E or William R Martin		7122 Northmoor Dr
James Richard Taylor		7123 Northmoor Dr
Patrick Duda		7126 Northmoor Dr
Sean C Barry		7127 Northmoor Dr
Marianne L Przetak		7131 Northmoor Dr
Manoohar Mofidi or Mina Charepoo		7134 Northmoor Dr
St Louis County Catholic Church Real Estate		7135 Northmoor Dr
Renu Boonoeb		7138 Northmoor Dr
St Louis County Catholic Church Real Estate		7139 Northmoor Dr
Joseph A or Lisa A Murphy		7142 Northmoor Dr
Jonathan R or Kathleen C Falk		7148 Northmoor Dr

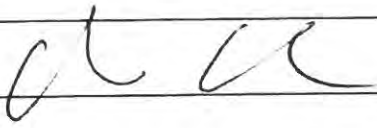
Kirsten Skogerson		7100 Northmoor Dr
Andrea Lubershane Gardner		7101 Northmoor Dr
Dana Barhard		7104 Northmoor Dr
Mark or Miriam Adkins		7105 Northmoor Dr
Howard A Shalowitz		7108 Northmoor Dr
Xia Li or Yang Lin		7111 Northmoor Dr
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Joseph A or Lisa A Murphy		7142 Northmoor Dr
Jonathan R or Kathleen C Falk		7148 Northmoor Dr
Joseph F or Jeannine A Dwyer		7150 Northmoor Dr
Richard E Finneran		7154 Northmoor Dr
St Louis County Catholic Church Real Estate		7157 Northmoor Dr
Paul A or Mollie Zolkind		7160 Northmoor Dr
Judith C Sweeney		7164 Northmoor Dr



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-8560, Fax: (314) 862-0694

Block: 7100 Name of Street: Northmoor Hours restricted: 8 a.m. – 5 p.m. – M-F

NAME (PRINTED)	SIGNATURE	ADDRESS
Kirsten Skogerson		7100 Northmoor Dr
Andrea Lubershane Gardner		7101 Northmoor Dr
Dana Barhard		7104 Northmoor Dr
Mark or Miriam Adkins		7105 Northmoor Dr
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St Louis County Catholic Church Real Estate		7139 Northmoor Dr
Joseph A or Lisa A Murphy		7142 Northmoor Dr
Jonathan R or Kathleen C Falk		7148 Northmoor Dr



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: Code Amendment regarding the Department of Natural Resources land disturbance area requirements

AGENDA SECTION: UnfinishedBusiness

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The Department of Natural Resources (DNR) regulates the City's land disturbance requirements regarding stormwater management. At one time DNR required enforcement of a land disturbance permit for construction activities that disturb land greater than 5 acres. In 2003 this was officially reduced from 5 acres to 1 acre in the Code of Federal Regulations Title 40 Part 122. EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM. The language specific to this change is as follows:

*40 CFR 122.34(b)(4)(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to reduce pollutants in any storm water runoff to the small MS4 **from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.** If the Director waives requirements for storm water discharges associated with small construction activity in accordance with §122.26(b)(15)(i), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.*

*40 CFR 122.34(b)(5)(i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that **disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale,** that discharge into the small MS4. The permit must ensure that controls are in place that would prevent or minimize water quality impacts.*

Section 405 of the Municipal Code Subdivisions and Land Development regulations refers to this requirement three times; section 405.140 Grading Permit (On-Site Excavation and - 4 - 1

ELECTRONIC CODE OF FEDERAL REGULATIONS**e-CFR data is current as of August 1, 2017**

Title 40 → Chapter I → Subchapter D → Part 122 → Subpart B → §122.34

Title 40: Protection of Environment

PART 122—EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**Subpart B—Permit Application and Special NPDES Program Requirements****§122.34 Permit requirements for regulated small MS4 permits.**

(a) *General requirements.* For any permit issued to a regulated small MS4, the NPDES permitting authority must include permit terms and conditions to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. Terms and conditions that satisfy the requirements of this section must be expressed in clear, specific, and measurable terms. Such terms and conditions may include narrative, numeric, or other types of requirements (e.g., implementation of specific tasks or best management practices (BMPs), BMP design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and frequency of actions).

(1) For permits providing coverage to any small MS4s for the first time, the NPDES permitting authority may specify a time period of up to 5 years from the date of permit issuance for the permittee to fully comply with the conditions of the permit and to implement necessary BMPs.

(2) For each successive permit, the NPDES permitting authority must include terms and conditions that meet the requirements of this section based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information.

(b) *Minimum control measures.* The permit must include requirements that ensure the permittee implements, or continues to implement, the minimum control measures in paragraphs (b)(1) through (6) of this section during the permit term. The permit must also require a written storm water management program document or documents that, at a minimum, describes in detail how the permittee intends to comply with the permit's requirements for each minimum control measure.

(1) *Public education and outreach on storm water impacts.* (i) The permit must identify the minimum elements and require implementation of a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: The permittee may use storm water educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the permit require the permittee to tailor the public education program, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that the permit require that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. The permit should encourage the permittee to tailor the outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(2) *Public involvement/participation.* (i) The permit must identify the minimum elements and require implementation of a public involvement/participation program that complies with State, Tribal, and local public notice requirements.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit include provisions addressing the need for the public to be included in developing, implementing, and reviewing the storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

(3) *Illicit discharge detection and elimination.* (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to detect and eliminate illicit discharges (as defined at §122.26(b)(2)) into the small MS4. At a minimum, the permit must require the permittee to:

(A) Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;

(B) To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions;

(C) Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the system; and

(D) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

(ii) The permit must also require the permittee to address the following categories of non-storm water discharges or flows (*i.e.*, illicit discharges) only if the permittee identifies them as a significant contributor of pollutants to the small MS4: Water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(b)(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).

(iii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit require the plan to detect and address illicit discharges include the following four components: Procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends that the permit require the permittee to visually screen outfalls during dry weather and conduct field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling, a program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials.

(4) *Construction site storm water runoff control.* (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to reduce pollutants in any storm water runoff to the small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Director waives requirements for storm water discharges associated with small construction activity in accordance with §122.26(b)(15)(i), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites. At a minimum, the permit must require the permittee to develop and implement:

(A) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, Tribal, or local law;

(B) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(C) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(D) Procedures for site plan review which incorporate consideration of potential water quality impacts;

(E) Procedures for receipt and consideration of information submitted by the public, and

(F) Procedures for site inspection and enforcement of control measures.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements and/or permit denials for non-compliance. EPA recommends that the procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality. EPA also recommends that the permit require the permittee to provide appropriate educational and training measures for construction site operators, and require storm water pollution prevention plans for construction sites within the MS4's jurisdiction that discharge into the system. See §122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see §122.35(b) (The NPDES permitting authority may recognize that another government entity, including the NPDES permitting authority, may be responsible for implementing one or more of the minimum measures on the permittee's behalf).

(5) *Post-construction storm water management in new development and redevelopment.* (i) The permit must identify the minimum elements and require the development, implementation, and enforcement of a program to address storm water runoff from new development and redevelopment projects that disturb **greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale,** that discharge into the small MS4. The permit must ensure that controls are in place that would prevent or minimize water quality impacts. At a minimum, the permit must require the permittee to:

(A) Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community;

(B) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law; and

(C) Ensure adequate long-term operation and maintenance of BMPs.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the permit ensure that BMPs included in the program: Be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. EPA encourages the permittee to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens. When developing a program that is consistent with this measure's intent, EPA recommends that the permit require the permittee to adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing the program, the permit should also require the permittee to assess existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, the permit should require the permittee to provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: Storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches. EPA recommends that the permit ensure the appropriate implementation of the structural BMPs by considering some or all of the following: Pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that the permit requirements be responsive to these changes, developments or improvements in control technologies.

(6) *Pollution prevention/good housekeeping for municipal operations.* (i) The permit must identify the minimum elements and require the development and implementation of an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, the State, Tribe, or other organizations, the program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance for NPDES permitting authorities and regulated small MS4s: EPA recommends that the permit address the following: Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewers;

controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

(c) *Other applicable requirements.* As appropriate, the permit will include:

(1) More stringent terms and conditions, including permit requirements that modify, or are in addition to, the minimum control measures based on an approved total maximum daily load (TMDL) or equivalent analysis, or where the Director determines such terms and conditions are needed to protect water quality.

(2) Other applicable NPDES permit requirements, standards and conditions established in the individual or general permit, developed consistent with the provisions of §§122.41 through 122.49.

(d) *Evaluation and assessment requirements*—(1) *Evaluation.* The permit must require the permittee to evaluate compliance with the terms and conditions of the permit, including the effectiveness of the components of its storm water management program, and the status of achieving the measurable requirements in the permit.

NOTE TO PARAGRAPH (D)(1): The NPDES permitting authority may determine monitoring requirements for the permittee in accordance with State/Tribal monitoring plans appropriate to the watershed. Participation in a group monitoring program is encouraged.

(2) *Recordkeeping.* The permit must require that the permittee keep records required by the NPDES permit for at least 3 years and submit such records to the NPDES permitting authority when specifically asked to do so. The permit must require the permittee to make records, including a written description of the storm water management program, available to the public at reasonable times during regular business hours (see §122.7 for confidentiality provision). (The permittee may assess a reasonable charge for copying. The permit may allow the permittee to require a member of the public to provide advance notice.)

(3) *Reporting.* Unless the permittee is relying on another entity to satisfy its NPDES permit obligations under §122.35(a), the permittee must submit annual reports to the NPDES permitting authority for its first permit term. For subsequent permit terms, the permittee must submit reports in year two and four unless the NPDES permitting authority requires more frequent reports. As of December 21, 2020 all reports submitted in compliance with this section must be submitted electronically by the owner, operator, or the duly authorized representative of the small MS4 to the NPDES permitting authority or initial recipient, as defined in 40 CFR 127.2(b), in compliance with this section and 40 CFR part 3 (including, in all cases, subpart D to part 3), §122.22, and 40 CFR part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of part 127, the owner, operator, or the duly authorized representative of the small MS4 may be required to report electronically if specified by a particular permit or if required to do so by state law. The report must include:

(i) The status of compliance with permit terms and conditions;

(ii) Results of information collected and analyzed, including monitoring data, if any, during the reporting period;

(iii) A summary of the storm water activities the permittee proposes to undertake to comply with the permit during the next reporting cycle;

(iv) Any changes made during the reporting period to the permittee's storm water management program; and

(v) Notice that the permittee is relying on another governmental entity to satisfy some of the permit obligations (if applicable), consistent with §122.35(a).

(e) *Qualifying local program.* If an existing qualifying local program requires the permittee to implement one or more of the minimum control measures of paragraph (b) of this section, the NPDES permitting authority may include conditions in the NPDES permit that direct the permittee to follow that qualifying program's requirements rather than the requirements of paragraph (b). A qualifying local program is a local, State or Tribal municipal storm water management program that imposes, at a minimum, the relevant requirements of paragraph (b).

[81 FR 89349, Dec. 9, 2016]]

[Need assistance?](#)

Filling), section 405.280. Improvement Plan Submittal Requirements, Item; and section 405.510 Site Grading and Erosion Control. These three sections need to be amended to reflect the updated minimum area requirements by DNR.

RECOMMENDATION:

Staff recommends the approval of an ordinance amending the Subdivisions and Land Development Regulations Code Chapter 405.

ATTACHMENTS:

- Code of Federal Regulations Section 122.34
- Draft Ordinance

INTRODUCED BY:

DATE: _____

BILL NO. 9335

ORDINANCE NO. _____

AN ORDINANCE AMENDING VARIOUS SECTIONS OF CHAPTER 405, SUBDIVISIONS AND LAND DEVELOPMENT REGULATIONS, TO REVISE LAND DISTURBANCE TOTAL AREA REGULATIONS AS PROVIDED HEREIN

BE IT ORDAINED BY THE COUNCIL OF THE City of University City, MISSOURI, AS FOLLOWS:

Section 1. Sections 405.140, 405.280, and 405.510 of Chapter 405, Subdivision and Land Development Regulations, of the University City Municipal Code are amended as provided herein. Language to be deleted from the Code is represented as ~~stricken through~~; language to be added to the Code is **emphasized**. This Ordinance contemplates no revisions to the Code other than those so designated; any language or provisions from the Code omitted from this Ordinance is represented by an ellipsis and remains in full force and effect.

Section 2. Section 405.140 of the University City Municipal Code is hereby amended to replace five (5) acres with one (1) acre of land that constitutes the need for a DNR Land Disturbance Permit, as follows:

405.140. Grading Permit (On-Site Excavation and Filling), Item C., DNR Land Disturbance Permit. If construction activities disturb land or entails the grading of an area that is ~~five (5) acres~~ **one (1) acre** or greater, **or if that construction activity is part of a larger common plan of development or sale that would disturb one acre or greater,** a land disturbance permit shall be obtained from the Missouri Department of Natural Resources. Under such circumstances, no grading permit or improvement construction permit shall be issued by the Director of Public Works and Parks until the applicant for either permit provides evidence of the DNR land disturbance permit.

* * *

Section 3. Section 405.280 of the University City Municipal Code is hereby amended to replace five (5) acres with one (1) acre of land that constitutes the need for a DNR Land Disturbance Permit, as follows:

405.280. Improvement Plan Submittal Requirements, Item C4d., DNR land disturbance permit required. If construction activities disturb land or entail the grading of an area that is ~~five (5) acres~~ **one (1) acre** or greater, **or if that construction activity is part of a larger common plan of development or sale that would disturb one acre or greater,** a land disturbance permit shall be obtained from the Missouri Department of Natural Resources (see Section 405.140).

* * *

Section 4. Section 405.510 of the University City Municipal Code is hereby amended to replace five (5) acres with one (1) acre of land that constitutes the need for a DNR Land Disturbance Permit, as follows:

405.510. Site Grading and Erosion Control, Item A3., Erosion/siltation control. Every subdivision or land development shall make adequate provisions to minimize and control both short-term and long-term erosion and siltation in accordance with the requirements of this Section and any storm drainage control requirements of MSD. The Director of Public Works and Parks shall establish specific standards to ensure the compliance with the intent of these erosion and siltation control requirements. The Director of Public Works and Parks may require modifications or additions to the erosion control plans should the proposed measures not adequately control erosion and siltation. If construction activities disturb land or entail the grading of an area that is ~~five (5) acres~~ **one (1) acre** or greater, **or if that construction activity is part of a larger common plan of development or sale that would disturb one acre or greater,** a land disturbance permit shall be obtained from the Missouri Department of Natural Resources (see Section 405.140(C)).

* * *

Section 6. This ordinance shall not be construed so as to relieve any person, firm or corporation from any penalty heretofore incurred by the violation of the sections revised by this amendment nor bar the prosecution for any such violation.

Section 7. This ordinance shall take effect and be in force from and after its passage as provided by law.

PASSED THIS _____ day of _____ 2017.

MAYOR

ATTEST:

INTERIM CITY CLERK

CERTIFIED TO BE CORRECT AS TO FORM:

CITY ATTORNEY



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: Prohibit parking in front of 7346 Forsyth Blvd.

AGENDA SECTION: Unfinished Business

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The Traffic Commissioners received a traffic request to prohibit parking in front of 7346 Forsyth Boulevard at the September 13, 2017 Traffic Commission meeting from the Home Owner Association of the condo. The resident submitted supporting information of the driveway being blocked on several instances, because drivers park either at the edge of the driveway or partially in front of the driveway. The requestors asked that the existing "No Parking" be extended to make sure the driveway has clearance consistently. The Traffic Commission recommended that the City Council approve the request.

RECOMMENDATION:

It is the recommendation of the Public Works and Parks Department that the attached ordinance be approved to establish a parking prohibited zone in front of 7346 Forsyth Blvd. pursuant to the above referenced traffic request.

ATTACHMENTS:

1. Bill amending section 355.100 – Parking in Prohibited or Restricted Zone
2. Traffic Commission Staff Report

INTRODUCED BY:

DATE:

BILL NO: 9336

ORDINANCE NO. _____

AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF UNIVERSITY CITY, MISSOURI, AS FOLLOWS:

Section 1. Schedule III of the Traffic Code, of the University City Municipal Code is amended as provided herein. Language to be added to the Code is represented as highlighted. This Ordinance contemplates no revisions to the Code other than those so designated; any language or provisions from the Code omitted from this Ordinance is represented by an ellipsis and remains in full force and effect.

Section 2. Schedule III – Table III-E of the University City Municipal Code is hereby amended to add Forsyth Boulevard: Southside thereof starting from the southeastern corner of Del-lin Dr. intersection easterly fifty five (55) feet where the City has designated as a “No Parking Zone”, to be edited to the Traffic Code as the “Schedule” – Schedule III.

Section 3. This ordinance shall not be construed so as to relieve any person, firm or corporation from any penalty heretofore incurred by the violation of the sections revised by this amendment nor bar the prosecution for any such violation.

Section 4. Any person, firm or corporation violating any of the provisions of this ordinance shall be punished in accordance with the provisions of the University City Municipal Code.

Section 5. This ordinance shall take effect and be in force from and after its passage as provided by law.

PASSED THIS _____ day of _____ 2017

MAYOR

ATTEST:

CITY CLERK

CERTIFIED TO BE CORRECT AS TO FORM:

CITY ATTORNEY

DRAFT

STAFF REPORT

MEETING DATE: September 13, 2017
APPLICANT: Debrah Pohlmann HOA – 7346 Forsyth Boulevard #5
Location: 7346 Forsyth Boulevard – Between Big Bend Blvd and Asbury Ave
Request: Relocation of “No Parking” Sign
Attachments: Traffic Request Form

Existing Conditions:

7346 Forsyth Blvd.



At this location residents that live in the condo experience difficulty entering and exiting the driveway because cars will park in front of it blocking it from use. (See photo from Miss Pohlmann)

Request

Move the current “No Parking” Sign to the east of the driveway as indicated above including at least one car length to allow for sight distance.

Conclusion/Recommendation:

City staff recommends that the Traffic Commission approve this request with recognition of the “No Parking” ordinance already in place but is not completely working for the tenants of the building.



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: Post-Construction Land Disturbance Requirements

AGENDA SECTION: New Business

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The St. Louis County Phase II Stormwater Management Plan (SWMP) was developed to improve area water quality by preventing harmful pollutants from being carried by stormwater runoff into local water bodies. The Metropolitan St. Louis Sewer District (MSD) partners with 59 municipalities (co-permittees) to comply with National Pollution Discharge Elimination System (NPDES) permit requirements for the St. Louis Metropolitan Small Municipal Separate Storm Sewer System (MS4).

Best Management Practices (BMPs) are methods to prevent or reduce the pollutants in stormwater runoff. The SWMP includes BMPs that address potential sources of pollutants in stormwater as required by the federal and state regulations. The implementation of BMPs in the SWMP will satisfy the six Minimum Control Measures (MCMs) required by the Phase II Regulations. The six MCMs are as follows:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping for Municipal Operations

MCMs 1 – 3 are primarily the responsibility of MSD with each municipality's support. MCMs 4 – 6 are primarily the responsibilities of the municipality.

Per MSD Ordinance 12559, MCM5 requires municipalities to develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permittee's regulated small MS4. The program must ensure that controls are in place that will prevent or minimize water quality impacts by reasonably mimicking pre-construction runoff conditions on all affected new development projects and by effectively utilizing water quality strategies and technologies on all affected redevelopment projects to the maximum extent practicable. It is the municipality's responsibility to ensure developers include post-construction BMPs in the design plans and verify the developmental plans meet the

applicable requirements. It is MSD's responsibility to review and approve the applicable projects.

Metropolitan Sewer District (MSD) has developed two guidance documents for this effort; "Site Design Guidance – Tools for Incorporating Post-Construction Stormwater Quality Protection Into Concept Plans and Land Disturbance Permitting," and "Landscape Guide for Best Management Practice Design". These documents were prepared to assist in implementing the Permit and Plan requirements related to Post-Construction Storm Water Management (MCM5) by providing tools for developers to properly design and build BMPs, and for plan review officials to evaluate the development plans.

RECOMMENDATION:

Staff recommends the following:

1. The approval of an ordinance amending the Subdivisions and Land Development Regulations Code Chapter 405.

ATTACHMENTS:

- Draft Ordinance
- Site Design Guidance – Tools for Incorporating Post-Construction Stormwater Quality Protection Into Concept Plans and Land Disturbance Permitting
- Landscape Guide for Best Management Practice Design

INTRODUCED BY: _____

DATE: _____

BILL NO. 9337

ORDINANCE NO. _____

AN ORDINANCE ADOPTING REGULATIONS FOR CONSIDERATION OF STORM WATER QUALITY AND MANAGEMENT IN SITE DESIGN BY AMENDING CHAPTER 405, SUBDIVISIONS AND LAND DEVELOPMENT REGULATIONS, ARTICLE VI, LAND DEVELOPMENT REGULATIONS AS PROVIDED HEREIN

BE IT ORDAINED BY THE COUNCIL OF THE City of University City, MISSOURI, AS FOLLOWS:

Section 1. Article VI of Chapter 405, Subdivision and Land Development Regulations, of the University City Municipal Code are amended as provided herein. Language to be deleted from the Code is represented as ~~stricken through~~; language to be added to the Code is **emphasized**. This Ordinance contemplates no revisions to the Code other than those so designated; any language or provisions from the Code omitted from this Ordinance is represented by an ellipsis and remains in full force and effect.

Section 2. Chapter 405, Subdivisions and Land Development Regulations, Article VI, Land Development Standards is hereby amended by the adoption of one new Section dealing with the consideration for storm water quality and management in designing certain development sites, said Section to read as follows:

Chapter 405 Subdivision and Land Development Regulations

Article IV Land Development Standards

Section 405.510 Site Grading, and Erosion Control, and Stormwater Consideration in Site Design.

4. Stormwater Consideration in Site Design

- a. Applicability.** The standards referenced and adopted in this section shall apply to site design for any project which includes alteration of site drainage or floodplain areas, connection to storm sewer systems or open storm water channels, and all land disturbance projects encompassing more than one acre.
- b. MSD Approval Required.** All private and public projects to which this Article is applicable must be reviewed and approved for storm water issues by the Metropolitan St. Louis Sewer District in accord with rules, regulations,

standards, and procedures of that body prior to the issuance of any permits for land disturbance or construction.

c. Submittal Requirements. Applicants for any development, redevelopment, land disturbance, construction or other undertaking to which this Article is applicable shall be required to provide any and all information necessary to enable the Metropolitan St. Louis Sewer District (“MSD”), the city and city plan review personnel to assess and apply the principles promulgated by MSD known as “Site Design Guidance – Tools for Incorporating Post-Constriction Stormwater Quality Protection Into Concept Plans and Land Disturbance Permitting,” and “Landscape Guide for Best Management Practice Design”, as revised from time to time.

Section 3. The Chapter, Article, or Section assignments designated in this Ordinance may be revised and altered by the codification company servicing the City of University City Code of Ordinances upon supplementation of such code if, in the discretion of the editor, an alternative designation would be more reasonable. In adjusting such designations the editor may also change other designations and numerical assignment of code sections shall accommodate such changes.

Section 4. This ordinance, and the code adopted hereby, shall be in full force and effect from and after its passage and approval.

**PASSED and ADOPTED THIS _____ DAY OF _____ ,
2017.**

MAYOR

ATTEST:

INTERIM CITY CLERK

CERTIFIED TO BE CORRECTED AS TO FORM:

CITY ATTORNEY

SITE DESIGN GUIDANCE



TOOLS FOR INCORPORATING POST- CONSTRUCTION STORMWATER QUALITY PROTECTION INTO CONCEPT PLANS AND LAND DISTURBANCE PERMITTING

Revision 1 - April 17, 2009

The Metropolitan St. Louis Sewer District,
Developed in Conjunction with the St. Louis
Municipalities Phase II Storm Water Steering
Committee



Table of Contents

<u>1. Introduction</u>	4
<u>2. Evaluation of Existing Conditions</u>	6
<u>3. Evaluation of Concept Plans</u>	10
<u>4. Integration with MSD Stormwater Quality Review</u>	18
<u>5. Conclusion</u>	21

Tables

• Table 1 Existing Natural Resource Considerations	7
• Table 2 Site Development Goals, Questions, and Methods	11
• Table 3 Post-Construction Structural BMPs and Allowed	14

Figures

• Figure 1 Generic Stormwater Site Design Approval Process	19
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Appendices

• Appendix A Example Maps	
• Appendix B Typical BMP Layouts and Sections	

1 Introduction

The effect of intense urbanization on natural watercourses is well documented: as urbanization (and impervious area) increases, the diversity and quality of aquatic life that exists within urban streams decreases. The sources of impairment (for example, roadway runoff, fertilizer runoff, creek bank erosion, litter, etc.) to these streams are collectively referred to as non-point source pollution (NPS). The Clean Water Act Phase II Stormwater Regulations were promulgated to provide appropriate stormwater management of NPS pollution in urbanized areas, and these regulations apply to the watersheds located within the Metropolitan St. Louis Sewer District (MSD). The Missouri Department of Natural Resources (DNR), through the Small MS4 Permit (Permit), sets requirements for stormwater management within the separate sewer portion of the MSD in St. Louis County. The St. Louis County Phase II Stormwater Management Plan (Plan) sets forth specific activities and schedules that the MSD, St. Louis County, and its fifty-nine municipal co-permittees must do to satisfy the Permit requirements.

This document has been prepared to assist in implementing the Permit and Plan requirements related to Post-Construction Storm Water Management in New Development and Redevelopment. These requirements apply to all new development and redevelopment projects that disturb greater than or equal to one acre, including (but not limited to) municipal roadway projects, residential infill and redevelopment projects, commercial and industrial development and redevelopment projects, and new residential subdivisions. While this topic's description implies measures that should be taken at project completion, its implementation begins in the project planning process, before project clearing and grading (i.e., land disturbance). The Permit states that water quality impacts must be prevented or minimized by mimicking pre-construction runoff conditions on new development projects to the maximum extent practicable, emphasizing practices that provide infiltration. Policies and ordinances must be implemented to protect sensitive areas, maintain green space, buffer water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation. The Permit further requires that "The permittee shall assess site characteristics at the beginning of the construction design phase to ensure adequate planning for storm water program compliance". Thus, appropriate planning for mitigation of stormwater impacts must begin at the start of the project planning stage.



NPS Pollution, St. Louis County, MO

A significant complicating factor in meeting this requirement is that MSD, who is responsible for implementing the stormwater facility design requirements, is not typically involved in the early planning stages of a development or redevelopment project. Municipal planners and other officials are more typically in contact with developers in the early stages of a land development project. Additionally, MSD does not issue land disturbance permits, which are issued by municipalities or St. Louis County. As a result, municipal/county plan review officials are the "first line" of watershed protection. However, post-construction stormwater quality and treatment considerations have not traditionally been part of the planning or land disturbance permit approval process. Thus, training and education

on stormwater management techniques that will meet the Permit and Plan are needed. This guidance is written for municipal/county plan review officials who will review development project concept plans and/or stormwater pollution prevention plans (SWPPPs) at sites located with the MSD. This guidance is consistent with Plan goals of

- Providing "...educational materials on Best Management Practices (BMPs) and promote the use of non-structural credits and the benefits of site storm water management planning prior to land disturbance" and
- "Provid(ing) storm water management BMP guidelines to public works and planning and zoning reviewers to assist in the concept review of plans."

While upfront stormwater planning is a requirement of the Permit, our Permit does not provide methodology for completing this requirement. This document presents "tools" and processes that plan review officials can use to evaluate whether development plans address Permit requirements and Plan goals for upfront stormwater planning. The tool develops a series of questions and actions that could be taken to meet Permit and Plan requirements. Not all of these questions and actions will be applicable to every project. Municipal/county plan reviewers even have the option of replacing this methodology with another one that accomplishes the same upfront stormwater planning objectives. The test is, when evaluated as a whole,

1. Does the project planning effort adequately document existing site conditions and identify important natural resource considerations?
2. Does the project plan provide features that minimize runoff and pollutant loading and mimic pre-construction runoff conditions (for new development projects) to the maximum extent practicable?

Although emphasis has been placed in this introduction on the regulatory requirements, the goal of this document is to better serve our communities through better site development design. The public is served when new development and redevelopment projects implement practices that help avoid public hazards like flooding and NPS pollution and that protect important natural resources not fully appreciated until they are gone.

2 Evaluation of Existing Conditions

Purpose:

Documenting a site's existing conditions is the first step in protecting natural resources. The primary purpose of evaluating existing conditions is to generate information that should be used as a basis for laying out the development and implementing strategies for protecting environmentally sensitive areas. Some of these areas may be protected by federal, state, and/or local regulations as well.

Tool:

Table 1, Existing Natural Resource Considerations, presents a list of natural resources, key questions, and actions that should be taken by the developer to document a site's existing resources. The plan reviewer should use the questions as a "springboard" of initial questions to be discussed. Additional probing will likely result from answers to the questions listed in Table 1, and documentation of these additional questions is also important since a legal review of these issues could ensue.

In the evaluation of existing conditions, the "actions" should be focused on delineating the location and extent of areas that warrant protection. The next step, concept planning, addresses specific "actions" that may be taken to protect natural resources and to mitigate the impacts.

Key Terms:

The following key terms define the natural resources and other technical terms evaluated in Table 1.

Existing topography: mapping of the existing (pre-development) land surface elevations, water bodies, geology, and other features that describe a piece of property. Steep areas are generally unstable and can result in extensive runoff caused by stormwater runoff.

Flood plain: the area adjacent to a stream or body of water that is susceptible to flooding. The edge of a flood plain is defined by a water level for a given recurrence interval (i.e., probability of flooding), such as "100-year flood plain". Development in the flood plain is at higher risk of flood damage, and reducing the floodwater storage volume in the flood plain will impact flood levels in other areas.

Floodway: the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface elevation. [See 44 CFR 59.1]

Karst: areas where the dissolution of limestone or other soluble rocks has produced cliffs, sinkholes, caves, underground streams, and other similar features. Karst areas may be direct "conduits" of stormwater "injection" to groundwater or streams. Increasing the rate and amount of urban stormwater to karst features also increases the rate of limestone dissolution, which can exacerbate erosion problems. NPS pollution in urban runoff to karst areas can quickly contaminate groundwater wells and impact public health.

Ponds: a small, still body of water. Lakes and reservoirs, including natural lakes and any impoundments created by the construction of a dam across any waterway or watershed, are considered Waters of the State. [See 10 CSR 20-7] Ponds (wet or dry) that were engineered and constructed for the purpose of flood detention or stormwater treatment are generally not considered Waters of the State.

Table 1: Existing Natural Resource Considerations

Natural Resource	Questions	Actions
Wetlands	<p>Are wetlands on site?</p> <p>Are Army COE and/or MDNR permits needed (e.g., 404/401 permits)?</p>	<p>Show all wetlands on map.</p> <p>Obtain COE/MDNR permits &/or documentation before plan approval.</p>
Streams and Floodplains	<p>Are major waterways on the site?</p> <p>Are Army COE and/or MDNR permits needed?</p> <p>Is the site located within the 100 or 500-year flood plain?</p> <p>Is the municipal or county stream buffer (setback) shown?</p> <p>Is the site in a flooding or erosion prone area?</p>	<p>Show major waterways.</p> <p>Obtain COE/MDNR permits &/or documentation before plan approval.</p> <p>Show 100 and 500-year flood plains on map.</p> <p>Show stream buffer.</p> <p>Show areas prone to flooding.</p> <p>Show stream bank erosion areas.</p>
Karst	<p>Are sinkholes, springs, or seeps located on the site?</p> <p>What is the depth to bedrock?</p>	<p>Show sinkholes, springs, seeps, and other karst features.</p> <p>Show areas with shallow depth to bedrock.</p>
Existing Topography	<p>What is the existing topography?</p> <p>Are there areas with slopes steeper than 20 percent?</p> <p>What are the site's soil types?</p> <p>What is the existing stormwater drainage area and flow path?</p>	<p>Show existing topography, identify areas with slopes greater than 20 percent.</p> <p>Show site soil type.</p> <p>Show areas with erodible soils.</p> <p>Show gullies, swales, ditches, etc.</p>
Ponds	<p>Are there existing ponds on or adjacent to the property?</p> <p>Does the pond provide recreational benefits?</p> <p>Does the pond provide flood detention benefits?</p> <p>What is the condition of existing ponds (i.e., depth of sediment in pond, bank erosion, invasive plants)?</p>	<p>Show all ponds on map, including any existing detention basins.</p>
Vegetated Cover	<p>Is the site forested?</p> <p>Are grassy/prairie areas on the site?</p>	<p>Show forest and prairie areas.</p> <p>Show large trees (>12" dia).</p>
Existing Property Use	<p>What is the site's current use?</p> <p>What buildings, structures, and other impervious surfaces are present?</p> <p>Are there utilities through the site?</p>	<p>Show existing impervious areas and utilities.</p>
Surrounding Property Use	<p>What is the surrounding property use?</p>	<p>Show property boundary and surrounding property uses.</p>

Property use: evaluating the existing property use is important in understanding the impact from the proposed development or the project site. Evaluation of surrounding property use is important in evaluating its impact on the development site.

Soil type (or hydrologic soil group): a term used to estimate the stormwater runoff potential. The USDA (NRCS) classifies soils as “A”, “B”, “C”, or “D” soils based on the soil’s potential for runoff. “A” soils have the lowest runoff potential (i.e., highest infiltration rate), while “D” soils have the highest runoff potential (i.e., lowest infiltration rate). Understanding what soil types exist before grading begins and leaving “A” and “B” soils undisturbed can reduce urban stormwater impacts by infiltrating stormwater runoff into the soil. Soil type information is easily retrieved through the web at <http://websoilsurvey.nrcs.usda.gov>.

Stream: a body of moving water in a natural channel, such as a creek or river. Regulated streams are those that are considered Waters of the State. Streams are considered regulated wetlands and are subject to State and Federal law, as well as local stream buffer ordinances that require areas next to the stream to remain undisturbed in natural condition.

Stream Buffer: a natural area boundary between a development and stream that helps protect water quality by filtering pollution and infiltrating stormwater runoff. Stream buffers also help alleviate stream bank erosion and provide room for the normal lateral movement of the stream channel.

Vegetated Cover: vegetation can heavily influence the runoff potential from a site. Wooded sites, sites with heavy brush, and sites planted in warm-season native grasses have the lowest runoff potential. Large trees help stabilize sites, reduce runoff, and reduce thermal warming of waters. Preserving areas with quality vegetated cover, and replanting buffer areas with deep-rooted trees and native plants are techniques that minimize site development runoff. Turf grass (i.e., bluegrass, fescue, etc.) has a shallow root structure and, accordingly, a higher runoff potential.

Wetland: wetlands occur at the transition zone between land and water. For regulatory purposes under the Clean Water Act, the term wetlands means “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.” [See 40 CFR 230.3 (t).] Wetlands are protected from disturbance under the Clean Water Act. The Army Corps of Engineers and DNR issue permits for any work impacting a wetland.



Ramona Lake, Berkeley, MO

Waters of the State: All rivers, streams, lakes, and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased, or otherwise controlled by a single person or by two or more persons jointly or as tenants in common and includes waters of the United States lying within the state. [See 10 CSR 20-7] This term is important because the small MS4 Permit authorizes discharges to waters of the state (i.e., the Permit applies to and protects waters of the State). Waters of the state should not be used as BMPs, but rather be protected by BMPs.

Deliverables:

At a minimum, the developer should provide the reviewer an Existing Site Resources Map of the site that documents the location of any of the features listed in Table 1. A table or legend stating what features are (and are not) of concern on the site would be helpful. Presenting this information on a separate large size sheet (preferably on 24" x 36" paper) will assist the reviewer in evaluating the site's information. An example Existing Site Resources Map is provided in Appendix A.

The presence of some features will require additional assessment beyond the Existing Site Resources Map. A site visit and digital photographs of the features are also helpful. Additionally, a project which impacts wetlands or waters of the U.S. or State (jurisdictional waters) will likely be accompanied by an additional assessment of the feature as required for Army Corps of Engineers and/or Missouri Department of Natural Resources under the Clean Water Act section 404/401 permitting requirements. The plan reviewer should request and review this information, as it may be helpful to them as well in determining the location, extent, and quality of these features.

3 Evaluation of Concept Plans

Purpose:

Once the Existing Site Resources Map is presented, the next step is locating the proposed buildings and other impervious features (e.g., parking lots, roadways, sidewalks, etc.) and managing the stormwater runoff from these areas. To the maximum extent practicable, the development plan should preserve and/or protect existing natural resource areas that facilitate pollutant removal and reduce runoff.

With today's construction technology, the tendency is to completely disturb and grade a site based on the future use of that property, but without regard to a site's existing natural resources or potential for minimizing stormwater runoff. While this approach facilitates the speed of development, frequently it is at odds with conservation of natural features and soil characteristics (e.g., soil permeability) that mitigate development impacts and have longer-term community and water quality benefits. Additionally, many have approached compliance with "MSD's water quality requirements" in a similar way to traditional flood detention, in that an engineered structural BMP is installed near the low point of the site. This mindset needs to be replaced with one that also includes practices that minimize the volume of runoff, because treatment alone does not meet the Permit intent's for mimicking pre-construction runoff or implementing water quality strategies to the maximum extent practicable.

Tool:

Table 2, Site Development Goals, Questions, and Methods, presents an approach to site design that plan reviewers can look for, and designers and developers can take, to minimize impacts to the environment from stormwater. While specific solutions will be tailored on a site-by-site basis, the major concepts that these solutions embody (in order of preference) include:

- Limiting disturbance and preserving existing pervious areas (i.e., green space) and sensitive areas such as flood plains and stream buffers.
- Reducing the amount of impervious area (rooftops, parking lots, sidewalks, roads, etc.).
- Disconnecting impervious areas stormwater from the storm sewer system via overland flow to vegetated buffers and other "green" infrastructure techniques that promote infiltration.
- Using pervious surface materials, such as permeable paver blocks, porous asphalt, porous concrete, and green roofs.
- Installing engineered systems that treat stormwater runoff and/or reduce peak stormwater runoff rates using techniques that employ vegetation and infiltration. Underground structural techniques should be used as a last resort.

A significant portion of MSD is already developed. Strategies for managing stormwater quality at redevelopment sites are sometimes more limited because of existing utilities, space restrictions, and other factors. MSD provides greater flexibility for meeting water quality requirements to smaller (<5 acre) redevelopment projects. Additionally, MSD wants to encourage redevelopment of existing impervious areas and infill development as a component of regional stormwater management. (Redeveloping a parking lot, commercial district, or already degraded site allows a community to enjoy the benefits of growth and improved water quality without further increasing net runoff.) However, MSD anticipate that larger redevelopment projects will have an opportunity to employ techniques

Table 2: Site Development Goals, Questions, and Methods

Goal	Questions	Methods (To the Maximum Extent Practicable)
Minimize Stormwater Generation	<p>Can land disturbance be minimized?</p> <p>Can additional green space be preserved?</p> <p>Can proposed development be located in already developed areas?</p>	<p>Limit clearing, grading, and earth disturbance. Use clustered development with open space designs.</p> <p>Use narrower, shorter streets, right-of-way, and sidewalks.</p> <p>Allow smaller radii for cul-de-sacs.</p> <p>Reduce parking space requirements.</p> <p>Preserve and protect forested areas, especially areas with large trees. Show tree preservation areas on plans.</p> <p>Allow for shared driveways and parking areas.</p> <p>Provide incentives for site redevelopment.</p>
	<p>Can stormwater safely flow overland to buffer areas (i.e., avoid piping)?</p>	<p>Grade to allow stormwater to sheet flow into buffer or conservation easement areas.</p> <p>Limit use of curb and gutter streets.</p> <p>Use grass channels for street drainage and stormwater conveyance.</p> <p>Allow roof downspouts to flow overland into vegetated cover.</p>
	<p>Can stormwater be captured and infiltrated into the ground?</p>	<p>Rainwater infiltration systems. Examples include rain gardens, dry wells, and other landscape infiltration methods.</p> <p>Emphasize managing stormwater at the point of generation.</p>
	<p>Can stormwater be captured and reused for irrigation or décor?</p>	<p>Rainwater harvesting systems. Examples include rain barrels, cisterns, shallow ponds, and underground chambers.</p> <p>Emphasize managing stormwater at the point of generation.</p>
	<p>Could permeable surface materials be used to promote infiltration and limit runoff?</p>	<p>Use permeable pavements in low traffic areas.</p> <p>Use green roofs.</p> <p>Direct rooftop runoff to pervious surfaces, such as amended soils.</p>
Minimize Erosion of Site Soils	<p>Can land disturbance be restricted to less sensitive areas?</p> <p>Is the development located outside the 100-year flood plain?</p>	<p>Land disturbance SWPPP requirements apply.</p> <p>Avoid grading areas with steep slopes and erodible soils.</p> <p>Limit disturbance areas within the 100-year floodplain.</p>
Minimize Stream Bank Erosion	<p>Is the development located outside the stream bank setback buffer?</p>	<p>Development should not encroach municipality's stream bank buffer. Show stream buffer on preliminary plan.</p>
	<p>Does the development warrant engineering channel protection controls (because of development size or stream bank erosion problems)?</p>	<p>MSD rules and regulations require channel protection detention for the 1-year 24-hour rainfall event. Show detention basin on preliminary plan. Locate outside limits of 100-year floodplain. If feasible, stabilize the stream bank using other engineered methods.</p>

<p>Minimize Impact to Environmentally Sensitive Areas</p>	<p>Does the development plan avoid sensitive areas?</p>	<p>Untreated stormwater should not discharge into sinkholes, wetlands, fishing ponds, and other sensitive areas.</p> <p>Provide a buffer around sensitive areas. Preserve the existing stormwater flow path.</p>
<p>Adequately Treat Stormwater Before Discharge</p>	<p>Does the site development plan utilize stormwater credits? Does the development plan show structural BMPs? What is the acreage of drainage to the BMP? Will the BMP be above or below ground?</p>	<p>Show locations of any (non-structural) "credit" areas and show locations of any structural stormwater BMPs on preliminary plan. Locate structural BMPs outside the 100-year flood plain.</p> <p>Provide a BMP drainage area map. Only certain wet ponds and wetlands may be used for drainage areas larger than 10 acres. Encourage stormwater credits, managing stormwater at the point of generation, and aboveground stormwater BMPs. "Regional BMPs" and underground BMPs should be avoided when possible. As a rule of thumb, the development should provide 35% minimum green space for a structural BMP(s).</p>
<p>Stormwater Controls Shall Be Maintainable and Enforceable</p>	<p>Who will be responsible for maintaining stormwater controls? Are the structural BMP shown on the plan appropriate for the entity or person responsible for maintenance?</p>	<p>The property owner or subdivision association will maintain BMPs.</p> <p>Underground BMPs, large surface filters, and other maintenance intensive BMPs should be avoided on residential developments.</p>
<p>Minimize Downstream Flooding</p>	<p>Is over 1 acre of impervious area being added? Is the development tributary to any existing basins that need to be upgraded?</p>	<p>A stormwater detention basin will be needed. Show location on plan.</p> <p>Developments feeding basins that do not currently meet MSD flood detention requirements will need to be upgraded. Frequently this requires enlargement of the existing basin.</p>

(Bold items reflect project requirements.)

that both minimize stormwater generation and treat stormwater pollution. For example, larger redevelopment and new development projects may employ alternative surfaces (e.g., porous pavement) that reduce stormwater runoff, as well as decentralized technologies that infiltrate and treat stormwater runoff at the source. At smaller redevelopment projects, these alternative surfaces and technologies may not be practical due to space constraints, utility conflicts, traffic flow, cost, or other factors.

A common misconception is that a traditional “dry” flood detention basin meets MSD water quality requirements. Dry basins may be used in conjunction with water quality BMPs for flood control, but by themselves they do not provide effective stormwater quality management. Additionally, while constructed wet ponds and wetlands provide effective water quality management, developments may not use existing features that are considered “waters of the State” as a BMP. This includes wetlands, lakes, and ponds located on public property (e.g., park land), as well as the streams that feed them (including intermittent streams).

MSD recognizes that some of the methods that can be used to mitigate stormwater impact may be in conflict with other development requirements (e.g., reducing cul-de-sac radii, reducing parking spaces, use of narrower streets and sidewalks, alternative pervious materials, etc.). Municipal/county/state officials and MSD must identify impediments to these practices, determine what flexibility is available, and modify rules as appropriate. St. Louis area local governments are increasingly supportive of green infrastructure and have an incentive to be supportive as a Phase II co-permittee. Until all barriers and conflicts are removed, co-permittees are encouraged to allow greener stormwater management solutions and allow exemptions to conflicting requirements where it makes sense.

The property owner must maintain stormwater treatment devices, and they will be periodically inspected by MSD to ensure proper maintenance is occurring. (A maintenance plan is recorded with the property and is transferable with property ownership.) Failure of the property owner to maintain their BMPs is a violation of MSD ordinance and the site maintenance agreement. **Therefore, whatever BMPs are selected, they need to be maintainable by the end user of the property.** It is important to recognize that all designed systems will require maintenance, and as a rule, the more “engineered” the solution, the more frequent and expensive maintenance will be. There are economic tradeoffs: while establishing buffer areas and managing stormwater using non-structural BMPs may reduce the amount of land available for development, maintenance costs and headaches on future property owners are reduced. However, only using non-structural BMPs may make some developments cost prohibitive due to land value, and some commercial users will have the resources needed to maintain the engineered structural BMPs. The best solution is the one that balances future maintenance costs, given the resources of the user, with the cost of development. Underground vaults, filters, and manufactured separation devices (which are maintenance intensive) are not appropriate for residential development. Except for approved hydrodynamic separation devices installed by municipalities in roadway right-of-way, MSD will not maintain stormwater treatment devices.

Post-Construction Non-Structural BMPs:

Non-structural BMPs are development strategies that minimize the impact of land development on natural resources. Many of the “methods” in Table 2 are non-structural techniques that can be used to treat, as well as reduce, site runoff. In the Maryland Stormwater Manual, some non-structural techniques are grouped together as a “credit” that satisfies MSD water quality requirements (as a stand-alone practice) or reduces the volume or rate of water that must be managed as part of the stormwater management plan. These credits include

- Natural area conservation
- Disconnection of rooftop runoff

- Disconnection of non-rooftop runoff
- Sheet flow to buffers
- Open (grass) channel use (for roadways), and
- Environmental sensitive development (i.e., low-impact development).

In most cases, non-structural practices must be combined with structural practices to meet stormwater requirements. Nationally and at MSD, non-structural practices are increasingly recognized as a critical and economical feature of stormwater management.

Post-Construction Structural BMPs:

In all new development and redevelopment, MSD rules and regulations require the use of BMPs to treat a water quality volume of runoff from 1.14 inches of rainfall. MSD regulations specify and allow certain structural BMP's for use. The structural BMPs allowed for stormwater quality control are divided into six general categories as shown in Table 3. Typical BMP layouts and sections are provided in Appendix B. The full scope of BMP selection, design, and construction is beyond this document and the goal of conceptual plan review. However, concept plan reviewers may find this table of BMP categories helpful in evaluating whether a proposed BMP, at least by name, is allowable and whether adequate space has been allocated in the design. For more specific guidance on structural BMPs, MSD relies upon Chapters 3 and 4 of the Maryland Department of the Environment's (MDE), April 2000, "Stormwater Design Manual, Vol. I and Vol. II." The "Maryland Manual" outlines the selection, design and construction of various structural BMPs. (At present, there is not a national or Missouri state design manual for these devices. The Maryland Manual is a comprehensive BMP design manual, and its principles can be adapted to the St. Louis region.)

Table 3. Post-Construction Structural BMPs Allowed within MSD

<p>Stormwater Ponds</p> <ul style="list-style-type: none"> • Micropool Extended-Detention (ED) Ponds • Wet Ponds • Wet ED Ponds • Multiple Pond System • "Pocket Ponds" <p>Stormwater Wetlands</p> <ul style="list-style-type: none"> • Shallow Wetland • ED Shallow Wetland • Pond/Wetland System • "Pocket Wetland" <p>Stormwater Infiltration</p> <ul style="list-style-type: none"> • Infiltration Trench • Infiltration Basin 	<p>Stormwater Filtering System</p> <ul style="list-style-type: none"> • Surface Sand Filters • Underground Sand Filters • Perimeter Sand Filters • Organic Filters • Pocket Sand Filters • Bioretention • Proprietary Cartridge Devices <p>Open Channel Systems</p> <ul style="list-style-type: none"> • Dry Swale • Wet Swale <p>Hydrodynamic Separator Devices</p> <ul style="list-style-type: none"> • MSD Approved Devices¹ <p>Alternative Surface Materials²</p> <ul style="list-style-type: none"> • Green Roof • Permeable Pavement
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¹Hydrodynamic Separator Devices are manufactured by a variety of vendors. A list of approved devices and vendors is available through the MSD website, www.stlmsd.com.

² Alternative surfaces reduce the impervious area, reduce the volume of runoff requiring treatment, and provides some pre-treatment benefit; but are not recognized as "stand-alone" treatment BMPs. They may be a component of a BMP that does provide treatment (i.e., infiltration or filtration).

Many of the post-construction structural BMPs incorporate plants that add functional and landscape value to the BMP. MSD references the "Landscape Guide for Stormwater Best Management Practice Design, St. Louis, Missouri" for recommendations on selecting plant species and on planting methods used in BMPs. (This guide can be accessed through the MSD website, www.stlmsd.com.)



Surface Sand Filter, St. Louis County, MO

Key Terms:

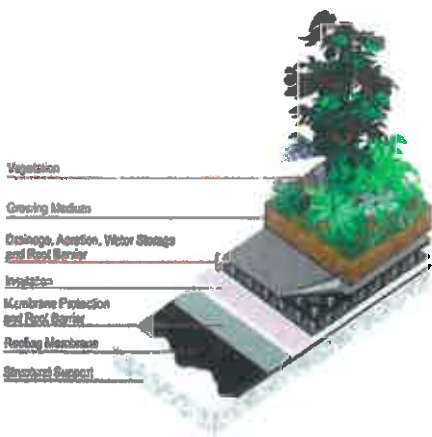
Amended soils: soil that has been improved by practices that preserve site topsoil, reduced soil compaction, and/or blended with organic and/or inorganic materials that reduce soil runoff capacity.

BMP drainage area map: a topographical map that shows the drainage areas that feed individual BMPs or credit areas. The BMP drainage area map also provides limits of disturbance, improvements, and a table showing the water quality volumes required and provided in BMPs.

Disconnection of runoff: Credit focused on reducing the water quality volume by disconnecting impervious areas (rooftops, parking lots, etc.) from the sewer and directing them to pervious areas where stormwater can either infiltrate into the soil or filter over it. The credit is usually obtained by grading the site to promote overland flow or by providing bioretention/rain garden areas on single-family residential lots.

Engineered channel protection: to protect natural channels from erosion and consequent pollution, MSD rules and regulations require some developments to provide extended detention of the one-year, 24-hour storm event. A detention pond or underground chamber is generally needed to meet channel protection requirements.

Environmentally Sensitive Development (or Low-Impact Development (LID)): mimicking a site's predevelopment hydrology by using decentralized "micro-scale" techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. These micro-scale techniques include rainwater harvesting (e.g., rain barrels), dry wells, small rain gardens, bioswales, and other small-scale techniques that reduce runoff.



Grass channel credit: Credit that is given when open grass channels are used in lieu of curb and gutter and when designed to reduce the volume of runoff during smaller storms.

Green roof: also referred to as vegetated roofs, roof gardens, or eco-roofs, green roofs replace conventional roof materials with a protective (water barrier), planting media, and vegetation. The planting media and vegetation assists in attenuation of stormwater impacts.

Typical section of a green roof

Hydrodynamic Separator (HDS) Devices: A pre-fabricated stormwater treatment structure utilizing settling and vortex separation to remove coarse sediment and trash from storm runoff. HDS devices are only allowed as "stand-alone" treatment devices for highway runoff and small redevelopment

sites. They may also be used for pre-treatment to filters, ponds, or other types of structural BMPs.

Infiltration basin (or trench): BMPs that capture and temporarily store the water quality volume while allowing infiltration into the soil over a defined period. Infiltration basins should be limited to tributary areas smaller than 10 acres, and infiltration trenches should be limited to areas smaller than 5 acres. Infiltration techniques should be located in areas with A or B soil types. These techniques should not be located where seepage could damage adjoining or downstream property.

Maintenance agreement: a recorded agreement between MSD and the owner of the property where the BMP is located. The agreement requires the property owner to maintain the stormwater facilities and provides a means for MSD to rehabilitate these facilities and place a lien on the property, if necessary.

Natural Area Conservation: Credit focused on conserving natural areas, thereby retaining the pre-development and water quality characteristics. This strategy reduces the water quality volume that must be managed by placing conservation areas in permanent protection through a conservation easement, reserve area, or other means that preserves the pervious area in its natural state.



Permeable Pavement During Rainfall

Open channel systems: BMPs that are designed to capture and treat the water quality volume within swales formed by check dams or other means of shallow ponding. They are typically limited to roadways and low-density residential projects with drainages areas 5 acres or less.

Permeable pavement: pavement that is porous, allowing stormwater to infiltrate into the subbase (gravel) and soil below it. Permeable pavements are effective for reducing imperviousness in parking lots, driveways, sidewalks, and areas with low traffic load. Permeable pavement areas are also exempt from MSD's stormwater service fee.

Rain Garden: a rain garden, or bioretention area, is a type of filtering system where stormwater is allowed to temporarily pond in a planted shallow depression. Rain gardens are planted with native vegetation that can tolerate periods of inundation and remove pollution in stormwater. (Rain garden is a "buzzword" that is sometimes inaccurately used to describe many filtering systems. They may or may not meet MSD Rules and Regulations, based on whether they meet the applicable filter system design.)

Redevelopment site: within MSD, a site (i.e., total property area) is considered a redevelopment site if at least 20% of the existing site was impervious coverage as of January 15, 2000.

Regional stormwater treatment: post-construction structural BMPs that serve multiple properties, property owners, and sub-watersheds. While regional BMPs focus maintenance in large, centralized, treatment cells, by themselves they do not encourage methods that reduce runoff at the source and can complicate maintenance responsibilities.

Sheet flow: flow over plane surfaces (e.g., a rooftop or roadway) that typically occur in the headwaters of the watershed. As the volume of water in sheetflow increases, it concentrates and begins to

(quickly) flow in channels. By maintaining sheet flow conditions in buffers, the length of time stormwater is allowed to infiltrate increases.

Sheet Flow to Buffer: Credit that reduces the water quality volume when a natural buffer or a forested area effectively treats stormwater runoff. Effective treatment is achieved when pervious and impervious area runoff is discharged to a grass or forested buffer through overland sheet flow.

Stormwater filtering systems: BMPs that capture and temporarily store the water quality volume and then pass it through a bed of sand, organic matter, soil, or other media. Filtered water is then collected and returned to the conveyance system (or allowed to infiltrate). Examples of stormwater filters include sand filters, bioretention (rain gardens), and manufactured filter devices. Due to clogging, experience suggests the drainage area to underground filters should be limited to a couple acres; aboveground surface sand filters may serve up to 10 acres. The filtering medium may need to be removed and replaced in the future, as sediments build up over the filter and ponding times increase.

Stormwater ponds: BMPs that have a permanent pool of water, or combination of extended detention or shallow wetland with a permanent pool, equivalent to the water quality volume. Stormwater ponds remove solids by settling. The shallow bench around stormwater ponds is planted with aquatic plants that further remove pollution. To ensure the pond remains "charged" with water, stormwater ponds should be limited to sites with a drainage area of 10 acres or greater.



Rain Garden in St. Louis County, MO

Stormwater wetlands: BMPs that create shallow wetland areas to treat urban stormwater and often incorporate small permanent pools of water and or extended detention storage to contain the full water quality volume. Stormwater wetlands should be limited to sites with a drainage area of 25 acres or greater.

Water Quality Volume (WQ_v): the storage needed to capture and treat the runoff from 90 percent of the recorded daily rainfall events. [See 4.080.02 of MSD's Rules and Regulations].

Deliverables:

The Concept Plan submittal should include a Site Development Plan (preferably on 24" x 36" paper) and narrative to support the design. The narrative should describe how natural resources will be preserved and protected, and explain how stormwater quality and flood protection requirements will be achieved. At a minimum, the concept should include the following:

- Location of site natural resources.
- Proposed limits of clearing and grading.
- Location of proposed impervious areas (buildings, roadways, parking, and sidewalks).
- Location of existing and proposed utilities.
- Locations of proposed buffer areas and BMPs.

4 Integration with MSD Stormwater Quality Review

As alluded to earlier, a challenge to meeting better site designs for stormwater management is coordination between municipal/county plan reviewers and MSD plan reviewers. Complicating this further, the process by which municipalities and/or St. Louis county review preliminary development plans and land disturbance plans varies. For an overview, Figure 1 presents a general process of how the preliminary and detailed plan development pieces “fit” together. While each municipality and St. Louis County can use a different process for assessing site plans, the elements of the process (establishing existing site conditions, identifying natural resources that warrant protection, establishing a preliminary layout that illustrates post-construction buffers and BMPs, etc.) should be common.

The municipality and/or St. Louis County would review the initial steps in the development review process: establishing site conditions and presenting a preliminary development plan. For projects that need “rezoning”, the initial stormwater planning steps should occur before or during the rezoning process. In many cases, it will make sense to incorporate key components (e.g., protection buffers and “credit” areas) as conditions of rezoning. If rezoning is not required, the planning authority should coordinate with MSD to ensure stream buffers and non-structural BMPs are reserved in the recorded maintenance agreement.

The more detailed site development phase begins after the planning authority approves the preliminary plan. The resource protection component of the approved preliminary plan will need to be coordinated between the SWPPP authority (St. Louis County or municipality) and post-construction permit authority (MSD). The SWPPP authority will address the actions to be taken to protect resources from runoff during construction activities. MSD will permit the actions need to protect resources after construction activities are complete.

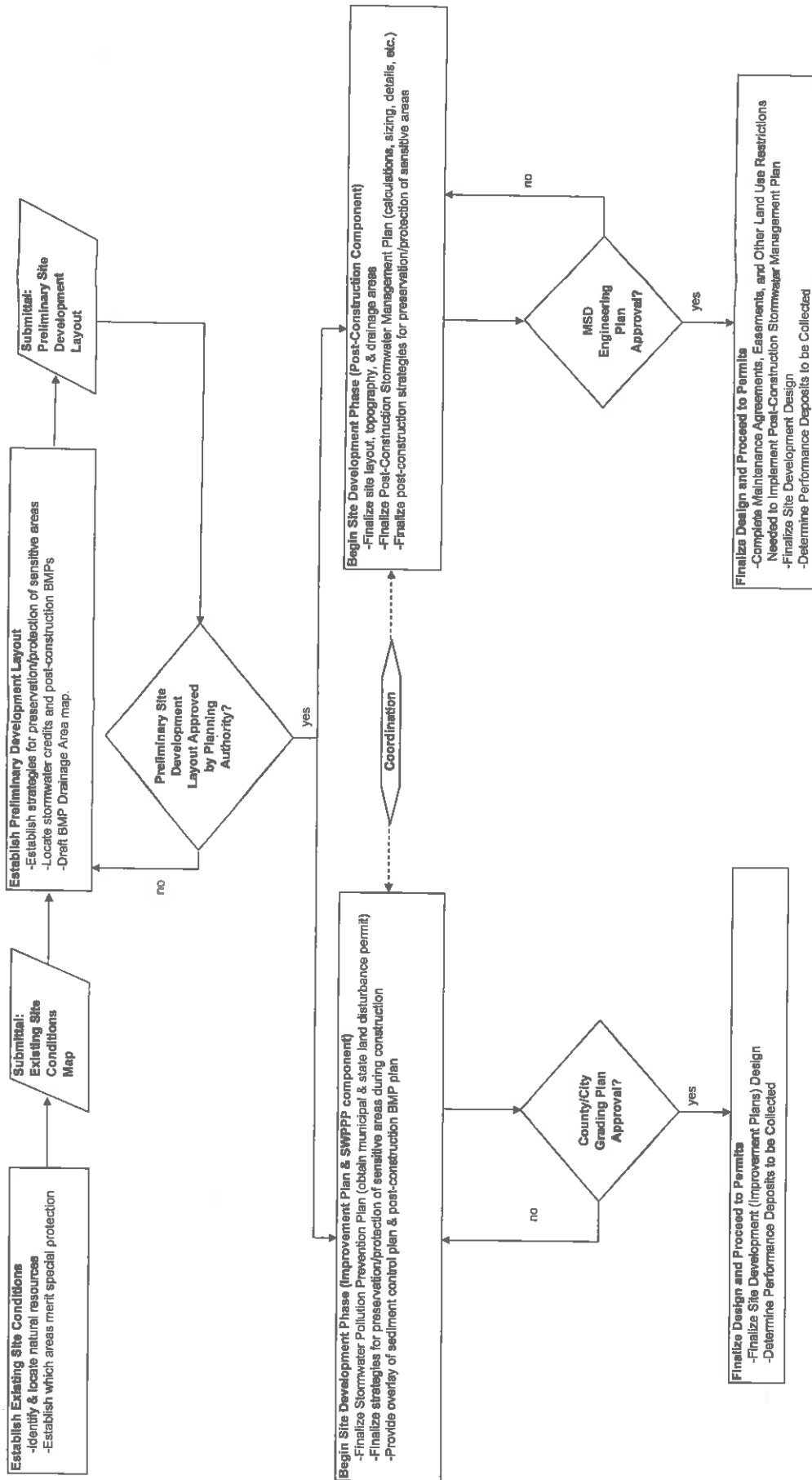
SWPPP reviewers should note the relationship between construction and post-construction BMPs. Construction BMPs in a SWPPP are designed to minimize impacts during the active construction phase, and they do not always translate into BMPs applicable for post-construction. Post-construction BMPs must treat long-term runoff from the newly constructed or redeveloped site. In some cases, construction and post-construction BMPs can be located in the same area. (For example, a sediment control basin may be converted into a wet pond and flood detention basin.) However, at the majority of sites, construction and post-construction sites will be located on different parts of the site. This is needed to preserve the soil structure necessary for BMPs that rely upon infiltration (such as infiltration basins). Also, post-construction BMPs (such as filters, bioretention/rain gardens, dry swales, and infiltration areas) must be installed after contributing drainage areas are stabilized in order to prevent them from clogging with construction sediment.



Surface Sand Filter Clogged with Construction Site Sediment, Berkeley, MO

MSD plan review engineers will review the post-construction stormwater management plan. This will include review of plans showing how stormwater will be conveyed and treated (and detained), the BMP drainage area map, maintenance plans, calculations,

Figure 1. Generic Stormwater Site Design Approval Process



BMP sizing, and other details. MSD and the owner of the property(s) where the BMP(s) is located will enter into a maintenance agreement, and the agreement will be recorded with the property(s). MSD will also collect a BMP construction deposit and field-inspect the post-construction BMPs.

It is not the task of the planning and zoning or SWPPP permitting staff to review detailed post-construction stormwater management plans and calculations. These reviewers need only to be focused on ensuring

- that post-construction stormwater management is a component of preliminary design and
- that the development approach considers sensitive areas, buffer areas, and methods that reduce (as well as treat) stormwater runoff.

It is very difficult to provide “rules of thumb” and general guidance on stormwater management design, given the site-specific nature of design and the range of BMP options available. In some cases, specific questions about post-construction stormwater management should be addressed to MSD, and assistance is available on three levels. First, MSD plan review engineers are available through the MSD permit office (314-768-6272) to answer general questions. Second, where a site specific and/or more defined scope of stormwater management requirements is requested, MSD can provide a (paid) conceptual review. The conceptual review provides a quicker “desktop” review of the development plan and comments on the overall direction of stormwater management, but does not typically address project details and calculations. **Plan approvals are not provided in conceptual review.** Where a detailed project review and plan approval is needed, the developer and engineer should apply for a formal plan review. It is important to note that the developer/engineer can submit plans to MSD for formal plan review at any point in the process (including preliminary site layout).

5 Conclusion

Stormwater quality in our community will best be managed when all of us coordinate our stormwater management strategies. Stormwater management should be focused on minimizing and treating stormwater runoff. One development or redevelopment project, alone, is unlikely to improve regional stormwater quality. Rather, meaningful results will only be achieved after many redevelopment and development projects that incorporate good stormwater management practices and years operation. MSD looks forward to working with our co-permittees and stakeholders on improving water quality. Questions about stormwater management plans and approaches may be directed to these MSD managers.

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Internet Resources:

<http://www.stlmsd.com/MSD/PgmsProjs/planreview/Search>. MSD plan review information, including links to rules and regulations, proprietary devices, and the Landscaping Guide.

<http://www.stlmsd.com/MSD/PgmsProjs/PhaseII>. MSD Phase II information website, a clearinghouse on many stormwater related items.

<http://www.dnr.mo.gov/env/wpp/stormwater/sw-local-gov-programs.htm>. Phase II stormwater requirements and resources information for local governments from Missouri DNR.

http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp. The Maryland Stormwater Design Manual may be downloaded from this website.

<http://websoilsurvey.nrcs.usda.gov/app/>. Web soil survey application from the USDA-NRCS.

<http://www.cwp.org/>. The Center for Watershed Protection is a non-profit organization that develops watershed protection strategies, researches their effectiveness, and publishes guidance to watershed managers across the U.S.

Appendix A
Example Site Resources Map
Example Concept Plan for Stormwater Management
Example BMP Drainage Area Map

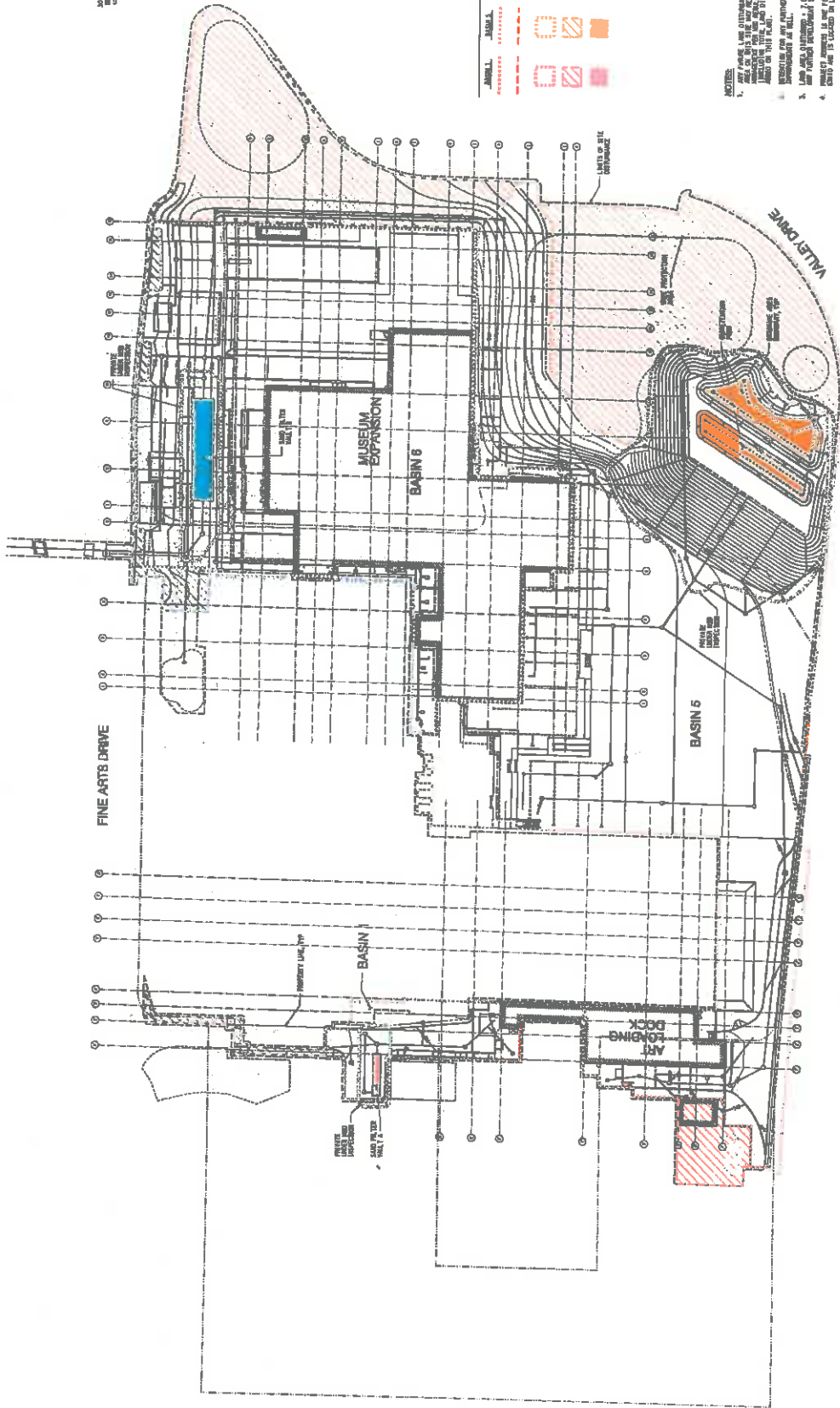


Category	Color	Description
Proposed Site	Yellow	Proposed Site (Winnona)
Proposed Site	Green	Proposed Site (Winnona)
Proposed Site	Red	Proposed Site (Winnona)
Proposed Site	Blue	Proposed Site (Winnona)
Proposed Site	Orange	Proposed Site (Winnona)
Proposed Site	Purple	Proposed Site (Winnona)
Proposed Site	Light Blue	Proposed Site (Winnona)
Proposed Site	Light Green	Proposed Site (Winnona)
Proposed Site	Light Orange	Proposed Site (Winnona)
Proposed Site	Light Purple	Proposed Site (Winnona)
Proposed Site	Light Light Blue	Proposed Site (Winnona)
Proposed Site	Light Light Green	Proposed Site (Winnona)
Proposed Site	Light Light Orange	Proposed Site (Winnona)
Proposed Site	Light Light Purple	Proposed Site (Winnona)

WASH BAYO BROOK



Example Existing Site Resources Map



LEGEND

--- (Red dashed)	BOUNDARY
--- (Blue dashed)	WATER QUALITY TREATMENT FACILITY
--- (Green dashed)	WATER QUALITY TREATMENT FACILITY
--- (Orange dashed)	WATER QUALITY TREATMENT FACILITY
--- (Blue solid)	WATER QUALITY TREATMENT FACILITY
--- (Orange solid)	WATER QUALITY TREATMENT FACILITY
--- (Blue solid)	WATER QUALITY TREATMENT FACILITY

- NOTES:**
1. ALL PAVING AND UTILITIES SHALL BE INSTALLED AS SHOWN ON THIS PLAN. DISTANCE FROM CENTERLINE TO CENTERLINE SHALL BE AS SHOWN ON THIS PLAN.
 2. ALL UTILITIES SHALL BE INSTALLED AS SHOWN ON THIS PLAN. DISTANCE FROM CENTERLINE TO CENTERLINE SHALL BE AS SHOWN ON THIS PLAN.
 3. ALL UTILITIES SHALL BE INSTALLED AS SHOWN ON THIS PLAN. DISTANCE FROM CENTERLINE TO CENTERLINE SHALL BE AS SHOWN ON THIS PLAN.
 4. ALL UTILITIES SHALL BE INSTALLED AS SHOWN ON THIS PLAN. DISTANCE FROM CENTERLINE TO CENTERLINE SHALL BE AS SHOWN ON THIS PLAN.

GW/STORMWATER CREDIT SUMMARY TABLE

BASIN	WATER QUALITY CREDIT	STORMWATER CREDIT	TOTAL CREDIT	PERCENTAGE OF TOTAL CREDIT
1	0.00	0.00	0.00	0.00%
2	0.00	0.00	0.00	0.00%
3	0.00	0.00	0.00	0.00%
4	0.00	0.00	0.00	0.00%
5	0.00	0.00	0.00	0.00%
TOTAL	0.00	0.00	0.00	0.00%

MSD-2

PROJECT: MUSEUM EXPANSION AND BASIN 5 & 6

DATE: 10/15/2014

DESIGNED BY: [Name]

CHECKED BY: [Name]

SCALE: AS SHOWN

PROJECT LOCATION: [Address]

PROJECT NO.: [Number]

PROJECT NAME: [Name]

PROJECT OWNER: [Name]

PROJECT CONTACT: [Name]

PROJECT PHONE: [Number]

PROJECT FAX: [Number]

PROJECT EMAIL: [Email]

PROJECT WEBSITE: [Website]

PROJECT ADDRESS: [Address]

PROJECT CITY: [City]

PROJECT STATE: [State]

PROJECT ZIP: [Zip]

PROJECT COUNTY: [County]

PROJECT DISTRICT: [District]

PROJECT PHASE: [Phase]

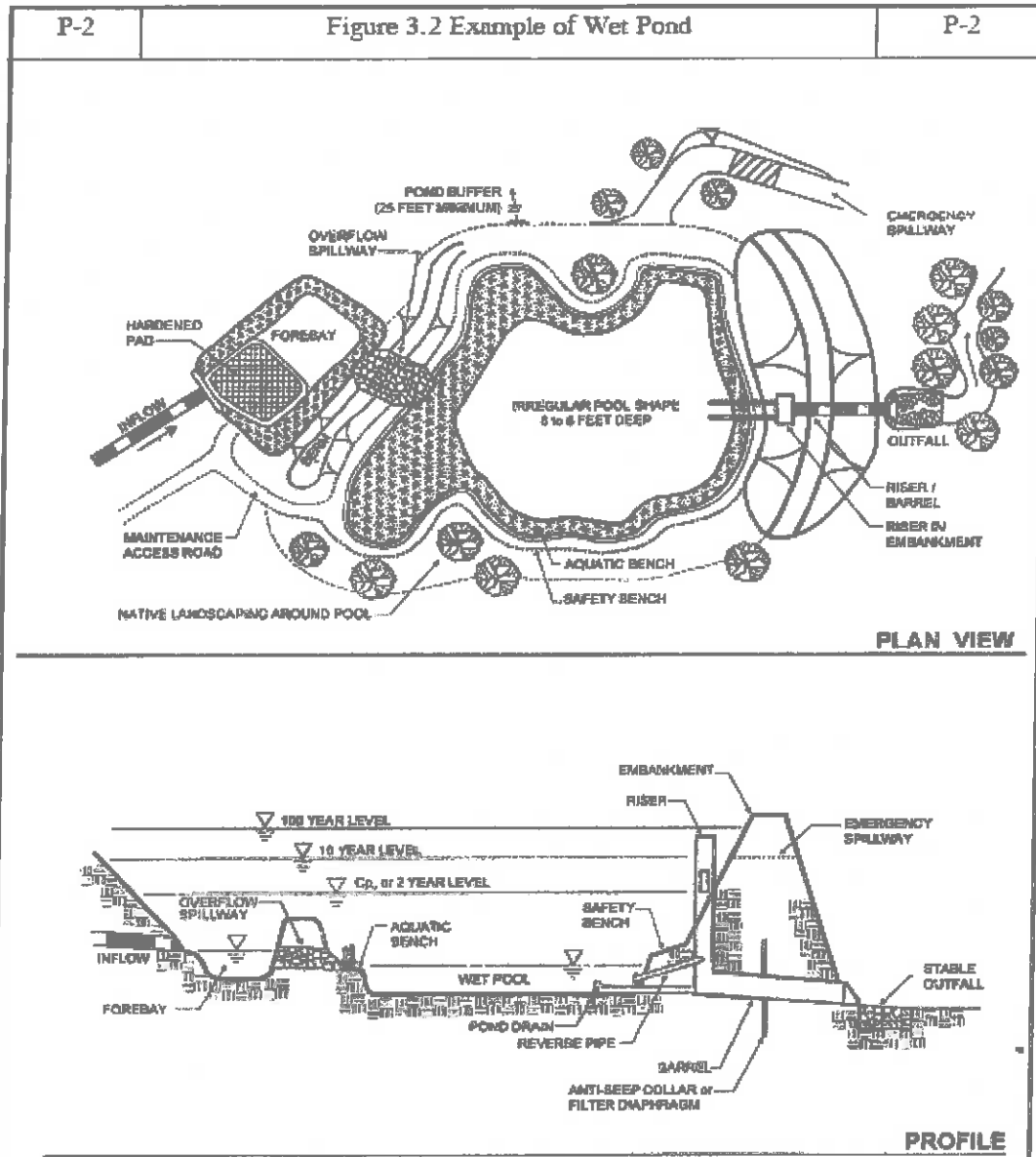
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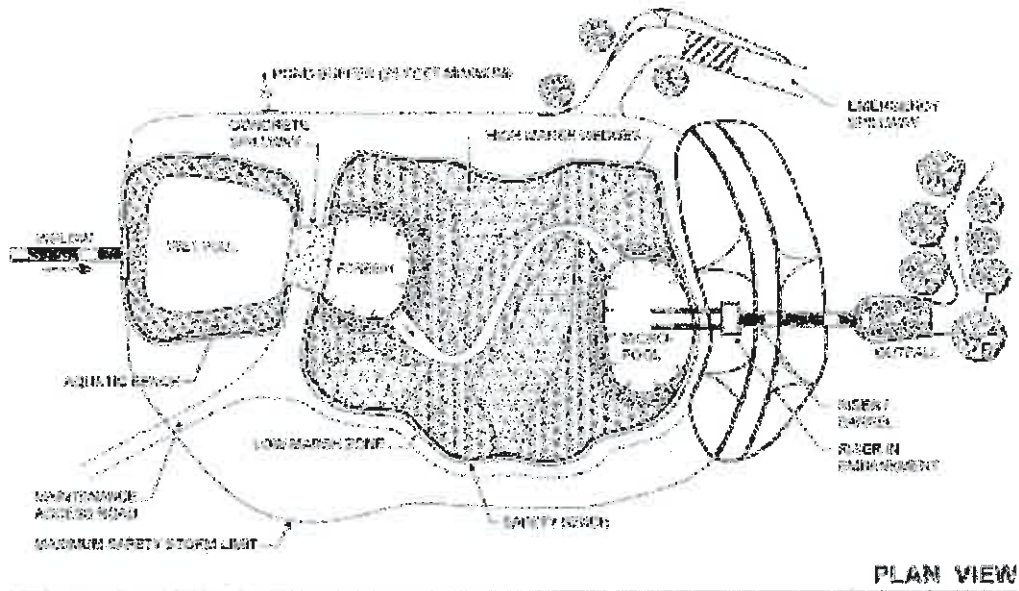
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Appendix B

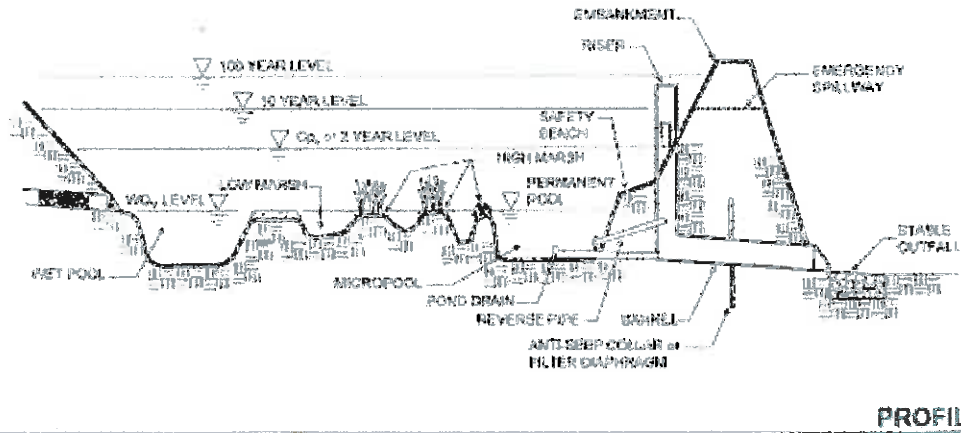
Typical BMP Layouts and Sections

Appendix – Examples of BMP Designs





PLAN VIEW



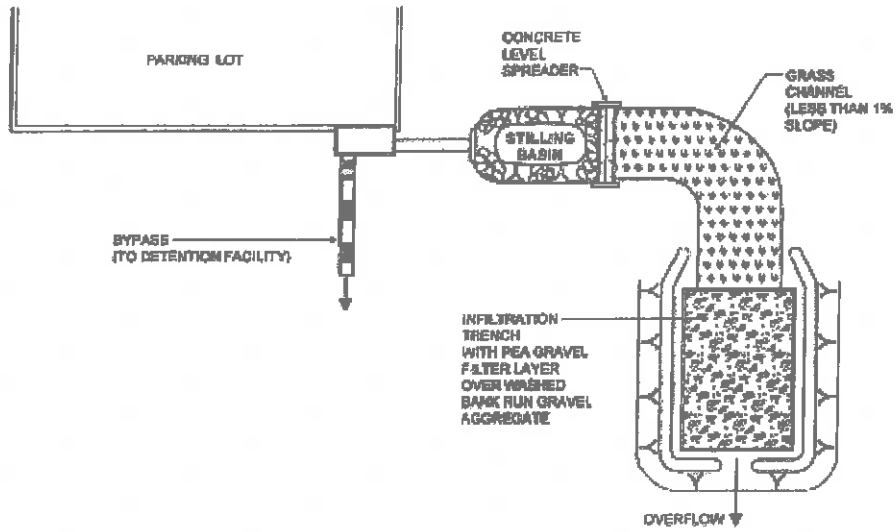
PROFILE

In this BMP, a deep permanent pool is placed before the shallow wetland.

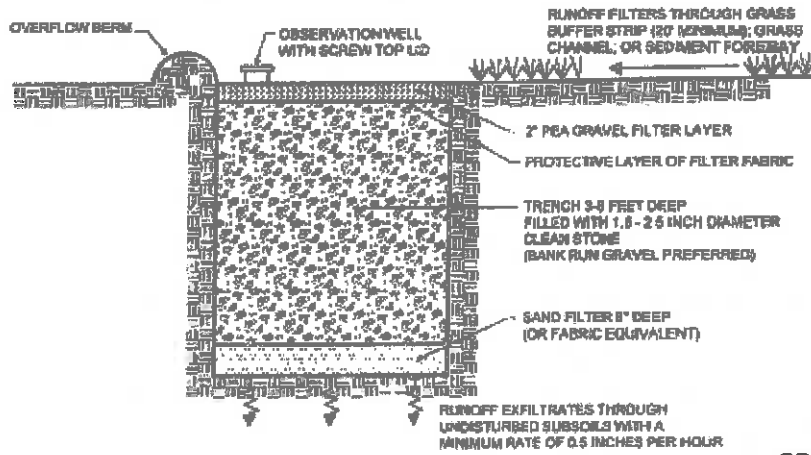
I-1

Figure 3.10 Example of Infiltration Trench

I-1

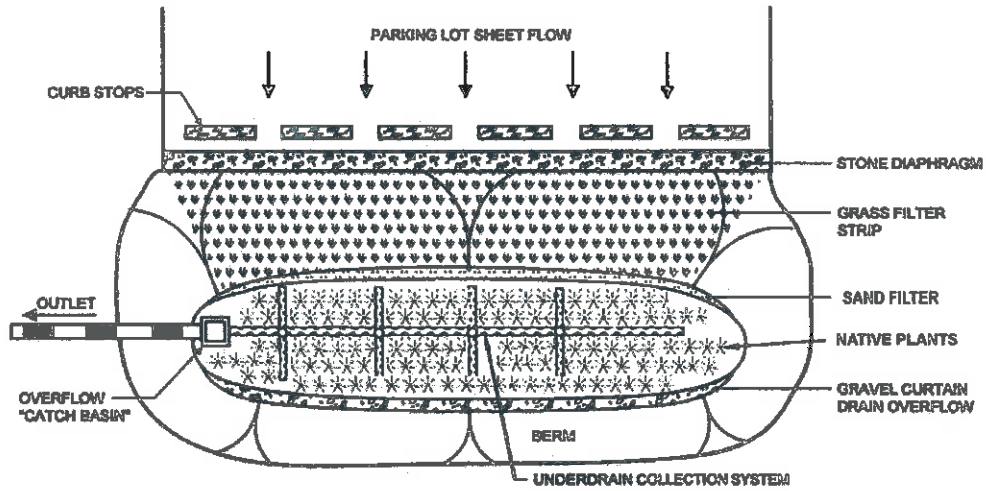


PLAN VIEW

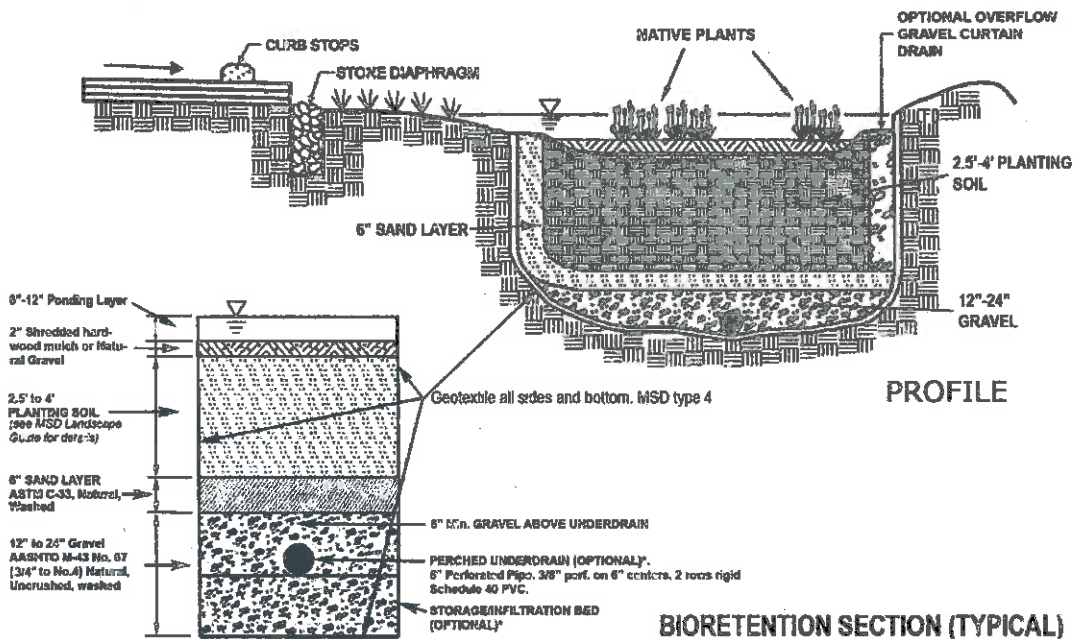


PROFILE

Example of Bioretention



PLAN VIEW



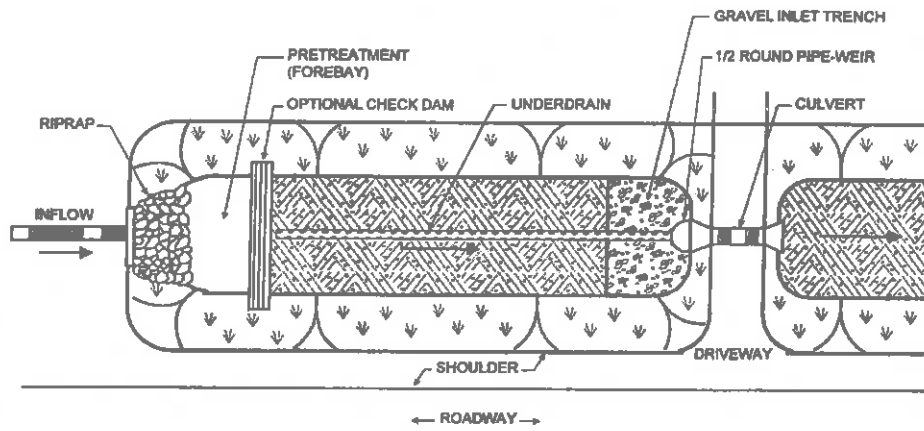
PROFILE

BIORETENTION SECTION (TYPICAL)

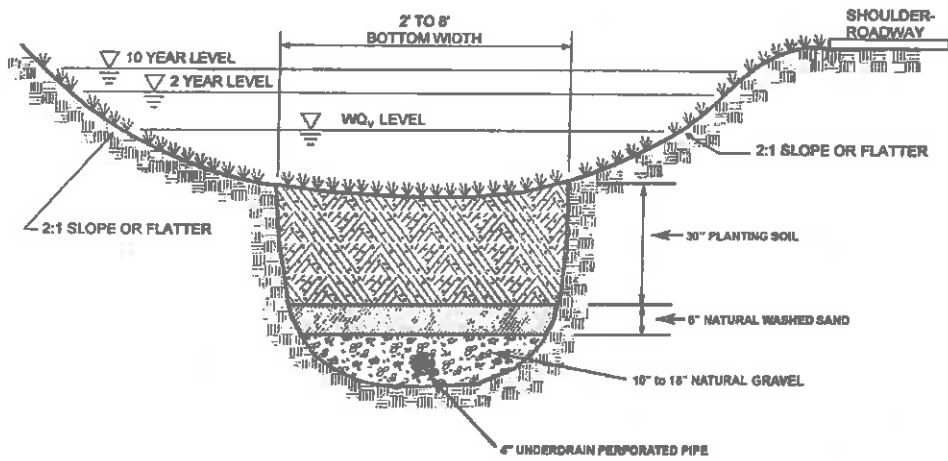
Bioretention combines open space with stormwater treatment.

* The need for a perched underdrain or infiltration basin should be evaluated based on infiltration capacity of existing soil.

Example of Dry Swale



PLAN VIEW



SECTION

Dry swales are used at low density residential projects or for very small impervious areas.



Landscape Guide **for Stormwater** **Best Management** **Practice Design**

St. Louis, Missouri

Metropolitan St. Louis Sewer District • Missouri Department of Conservation
Missouri Botanical Garden • Shaw Nature Reserve
Missouri Department of Agriculture • Grow Native!

Rev. 2 May 2012 M-1-34

Chapter One: Planting Guide

Contents

1. Acknowledgments and References.....	2
2. Introduction.....	4
3. General Guidance	4
Native Species	4
Invasive Species.....	5
Site Preparation.....	6
Planting Design.....	7
Plant Selection.....	7
Installation and Management	8
4. Stormwater Best Management Practices	8
Wet Ponds	9
Wetlands	9
Infiltration Basins and Dry Swales	10
Surface Sand Filters	12
Bioretention and Organic Filters.....	13
5. Plant Selection Considerations	15
Landscape Zones	15
Planting, Water & Mulch Requirements.....	17
Sample Planting Detail.....	18
Sample Tree Planting Detail	19
6. Resources	20
7. Plant List	21

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Cover photo: Alberici Corporation Headquarters, courtesy of Alberici Corporation

Figures 1 and 11 and back cover: Courtesy of Missouri Botanical Garden PlantFinder www.mobot.org/gardeninghelp/plantinfo.shtml

Figure 2: Courtesy of Mid-America Regional Council www.marc.org

Figure 3: Sources: www.rwmwd.org and www.ci.austin.tx.us/

Figure 4 Source: Ellerbe Creek Watershed Association www.ellerbecreek.org

Figure 5-7: Source: Maryland Stormwater Design Manual

Figure 8 Source: Plants for Stormwater Design

Figures 9 and 10: Courtesy of Ted Spaid, SWT Design www.swtdesign.com



Figure 1: From left, *Aesculus pavia*, *Equisetum hyemale*, *Chleone obliqua*, Courtesy Missouri Botanical Garden Plantfinder

2. Introduction

In recent years interest has increased in the use of innovative methods to retain and treat stormwater. These methods, often called stormwater best management practices (BMPs), rely on natural processes, such as microbial activity, filtration, infiltration, denitrification, nutrient reduction and evapotranspiration, to attain water quality and water quantity goals. Although technical information is available on the design of many types of stormwater BMPs, less information is available on plant species appropriate for these systems.

This guide has been developed to assist designers through the process of selecting and planting native plant species appropriate for a variety of stormwater BMPs in St. Louis, Missouri. This guide is by no means a substitute for employing the proper professionals to ensure project success. It is broken down into seven major sections.

Section 1 provides an acknowledgement to the contributors. In Section 3, key factors in selecting plant material for stormwater landscaping are reviewed, including native species, invasive species, site preparation, planting design, plant selection and installation and management. Section 4 presents more specific guidance on landscaping criteria and plant selection for the following BMP design types:

- Wet Ponds
- Wetlands
- Infiltration Basins and Dry Swales
- Surface Sand Filters
- Bioretention and Organic Filters

Section 5 provides further plant selection considerations and Section 6 lists valuable local resources. The final section, Section 7 lists various plants specific for each BMP type outlined.

3. General Guidance

Native Species

The Landscaping Guide for Stormwater Design requires the use of native plants in stormwater management facilities. Native plants are defined as those species that evolved naturally to live in this region. Native species are those that lived in Missouri before Europeans explored and settled in America and brought many common, but non-native species, with them. Many introduced species were weeds brought in by accident; others were intentionally introduced and cultivated for use as medicinal herbs, spices, dyes, fiber plants and ornamentals.

Because they evolved to live here naturally, native plants are best suited for our local conditions. This translates into greater survivorship when planted and less replacement or maintenance during the life of a stormwater management facility. The deep root systems (See Figure 2) help develop pore space in the soil to promote infiltration of rainfall, reducing stormwater runoff during rain events. The deep root systems also sustain the plants during dry periods, reducing dependence on irrigation. These attributes provide cost savings for the facility owner. Cost savings are even more substantial due to the reduced need for mowing, compared to turf.

The benefits of native plants go beyond practical issues for the installer and property manager. Reduced mowing also contributes to improved air quality. Native plants also provide food and cover for birds and butterflies, further contributing to the aesthetics and biodiversity.

The list in this guide contains plants that are readily available and have proven suitability to these stormwater practices. Additional native plant species will be added as experience proves their adaptability and performance. Other non-invasive adaptive species will be considered for approval on a case by case basis.

Finally, many native species provide high aesthetic value important for public acceptance and maintenance of property value. Species that are part of Missouri’s natural heritage and provide high aesthetic value throughout the year include culver’s root, river oats, cardinal flower, blue lobelia, golden alexander, lizards tail, mountain mint, New England aster, palm sedge, sneezeweed, wild bergamot, southern blue flag iris and copper iris.

Native and non-native root comparison chart

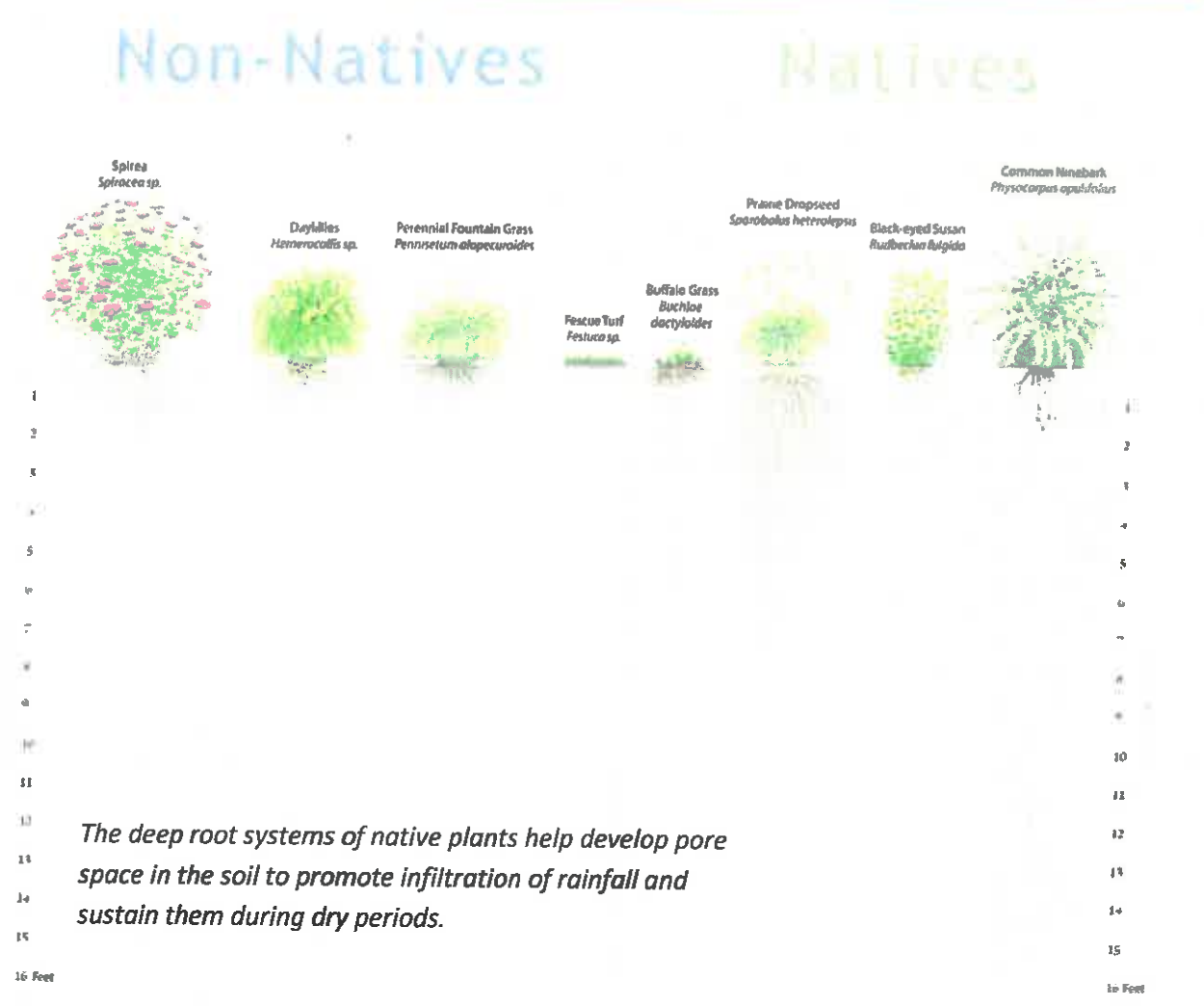


Figure 2: Native versus Non-Native Root Systems. Source: Mid America Regional Council of Governments

Invasive Species

Introduced species can escape cultivation and begin reproducing in the wild, causing significant damage to native ecosystems. This is ecologically significant because some species out-compete indigenous species and begin to replace them in the wild. Early detection and eradication is the best way to control invasive plants. Invasive species common to the region include:

- **Bush honeysuckle** (*Lonicera x bella*, *Lonicera maackii*). Shrub or bush honeysuckles were once touted for their red fruit and extended green season. They colonize in forest areas throughout the state, especially in metropolitan areas. Their aggressive behavior shades out native shrubs and wildflowers and their weak root system contributes to erosion problems.
- **Wintercreeper euonymus** (*Euonymus fortunei*). Brought from Asia as an ornamental groundcover, winter-creeper forms a dense ground cover and climbs on rocks and trees. It can eliminate spring wildflowers that would otherwise grow on the forest floor.
- **Garlic mustard** (*Alliaria petiolata*). A European native, it came to the United States for use as a culinary herb. Today it carpets forest floors, stealing space used by woodland wildflowers.

The invasive plants listed here are only a few of the aggressors. Information on exotic invasive species identification and management can be found at:

- Midwest Invasive Plant Network www.mipn.org
- Missouri Botanical Garden Shaw Nature Reserve
<http://www.shawnature.org/nativeland/NativeLandscapingManual/ChapterThree.aspx>
- Missouri Department of Conservation www.mdc.mo.gov/nathis/exotic
- The Nature Conservancy <http://www.nature.org/initiatives/invasivespecies/>

Site Preparation

Test soil to determine if there is a need for amendments. Proper soil nutrients promote planting success. Soil testing determines:

- pH; whether acid, neutral, or alkaline
- major soil nutrients; nitrogen, phosphorus, potassium
- minerals; such as chelated iron, lime

Have soil samples analyzed by experienced and qualified individuals, such as those at University of Missouri Extension (<http://extension.missouri.edu/stlouis/services.shtml>). A soil analysis explains the results, what they mean and what soil amendments are needed.

If topsoil has been removed during construction, put it back in place. Whenever possible, topsoil should be spread to a depth of four inches (two inch minimum) over the entire area to be planted. This provides organic matter and important nutrients for the plant material. Without topsoil, plants may not survive and any that do will be slow to establish. The use of imported planting soil, required in certain practices, allows vegetation to establish faster and roots to penetrate deeper. This ensures quicker and more complete stabilization, making it less likely that plants will wash out during a heavy storm. See Section 4 for soil specifications for planting soil.

Minimize soil compaction and ensure compacted soils are loosened. Soil compaction should be minimized, as it is very difficult to reverse. Compacted soils inhibit penetration of plant roots, reduce planting success and increase costs as vegetation will need to be replaced. In seeding applications, seeds will lie on the surface of compacted soils and be washed away or eaten by birds. For establishment success, soils should be loosened to a four-inch depth. Hard soils may require discing or subsoiling (deep plowing without turning the soil) to a deeper depth.

Test soils on site for infiltration capacity. Site soils should have the capacity sufficient to meet the desired BMP performance. Infiltration capacity is critical in determining the effectiveness and ultimately the success of an infiltration practice.

Planting Design

Make aesthetics and viewsheds a prime consideration. Careful attention to the design and planting of a stormwater BMP can result in greater public acceptance and increased property value. Maintain and frame desirable views. Be careful not to block views at entrances, exits, or difficult road curves. Screen unattractive views into or from the site. Keep overhead utilities in mind when selecting plants to ensure the mature size will fit beneath the wires. Consider all key design issues when selecting plant material:

- Shape
- Color
- Texture
- Seasonal Interest (e.g., flowers, fruit, leaves, stems/bark)
- Growth Rate
- Mature Size

Ensure trees and shrubs permit maintenance and inspection access. Plant trees and shrubs at least 15 feet from the toe of slope of a dam or embankment. Limiting embankment plantings to herbaceous (non-woody) plants allows visibility for inspection for burrowing rodents that may compromise the integrity of the embankment. Plant trees and shrubs to allow access to the overflow riser.

Stabilize key areas with erosion control mats. Use erosion control mats in channels that are subject to frequent wash outs. If permanent mats are used, ensure they remain embedded in soil to retain functionality, permit plant growth and protect wildlife. Stabilize emergency spillways with suitable material or plants that can withstand strong flows. Root material should be fibrous and substantial, but lack a taproot, when used on dams and embankments. Stabilize aquatic and safety benches with emergent wetland plants or seed mixes.

Design aquatic features to prevent warming and pollutant inflows. Shade inflow and outflow channels and the southern exposure of ponds to prevent thermal warming, which damages aquatic systems and is considered a pollutant. Buffer strips help prevent other pollutants from entering water bodies.

When mulch is used, it should be standard landscape style, single or double shredded hardwood mulch. The mulch layer should be free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch. Alternatively, pea gravel or other similar natural gravel may be used.

A “natural” (i.e. river-run) source of sand and gravel should be used. Additionally, washed materials are needed to prevent fines from clogging the sand and gravel layers. The gradation of gravel selected should be large enough to prevent “wash-out” through the perforated pipe, but small enough to prevent the sand from migrating through the gravel.

Plant Selection

Preserve existing natural vegetation where possible. Existing vegetation intercepts and infiltrates stormwater and can provide aesthetic benefits at little or no cost. Vegetation to be retained must be protected from construction damage by installing a construction fence and enforcing preservation. Construction equipment and stockpiled materials shall be kept away from vegetation to be retained and, in the case of trees, beyond the dripline at a minimum.

Select a diverse plant palette. Diversity in plant materials provides aesthetic benefits in terms of structure, color and seasonal interest. By creating a diverse, dense plant cover, stormwater BMPs will be able to intercept and treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind and exposure. Various root types (shallow, deep, fibrous, etc.) provide the best stability. Diverse plant types, i.e. trees, shrubs and herbaceous plants, intercept rainfall at multiple levels before it reaches the ground. A diverse

plant community also ensures that a disease, insect, or other problem does not completely wipe out the vegetation. Requirements in Section 7, the plant list, help achieve this goal.

Minimize turf use. Turf grass does little to prevent erosion. It functions much like an impervious surface as the root system is shallow and it provides little above-ground structure to intercept rainfall and slow stormwater runoff. It also requires intensive chemical applications and mowing that increases cost and exacerbates stormwater quality problems.

Select plants carefully for cultural tolerances. The plant lists in Section 7 are organized to make this process easy. Ensure plants are appropriate to their location in the stormwater BMP.

Use salt tolerant plants and buffer stormwater BMPs where deicing salt is used heavily. Roadways and parking lots in the Midwest are salted heavily during winter months. During melting and rainfall events, salt is washed into a stormwater system. Biesboer and Jacobson (1994) found salt concentrations were highest within three feet of the road and then rapidly declined within 30 feet. Most warm-season grasses were tolerant of conditions beyond 10 feet from the road. Native warm-season grasses germinate later in the season, after spring rains reduce the concentration of salts in the soil. Buffer strips should be used to reduce salt inflow into stormwater BMPs. The plant lists in Section 7 provide information on salt tolerance.

Keep management requirements in mind. Carefully consider the long term vegetation management strategy for the BMP, keeping in mind the maintenance legacy for the future owners. Avoid pushing the tolerances for plants to ensure their survival. Select plants that have a suitable form and mature size to minimize the need for trimming or replacement. Provide a planting surface that can withstand the compaction of vehicles using maintenance access roads.

Installation and Management

Provide water until plants become established. Remember that newly installed plant material requires water to recover from the shock of being transplanted. Be sure that a source of water is provided, especially during dry periods. This will reduce plant loss and provide new plant material a chance to establish root growth. See Section 5 for planting, water and mulch requirements.

Ensure soil to root contact. When a site is mulched prior to planting, ensure container grown plants are installed directly into the soil and mulch is less than two to three inches deep. Mulch should not be tilled into the soil prior to planting because the mulch decomposition process will compete with plant nutrient needs.

Establish plant cover as quickly as possible. In all cases, seed mixes and plant material must be selected to establish ground cover as quickly as possible. Temporarily divert concentrated flows from planted or seeded areas until stabilized.

Plan for the long-term. Make sure the facility maintenance agreement includes requirements to ensure vegetation cover in perpetuity.

Provide signage. Use signage in Stormwater Management Areas to help educate the public. Signage helps guide the limits of mowing and encourages public support during the establishment period.

4. Stormwater Best Management Practices

For the purpose of this guide, stormwater BMPs are grouped into five categories: wet ponds, wetlands, infiltration basins and dry swales, surface filters and bioretention and organic filters. This section provides a brief description of the types of stormwater BMPs and planting considerations for each.

Wet Ponds

Wet ponds (including extended detention ponds, multiple pond systems and pocket ponds) are constructed stormwater retention basins designed to retain a permanent pool of water. Wet ponds are generally located on-line, meaning in the flow-path of the runoff. Stormwater from each runoff event is detained in the wet pond until displaced by a subsequent event. The permanent wet pond provides for sedimentation, which removes metals, nutrients, sediment and organics from stormwater. Biological uptake of pollutants and nitrogen is provided by vegetation in and around the pond. Wet ponds are suitable for sites with high nutrient loads.



This wet pond lies between an elementary school and a high school in Oakdale, Washington. The perimeter of the pond was planted by volunteers with emergent, wet meadow and prairie species, shrubs and trees. The project was a cooperative effort between the Ramey-Washington Metro Watershed District and the school district. The area is used as part of the environmental education program for elementary and high school students.

Facing rapid growth, Austin, Texas recognized the importance of protecting their water supply and environmentally sensitive watersheds, leading to the creation of the development zones designed to direct development away from sensitive areas and drinking water sources. The wet pond in Austin's Central Park is one of the stormwater practices implemented in a 39-acre mixed use development created under the new regulations.



Figure 3: Wet Ponds, Oakdale, WA (upper left), Source: www.rwmwd.org, Austin, TX Source: www.ci.austin.tx.us/

Wet ponds should include safety and aquatic benches to add areas for plant growth that aid in biological uptake, evapotranspiration and provide wildlife habitat. Vegetation may also act as a barrier to keep children away from open water areas, or as a screen. Wet ponds often fill quickly and then slowly decrease in water level. As a result, wet ponds may experience significant water fluctuations after storms and plants must be chosen that can handle these conditions. Species suitable for planting in wet ponds are included in Section 7, Plant Lists, of this document.

Wetlands

The use of wetlands for the treatment of stormwater runoff stems from earlier attempts to use wetlands for wastewater treatment and flood control. Given that natural wetlands provide flood control, surface water storage, groundwater recharge and natural filtration, it may be tempting to turn to natural wetlands to provide treatment for stormwater pollutants. However, directing stormwater to natural wetlands damages the hydrology and functioning of the wetland. Wetlands perform a critical role in our natural systems and an estimated 87% of Mis-

souri wetlands were lost by the mid- 1980's, 53% nationwide (Dahl, 1990). As a result, environmental and permitting requirements exist to preserve our remaining natural wetlands. Therefore, artificial or constructed wetlands are required for use in stormwater treatment.



Figure 4: Stormwater Wetland, Ellerbee Creek, North Carolina Source: www.ellerbeecreek.org

Like their natural counterparts constructed wetlands offer natural aesthetic qualities, wildlife habitat, erosion control and pollutant removal. Wetlands may be used alone or in conjunction with other BMPs. It is very important that a sufficient supply of water be provided to ensure proper functioning of the wetland. Like wet ponds the water surfaces in wetlands may vary considerably. As a result, plants must be chosen that can handle these conditions. Species suitable for planting in wetlands are included in Section 7, Plant Lists, of this document.

Infiltration Basins and Dry Swales

Infiltration basins take advantage of existing permeable soils to provide groundwater recharge. In an infiltration basin a given runoff volume is captured and allowed to infiltrate into the ground and be lost to evapotranspiration. Pollutants are removed as water flows through the soil and by bacterial action. In some instances where permeability is great, these facilities are used for quantity control as well.

When properly planted, vegetation thrives and enhances the functioning of these systems. For example, pre-treatment buffers trap sediments which often are bound with phosphorous and metals. Vegetation planted in the facility takes up nutrients and their roots provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities desirable to the public.

Dry swales are open, vegetated channels that are designed to filter and slow stormwater. Check dams are often used to detain water and settle pollutants. These swales are often used along roadways. If the existing soils are not sufficiently permeable, more permeable soils may be added. If a BMP is likely to receive high levels of deicing salt, salt tolerant plants should be used.

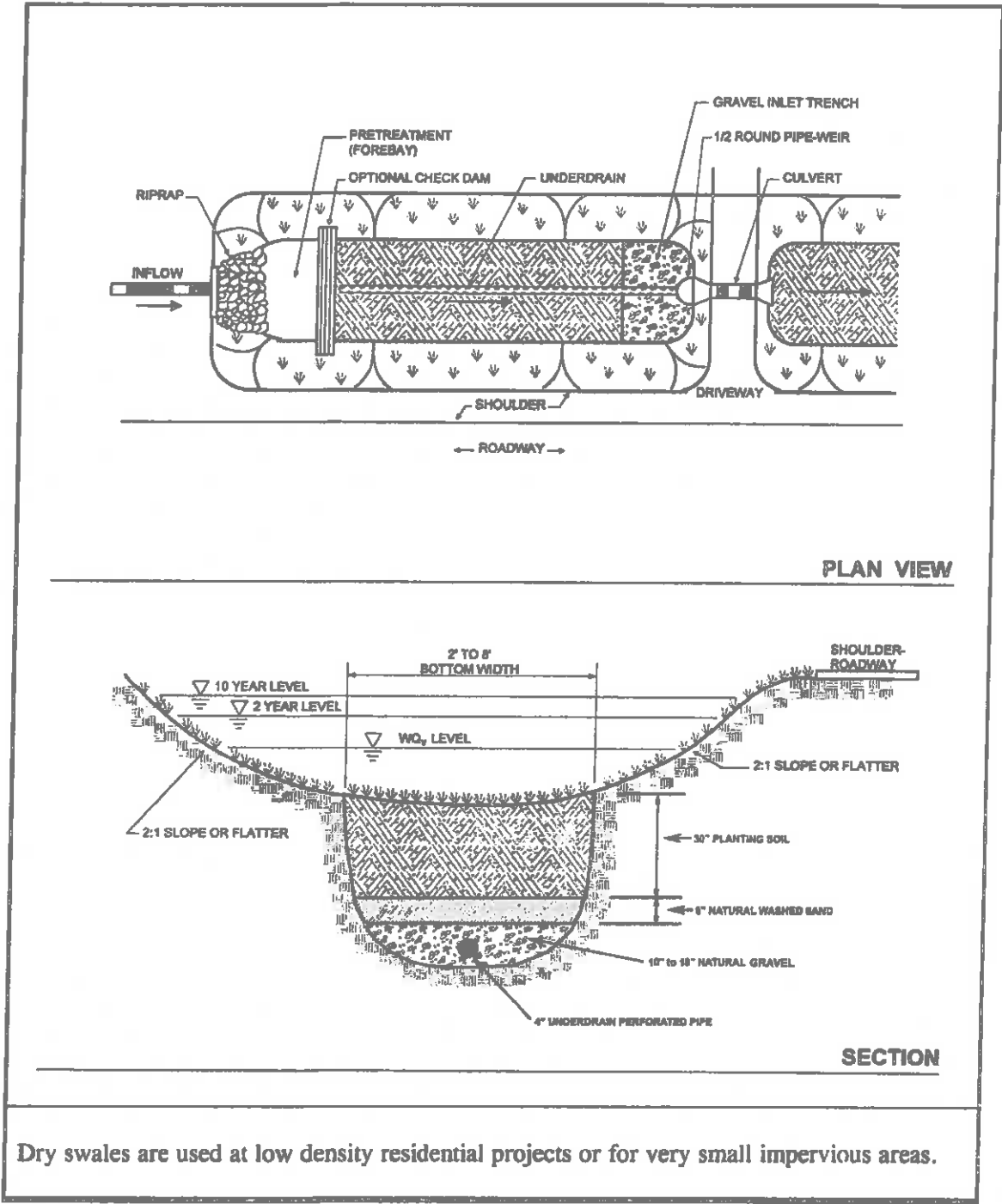


Figure 5: Dry Swale

Source: Maryland Stormwater Design Manual

Where areas will be inundated or saturated with water, particular attention should be paid to plant selection. Deep-rooted plants may be particularly effective in these situations as they will encourage infiltration. Species suitable for planting in infiltration basins and dry swales are included in Section 7, Plant Lists, of this document.

Surface Sand Filters

Surface filters (including pocket sand filters) include a permeable medium such as sand for stormwater quality control. One of the main advantages of sand filters is their adaptability. They can be used on areas with low-soil infiltration rates, high evaporation rates and hot-spots. Sand filters for stormwater runoff treatment have been used extensively in some mid-Atlantic states and even longer in Austin, Texas.

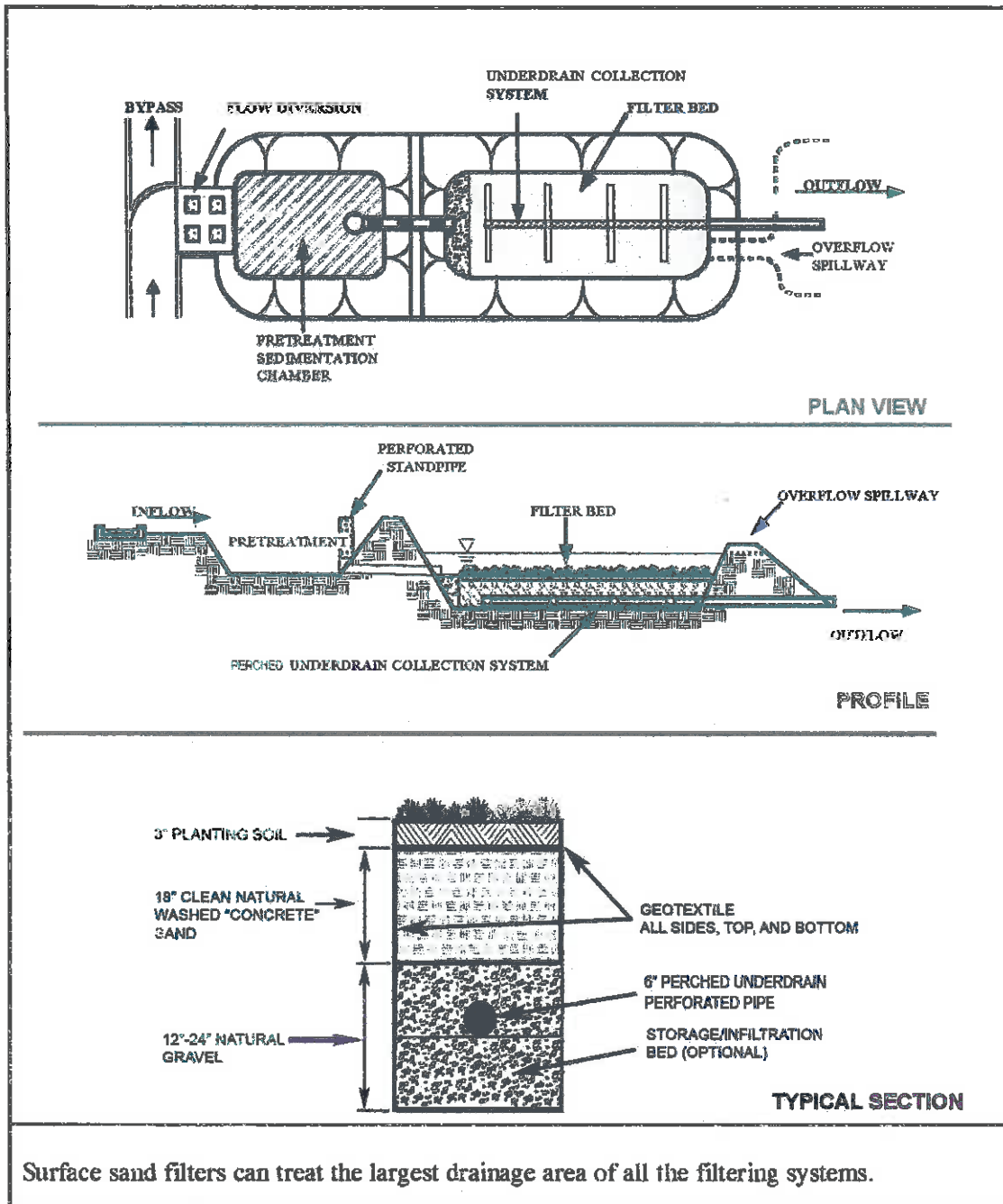


Figure 6: Surface Sand Filter

Source: Maryland Stormwater Design Manual

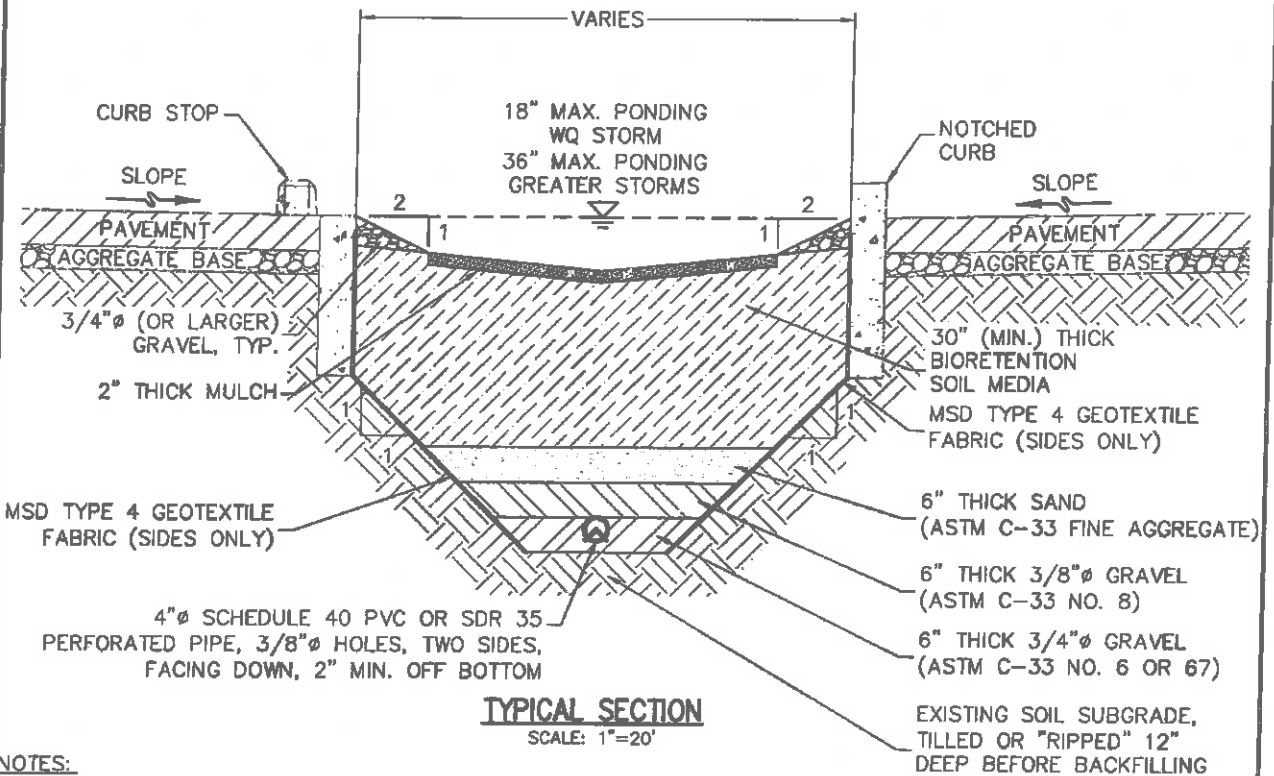
Given the small planting soil cover utilized in most vegetated surface sand filters, particular attention should be paid to the plants used. The planting soil layer may not include significant clay content that would hinder infiltration. Species suitable for planting in surface sand filters are included in Section 7, Plant Lists, of this document.

Bioretention and Organic Filters

Bioretention areas and organic filters are attractive landscaping features planted with perennial native plants. They are designed to absorb stormwater run-off from impervious surfaces such as roofs and parking lots. These BMPs can be used in settings from residential landscapes to "big box" sites, or anywhere in between. They should not be confused with rain gardens promoted for homeowner installation, which are beneficial but do not involve rigorous engineering to meet stormwater standards.

10/29/2010

**BIORETENTION FOR
PARKING ISLAND
TYPICAL SECTION**



TYPICAL SECTION
SCALE: 1"=20'

NOTES:

- (1) SEE MSD LANDSCAPE GUIDE FOR BIORETENTION SOIL SPECIFICATIONS.
- (2) AS SHOWN, MAXIMUM DRAINAGE AREA = 0.5 ACRES. ADDITIONAL PRETREATMENT (FOREBAY OR VERTICAL SAND LAYER & COBBLE DIAPHRAGM) REQUIRED FOR LARGER DRAINAGE AREAS.
- (3) VEGETATION NOT SHOWN FOR CLARITY. SEE MSD LANDSCAPE GUIDE FOR MULCH & SUGGESTED PLANT LIST.
- (4) ALL SAND & GRAVEL TO BE NATURAL, UNCRUSHED.
- (5) SLOPES SHOWN ARE MAXIMUM. 12" WIDE BENCHES ARE ALLOWED IN LIEU OF 1:1 SUBGRADE SIDE SLOPE.
- (6) MUST BE PROVIDED WITH OVERFLOW INLET OR OVERLAND FLOW PATH.

METROPOLITAN ST. LOUIS SEWER DISTRICT
Non-Standard Details of Sewer Construction

Dr. S.E.G.
Ch. J.S.H.

SEPT. 2010

DETAIL 7

Bio-for Parking Island

Bioretention areas are generally designed with underdrains. However, where proper infiltration testing indicates an infiltration rate greater than 0.52 inches per hour, consideration may be given to eliminating underdrains or limiting their use. Given this practice would encourage groundwater infiltration, it should be carefully considered and where possible encouraged. In areas where significant infiltration is possible, or it is desired to limit the use of underdrains, the underdrains may be perched as shown in Figure 7.

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics that promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, the soils must balance soil chemistry and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam or loamy sand (should contain a minimum of 60 percent sand, by volume). The clay content for these soils should be less than 10 percent by volume. A saturated hydraulic conductivity of at least 1.0 feet per day (0.5 inches per hour) is required. (Without post-construction verification, a conservative default value of 0.5 feet per day is acceptable. The design rate may be increased to 2 feet/day if field observation, post-construction infiltration testing, or other equivalent testing (as determined by the District) is provided to confirm the design rate is achieved.) The soil should be free of stones, stumps, roots, or other woody material over 1 inch in diameter. For best results, brush or seeds from noxious weeds, such as Johnson grass, mugwort, nutsedge and Canadian thistle should not be present in the soils. Placement of the planting soil should be in lifts of 12 to 18 inches, loosely compacted (rubber wheeled heavy equipment and mechanical tamping devices are not recommended for compaction). The specific characteristics are presented in the following table.

Table 1: Planting Soil Characteristics. Source: Maryland Stormwater Manual

Parameter	Value
pH range	5.2 to 8.00
Organic matter	1.5 to 5.0%
Magnesium	35 lbs. per acre, minimum
Phosphorus (P ₂ O ₅)	75 lbs. per acre, minimum
Potassium (K ₂ O)	85 lbs. per acre, minimum
Soluble salts	≤ 500 ppm

The mulch layer plays an important role in the performance of the bioretention system. It helps maintain soil moisture and avoids surface sealing that reduces permeability. Mulch helps prevent erosion and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments that remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch. The mulch layer should be free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch. Alternatively, pea gravel or other similar natural gravel may be used.

A "natural" (i.e. river-run) source of sand and gravel should be used. Materials must be washed to prevent fines from clogging the sand and gravel layers.

Bioretention areas and organic filters are full of water during storms and dry out during dry weather. The plants recommended in this guide generally tolerate both extremes. Species suitable for planting in bioretention areas and organic filters are included in Section 7, Plant Lists, of this document.

5. Plant Selection Considerations

Landscape Zones

Hydrology is a critical factor in plant success in stormwater practices. Plant species have evolved to tolerate particular hydrologic conditions. Matching plants with the right tolerances to the conditions created on a site is key.

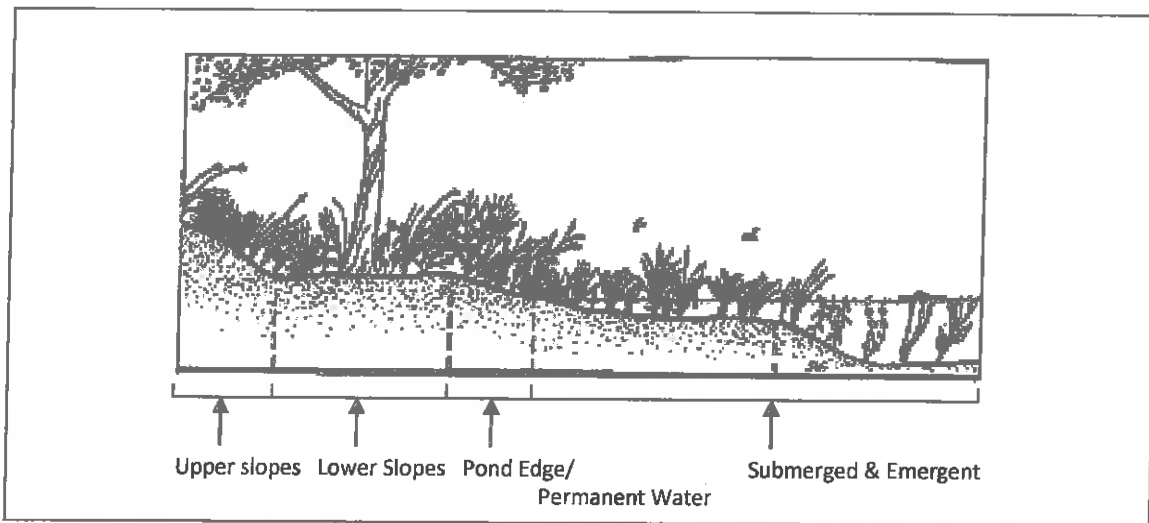


Figure 8: Landscape Zones Source: Plants for Stormwater Design

Table 2: Landscape Zone Descriptions

Landscape Zone	Conditions
Submerged & Emergent	1-6 feet deep permanent pool
Pond Edge & Permanent Water	6 inches to 1 foot deep
Lower slopes	Infrequently inundated
Upper Slopes	Seldom or never inundated
Over Sand	Periodically inundated but rapidly drained

BMPs create a variety of conditions, some of which mimic natural landscapes while others are highly artificial. This manual categorizes those conditions into six landscape zones or conditions. These zones describe the presence of water, from inundated areas to dry upland slopes.

Section 7 includes native plant lists organized by stormwater practice. The lists indicate the appropriate landscape zone(s) for each species. The plants have been selected to tolerate potentially wide fluctuations in conditions which occur in a stormwater BMP.

Submerged & Emergent - The submerged zone is found in areas of 3 to 6 feet of water in wet ponds. Submergent species may float free in the water column or may root in the pool bottom and have stems and leaves that generally stay under water. Submergent species are important for wildlife habitat and pollutant removal, especially nitrates and phosphorus. The emergent zone of a wet pond is generally 0 to 18 inches deep. This natural community is often created as benches within ponds to optimize the area for emergent plants.

Emergent plants are important for wildlife and evapotranspiration. They also provide habitat for phytoplankton, which play an important role in nutrient removal (Ogle and Hoag 2000). A wide variety of wetland species are adapted to the emergent zone.

Pond Edge & Permanent Water – The pond edge is a constantly moist area that can become inundated. The transition area between open water and the shoreline is prone to erosion. Therefore, it is an important area for plant establishment.

Lower Slopes – This zone is normally dry but may flood during snowmelt and after large storms. These areas face the challenges of overlaying native soils which may have high clay content and potentially swinging between high moisture content during wet seasons and extended dry periods.

Upper Slopes – The upper slopes are seldom or never inundated. A wide variety of species are well adapted to these dry conditions.

Over Sand – Plants over sand filter face significant challenges. Soil depth is limited, creating challenges for sufficient nutrient availability. The distinct layers between the soil and sand causes short-term saturation in the soil layer followed by extremely droughty conditions.

Planting, Water and Mulch Requirements for Stormwater BMPs

Table 3: Planting, Water and Mulch Requirements

Water Availability	Required Planting Period	Minimum Container Size	Water Requirement First 3 Weeks*	Water Requirement After 3 Weeks*	Maximum Mulch Depth****
No ability to water after	Late Feb. – April only	2.25" x 3.75" or larger	Water each plug immediately		1.5" for plugs
Manual watering with standard sprinkler	Late Feb. – Early June Sept. – October	4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days	1" (60 min) every 7 days until plants established****	1.5" for plugs
Automatic irrigation (set to water more frequently than normal during first two months after planting)	Late Feb. – Early Oct.	2.25" x 3.75" (plug) or larger in spring 4.5" x 5" (quart) or larger in summer & fall	1" (60 min) every 4 days in spring and fall 1" (60 min) every 3 days in summer	1" (60 min) every 7 days until plants established****	2.5" for quarts 1.5" for plugs 2.5" for quarts

*This water amount includes natural rainfall. If you get a ½ inch of natural rain then you will need to add a ¼ inch of water to meet the 1 inch requirement.

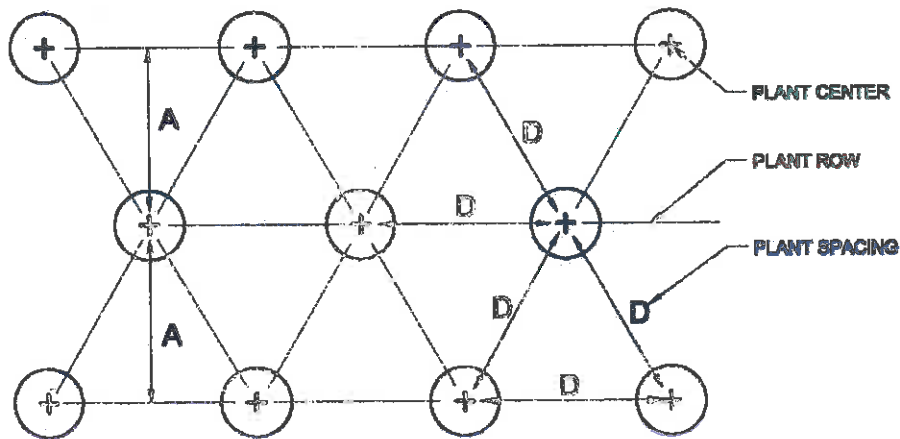
**Requires transport of water to the planting site in large containers and pouring enough water onto each plant (after planting) to moisten the entire planting pit.

***Plants are established when roots have grown out of the container soil and into the native soil by 3-5 inches. This normally takes 3-4 months for most perennials and grasses and up to 6-7 months for trees and shrubs.

****Shredded leaf compost is recommended for use with perennials and grasses. Shredded bark mulch is recommended for tree and shrub plantings at a depth of 3 inches.

SPACING TO*	ROW "A"	NUMBER OF PLANTS/SQ. FT.
23"	28"	.180
24"	20.5"	.25
18"	15.5"	.450
18"	13.0"	.640
12"	10.4"	1.00
10"	8.66"	1.44
5"	6.93"	2.25

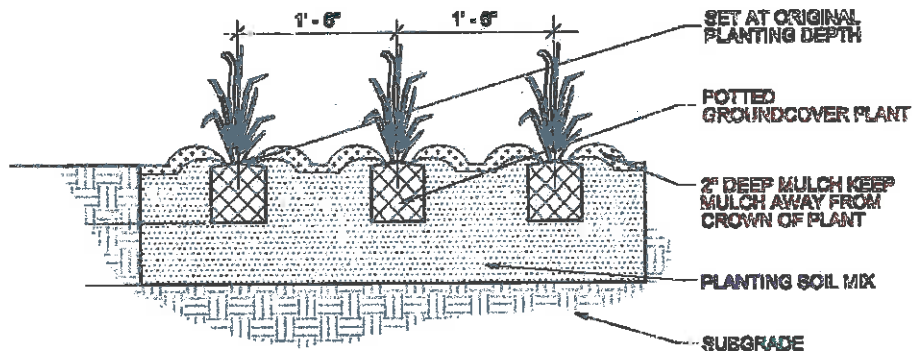
NOTE: PLANT QUANTITIES WERE DETERMINED BY MULTIPLYING AREA (SQ. FT.) BY NUMBER OF PLANTS/SQ. FT. FOR REQUIRED SPACING.



Quantity of plants as noted in planting schedule.

GROUND COVER SPACING

SEE PLANTING LIST FOR PLANT SPACING



NOTES:

1. REMOVE SPENT FLOWERS PRIOR TO PLANTING.
2. LOOSEN ROOT MASS AT BOTTOM OF ROOTBALL
3. TOP OF ROOTBALL STRIPPED OF 1/4" SURFACE GROWING MEDIA AND COVERED WITH 1/2" LANDSCAPE BED MIX PLUS SURFACE MULCH.



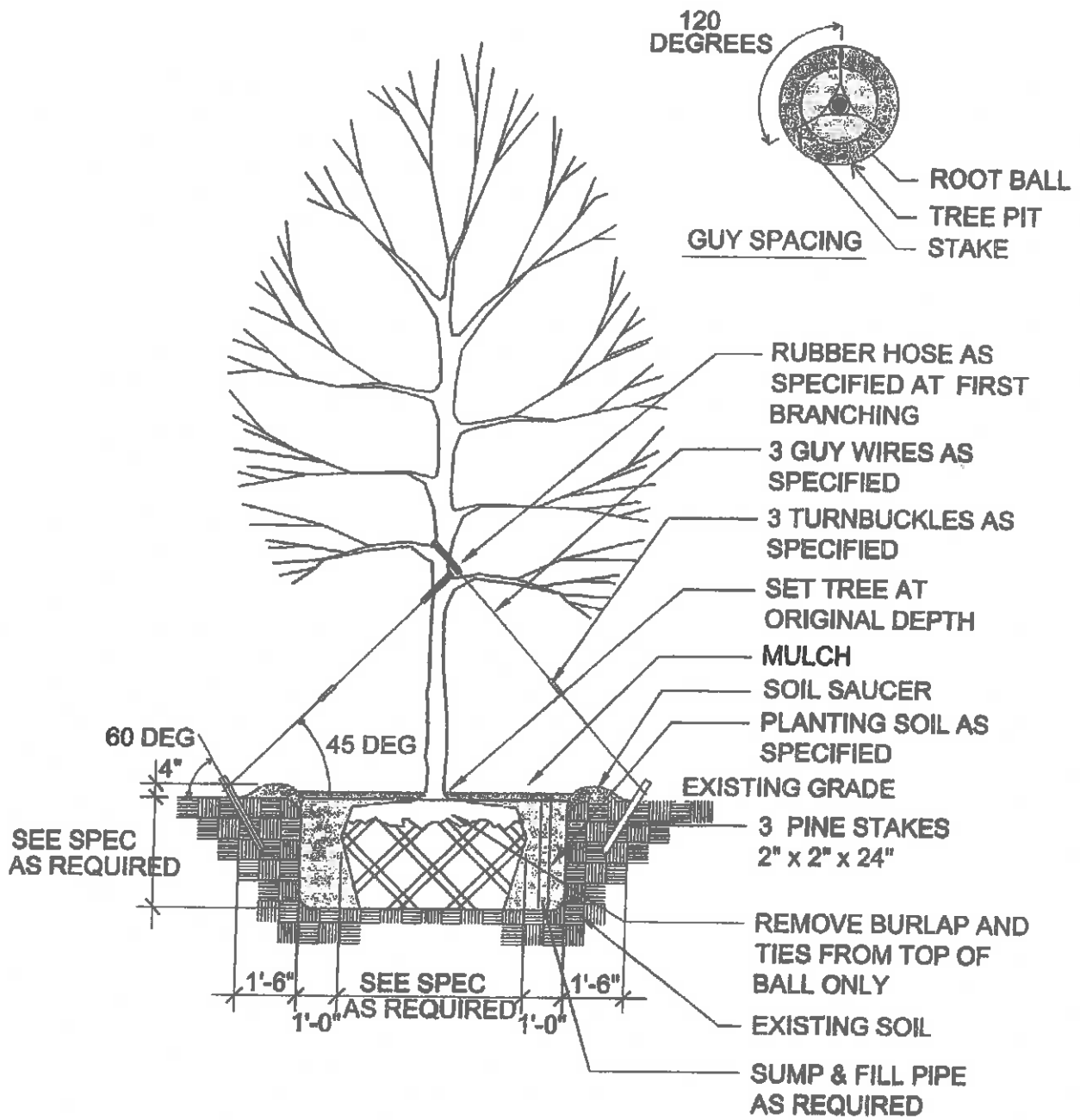
Plant Spacing Plan

N.T.S.

Planting Detail Courtesy of Ted Spaid
SWT Design, St. Louis, MO



Figure 9



A TREE PLANTING DETAIL
NOT TO SCALE

Figure 10

Tree Planting Detail Courtesy of
Ted Spaid. SWT Design, St. Louis, Mo.



6. Resources

Native Plant Nurseries

For an up-to-date list of native plant sources, go to www.grownative.org

Web Site Resources

Environmental Protection Agency www.epa.gov/nps/lid/

Grow Native! www.grownative.org

Hinkson Creek Watershed www.helpthehinkson.org

Shaw Nature Reserve www.shawnature.org

Show Me Raingardens www.showmeraingardens.com

Ten Thousand Rain Gardens www.rainkc.com

Publications

Aquatic and Wetland Plants of Missouri

By Daniel L. Combs and Ronald D. Drobney. U.S. Fish and Wildlife Service; University of Missouri Columbia, MO 65211

LID for Big Box Retailers.

Low Impact Development Center, 2005. PDF available at www.lowimpactdevelopment.org/bigbox/#bbpdfs

Native Plant Rain Gardens brochure.2004.

Grow Native! Missouri Department of Conservation

Prairie Raingardens: Joining Habitat Restoration and Watershed Health

By Scott Hamilton. Winter 2005. Missouri Prairie Journal Vol. 26, Number 1. Pg. 12-17.

Rain Gardens

By Janet Marinelli. Spring 2004. Brooklyn Botanic Garden Plants & Gardens News, Vol. 19, Number 1

Rain Gardens – A How-to Manual for Homeowners

By Roger Bannerman and Ellen Considine. 2003. Univ. of Wisconsin-Extension and Wisconsin Dept. of Natural Resources . PDF available at <http://www.dnr.state.wi.us/runoff/rg/>

Raingardens: Managing Water Sustainability in the Garden and Designed Landscape

By Nigel Dunnett and Andy Clayden Timberpress 2007.

Water Plants for Missouri Ponds

By James R. Whitley, Barbara Bassett, Joe G. Dillard and Rebecca A. Haefner. 1999. Missouri Department of Conservation

7. Plant List

The following pages present grasses, sedges, forbs, shrubs and trees native to Missouri and suitable for planting in stormwater BMPs. The lists are intended as a basic guide for general planting purposes and planning considerations. Knowledgeable landscape architects, designers and nursery suppliers may provide additional information for considering specific conditions for successful plant establishment and accounting for the variable nature of stormwater hydrology.

The plants in these lists were selected to be readily available in the nursery trade. Often overlooked in plant selection is the availability and the cost of plant material. There are many plants listed in landscape books that are not readily available from local nurseries. Without knowledge of what is available, time spent researching and finding the one plant that meets all the needs is wasted.

The planting lists are organized by stormwater BMP, then by plant type – grasses/sedges, forbs and trees/shrubs – and, finally, in alphabetical order according to the scientific name, with the common name provided. The lists are in Microsoft Excel to make sorting and creation of project plant lists easy. Each plant species has a corresponding landscape zone noted to indicate the most suitable planting location or locations for successful establishment.

Where the frequency, depth or duration of flooding that a plant will tolerate is known, that information is provided. Pollution tolerance and salt tolerance information are indicated to identify plantings that would be most appropriate in pollution hot spots. Because individual plants often have unique requirements difficult to convey in a general listing, additional research is recommended to ensure successful plant establishment.

Because of the limited area for which this plant list is to be used, hardiness zone information is not provided. All plants on the list are hardy in the St. Louis Region.



Figure 11: From left: *Cephalanthus occidentalis*, *Iris fulva*, *Coreopsis lanceolata* Courtesy Missouri Botanical Garden Plantfinder

Latin Name	Common Name	Seed Weight (g)	Plant Height (m)	Flowering Time	Soil Preference	Light Requirement	Water Requirement	Soil pH	Soil Salinity	Soil Temperature	Soil Moisture	Soil Fertility	Soil Structure	Soil Color	Soil Texture	Soil pH	Soil Salinity	Soil Temperature	Soil Moisture	Soil Fertility	Soil Structure	Soil Color	Soil Texture
<i>Carex acuticarpa</i>	Wetland sedge	1.2	1.5	100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Carex flacca</i>	Flat sedge	1.2	1.5	100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Carex lasiocarpa</i>	Large sedge	2.5	3.0	150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Carex muskumensis</i>	Flat sedge	2.2	2.5	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Carex vulpinoidea</i>	Fox sedge	2.3	2.5	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Juncus effusus</i>	Soft rush	2.3	2.5	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Juncus acutiflorus</i>	Wetland sedge	2.3	2.5	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Spartina cynosuroides</i>	Wetland sedge	3.4	4.0	180	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Festuca ovina</i>	Sheep fescue	2.4	2.8	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Asclepias tuberosa</i>	Butterfly milkweed	2.4	2.8	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Claytonia virginica</i>	Spring beauty	2.4	2.8	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Equisetum hyemale</i>	Horsetail	2.4	2.8	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Helenium autumnale</i>	Sunflower	3.4	4.0	180	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Hibiscus syriacus</i>	Rose of Sharon	3.7	4.5	200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Impatiens</i>	Patience	2.3	2.5	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Isis virginica</i>	Southern bladder fern	2.3	2.5	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Lotus cordata</i>	Coral root	2.3	2.5	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Mentha virginica</i>	Peppermint	1.2	1.5	100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Lythrum hyssarifolium</i>	Bladderwort	1.2	1.5	100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Phlox pilularis</i>	Flowering phlox	1.2	1.5	100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Rudbeckia hirta</i>	Black-eyed susan	2.4	2.8	120	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Sarracenia purpurea</i>	Pink lady slipper	1.2	1.5	100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Saxifraga oppositifolia</i>	Saxifrage	1.2	1.5	100	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Thalictrum flavum</i>	Black hellebore	4.7	5.5	200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Troxenanthus</i>	Black hellebore	4.7	5.5	200	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Arnica montana</i>	Arnica	10.20	12.0	400	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Centaurea jacea</i>	Witch's butter	3.10	3.5	150	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Quercus macrocarpa</i>	White oak	50.00	60.00	2000	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Taxodium distichum</i>	Bald cypress	50.00	60.00	2000	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Requirements
Local Ecotype Rule: Plants of Missouri or Southern Illinois ecotype are required.
 It is recommended that a minimum of 5 grass/sedge species and 8 forb species be provided for each BMP. It is recommended that this list be provided to landscapers/contractors/vendors in case substitutions are required.
 Where a diverse landscape is desired, each species should consist of between 5% - 15% of the total plant count for each BMP.
Refs to Planting, Water, and Mulch Requirements for Stormwater BMP's for plant sizes and irrigation requirements
 Biodegradable erosion blanket must be used on slopes greater than 10%.
 Erosion blankets must be coarse to allow varying leaf sizes (examples include Geotex, Curlex #1 and NorthAmerican Green S75 single net straw blanket, or equivalent)

*Experimental for practice and/or limited availability in commercial trade

Latin Name	Common Name	Shrub or Small Tree (Leafy in Fall)	Shrub or Small Tree (Evergreen)	Shrub or Small Tree (Color and Blooming)	Special Interest	Special (Leaf)	Special (Fl)	Special (Fr)	Special (Stem)	Special (Bark)	Special (Foliage)	Special (Other)	Special (Fruit)	Special (Seeds)	Special (Other)	Special (Other)	Special (Other)	Special (Other)	Special (Other)	Special (Other)	
<i>Grasses/Seedset</i>																					
<i>Andropogon virginicus</i>	Bromisgrass	X	X																		
<i>Bouteloua curtipendula</i>	Sabbatgrass	X	X																		
<i>Carex muskingumensis</i>	Palm sedge	X	X																		
<i>Carex praecox</i>	Trillium sedge	X	X																		
<i>Carex vulpinoidea</i>	Fox sedge	X	X																		
<i>Panicum virgatum</i>	Switchgrass	X	X																		
<i>Schizachyrium scapanum</i>	Little bluestem	X	X																		
<i>Sporobolus heternepis</i>	Prairie dropseed	X	X																		
<i>Forbs</i>																					
<i>Asclepias tuberosa</i>	Butterfly milkweed	X	X																		
<i>Baptisia australis</i>	Blue wild indigo	X	X																		
<i>Euthamia ciliata</i>	Ohio blackfoot	X	X																		
<i>Cornus amomum</i>	Common spicebush	X	X																		
<i>Echinacea purpurea</i>	Purple coneflower	X	X																		
<i>Eryngium yuccifolium</i>	Shoestring	X	X																		
<i>Pyrola asarifolia</i>	Slender white-flowered plant	X	X																		
<i>Rubus odoratus</i>	Yellow-flowered raspberry	X	X																		
<i>Rudbeckia subtomentosa</i>	Black-eyed susan	X	X																		
<i>Solidago canadensis</i>	Golden rod	X	X																		
<i>Solidago serotina</i>	Witch-hazel	X	X																		
<i>Verbena stricta</i>	Yellow blue/white	X	X																		
<i>Zizia aurea</i>	Golden alexanders	X	X																		
<i>Yucca filamentosa</i>	Yucca	X	X																		
<i>Cornus florida</i>	Flowering dogwood	X	X																		
<i>Diospyros virginiana</i>	Persimmon	X	X																		
<i>Celtis occidentalis</i>	Hophornbeam	X	X																		
<i>Quercus muhlenbergii</i>	Chinquapin oak	X	X																		

Requirements
 Local Ecotype Rule: Plants of Missouri or Scutellaria illinoensis ecotype are required.
 It is recommended that a minimum of 5 grass/seed species and 8 forb species be provided for each BMP. It is recommended that this list be provided to landscape contractors/buyers in case substitutions are required.
 Where a diverse landscape is desired, each species should consist of between 5% - 15% of the total plant count for each BMP.
 Rules to Planting: Water and Mulch Requirements for Stormwater BMP's for plant sizes and irrigation requirements.
 Biodegradable erosion blanket must be used on slopes greater than 10%.
 Erosion blankets must be coarse to allow varying leaf sizes (examples include Gaojote, Curlex #1 and North-American Green S75 single net straw blanket, or equivalent).
 *Experimental for tractor and/or limited availability in commercial trade.

Latin Name	Common Name	Plant Characteristics & Requirements												Planting & Maintenance											
		Plant	Shrub	Tree	Height (ft)	Flower Color	Flower Time	Foliage Color	Texture	Soil	Light	Water	Pruning	Planting	Watering	Pruning	Planting	Watering	Pruning						
<i>Andropogon gerardii</i>	Big bluestem	X			2-3	Blue	Summer	Blue	Coarse	Moist	Full Sun	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Bouteloua curtipendula</i>	Sideoats grama	X			1-2	White	Summer	White	Fine	Dry	Full Sun	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Carex praegracilis</i>	Tallway sedge	X			1-2	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Carex grayi</i>	Blow sedge	X			1-2	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Carex stricta</i>	Shor's sedge	X			1-2	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Carex vulpincina</i>	Fox sedge	X			2-3	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Chasmodon holboellii</i>	River oats	X			2-3	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Schizanthus setosus</i>	Little bluestem	X			2-3	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Sporobolus heterolepis</i>	Prairie dropseed	X			2-3	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Forbesia</i>	Forbesia	X			2-3	Blue	Summer	Blue	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Amorpha illinoensis</i>	Shining bluebell	X			2-3	Blue	Summer	Blue	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Aster novae-angliae</i>	New England aster	X			3-4	White	Summer	White	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Chelone obliqua</i>	Rose turtlehead	X			3-4	White	Summer	White	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Cornus lanceolata</i>	Lanceleaf cornus	X			1-2	White	Summer	White	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Echinacea pallida</i>	Pale purple coneflower	X			2-3	White	Summer	White	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Echinacea purpurea</i>	Purple coneflower	X			2-3	Purple	Summer	Purple	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Eryngium yuccifolium</i>	Rattlesnake master	X			4-6	Green	Summer	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Eupatorium laevis</i>	Misc. lower wild aster	X			1-2	White	Summer	White	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Hibiscus heterophyllus</i>	Rose mallow	X			3-7	Pink	Summer	Pink	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Iris virginica</i>	Southern blueflag iris	X			2-3	Blue	Summer	Blue	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Pycnanthemum tenuifolium</i>	Silver chrysanthemum	X			2-3	White	Summer	White	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Rudbeckia hirta</i>	Black-eyed Susan	X			2-3	Yellow	Summer	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Rudbeckia fulgida</i>	Orange coneflower	X			2	Yellow	Summer	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Rudbeckia laciniata</i>	Black-eyed Susan	X			2-3	Yellow	Summer	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Solidago rugosa</i>	Rough leaved goldenrod	X			2-3	Yellow	Summer	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Solidago serotina</i>	Shiny goldenrod	X			2-3	Yellow	Summer	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Verbena helianthoides</i>	Yellow veronica	X			1-3	Yellow	Summer	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Zizia aurea</i>	Golden alexander	X			1-3	Yellow	Summer	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Thuja occidentalis</i>	Thuja	X			15-20	Green	Year-round	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Thuja occidentalis</i>	Thuja	X			10-20	Pink	Year-round	Pink	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Thuja occidentalis</i>	Thuja	X			10-15	Yellow	Year-round	Yellow	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							
<i>Thuja occidentalis</i>	Thuja	X			40-60	Green	Year-round	Green	Medium	Moist	Partial Shade	Low	Spring	Summer	Spring	Summer	Spring	Summer							

Requirements
 Local Ecotype Rule: Plants of Missouri or Southern Illinois ecotype are required.
 It is recommended that a minimum of 5 grass/sedge species and 6 forb species be provided for each BMP. It is recommended that this list be provided to landscape contractors/buyers in case substitutions are required.
 Where a diverse landscape is desired, each species should consist of between 5% - 15% of the total plant count for each BMP.
 Refer to Planting, Water, and Mulch Requirements for Stormwater BMP's for plant sizes and irrigation requirements.
 Biodegradable erosion blanket must be used on slopes greater than 10%.
 Erosion blankets must be coarse to allow varying leaf sizes (examples include Geotile, Gexite, Gexite #1 and NorthAmerican Green S75 single mat straw blanket, or equivalent).
 *Experimental for prebioc and/or limited availability in commercial trade.

Chapter Two: Seeding Guide

Contents

1. Seeding Flood Detention Basins and Buffer Areas	2
Site Preparation	2
Seeding.....	4
Erosion Control Mats	5
Vegetation Establishment.....	6
Educational Signage	7
2. Resources	8
3. Seed Mix List	9

1. Seeding Flood Detention Basins and Buffer Areas

Native plants evolved to live here naturally making them best suited for our local conditions. This translates into greater survivorship when planted and less replacement or maintenance during the life of a stormwater management facility. Both of these attributes provide cost savings for the facility owner. Life cycle cost savings are even more substantial due to the reduced need for mowing, compared to turf detention basins and buffer areas. A simple mowed border can be maintained to create a “managed” look.

The benefits of natives go beyond practical issues for the installer and property manager. Reduced mowing also contributes to improved air quality. The deep root systems of native plants help develop pore space in the soil to promote infiltration of rainfall, which reduces stormwater runoff. The root systems also sustain the plants during dry periods reducing their dependence on irrigation. Natives also provide food and cover for native wildlife such as birds and butterflies, further contributing to aesthetics and biodiversity.

Site Preparation

For new construction or bare soil: Once a rough-finished grade is completed, sample the soil according to MU University Extension specifications. Obtain a soil analysis for warm season grasses (equivalent of University Extension Code 7) from University Extension or other certified laboratory. Amend based on the test result recommendations and till into the top six inches of soil. Loosen any areas compacted greater than 300 psi with an agricultural compaction tester to a depth of 8” then firm with a cultipacker. Construction sediment control areas should not be converted to native plant areas until upstream areas are stabilized, sediment is removed, and final grading is completed.

For areas with existing turf lawn: Removing existing vegetation is critical. This process is more important than any other step, so ensure it is done thoroughly before seeding. Use an herbicide like Roundup (generically called glyphosate) to kill existing turf. Use Rodeo¹ in areas within ten feet of water. Apply once in late summer and apply again in late fall (after the next flush of growth, generally a minimum of one month) for early winter seed sowing. Herbicides must be applied by a certified commercial applicator.

For non-turf vegetated areas: Old fields typically have tall fescue, a diversity of grasses, broadleaf weeds and brush. Tall fescue requires special treatment due to its presence in the seed bank that persists for one year. To prevent fescue seed from sprouting in the first year of a seeding, prevent the fescue from flowering and going to seed in the previous season. This is done by repetitive mowing in spring and summer. It may take more than one season to control difficult weed species. The preferred method is to use glyphosate (or Rodeo within ten feet of water) to kill grasses and broadleaf weeds. Use Roundup Pro or Garlon to kill undesired tree saplings, shrubs and vines (if woody plants are too large, they must be cut down and removed from the site). Apply in mid-summer, late-summer and fall for early winter seed sowing. The table below lists difficult weeds and suggestions for their control.

Control Methods for Difficult Plants	
Thistle <i>Cirsium arvense</i> , <i>C. vulgare</i>	Spray 2% solution of Roundup in spring or early summer before plants flower.
Crown Vetch <i>Coronilla varia</i>	Spray 2% solution of Roundup over several-year period. Seeds are long-lived in the soil. Prescribed burning can stimulate spread.

¹ Brand names are used generically; equivalent substitutes are acceptable. Always use an herbicide in accord with the instructions on the label.

Yellow Nut Grass <i>Cyperus esculentus</i>	Spray Sedge Hammer (1 gram per gallon of water) during the growing season.
Sericea Lespedeza <i>L. cuneata</i>	Spray 2% solution of Garlon or equivalent over several-year period. Seeds are long-lived in the soil. Prescribed burning can stimulate spread.
Sweet Clover <i>Melilotus spp.</i>	Mow over several-year period or spray with a 2% solution of 2,4-D amine and surfactant. Do not let sweet clover make seeds as it is difficult to control.
Curly Dock <i>Rumex crispus</i>	Spray 2% solution of Roundup in spring or early summer before plants flower.
Tall Goldenrod <i>Solidago altissima</i>	Spray 2% solution of Roundup in spring or early summer before plants flower.
Johnson Grass <i>Sorghum halepense</i>	Spray Outrider before plants flower.
Red Clover <i>Trifolium pretense</i>	Spray 2% solution of Roundup in spring or early summer before plants flower.
Herbaceous Vines	For vines such as Japanese hop (<i>Humulus japonicus</i>), Japanese honeysuckle (<i>Lonicera japonica</i>), common periwinkle (<i>Vinca minor</i>), and bigleaf periwinkle (<i>Vinca major</i>), spray 2% solution of Roundup to foliage prior to flowering or seed set. Wintercreeper (<i>Euonymus fortunei</i>) foliage can be controlled in this way with multiple applications, but woody stems can be treated as described below.
Tree Saplings, shrubs and woody vines	Apply 20% solution of Garlon4 mixed in commercially available basal oil to bark of uncut stems. Apply 20% solution of Roundup Pro mixed in water with a surfactant (e.g. methylated seed oil or ammonium sulfate) to cut stumps. These applications can take place in any season but are easiest applied in winter.

After existing vegetation is killed, the ground should not be tilled, disked, or plowed. Disturbing soil brings up weed seed resulting in additional weeds. Dead vegetation should be cut to a few inches high, using a mower or weed whip. Having some dead vegetation on the ground helps to hold seed in place and prevent erosion during winter months. Seeding can be done directly into the mowed dead vegetation in early winter. Please see the "Seeding" section on page four for more information.

Vegetation and dam safety: The design engineer shall evaluate and select appropriate vegetation for ground cover on dam embankments.² Trees and other woody vegetation should not be used on dams, because decaying roots can cause seepage problems. Uprooted trees can also create voids and erosion problems. Dense, tall vegetation on emergency spillways can limit hydraulic capacity. In addition, deep rooted vegetation may not be appropriate on the embankment side of the wet pond or wetland.

Some factors to consider when selecting vegetation type for detention basins include:

- Duration of ponding (permanent or intermittent during storms)
- Ponding depth, duration and fluctuation during storms
- Overflow structure elevations
- Drainage area tributary to the basin

Dams should be inspected periodically to evaluate the structural integrity of the dam, crest, slope, outlet channel, spillway, and toe of slope. Dense vegetation can obscure animal burrows and other defects. Inspections should be completed in late winter, after annual mowing and before vegetation starts to leaf out for best visibility of the dam.

² This does not replace state dam safety requirements.

After heavy rains, dams should be inspected for erosion problems. These should be repaired as soon as possible, filled with good soil, compacted, reseeded and mulched as appropriate. Wave action can also cause damage on the pond side of the dam. Plantings, or if necessary, rock rip rap can be placed to help reduce wave induced erosion.

Selecting plants around fluctuation zones: Plant pond edge and emergent aquatic species in the areas of the detention basin that are frequently inundated by storms. These species must be planted in permanent shallow water (up to 12 inches in depth). Failure to do so can result in frequent exposure to conditions that stress and potentially kill vegetation. It is recommended that the mature height of the plants used in these areas exceed the ponding depth of the one year 24 hour storm (see Plant List: Pond Edge and Emergent in Chapter One) For new detention basins within the MSD service area, this is the portion of the pond up to the storage of the Channel Protection Volume.

Seeding

Seed Mixes: Seed mixes for both wet and dry areas are provided in the section of this chapter titled “Seed Mix List.” Each mix contains a component of grass and sedge species as well as forb species. The grasses, sedges and forbs shall be sown together as one mix. Listed native annuals can be added to provide color in the first few growing seasons. The annual seed weights are to be used in addition to perennial grass, sedge and forb quantities. Please note that at times blooming annuals may need to be mowed down to control weeds in the first two growing seasons.

Seed quantities must be calculated based on the percentage of Pure Live Seed (PLS) per acre. PLS is the viable seed of the specified variety and calculated as the product of the germination rate times the purity. All seed is to be planted within nine months of the testing date. Seed mixture should be provided in containers showing percentage of each seed species in the mix, year of production, net weight, date of packaging and seed provenance. Containers must be shipped with certificates of inspection as required by the U. S. Department of Agriculture. The weights of seed needed for the wet and dry mixtures have already been calculated. These weights have been doubled due to typical construction site subsoil conditions, which usually provide less than optimal growing medium for germination. A nurse crop such as oats is required to prevent erosion and reduce weed growth during the first growing season. Nurse crops typically disappear by the second growing season. Either seed oats (*Avena sativa*) or winter wheat (*Triticum aestivum*) can be used at a rate of 60 lbs. per acre. If winter wheat is used, cut before seed heads mature to avoid reseeding.

Beginning in March and through September, during this time if the soil bed is ready, the first seeding of annuals and “nurse” or cover crop seeds can be installed. The required native seed mix for the area cannot be installed at this time. Beginning in October and through February, the native seed mix can be sown. If the soil bed was not ready earlier in the year and this is the first seed sowing for the area, the cover crop and annual seeds can be sown at the same time as the native seeds.

Sowing seeds: Seeding should be done only during periods when the ground may be traversed with equipment without rutting or placing seed at depths over one quarter inch. Seed should be sown in a grid pattern, spreading half the seed mixture over the entire area in one direction then spreading the other half over the same area, in a perpendicular direction. Seed can be sown on snow, although some seed may be eaten by birds. During winter freezes and thawing, seeds sown on the surface work their way into the soil to the proper depth.

For areas less than 20,000 square feet: Seed sowing can be done by hand if the basin or buffer is less than 20,000 s.f. excluding filter bed areas, which shall be plug planted per Chapter One.

For areas over 20,000 square feet: Cultipacker type seeders (Brillion) or no-till seed drills (Truax or Great Plains) specifically designed for the seeding of native grasses and forbs must be used. The seeding depth must be set to provide a final seed depth of one quarter inch or less. Prior to starting work, all seeding equipment must be calibrated and adjusted to sow seeds at the proper rate. Equipment shall be operated in a manner to ensure complete coverage of the area. This equipment plants the seed in rows by cutting slits into the soil and planting the seed at the proper distance, and depth. No-till drills cause minimal soil disturbance which results in less weed seed germination.

If soil conditions are too wet or slopes are too steep for drilling, the broadcasting of seed is acceptable on exposed soil only. If seed is broadcast, it must be mixed with an equal amount of inert filter (such as perlite, sand, vermiculite, ground corn cobs) to enable an even distribution of seed. Mix ratios of seed and inert filters at 1:1 or 2:1 of filter to seed. A mechanical broadcast seeder, such as Truax Seed Slinger, may be used. Fluffy seed will not go through a traditional gravity flow seeder.

Seed should be broadcast in two applications of half the seed, where the second application of seed overlaps the previous application in a grid pattern. Broadcast seeded areas should be raked, rolled or dragged perpendicular to the slope within 24 hours after seeding, or as soon as site conditions permit. The use of compaction wheels on the seed drill is acceptable. Hydroseeding is not acceptable.

Seed drills may be borrowed from various state agencies or hired through a landscape contractor that specializes in prairie seeding. To learn how to borrow and use a no-till seed drill, contact your local Missouri Department of Conservation office to locate the Private Land Conservationist in your county.

Erosion Control Mats

Erosion control mats are an important component of seeding a detention basin or a stream buffer. Without them, uniform seed-soil contact can be compromised and costly seed is lost. Because establishing a thorough cover of native vegetation from seed may take 2-3 years, it is important that the erosion control mat be rated for similar longevity. However, care must be taken in selecting an erosion control mat because longer life erosion control mats typically are more tightly woven, which may impede seedling germination.

MSD recommends a wood shavings mat (Curlex #1 or Curlex #2 or equivalent) to be laid over seed placed from the bottom of the basin (or normal water level) and up to the 1-yr ponding elevation. Coir fiber blankets are recommended for establishing stream buffers, up to the bankfull elevation, and where more than 100' of overland flow is upgradient (uphill) of the seedbed. Outside of these areas, and where slopes are steeper than 10:1, either a coir fiber blanket or (lighter and less expensive) straw blanket (North American Green S75 or equivalent) should be laid over seed and anchored into prepared soil.

Erosion Control Mats		
Type	Brand name	Description
Wood shavings mat	Curlex® #1 or Curlex® #2 in areas of concentrated flow	Expands when wet causing the material to adhere to the surface and releases moisture to germinating seeds. Product is entirely biodegradable in two months.
Straw mat	North American Green® S75® Single Net Straw Blanket	The interwoven strands can move independently of each other providing better moisture absorption, flexibility, and conformance with the soil surface. Decomposes in one year.
Coir fiber	North American Green® C125® Blanket	Intermediate weight coconut based product with a rated longevity of 24 months. Typical applications include high flow areas and shorelines.

Germination: Prairie seed begins to germinate in April and continues through June. Some germination even occurs the next spring. Seedlings may be difficult to see because of their small size and the annual weed competition. A seedling identification guide is available through the Natural Resources Conservation Service and images can be found at:

<http://www.plant-materials.nrcs.usda.gov/pubs/mopmcpu6313.pdf>

Vegetation Establishment

Post planting establishment practices for three full growing seasons are critical to the success of seeded projects. Fast-growing annual and biennial weeds can shade out slower growing native forbs, grasses and sedges. Common biennial weeds include Queen Anne's lace, bull and Canada thistle and curly dock. Common annual weeds include moth mullein, fleabane, mare's tail, foxtail grass, chicory, ragweed, lambsquarters, mustard and smartweed. The forthcoming Chapter Three will contain information regarding weed management and identification.

Year one: Control weeds by keeping them mowed to a height of 6-12 inches throughout the first growing season. Most prairie seedlings are less than 6 inches tall in their first growing season and are seldom damaged by mowing. Do not allow weeds to get over 12 inches before cutting because tall weeds will shade out small prairie seedlings and long clippings can smother small seedlings. Keeping weeds cut back the first year also prevents production of more weed seeds that could become a problem in the future.

Pulling weeds in year one can cause problems because prairie seedlings are small the first year and are easily pulled up with the weeds and the disturbed soil can expose new weed seeds. However, if you know how to identify young weeds, it is safe to pull them, as long as you do not disturb nearby prairie seedlings. To remove large weeds, cut them off at the base and remove any seed heads from the site.

Year two: If weeds are a problem, mow them at a height of 12 inches since prairie seedlings will be taller the second year. If biennials are a problem, mow them at 12 inches when they are in full bloom. This should kill them or set them back severely. It may be desirable to re-seed areas that are thinly covered by plants or bare.

Equipment: String trimmers work well on projects less than 20,000 square feet as tractor-driven mowers are needed for larger areas. Adjust mower to cut higher than 6 inches. Where lawn mowers are the only available or size-appropriate machine, set the mower deck to highest setting (this is normally 4-5 inches).

Seeding and Vegetation Establishment Schedule Summary	
March - September	If BMP soil bed is ready during this time, install first seeding consisting of cover crop and annuals only. <i>Required native seed mix may only be seeded October – February.</i>
October - February	Sow native seed mix. Include cover crop and annuals if first seed sowing.
March – May	Seed mix germinates. Survey seedlings to determine germination success. 80% cover and 60% species survival is required. Begin mowing annual weeds. Do not let weeds grow over 12 inches.
June - September	Continue mowing weeds as needed. Do not let weeds grow over 12 inches.
Year 2	If required seeding success is not met, over-seed October through February. Continue mowing if annual weeds continue to dominate.
Year 3	Mow or burn annually in late winter or early spring (January-March).

Seasonal Interest - Color and Months
 F M A M J J A S O N D
 Spacing (feet)
 Height (feet)
 Common Name
 Latin Name
 DRY AREA MIX
 Grasses/Sedges
 Sun
 Fr Shade
 Shade
 Grass
 Butterflies
 Fall Color
 Winter Interest
 Salt Tolerance
 Agrostoides
 Silk tolerance
 Orange per Acre

Latin Name	Common Name	Height (feet)	Spacing (feet)	F	M	A	M	J	J	A	S	O	N	D	Sun	Fr Shade	Shade	Grass	Butterflies	Fall Color	Winter Interest	Salt Tolerance	Agrostoides	Silk tolerance	Orange per Acre
<i>Andropogon ternatus</i>	Spillbeard bluestem	1-2	1.5																						
<i>Andropogon virginicus</i>	Bronzesedge	1-2	1.5																						
<i>Bouteloua curtipendula</i>	Sideoats grama	1-2	1																						
<i>Schizachyrium scoparium</i>	Little bluestem	2-3	1.5																						
<i>Sporobolus heterodes</i>	Prairie dropseed	2-3	1.5																						
<i>Forbes</i>																									
<i>Asclepias tuberosa</i>	Butterfly milkweed	1-2	1.5																						
<i>Aster oblongifolium</i>	Aromatic aster	1-3	1.5																						
<i>Coreopsis lanceolata</i>	Lanceleaf coreopsis	1-2	1.5																						
<i>Echinacea pallida</i>	Pale purple coneflower	2-3	1.5																						
<i>Rudbeckia hirta</i>	Black-eyed Susan	2-3	1.5																						
<i>Solidago nemoralis</i>	Old field goldenrod	3-5	1.5																						
<i>Zizia aurea</i>	Golden alexander	4-6	1.5																						
<i>Annalis (optional)</i>		1-3	1.5																						
<i>Chamaecrista fasciata</i>	Partridge pea	1-3	1																						
<i>Coreopsis linctoria</i>	Plains coreopsis	2-4	1																						
<i>Palafoxia callosa</i>	Palefoxia	2-3	2																						
<i>Rudbeckia hirta</i>	Black-eyed Susan	2-3	1.5																						
<i>WET AREA MIX</i>																									
<i>Grasses/Sedges</i>																									
<i>Carex amnethans</i>	Yellow fruited sedge	2-3	1.5																						
<i>Carex grayi</i>	Bur sedge	1-2	1.5																						
<i>Carex muskingumensis</i>	Palm sedge	2-3	1.5																						
<i>Carex shortiana</i>	Short's sedge	2	1.5																						
<i>Cheasminthium latifolium</i>	River oats	2-4	1.5																						
<i>Elymus virginicus</i>	Virginia wild eye	2-3	1.5																						
<i>Panicum virgatum</i>	Switchgrass	3-6	2.5																						
<i>Scirpus atrovirens</i>	Great green bulrush	2-3	1.5																						
<i>Forbes</i>																									
<i>Asclepias incarnata</i>	Marsh milkweed	3-5	1.5																						
<i>Chelone obliqua</i>	Rose turtlehead	3-4	2																						
<i>Eupatorium coelestinum</i>	Mist flower, wild ageratum	1-2	1.5																						
<i>Helenium autumnale</i>	Sneezeweed	3-4	2																						
<i>Iris virginica</i>	Southern blueflag iris	2-3	2																						
<i>Lobelia siphillica</i>	Blue lobelia	2-3	1.5																						
<i>Ludwigia alternifolia</i>	Seedbox	2-3	1																						
<i>Penstemon digitalis</i>	Smooth beard-tongue	2-3	1.5																						
<i>Physostegia virginiana</i>	Obedient Plant	2-3	1.5																						
<i>Rudbeckia fulgida</i>	Orange coneflower	2	2																						
<i>Annalis (optional)</i>																									
<i>Bidens aristosa</i>	Bar marigold	3-6	1.5																						
<i>Requiriments</i>																									

Local Ecotype Rule: Plants of Missouri or Southern Illinois ecotype are required.
 P.L.S means pure live seed; or seed that has been tested for purity and viability. This is done by most seed nurseries and should be included in your seed order.
 Dry denotes an area above the 1 year ponding or bank flow elevation.
 Wet denotes an area that is at or below the 1 year ponding or bank flow elevation.
 Must use a minimum of 6 grass/sedge species and 8 forb species for each BMP. It is recommended that this list be provided to landscape contractors/buyers in case substitutions are required.



Metropolitan
St. Louis
Sewer District





Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: 6600-6800 Kingsbury Boulevard Prohibit Commercial Vehicles to the Neighborhood

AGENDA SECTION: City Managers Report

CAN THIS ITEM BE RESCHEDULED? : Yes

BACKGROUND REVIEW:

The Traffic Commission received a traffic request to prohibit charter buses from pick up or drop off in the 6600-6800 Block of Kingsbusry Ave. During the academic year many university students use charter busses for large groups for traveling to entertainment within the city. The buses sit idle while loading and unloading disturbing the neighborhood during the late evening hours. Washington University has agreed to assist with communication to the students the prohibition. The requestors asked that the Traffic Commission consider amending the code to prohibit commercial vehicles in the area besides local deliveries to residents. The Commissioners recommended that the City Council approve the request.

RECOMMENDATION:

It is the recommendation of the Public Works and Parks Department that the attached ordinances be approved.

ATTACHMENTS:

1. Bill amending section 356.010– Certain Commercial Vehicles Prohibited on Certain Streets” and 356.020 “Parking Trucks and Commercial Vehicles Prohibited”
2. Traffic Commission Staff Report

INTRODUCED BY:

DATE:

BILL NO: 9338

ORDINANCE NO. _____

AN ORDINANCE AMENDING SCHEDULE III OF THE TRAFFIC CODE, TO REVISE TRAFFIC REGULATION AS PROVIDED HEREIN.

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF UNIVERSITY CITY, MISSOURI, AS FOLLOWS:

Section 1. Schedule III of the Traffic Code, of the University City Municipal Code is amended as provided herein. Language to be added to the Code is represented as highlighted. This Ordinance contemplates no revisions to the Code other than those so designated; any language or provisions from the Code omitted from this Ordinance is represented by an ellipsis and remains in full force and effect.

Section 2. Schedule III of the University City Municipal Code is hereby amended to add 6600-6800 Kingsbury Boulevard: Melville Avenue to Trinity Avenue, 400 Block of Melville Avenue: Washington Ave. to Kingsbury Blvd., 400 Block of Kingsland Avenue: Washington Ave. to Kingsbury Blvd, and 400 Block of Trinity Avenue: Washington Ave. to Kingsbury Blvd where the City has designated as a “Certain Commercial Vehicles Prohibited on Certain Streets Zone”, to be edited to the Traffic Code as the “Schedule” – Schedule III, as follows:

Traffic Schedules

Schedule III: Parking Restrictions

Chapter 356; Stopping Standing or Parking Restricted on Certain Streets

The following areas are “Certain Commercial Vehicles Prohibited on Certain Streets” and “Parking Trucks and Commercial Vehicles Prohibited” are regulated as set forth in section 356.010 and 356.020 of this Code:

Street	Block	Scope
Kingsbury Boulevard	6600-6800	Both Sides
Melville Avenue	400	Both Sides
Kingsland Avenue	400	Both Sides
Trinity Avenue	400	Both Sides

* * *

Section 3. This ordinance shall not be construed so as to relieve any person, firm or corporation from any penalty heretofore incurred by the violation of the sections revised by this amendment nor bar the prosecution for any such violation.

Section 4. Any person, firm or corporation violating any of the provisions of this ordinance shall be punished in accordance with the provisions of the University City Municipal Code.

Section 5. This ordinance shall take effect and be in force from and after its passage as provided by law.

PASSED THIS _____ day of _____ 2017

MAYOR

ATTEST:

INTERIM CITY CLERK

CERTIFIED TO BE CORRECT AS TO FORM:

CITY ATTORNEY



Department of Public Works and Parks

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 505-

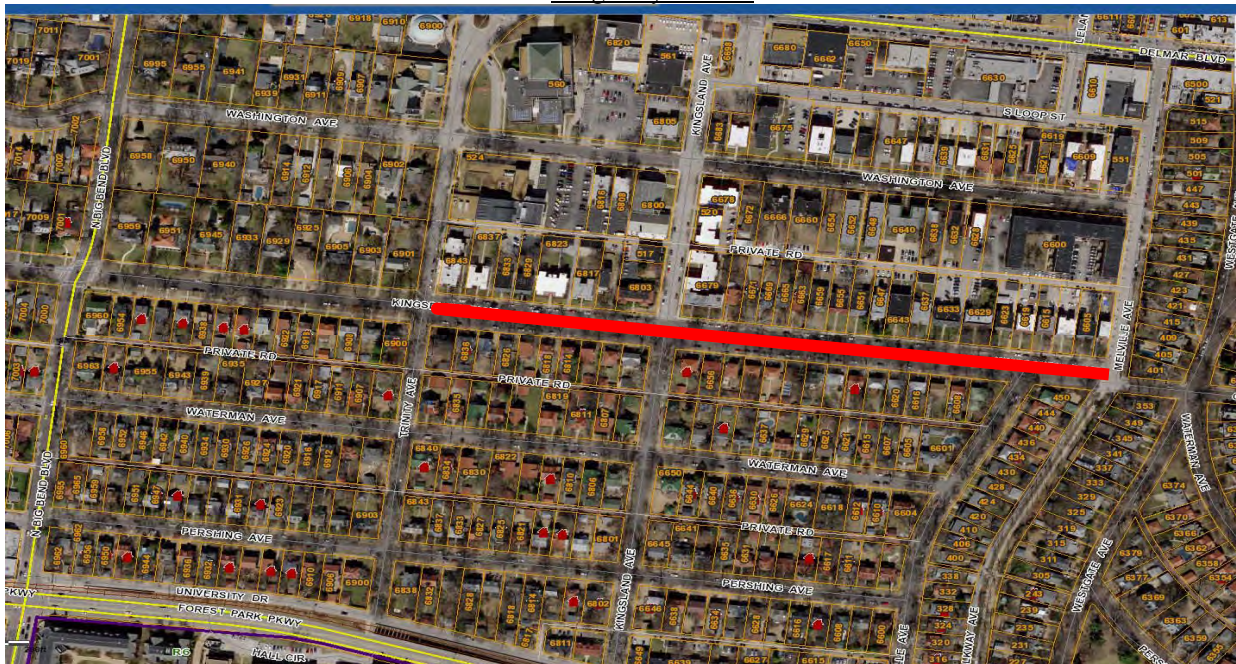
8560, Fax: (314) 862-0694

STAFF REPORT

MEETING DATE: October 11, 2017
APPLICANT: Janet Pierson - 6803 Kingsbury
Location: 6600-6800 Block of Kingsbury, Melville Ave. to Trinity Ave.
Request: Prohibit Charter Buses
Attachments: Traffic Request Form

Existing Conditions:

Kingsbury Avenue



During the academic year many university students use charter busses for large groups for traveling to entertainment within the city. The buses sit idle while loading and unloading disturbing the neighborhood during the late evening hours.

Request:

Prohibit charter buses from pick up or drop off in the 6600-6800 Block of Kingsbury Ave.

Conclusion/Recommendation:

Staff recommends that the traffic commission approve the request from the neighborhood to prohibit charter buses, but make the recommendation to amend the city code 356.010 and 356.020 to include the 6600-6800 Block of Kingsbury and one block south on the entrance streets Mellville, Kingsland, and Trinity.

Attachment: City Code 356.010 and 356.020



Council Agenda Item Cover

MEETING DATE: October 23, 2017

AGENDA ITEM TITLE: AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF UNIVERISTY CITY, MISSOURI, DECLARING 1351 N. HANLEY AVENUE A BLIGHTED AREA AND APPROVING A REDEVELOPMENT PLAN FOR THE AREA.

AGENDA SECTION: New Business

CAN THIS ITEM BE RESCHEDULED? : No

BACKGROUND REVIEW:

A tax abatement request has been received from Matthew Masiel c/o Screaming Eagle Development, LLC for 1351 N. Hanley (see attached "Tax Abatement Application"). The request pertains to the redevelopment of 1351 N. Hanley (Nathaniel Hawthorne School) into multi-family apartments, and the construction of 10 new townhomes.

A summary of the tax abatement process is included in the attached materials. The first step in the process is for the City's Land Clearance Redevelopment Authority (LCRA) to consider and make recommendations on a blight analysis and redevelopment plan. LCRA's recommendation is then forwarded to Plan Commission and City Council (finding of blight, redevelopment plan consideration). This process is in keeping with Sections 99.300 to 99.660 of the Revised Statutes of Missouri (R.S.Mo.) the - Land Clearance for Redevelopment Authority Law, as per 99.430.2 below:

2. *As an alternative to the procedures prescribed in subdivisions (2) and (5) of subsection 1, an authority may find an area to be blighted, insanitary or undeveloped area in need of redevelopment or rehabilitation, and simultaneously prepare a plan, or adopt a plan presented to the authority, and the authority may simultaneously recommend its finding of a blighted, insanitary or undeveloped area and the approval of a plan to the governing body of the community, and the governing body may make its finding that the area is blighted, insanitary or undeveloped and approve the plan simultaneously. Simultaneously with such recommendation of a finding of a blighted or insanitary or undeveloped industrial area and recommendation of a plan to the governing body for approval, an authority shall submit the finding of a blighted or insanitary or undeveloped area and the plan to the planning agency, if any, of the community in which the project area is located for review and recommendation as to the conformity of the plan to the general plan for the development of the community as a whole. The planning agency shall submit its written recommendations with respect to the finding of a blighted or insanitary or undeveloped industrial area and the plan to the authority and the local governing body within thirty days after receipt of the findings and the plan for review. Upon receipt of the recommendations of the planning agency, or, if no recommendations are received within thirty days, then without the recommendations, the governing body may simultaneously approve the finding of a blighted or insanitary or undeveloped area and approve the plan in the manner prescribed in subdivisions (8) and (9) of subsection 1.*

LCRA met on October 11, 2017 and approved the finding of blight and redevelopment plan. At the October 23, 2017 City Council meeting, the ordinance will be introduced. A public hearing and the second and third reading should occur on November 13, 2017.

Recommendation: Adoption

Attachments: Staff memorandum (with tax abatement application, Blight analysis and Redevelopment Plan)
Draft ordinance

INTRODUCED BY:

DATE:

BILL NO: 9339

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF UNIVERSITY CITY, MISSOURI, DECLARING 1351 N. HANLEY AVENUE A BLIGHTED AREA AND APPROVING A REDEVELOPMENT PLAN FOR THE AREA.

WHEREAS, the City of University City, Missouri, pursuant to Sections 99.300, RSMo, et seq., (the “LCRA Law”) has duly created a Land Clearance for Redevelopment Authority for the City of University City (the “LCRA”) and has vested in said Authority the powers authorized by State law; and

WHEREAS, the LCRA received a request from Screaming Eagle Development, LLC (the “Developer”) for the blighting of property known as 1351 N. Hanley Avenue, and more particularly described in the Blight Report attached herein (the “Redevelopment Area”);

WHEREAS, the Developer’s request consists of a Blight Report, dated June 30, 2017 and incorporated herein as the attached Exhibit 1, which report includes a more detailed description of the Redevelopment Area, and a proposed Redevelopment Plan and Project, dated October 2017, incorporated herein as the attached Exhibit 2 (the “Redevelopment Plan”); and

WHEREAS, the Developer presented the Blight Report and the Redevelopment Plan to the LCRA at its meeting of October 11, 2017; and

WHEREAS, the LCRA has duly considered both the Blight Report, the Redevelopment Plan, and other information provided to the LCRA by the Developer at its meeting of October 11, 2017 and has simultaneously forwarded to the Plan Commission and the City Council its recommendation for blighting the Redevelopment Area and approval of Redevelopment Plan in accordance with the LCRA Law;

WHEREAS, the Plan Commission will consider the Blight Report and the Redevelopment Plan at its meeting of October 25, 2017 and forward to City Council its recommendation prior to the adoption of this ordinance;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF UNIVERSITY CITY, MISSOURI AS FOLLOWS:

1. The City Council finds that the redevelopment area generally located at 1351 N. Hanley and constituting a single parcel of land, more particularly described in Exhibit 1 is found to be blighted, because (a) it contains a combination of predominantly defective, insanitary and unsafe conditions, deteriorating onsite improvements, health and safety hazards, danger of fire or other property hazards to such a degree that the provision of housing accommodations cannot take place and the area constitutes an economic and a social liability or a menace to the public health, safety and morals, and (b) it contains, and as a whole suffers from, deteriorated conditions such as deterioration of site improvements, insanitary and unsafe conditions, existence of conditions which endangers life or property by fire and other causes and economic underutilization.
2. The City Council approves the Redevelopment Plan as designed with the general purpose of accomplishing, in conformance with the city’s general plan, a coordinated, adjusted and harmonious development of the community and its environs which, in accordance with present and future needs, will promote health, safety, morals, order, convenience, prosperity and the general welfare, as well as efficiency and economy in the process of development; including,

among other things, adequate provision for traffic, vehicular parking, the promotion of safety from fire, panic and other dangers, adequate provision for light and air, the promotion of the healthful and convenient distribution of population, the provision of adequate transportation, water, sewerage, and other public utilities, schools, parks, recreational and community facilities and other public requirements, the promotion of sound design and arrangement, the wise and efficient expenditure of public funds, the prevention of the recurrence of insanitary or unsafe dwelling accommodations, or insanitary areas, or conditions of blight or deterioration, and the provision of adequate, safe and sanitary dwelling accommodations.

PASSED THIS _____ day of _____ 2017

MAYOR

ATTEST:

INTERIM CITY CLERK

CERTIFIED TO BE CORRECT AS TO FORM:

CITY ATTORNEY



Department of Community Development

6801 Delmar Boulevard, University City, Missouri 63130, Phone: (314) 862-6767, Fax: (314) 862-3168

STAFF REPORT

MEETING DATE: City Council: October 23, 2017

COUNCIL DISTRICT: 3

LOCATION: 1351 N. Hanley Road (Former Nathaniel Hawthorne Elementary School), north side of Carleton Ave.

APPLICANT: Screaming Eagle Development, LLC

PROPERTY OWNER: The School District of University City

REQUEST: Approval of Blight Analysis and Redevelopment Plan – In accordance with RSMo. 99.430.2

STAFF RECOMMENDATION

Approval Approval with Conditions in Attachment Denial

ATTACHMENTS:

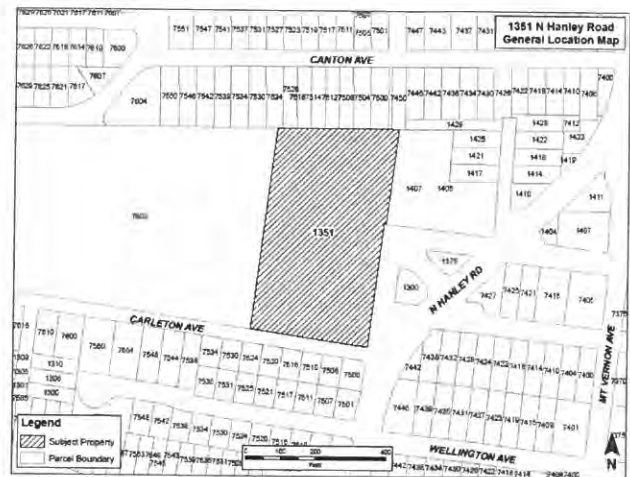
- A. Tax Abatement Process
- B. Tax Abatement Application
- C. LCRA Resolution (with exhibits)
 - 1. Exhibit 1: Blight Analysis
 - 2. Exhibit 2: Redevelopment Plan

Background

The subject property is approximately 5.07 acres in area and occupied by a vacant three-story former elementary school of approximately 54,840 square feet. The former Nathaniel Hawthorne Elementary School, constructed in 1930 with subsequent building additions between 1930 and 1950, is located in the middle section of the site. An existing parking lot of 37 spaces is adjacent to the south side of the building. An existing bi-directional curb-cut is located on Carleton Ave. at the southwest corner of the site.

At the July 26, 2017 Plan Commission meeting, a request to rezone the property from “PA”-Public Activity District to “HR”-High Density Residential District was approved. The rezoning request was subsequently approved by City Council on August 14, 2017 by Ordinance 7046.

The applicant intends to convert the existing vacant school building into a multi-family residential use of 37 one- and two-bedroom apartment units. An additional 10-unit attached townhouse complex with



a parking area of 15 spaces is proposed to be added to the northern portion of the site. There is no change to the location of the existing curb-cut. A site plan for the project has been submitted in accordance with Section 400.2590 of the Zoning Code and is currently under review. *Please note that as per Section 400.2630 of the Zoning Code, site plan approval is granted by City Council only: no recommendation from Plan Commission is required.*

Recommendation

Blight Analysis. The City Council's task is to consider the Land Clearance Redevelopment Authority's (LCRA) recommendation that finds the property blighted. Exhibit 1 of LCRA Resolution 2017-1 is the blight analysis prepared by Development Strategies in June 2017. In the cover letter to the "Data and Analysis of Conditions Representing a Blighted Area for the Nathaniel Hawthorne Elementary School Redevelopment Area", Development Strategies notes that the Area "...suffers from a multitude of physical and economic deficiencies, including insanitary or unsafe conditions, deterioration of site improvements, improper or obsolete platting, and conditions which endanger life or property by fire or other causes, which constitutes an economic or social liability, and is a menace to the public health, safety, morals, or welfare in its present condition and use.." (Development Strategies cover memorandum). The definition of a blighted area is articulated in RSMo 99.320 (3) and is:

"Blighted area", an area which, by reason of the predominance of defective or inadequate street layout, insanitary or unsafe conditions, deterioration of site improvements, improper subdivision or obsolete platting, or the existence of conditions which endanger life or property by fire and other causes, or any combination of such factors, retards the provision of housing accommodations or constitutes an economic or social liability or a menace to the public health, safety, morals, or welfare in its present condition and use;

Staff recommends approval.

Redevelopment Plan. The City Council's second task is to consider the LCRA's approval of a redevelopment plan for the project. Section 99.320 (23) of the LCRA Law calls for the creation of a "Workable program" (Program) as:

"an official plan of action, as it exists from time to time, for effectively dealing with the problem in insanitary, blighted, deteriorated or deteriorating areas within the community and for the establishment and preservation of a well-planned Community with well-organized residential neighborhoods of decent homes and suitable living environment for adequate family life, for utilizing appropriate private and public resources to eliminate and prevent the development or spread of insanitary, blighted, deteriorated or deteriorating areas, to encourage needed urban rehabilitation, to provide for the redevelopment of blighted, insanitary, deteriorated and deteriorating areas, or to undertake such of the aforesaid activities or other feasible community activities as may be suitably employed to achieve the objectives of such a program."

Exhibit 2 of LCRA Resolution 2017-1 is the redevelopment plan.

The Plan for the Area consists of the redevelopment of historic Nathaniel Hawthorne Elementary School into thirty-seven (37) market rate apartments and new ground up construction of ten (10) two (2) bedroom townhomes for a total of forty-seven (47) market rate units. The building amenities include a fitness on demand center, a resident lounge and kitchen with media center, wi-fi internet access, a grilling area and outdoor kitchen, secured entry and security cameras. Unit amenities include a full set of appliances to include dishwasher, microwave, range, refrigerator, washer and dryer. The kitchen is expected to have granite countertops and the bathrooms should have ceramic

tile.

This Plan will meet the goal of eliminating conditions which qualify the Area as Blighted Area under the LCRA law.

Population densities, land coverage, and building densities as indicated in the City's Zoning Ordinance will govern the density of redevelopment in the Area. The property was rezoned from PA-Public Activity to HR-High Density Residential on August 14, 2017. The HR zoning district permits multi-family apartments at the density proposed by the redevelopment plan. The "HR" District provides a reasonable transition between the abutting "SR" District and "PA" District.

Staff recommends approval.

SR - Attachment A

TAX ABATEMENT PROCEDURE	
Procedure	Tentative Date
1. Developer submit redevelopment plan	
2. LCRA meets to review/approve redevelopment plan and blighting analysis	October 11, 2017
3. LCRA submits recommendation to Plan Commission and City Council	October 23; October 25
4. Plan Commission meets to consider LCRA recommendation	October 25
5. Plan Commission submits recommendation to City Council	
6. City Council conducts public hearing to determine blight, review redevelopment plan	November 13 (Public Hearing)
7. LCRA publishes Request for Proposals for Redevelopment Area per 99.450(2)	
8. Property owner to apply for tax abatement; application should include construction plans	
9. LCRA considers application and gives City Council 30-day notice of intent to enter into redevelopment contract with the applicant per 99.450(2)	
10. LCRA and applicant execute redevelopment contract	
11. Applicant constructs project in accordance with redevelopment contract	
12. LCRA issues a Certificate for Qualifications for Tax Abatement	
13. Property owner notifies assessor of tax abatement within 30 days of Step 12	
14. City provides filed plans to assessor within 30 days of Step 12	
15. The assessor maintains copy of plans for duration of tax abatement	

Attachment A - R2

SR - Attachment B



Tax Abatement Application

Name of Business/Company/Applicant:
Screaming Eagle Development, LLC

Federal Tax ID Number:

81-4042809

Missouri Tax ID Number:

Address(es) of Proposed Development/Improvement:
1351 N. Hanley Rd.
University City, MO 63130

Parcel Identification Number (s):

17J431272

17J431140

1300 Carleton Ave.
University City, MO 63130

Effective Date of Tax Abatement:

Beginning 2019 _____

Ending 2034 _____

Estimated Project Completion Date:

August 1, 2018

Estimated Project Cost:

\$10,676,000

Request: (please describe your project and the type of request – full, partial – number of years)
Screaming Eagle Development is requesting a ten (10) year 100% tax abatement and five (5) year 50% tax abatement for a total of fifteen (15) years of tax abatement on the parcels identified above. The parcels are currently owned by University City School District and are therefore currently tax exempt. Screaming Eagle Development requests that the initial appraised value of parcel 17J431272 to be \$687,200 (the 2016 appraised value) and the initial appraised value of parcel 17J431140 to be \$1,400.

Screaming Eagle Development is redeveloping the historic Hawthorne Elementary School into thirty-seven (37) market rate apartments and new ground up construction of ten (10) two (2) bedroom townhomes for a total of forty-seven (47) market rate units. The building amenities include a fitness on demand center, a resident lounge and kitchen with media center, wi-fi internet access, a grilling area and outdoor kitchen, secured entry and security cameras. Unit amenities include a full set of appliances to include dishwasher, microwave, range, refrigerator, washer and dryer. The kitchen is expected to have granite countertops and the bathrooms should have ceramic tile.

ATTACHMENTS

- CONSTRUCTION DRAWINGS INCLUDING FLOOR PLANS, ELEVATIONS AND A SITE PLAN INCLUDING LANDSCAPING (IF LANDSCAPING IS AVAILABLE)
- OTHER SUPPORTING DOCUMENTS

Corporate Contact Signature, Title, Mailing Address:

Matthew P. Masiel

Matthew P. Masiel
Principal, Screaming Eagle Development, LLC
7777 Bonhomme Ave. Suite 2010
St. Louis, MO 63105

Telephone Number:

314.920.9051 (cell)

8 + Attachment A - 92

UNDER PENALTY OF PERJURY, I DECLARE THAT I HAVE EXAMINED THIS APPLICATION AND, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION CONTAINED HEREIN IS TRUE, CORRECT AND COMPLETE.

Mail application and related documents to:

Director of Community Development
City of University City
6801 Delmar Boulevard
University City, Missouri 63130
(314) 505-8500

For Staff Use Only

Date Received: _____

Staff Approved: Yes ___ No ___

Conformance with Pre-application? ___

Date: _____

LCRA meeting scheduled _____

LCRA action _____

RESOLUTION NO. 1-2017

A RESOLUTION OF THE LAND CLEARANCE FOR REDEVELOPMENT AUTHORITY OF THE CITY OF UNIVERSITY CITY, MISSOURI, RECOMMENDING THAT AN AREA OF THE CITY BE DECLARED A BLIGHTED AREA AND TO APPROVE AND FORWARD THE REDEVELOPMENT PLAN;

WHEREAS, the City of University City, Missouri, pursuant to Sections 99.300, RSMo, et seq., has duly created a Land Clearance for Redevelopment Authority and vested in said Authority the powers authorized by State law; and

WHEREAS, the Authority received a request in connection with a blight report and a proposed redevelopment plan under Chapter 99, RSMo to consider recommending 1351 N. Hanley Avenue and more particularly described in the Blight Report described herein, to the City Council to be a blighted area, as defined in Chapter 99, RSMo; and

WHEREAS, a Blight Report dated June 30, 2017 and attached hereto as Exhibit 1 has been presented to the Authority at its meeting of October 11, 2017; and

WHEREAS, a Redevelopment Plan dated October 2017, contained within Exhibit 2 was also presented to the Authority at its meeting of October 11, 2017; and

WHEREAS, the Authority recommends and forwards to the Plan Commission and the City Council for its own action a recommendation to blight an area in connection with the proposed redevelopment plan; and

WHEREAS, the Authority duly considered both the Blight Report and the Redevelopment Plan, and other information provided to the Authority at its meeting of October 11, 2017.

NOW, THEREFORE, BE IT RESOLVED BY THE LAND CLEARANCE REDEVELOPMENT AUTHORITY OF THE CITY OF UNIVERSITY CITY, MISSOURI AS FOLLOWS:

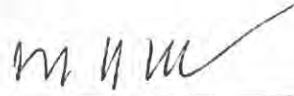
1. That the area described in Exhibit 1 and generally located at 1351 N. Hanley, and more particularly described in the Blight Report referenced herein, be found to be blighted area for a variety of factors including unsanitary and unsafe conditions, deteriorated and inadequate site improvements, improper subdivision and obsolete platting, and conditions that endanger life or property by fire and other hazards.
2. That the area described in Exhibit 1, and found herein to be blighted contains and as a whole, suffers from deteriorated conditions to such a degree that the provision of housing accommodations cannot take place and the area constitutes an economic and social liability or menace to the public health, safety and morals.
3. That the redevelopment plan described in Exhibit 2 is designed with the general purpose of accomplishing, in conformance with the general plan, a coordinated, adjusted and harmonious development of the community and its environs which, in accordance with present and future needs, will promote health, safety, morals, order, convenience, prosperity and the general welfare, as well as efficiency and economy in the process of development; including, among other things, adequate provision for traffic, vehicular parking, the promotion of safety from fire, panic and other dangers, adequate provision for light and air, the promotion of the healthful and convenient distribution of population, the provision of adequate transportation, water, sewerage, and other

9-3-92

public utilities, schools, parks, recreational and community facilities and other public requirements, the promotion of sound design and arrangement, the wise and efficient expenditure of public funds, the prevention of the recurrence of insanitary or unsafe dwelling accommodations, or insanitary areas, or conditions of blight or deterioration, and the provision of adequate, safe and sanitary dwelling accommodations.

4. That the Executive Director is hereby authorized to submit to the Plan Commission of the City of University City, Missouri for its recommendation to the City Council the Blight Report and Redevelopment Plan attached hereto as Exhibits 1 and 2 respectively.

Adopted this 11th day of October, 2017.



Chairman

Attest:


Secretary

DATA AND ANALYSIS OF CONDITIONS
REPRESENTING A “BLIGHTED AREA”

FOR THE

NATHANIEL HAWTHORNE ELEMENTARY SCHOOL
REDEVELOPMENT AREA

June 30, 2017



DEVELOPMENT STRATEGIES®
guiding effective decisions in
real estate, community, and economic development

ANALYSIS OF CONDITIONS REPRESENTING A “BLIGHTED AREA”

FOR THE

NATHANIEL HAWTHORNE ELEMENTARY SCHOOL REDEVELOPMENT AREA

June 30, 2017



June 30, 2017

Mr. Matthew Masiel
Principal
Screaming Eagle Development, LLC
777 Bonhomme Ave., Suite 2010
St. Louis, MO 63105

Mr. Masiel,

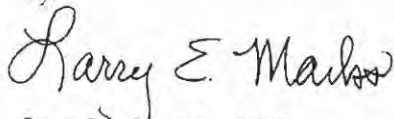
Reference is made to the accompanying "Data and Analysis of Conditions Representing a 'Blighted Area' for the Nathaniel Hawthorne Elementary School Redevelopment Area" prepared by the undersigned.

Please be advised that, based upon the results of the above referenced study, the undersigned have determined that the Redevelopment Area described in the study is a "blighted area," as such term is defined in Section 99.320(3) the "Land Clearance for Redevelopment Authority Law".

This report describes and documents those conditions that, without redevelopment, will further erode the Redevelopment Area's viability and continue its status as an economic liability for the City of University City, its residents, and the taxing districts that depend upon it as a revenue source.

The Redevelopment Area suffers from a multitude of physical and economic deficiencies, including insanitary or unsafe conditions, deterioration of site improvements, improper or obsolete platting, and conditions which endanger life or property by fire or other causes, which constitutes an economic or social liability, and is a menace to the public health, safety, morals, or welfare in its present condition and use.

DEVELOPMENT STRATEGIES, INC.
Real Estate, Community and Economic Development Consultants
by:



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TABLE OF CONTENTS

1 INTRODUCTION	1
Overview of Study Area	1
Historical Development.....	3
Existing Development	4
Existing Zoning	5
Data Gathering Methodology	5
2 SUMMARY AND CONCLUSIONS	6
Summary	6
Finding of Blight.....	7
3 BLIGHTING FACTORS	8
Insanitary or Unsafe Conditions	8
Deterioration of Site Improvements	9
Improper Subdivision or Obsolete Platting	10
Conditions Which Endanger Life or Property by Fire or Other Causes	10
4 RETARDATION OF PROVISION OF HOUSING ACCOMMODATIONS, ECONOMIC OR SOCIAL LIABILITY, OR A MENACE TO PUBLIC HEALTH, SAFETY, MORALS, OR WELFARE	11
Economic Liability.....	11
Social Liability.....	12
Menace to Public Health, Safety, Morals or Welfare	12
 MAPS	
Site Location.....	1
2014 Aerial Photograph	2
Neighboring Development	3
1958 Aerial Photograph.....	4
Blighting Factors.....	8
Parcel Identification	B-1

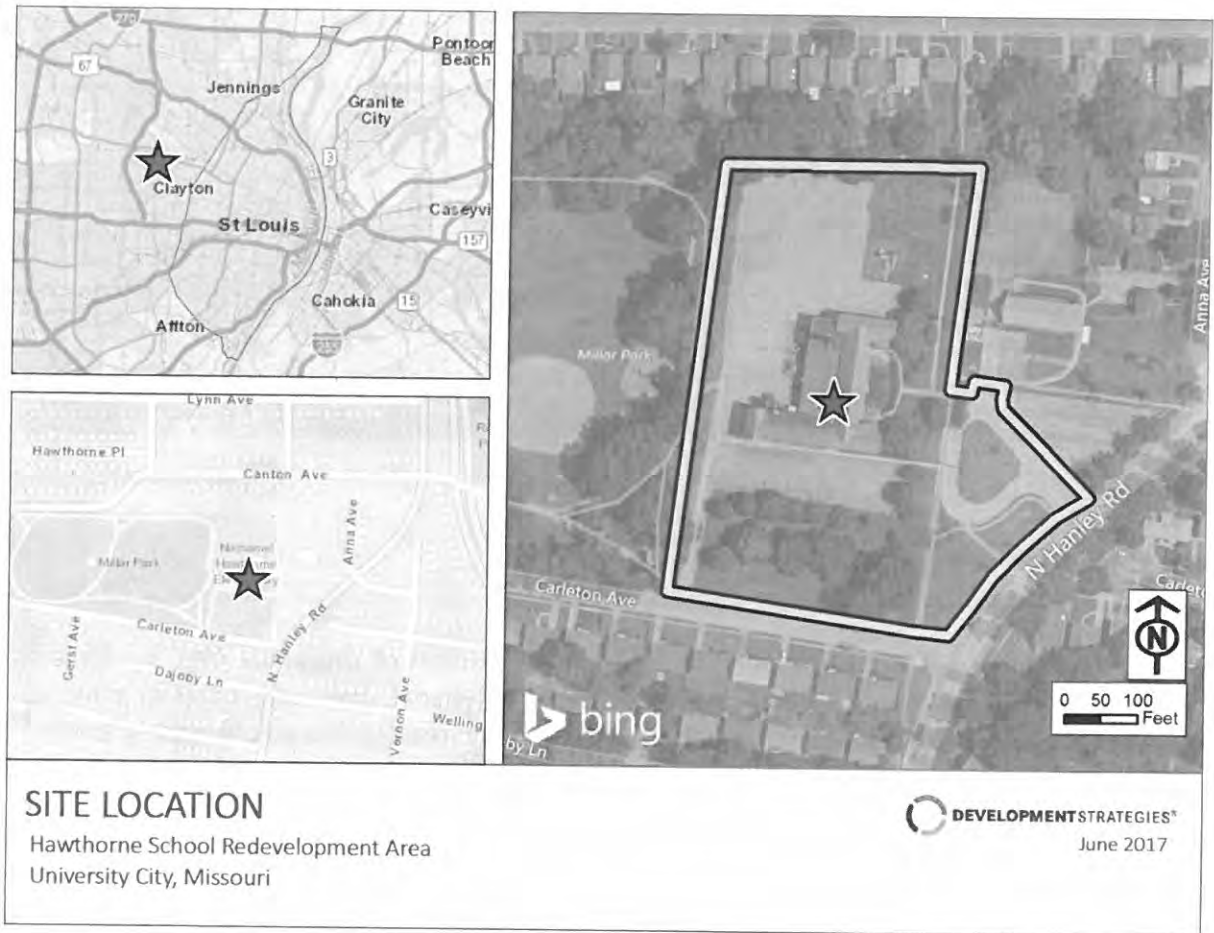
APPENDICES

- A Legal Description
- B Parcel Map
- C Photographs of Blighting Conditions

1. INTRODUCTION

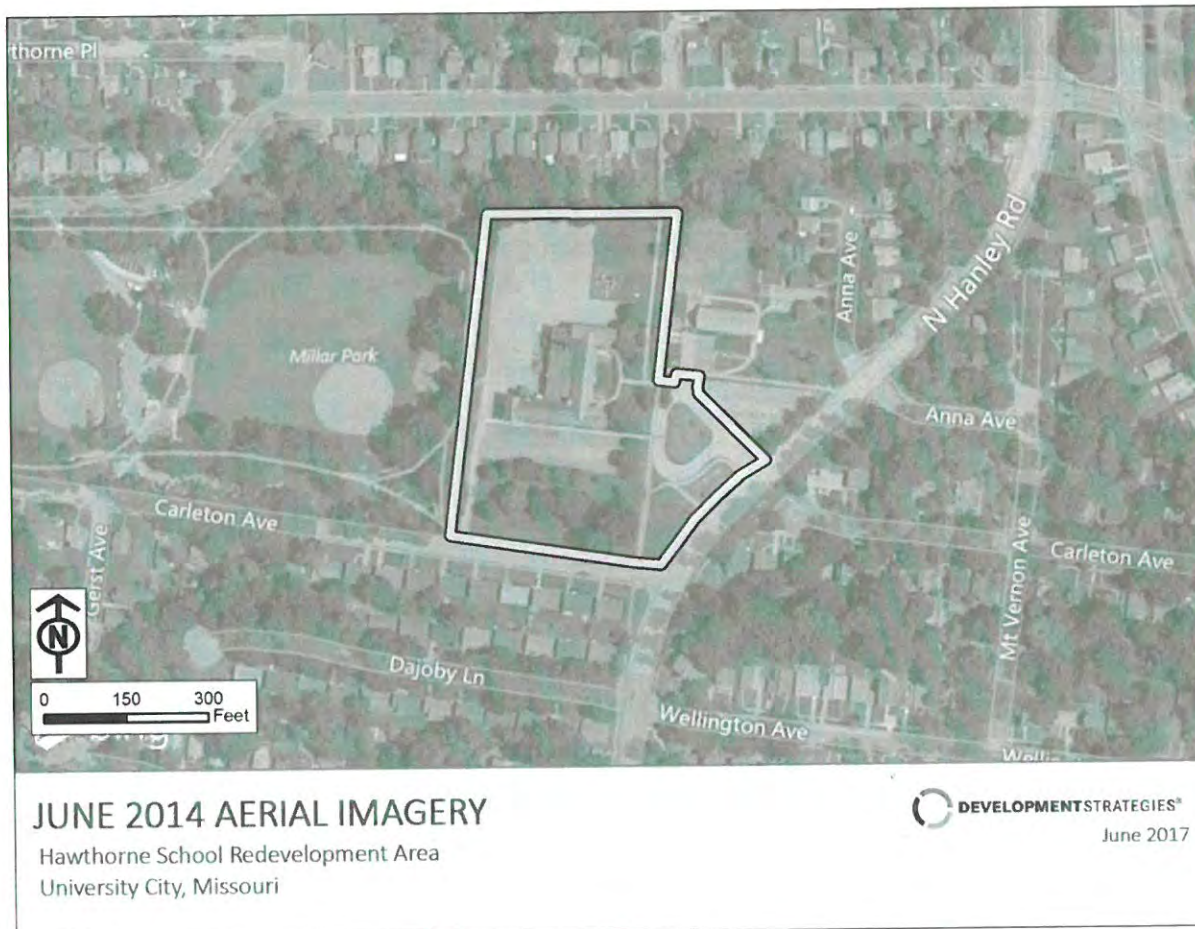
Overview of Study Area

The Nathaniel Hawthorne Elementary School Redevelopment Area (the “Redevelopment Area” or “Area”), is located at 1351 North Hanley Road in the northern portion of University City in St. Louis County, Missouri.



The Redevelopment Area contains a total of approximately 5.24 acres of land, and is generally bounded by North Hanley Road to the east, Carleton Avenue to the south, Millar Park to the west, and the south property line of residential properties facing Canton Avenue to the north.

Appendix A provides a legal description of the Redevelopment Area



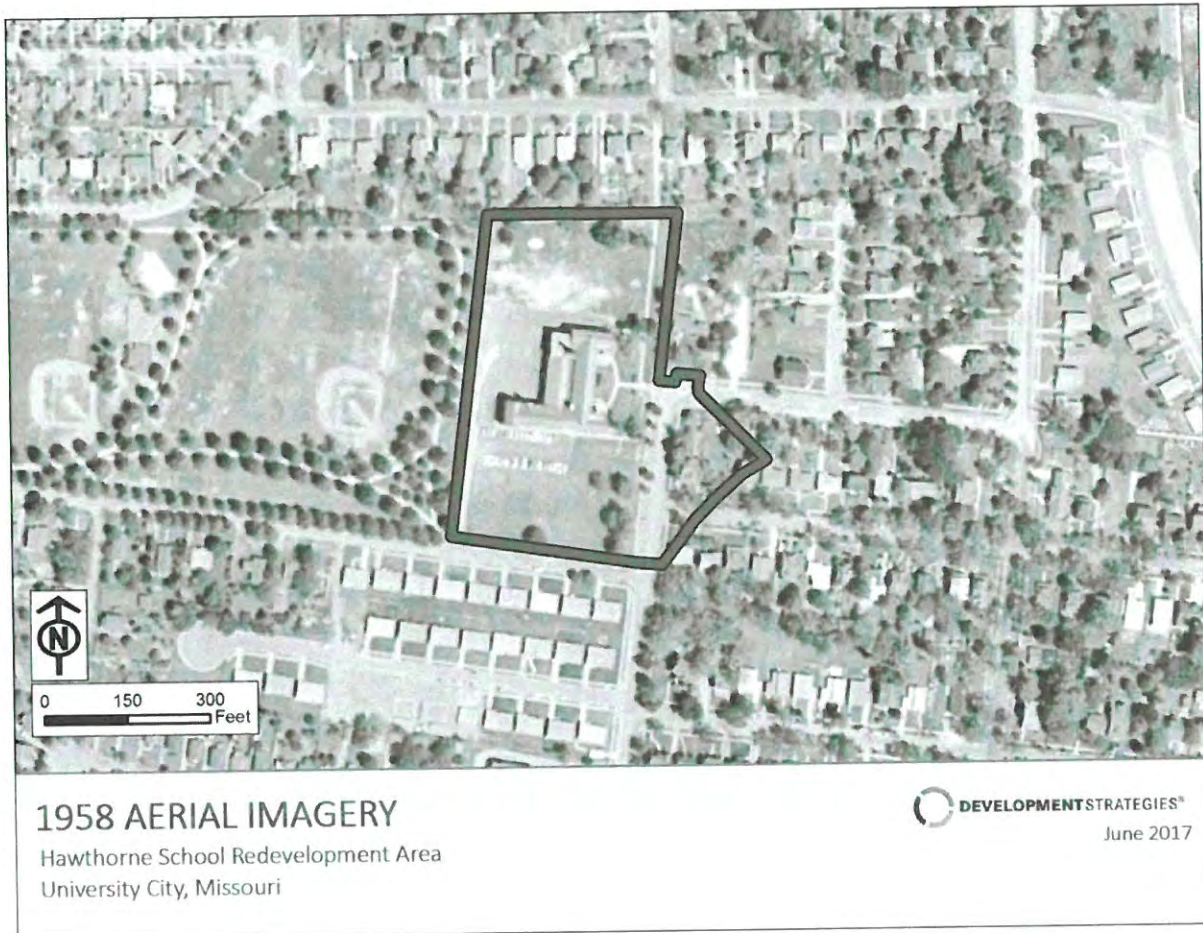
The Redevelopment Area is located in a residential section of University City, predominately made up of single-family homes with scattered institutional uses and open spaces. Olive Boulevard, several blocks to the south, is a major east-west thoroughfare and is fronted by commercial uses.

The Redevelopment Area currently contains one building, an existing surface parking lot, a driveway, playground, and open space. The vacant, former Nathaniel Hawthorne School housed an elementary school until 2011 when it was vacated due to increasing functional obsolescence and decreasing enrollment. The approximately 54,840 square foot building first opened in 1930 and was in use for eighty years with relatively few modifications. The remainder of the site is occupied by a surface lot providing parking, driveway, playground, and open space.



Historical Development

The Redevelopment Area is located within the boundaries of the City of University City in St. Louis County, Missouri. The property constituting the Redevelopment Area was well to the west of any suburban development until the 1920's. The adjoining Millar Park was established in 1927 as the centerpiece for future neighborhood growth. Hawthorne School was constructed in 1930, but the surrounding neighborhood did not develop for some time due to the Great Depression. Although University City grew tremendously in the 1920's, no new subdivisions were platted between 1930 and 1935 due to the economic downside. World War II interrupted the modest housing recovery of the late 1930's. After the conclusion of hostilities and the restrictions on building materials were lifted, the area surrounding the Redevelopment Area was platted as the Mount Olive Subdivision in 1952 and developed with single family homes, as it remains today.



Existing Development

The Redevelopment Area is comprised of two parcels occupied by the vacant Nathaniel Hawthorne Elementary School, a surface parking lot, a driveway, playground, and open space.

EXISTING LAND USE IN THE HAWTHORNE SCHOOL REDEVELOPMENT AREA As of June 2017		
LAND USE	Approx. Square Feet	% of Total Lot Area
Hawthorne School Building	20,753	9%
Surface Parking, Playground, and Driveway	120,707	56%
Open Space	86,794	35%
TOTAL	228,254	100%

The three-story, 54,840 square foot Hawthorne School was completed in 1930 and served the University City School District for eighty years before being vacated in 2011. At the time of physical inspection in May 2017 the building had electrical service and heat provided and was receiving a minimal level of maintenance.

Existing Zoning

The entire Redevelopment Area is currently zoned "PA" (Public Activity District), which will accommodate those uses and groupings of uses which have a distinctly public character and to encourage the retention of certain properties in a relatively undeveloped state, such as public recreation uses or semi-public cemeteries.

Data Gathering Methodology

This study has been designed and conducted to comply with the specific requirements of Sections 99.300 through 99.660 RSMo. The study and the requisite fieldwork were performed during May 2017. Both the parcel and building were inspected and rated by personnel experienced in such evaluations. Also, a visual inspection was made of all parking areas, driveways, curbs, and sidewalks within the Area. In addition, data regarding ownership, parcel size, building square footage, occupancy and date of construction were obtained from information available from the office of the St. Louis County Assessor.

Finally, photographs were taken of representative blighting conditions in the Redevelopment Area (see Appendix C).

2. SUMMARY AND CONCLUSION

Summary

Existing conditions within the Redevelopment Area clearly exhibit conditions that meet the definition of a “Blighted Area” as outlined in Section 99.320(3), RSMo.

“Blighted area”— an area which, by reason of the predominance of defective or inadequate street layout, insanitary or unsafe conditions, deterioration of site improvements, improper subdivision or obsolete platting, or the existence of conditions which endanger life or property by fire and other causes, or any combination of such factors, retards the provision of housing accommodations or constitutes an economic or social liability or a menace to the public health, safety, morals, or welfare in its present condition and use.

Under this definition, the Area is a blighted area because of a predominance of factors which, in combination, constitute an economic liability and a menace to the public health, safety, morals, and welfare. Examples of these blighting factors are summarized below:

- 1) Insanitary and Unsafe Conditions Resulting from:
 - Environmental contamination
 - Lack of access to building in current condition that complies with all requirements of the Americans with Disabilities Act (“ADA”)
- 2) Deterioration of Site Improvements Resulting from:
 - Age and condition of the structure
 - Deteriorated site improvements, including parking areas, curbing, and sidewalks
 - General lack of proper maintenance
- 3) Improper Subdivision or Obsolete Platting
- 4) Conditions Which Endanger Life or Property by Fire or Other Causes, as Reflected by:
 - Vacant property
 - Potential fire hazard resulting from age and condition of structure

As a result of the blighting factors previously mentioned, the Redevelopment Area constitutes an economic or social liability and is a menace to the public health safety, morals, and welfare in its present condition and use. Examples of such conditions existing in the Redevelopment Area are summarized below:

Economic Liability Reflected by:

- Functional obsolescence of the structure
- Economic loss from long term tax-exempt status
- Long term vacancy and underutilization of a site with significant development potential
- Inability to provide taxes for needed services

Social Liability Reflected by:

- Lack of ADA compliant facilities

Menace to Public Health, Safety, Morals and Welfare Reflected by:

- Safety concerns associated with building's vacancy and deteriorated condition
- Environmental contamination

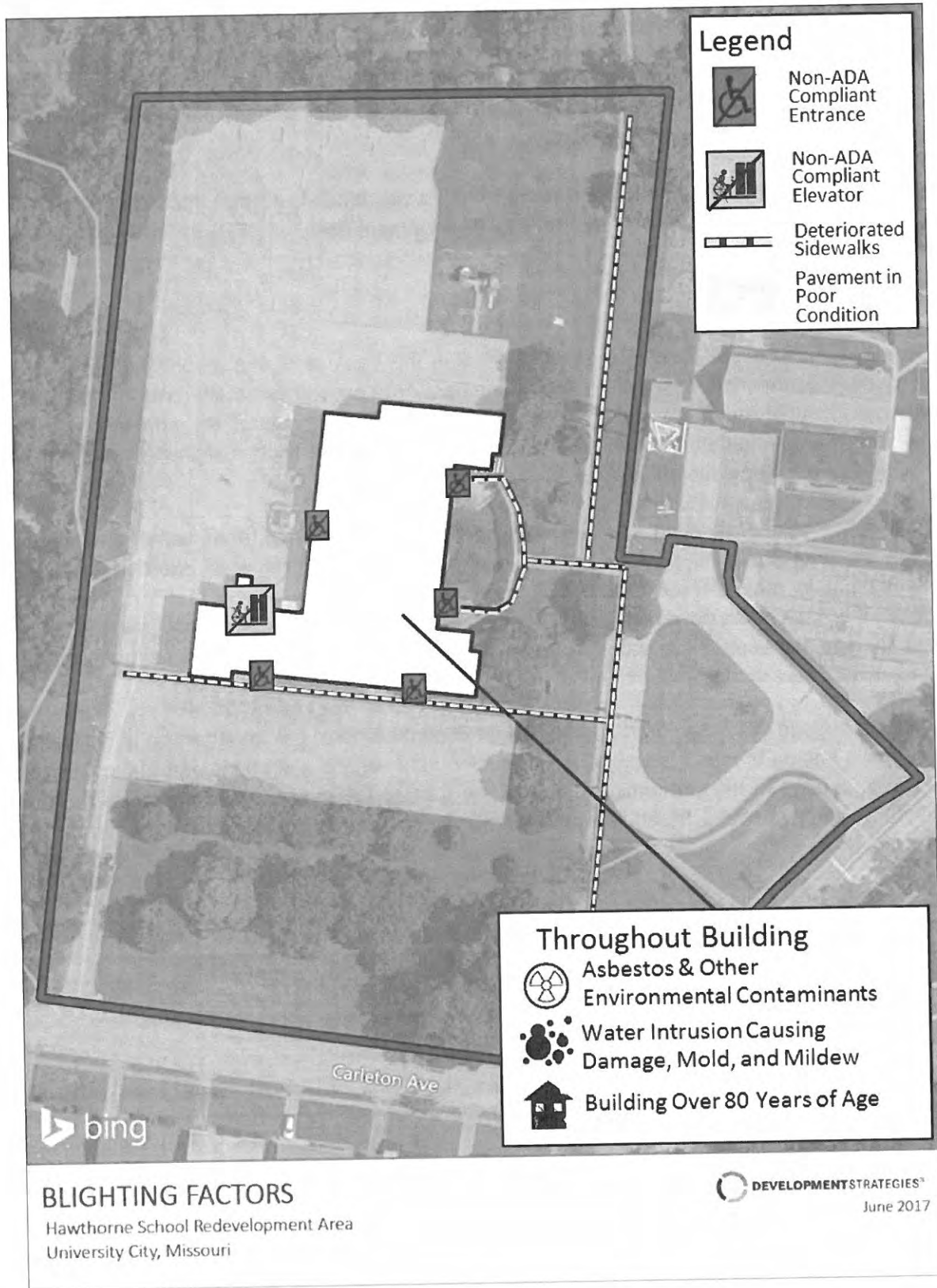
As indicated by the ***Blighting Conditions*** map on the following page, these blighting factors are present and pervasive throughout the Redevelopment Area.

Finding of Blight

As summarized above, and discussed in detail in the balance of this report, the data strongly demonstrates that conditions in the Redevelopment Area exceed established minimum threshold standards qualifying the Area as "blighted" under the Land Clearance for Redevelopment Authority Law. The data supports a finding that physical and economic blighting conditions exist throughout the Redevelopment Area.

The high cost of renovating and converting an old school building, remediating environmental hazards, and providing needed infrastructure and site improvements effectively precludes investment in redevelopment that capitalizes on the locational assets that the Area enjoys. Without access to the powers of Land Clearance for Redevelopment Authority Law, the Area will continue to be economically underutilized and fail to produce fiscal and economic benefits essential to sustain a vital community.

Looking beyond the individual factors of blight described here, it is important to understand the collective impact of these factors. The Redevelopment Area is a strategic part of the City that is not contributing to the economic welfare of the City and its residents in proportion to its size, location, and potential. Instead, it is an area marked by economic underutilization.



3. BLIGHTING FACTORS

As described below, the Redevelopment Area suffers from multiple blighting factors, including insanitary and unsafe conditions, deterioration of site improvements and conditions that endanger life or property by fire and other causes.

Appendix C provides photographs of typical blighting conditions in the Redevelopment Area

Insanitary or Unsafe Conditions

Environmental Contamination – Site inspection of the Redevelopment Area and, in particular, interior assessment of the school building indicated the presence of a variety of building materials measurable quantities of asbestos, including floor tiles/mastic and pipe insulation. Fluorescent light fixture ballasts installed prior to 1980 contain small quantities of PCBs and older fixtures were observed throughout the building. During inspection of the building basement, formation of surface mildew was noted. A window unit air conditioner is still in place within the building raising a concern over the coolant content (CFCs) due to the age of the unit. Cans of solvents and cleansers were observed in the basement and storage areas.

Prior environmental inspections of the property, to include PSI Engineering, Consulting, and Testing's reporting dated October 31, 2008, confirmed existing asbestos materials in the building. Current environmental reports are underway. Recent site observations by the architectural team at Ebersoldt and Associates concluded the strong likelihood asbestos tile, possible asbestos pipe wrapping and lead piping, potential hazardous materials in the mechanical room, and likely lead paint in locations throughout the building.

Lack of Adequate Building Access – In its current condition, the Redevelopment Area's building is inaccessible to persons with disabilities. A single exterior entry at the far southwest corner serves the elevator tower addition to the structure. Once inside the building, the elevator is non-functional and does not meet ADA requirements. Interior door hardware is outdated or missing. Restrooms are deteriorated and many are outfitted with what appears to be the original fixtures, which don't comply with ADA.

Deterioration of Site Improvements

Deteriorated Condition of the Building – Inspection of the school building revealed evidence of deterioration due to age and lack of maintenance. There are signs of water intrusion around windows and walls, and on the ceiling of the gymnasium. Floor and ceiling tiles have come loose throughout the building. Electrical, mechanical, and plumbing systems are in poor condition and will require total replacement. The electrical system has been supplemented by conduit running the exterior of classroom walls. Original floor plans have been unsympathetically altered over the years in various parts of the structure. The building contains accumulated debris, furnishings, and textbooks left behind at the time of the vacation of the structure.

The exterior walls and roof are in generally fair condition, although there are some instances of water penetration and mortar deterioration. A number of windows are broken or are inoperable.

The existing sub-grade entry stairs and foyers at the exterior rear of the building are in disrepair and storm drains have failed. Water builds up during rains, and floods the mechanical room at the lower level of the building.

Age of the Structure – The Redevelopment Area’s building opened in 1930 making it eighty-seven years old. Interior modifications appear to have been implemented through the 1990’s. Buildings over thirty-five years old are generally considered at risk for structural, electrical, and mechanical problems, unless they are well-maintained and regularly updated. Signs of age-related deterioration are apparent throughout the Nathaniel Hawthorne School.

Deteriorated Site Improvements – A large portion of the Area is devoted to surface parking. The surface of the playground and parking lot were found to be in to poor condition. Sidewalks, signage, striping, curbs, and exterior steps are in a deteriorated condition. Landscaping is generally poor as well, with no recent renewal, and shows signs of neglect.

Improper Subdivision or Obsolete Platting

Obsolete Platting – Platting commonly refers to the subdivision of land into individual lots with streets, alleys, easements, etc. Obsolete platting refers to parcels of limited or narrow size and configuration, or parcels of irregular size or shape that would be difficult to develop on a planned basis and in a manner compatible with contemporary standards and requirements.

The parcels within the Redevelopment Area displaying these characteristics clearly indicate that growth has been and will likely be impeded by this factor. Efficient future use of the properties in the Redevelopment Area for many, if not all, uses would require new subdivisions of the property to be made.

Conditions Which Endanger Life or Property by Fire or Other Causes

Vacant Property – The Nathaniel Hawthorne Elementary School has been vacant for approximately six years. During that time, it has been vandalized by having windows broken and interior damage has been done. The vacant space is considered an attractive nuisance, where trespassing individuals can be harmed by deteriorated building conditions and falls. Evidence of intrusion and/or destruction of property was evident by broken windows on the 1st floor. The building also contains hazardous construction materials, broken glass, and evidence of mold and/or mildew penetration. Signs of a past, and a likely ongoing rodent and pest infestation were present in the kitchen area. Nearby residents can be harmed by pests carrying disease which reside in vacant buildings.

Potential Fire Hazard Resulting from Age of Structures – The school building is well over eighty-five years old, vacant, and in deteriorating condition. It is filled with outdated wiring, discarded furnishings, old paper files and textbooks, and solvents and cleaners. There is no fire protection system throughout the building, and any renovation work for any use would require the installation of a new, code compliant fire protection system for occupancy. These conditions place

the structure at high risk for arson or accidental fire, and the neglected condition could allow fires, once started, to quickly burn out of control.

4. RETARDATION OF PROVISION OF HOUSING ACCOMMODATIONS, ECONOMIC OR SOCIAL LIABILITY, OR A MENACE TO THE PUBLIC HEALTH, SAFETY, MORALS, OR WELFARE

As a result of the blighting factors previously discussed, the conditions in the Redevelopment Area create an economic or social liability, making the Area a menace to the public health safety, morals, and welfare in its present condition and use.

Economic Liability

As a result of the blighting factors previously discussed, the Redevelopment Area constitutes an economic liability. University City is a mature city, which is unable to expand beyond its existing limits; thus, the primary opportunity for economic growth is through redevelopment of existing sites. Given the longstanding vacancy and underutilization of the existing building and property, the Redevelopment Area is clearly underutilized and falls significantly short of the economic benefit it could provide for University City and other taxing jurisdictions.

Functional Obsolescence of the Structure – The Hawthorne School's obsolescence and deteriorated condition made it effectively unusable. The task of remodeling it for modern uses is enormous, and includes abatement of hazardous building materials, a total redesign and rebuild of the interior space, all new electrical, mechanical and plumbing systems, new windows, etc.

Economic Loss from Long-term Tax-exemption and Current Condition – The Redevelopment Area has been entirely tax-exempt since 1930. As such, it produced no real estate tax revenue for decades. The Area also produces no personal property, sales, or utility tax revenue in its current state.

Vacancy and Underutilization of a High Potential Site – As discussed above, the Redevelopment Area occupies a redevelopment site with great potential, yet its condition has caused it to sit vacant for years. The site's blighted condition, and the difficult and costly nature of necessary renovations have likely discouraged prospective redevelopers from taking advantage of the property's prime location.

Inability to Provide Needed Taxes for Services – As a result of the previously discussed blighting factors, the Redevelopment Area fails to produce sufficient taxes for the City of University City and hampers its ability to deliver needed municipal services for its residents and businesses in proportion to its size and potential.

Social Liability

Lack of ADA Compliant Facilities – None of the exterior entry ways are compliant with the Americans with Disabilities Act (ADA). The existing elevator is nonfunctional. In addition, some restrooms do not provide enough space or amenities for individuals in wheelchairs.

Menace to the Public Health, Safety, Morals and Welfare

As a result of the previously discussed blighting factors, the Area is also a menace to the public health, safety, morals and welfare.

Safety Concerns Associated with the Building's Vacancy and Deteriorated Condition – The Nathaniel Hawthorne Elementary School has been vacant for six years and has suffered a fair amount of interior and exterior deterioration. The vacant space is considered an attractive nuisance, where trespassing individuals can be harmed by deteriorated building conditions and falls. Evidence of intrusion and/or destruction of property was evident by broken windows on the 1st floor. Evidence of rodent and pest infestation raises the concern of disease transmitted to humans entering the building.

Environmental Contamination – Inspection of the Redevelopment Area and interior assessment of the Hawthorne School Building indicated the presence of a variety of building materials containing quantities of asbestos, fluorescent light fixture ballasts possibly containing PCBs, lead paint and plaster contamination, surface mildew, air conditioning coolants, and quantities of solvents and cleansers.

Prior environmental inspections of the property, to include PSI Engineering, Consulting, and Testing's reporting dated October 31, 2008, confirmed existing asbestos materials in the building. Current environmental reports are underway. Recent site observations by the architectural team at Ebersoldt and Associates concluded the strong likelihood of asbestos tile, possible asbestos pipe wrapping and lead piping, potential hazardous materials in the mechanical room, and likely lead paint in locations throughout the building.

APPENDIX A
Legal Description

Legal Description of Redevelopment Area

Parcel 1:

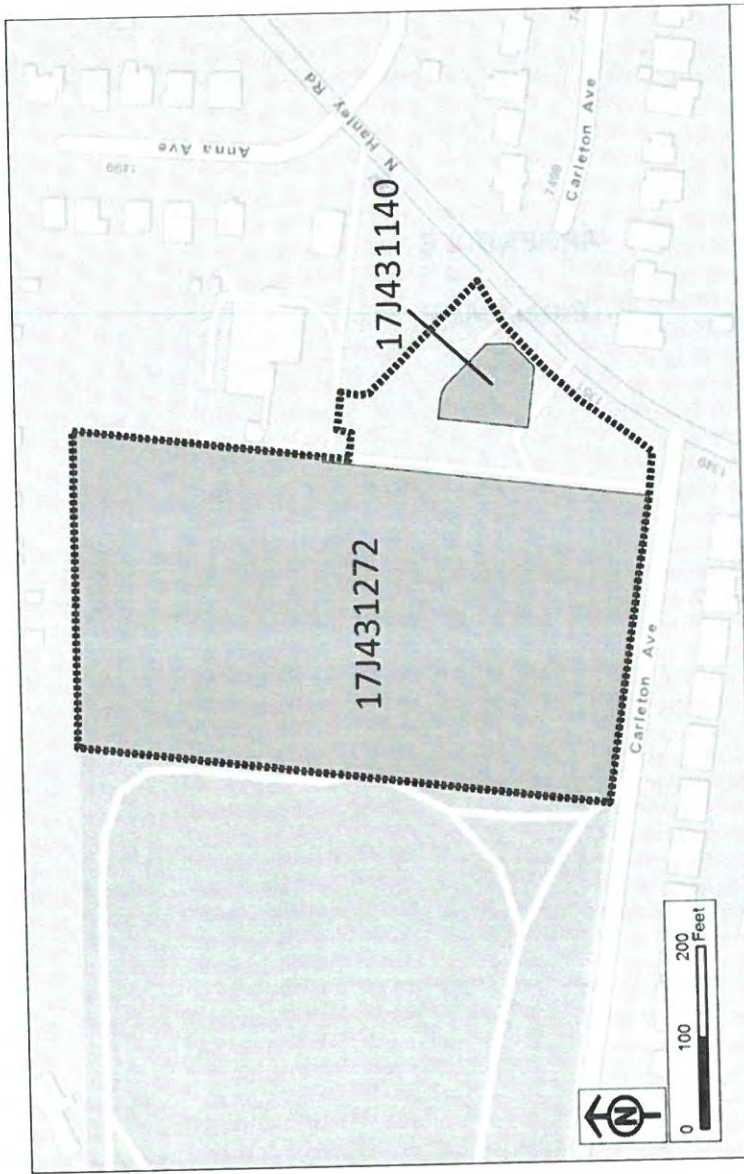
Being all of Lots 21-22 and 23 and part of Lot 24, of Mount Olive in Township 45 North, Range 6 East of St. Louis County Missouri, bounded as follows: On the North by Township line, on the East by the West line of the Hanley Road, 60 feet wide, and property of W.P Morgan, on the South by the North line of Walton Avenue no Carleton Avenue, 40 feet wide, and on the West line by the East line of Spring Avenue, 40 feet wide, containing exactly 16.973 acres as per the survey on the 16th Day of July, 1929 by the Elbring Surveying Company. EXCEPTING THEREFROM the unimproved Real Estate lying, being and situated in the said City of University City and State of Missouri to witt, 12.193 acres being Lots 22, 23 and part of Mount Olive in Township 45 North, Range 6 East, St. Louis County, Missouri, bounded on the South by the North line of Carelton Avenue, 40 feet wide on the West by the East line of Spring Avenue 40 feet wide, on the North by the Township line and on the East by the dividing line between Lots 22 and 22 of Mount Olive.

Parcel 2:

A parcel of land in Lots 1 and 2 of Block 15 of W.L. Musick Subdivision as recorded in Plat Book 6 Page 57 of the St. Louis County records, which parcel of land is described as beginning at the Southwest corner of said Lot 1, said corner being the intersection of the Eastern line of Hanley Road (60 feet wide) with the Northern line of Carleton Avenue (60 feet wide); thence North 90 degrees 00 minutes East along said Northern line of Carleton Avenue a distance of 64.78 feet to a point; thence North 39 degrees, 52 minutes, 41 seconds East 37.67 feet; thence North 5 degrees, 07 minutes, 19 seconds West 28.28 feet; thence North 50 degrees, 07 minutes, 19 seconds West 52.34 feet to point of curvature; thence Northwestwardly along the arc of a curve to the left having a radius of 38.00 feet an arc distance of 26.45 feet to point of tangency; thence South 90 degrees West 21.76 feet to a point in said East line of Hanley Road a distance of 99.53 feet to the point of beginning; containing 7276 square feet, more or less.

APPENDIX B

Parcel Map

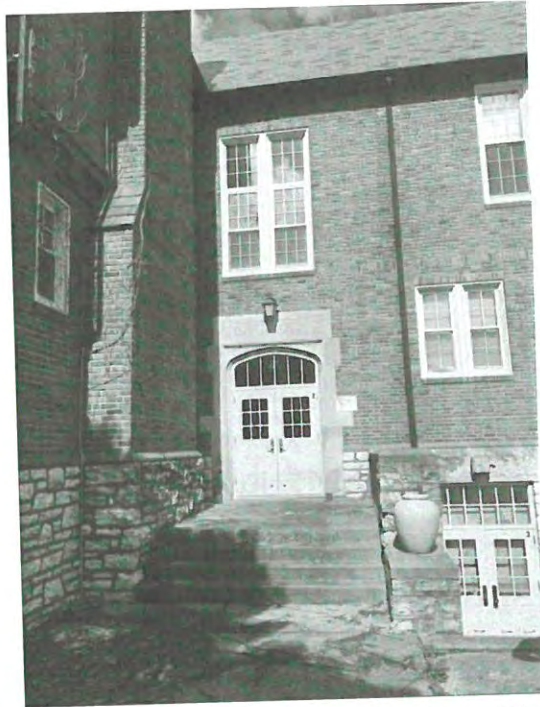


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June 2017

PARCEL IDENTIFICATION
Hawthorne School Redevelopment Area
University City, Missouri

Parcel ID#	Owner Name	Mailing Address	Area (Acres)	Land Use	Site Condition	Zoning	Bldg Condition	2017 Assessed Value	2007 Assessed Value
17J431272	UNIVERSITY CITY SCHOOL DISTRICT	1351 N HANLEY RD, UNIVERSITY CITY, MO 63130	5.07	NURSERY/PRIMARY/SECONDARY EDUCATION	FAIR	PA	POOR	\$873,600	\$555,490
17J431140	UNIVERSITY CITY SCHOOL DISTRICT	1300 CARLETON AVE, UNIVERSITY CITY, MO 63130	0.17	VACANT LAND	FAIR	PA	FAIR	\$270	\$100

APPENDIX C
Photographs of Blighting Conditions



Non-ADA compliant entrance at front of building.



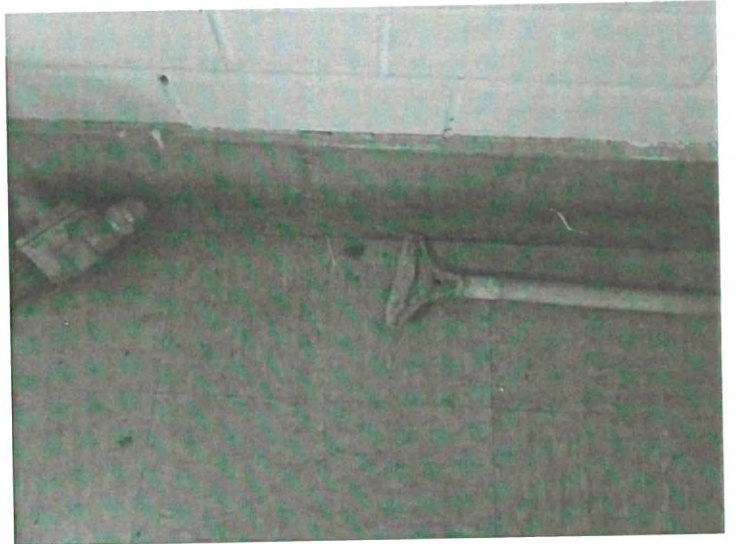
Poor drainage and window placement, which resulted in water intrusion into the interior building.



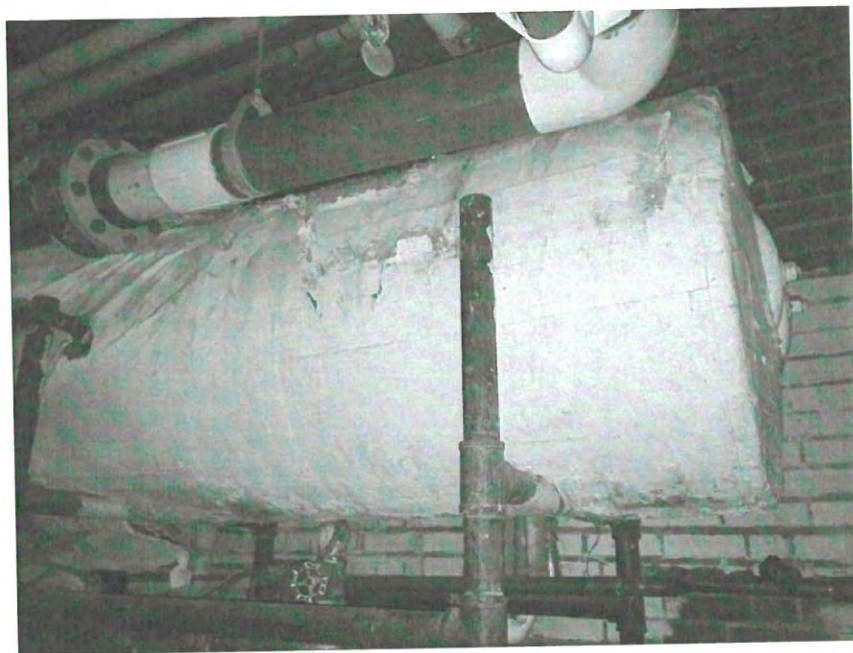
Exterior wall exhibiting water damage and mold on first floor.



Water damage, debris, and mastic tile common throughout.



Evidence of pest intrusion throughout.



Deteriorated boiler and pipe wrapping throughout the mechanical room.



Non-functional elevator located near steps without ADA compliant ramp located on the first floor.



Interior water damage due to deferred maintenance of air conditioner units throughout.



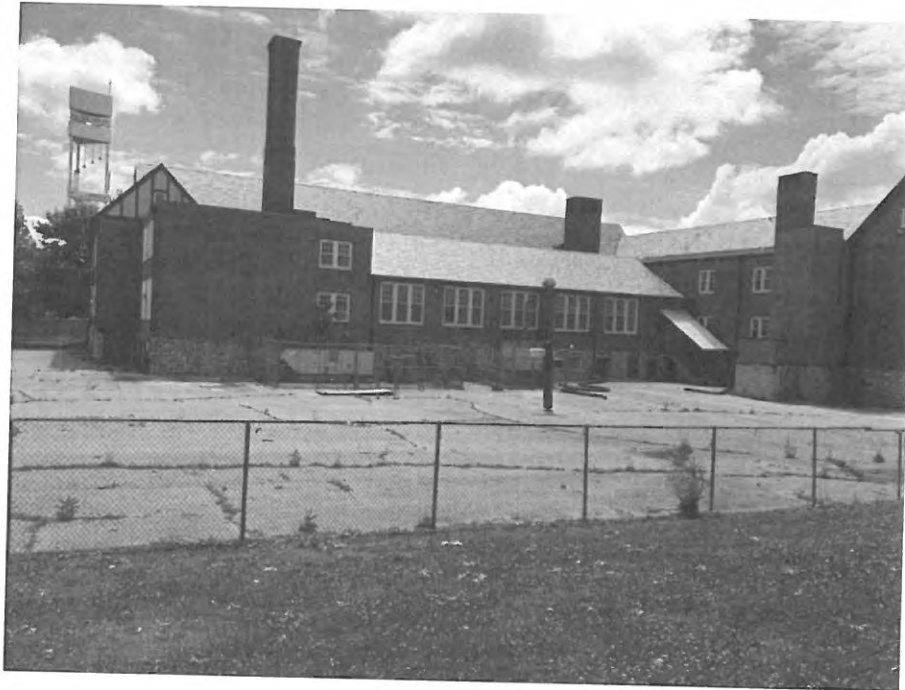
Evidence of water intrusion in the gymnasium.



Significant water damage to classroom on first floor.



Water damage and peeling paint in classroom on second floor.



Deteriorated asphalt playground directly west of school building.

REDEVELOPMENT PLAN & PROJECT

1351 N. Hanley
Nathaniel Hawthorne School Redevelopment

Prepared for:

University City Land Clearance
for Redevelopment Authority
October 2017

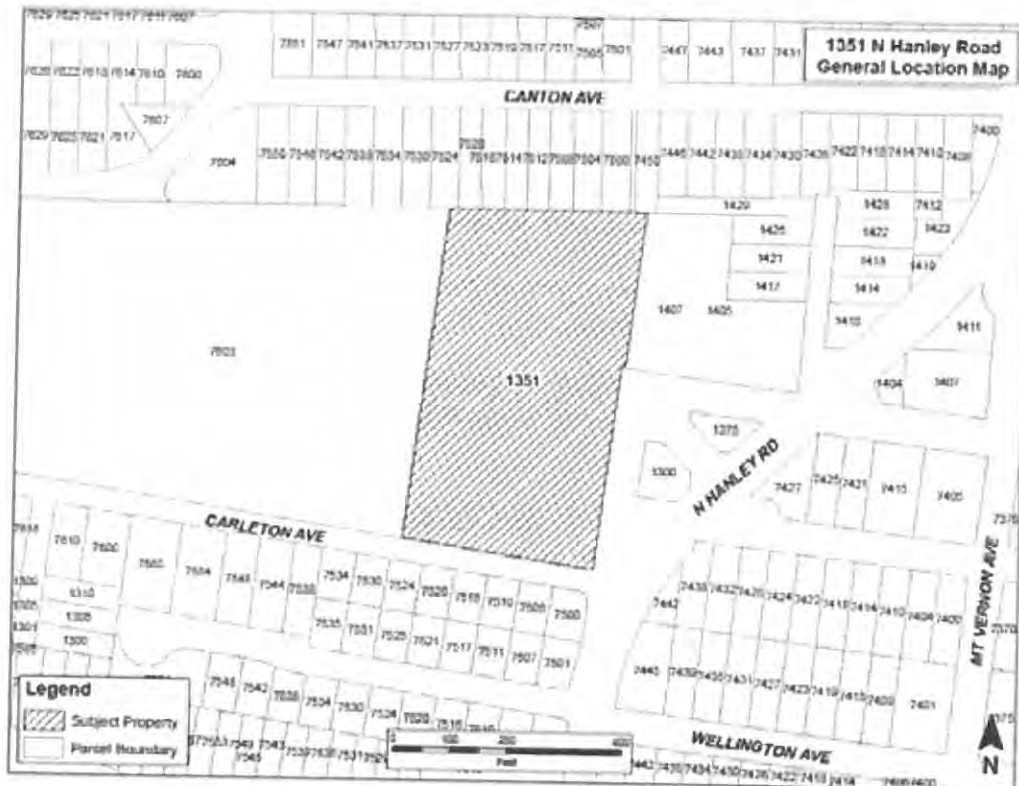
SECTION 1.

INTRODUCTION AND AREA DESCRIPTION

PURPOSE OF THIS REPORT

The purpose of this report is to serve as the "Redevelopment Plan" (Plan) for a redevelopment project to be undertaken for the Nathaniel Hawthorne Redevelopment Area (Area), as depicted on the map below. The Plan will address blighting conditions found in the Area as per the Analysis of Conditions Representing a Blighted Area prepared by Development Strategies in June 2017.

Map 1: General Location



This document is in keeping with the Sections 99.300 to 99.660 of the Revised Statutes of Missouri (R.S.Mo.) the - Land Clearance for Redevelopment Authority Law.

Section 99.320 (23) of the LCRA Law calls for the creation of a "Workable program" (Program) as defined:

"an official plan of action, as it exists from time to time, for effectively dealing with the problem in insanitary, blighted, deteriorated or deteriorating areas within the community and for the establishment and preservation of a well-planned Community with well-organized residential neighborhoods of decent homes and suitable living environment for adequate family life, for utilizing appropriate private and public resources to eliminate and prevent the development or spread of insanitary, blighted, deteriorated or deteriorating areas, to encourage needed urban rehabilitation, to provide for the redevelopment of blighted, insanitary, deteriorated and deteriorating areas, or to

undertake such of the aforesaid activities or other feasible community activities as may be suitably employed to achieve the objectives of such a program.”

The Area is approximately 5.07 acres in area and occupied by a vacant three-story former elementary school of approximately 54,840 square feet. The former Nathaniel Hawthorne Elementary School, constructed in 1930 with subsequent building additions between 1930 and 1950, is located in the middle section of the site. An existing parking lot of 37 spaces is adjacent to the south side of the building. An existing bi-directional curb-cut is located on Carleton Ave. at the southwest corner of the site.

AREA GOALS & OBJECTIVES

As a result of the blighting factors described in the Development Strategies report, the Area “...suffers from a multitude of physical and economic deficiencies, including insanitary or unsafe conditions, deterioration of site improvements, improper or obsolete platting, and conditions which endanger life or property by fire or other causes, which constitutes an economic or social liability, and is a menace to the public health, safety, morals, or welfare in its present condition and use..” (Development Strategies cover memorandum).

The objective of this Plan is to aid in the elimination of the conditions which qualify the Area as a Blighted Area under the LCRA Law and to encourage redevelopment of the Area. The proposed land uses, zoning, improvements and amenities are appropriate and consistent with local objectives as defined by the City Comprehensive Plan. Furthermore, the area would not reasonably be anticipated to be developed without adoption of this Redevelopment Plan.

The City adopted an update to its Comprehensive Plan in 2005 and encouraged redevelopment or urban renewal of areas that had not been subject to growth and development through investment by private enterprise.

SECTION II.

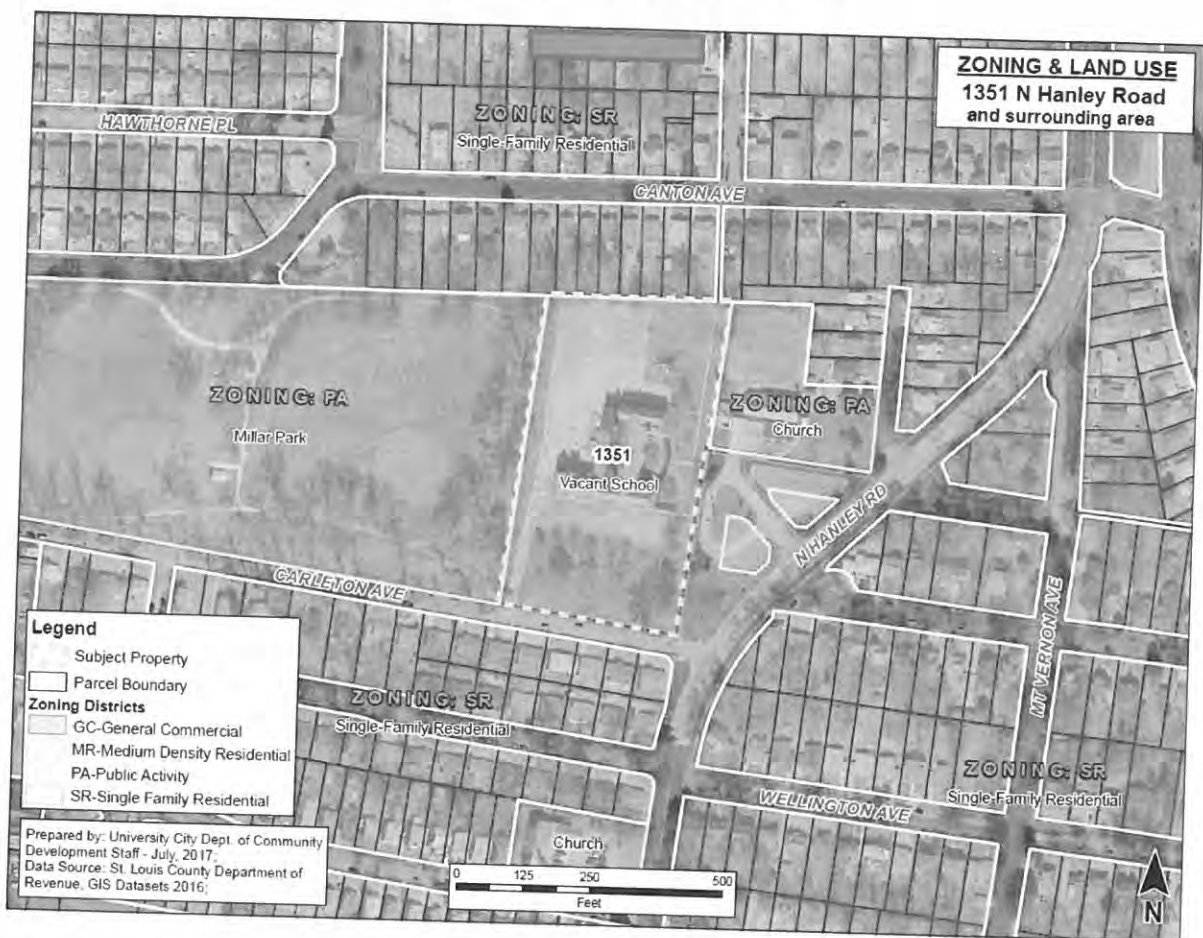
REDEVELOPMENT PLAN

The Plan for the Area consists of the redevelopment of historic Nathaniel Hawthorne Elementary School into thirty-seven (37) market rate apartments and new ground up construction of ten (10) two (2) bedroom townhomes for a total of forty-seven (47) market rate units. The building amenities include a fitness on demand center, a resident lounge and kitchen with media center, wi-fi internet access, a grilling area and outdoor kitchen, secured entry and security cameras. Unit amenities include a full set of appliances to include dishwasher, microwave, range, refrigerator, washer and dryer. The kitchen is expected to have granite countertops and the bathrooms should have ceramic tile.

This Plan will further the goal of eliminating the conditions which qualify the Area as Blighted Area under the LCRA law.

Population densities, land coverage, and building densities as indicated in the City's Zoning Ordinance will govern the density of redevelopment in the Area. The property was rezoned from PA-Public Activity to HR-High Density Residential on August 14, 2017. The HR zoning district permits multi-family apartments at the density proposed by the redevelopment plan. The “HR” District provides a reasonable transition between the abutting “SR” District and “PA” District.

Map 2: Zoning and Land Use



The estimated time for completion of this Plan is one year from the start of construction. A site plan for the project has been submitted, and is currently under review. The conceptual plan is provided in Attachment A.

The LCRA Law requires that the LCRA consider the following with respect to the redevelopment plan:

- (6) *Prior to recommending a redevelopment or urban renewal plan to the governing body for approval, an authority shall consider whether the proposed land uses and building requirements in the land clearance or urban renewal project area are designed with the general purpose of accomplishing, in conference with the general plan, a coordinated, adjusted and harmonious development of the community and its environs which, in accordance with present and future needs, will promote health, safety, morals, order, convenience, prosperity and the general welfare, as well as efficiency and economy in the process of development; including, among other things, adequate provision for traffic, vehicular parking, the promotion of safety from fire, panic and other dangers, adequate provision for light and air, the promotion of the healthful and convenient distribution of population, the provision of adequate transportation, water, sewerage, and other public utilities, schools, parks, recreational and community facilities and other public requirements, the promotion of sound design and arrangement, the wise and efficient expenditure of public funds, the prevention of the recurrence of insanitary or*

unsafe dwelling accommodations, or insanitary areas, or conditions of blight or deterioration, and the provision of adequate, safe and sanitary dwelling accommodations.

The submitted plan is in conformance with the LCRA law.



MSD Project Clear University City Storage Facility City Council Work Session



September 20, 2017

Agenda

- ④ Welcome
- ④ Introductions & Meeting Format
- ④ Commitment to Reset on Public Input
- ④ Goal of Tonight's Meeting
- ④ How MSD Will Utilize Your Feedback
- ④ Consent Decree
- ④ Project Overview
- ④ Why Here?
- ④ Potential Solution Areas – 5 Areas
- ④ Timeline and Next Steps

Consent Decree

Consent Decree

2012 Consent Decree between MSD, EPA, and Missouri Coalition for the Environment

- ④ Primary goal of Consent Decree is to improve water quality and alleviate several wastewater concerns



Consent Decree (continued)

🔹 Major Components:

- Capacity Operation Mgt. & Maintenance (CMOM)
- Sanitary Sewer Overflow (SSO) Master Plan
- Long-Term Control Plan for Combined Sewer Overflows (CSO)

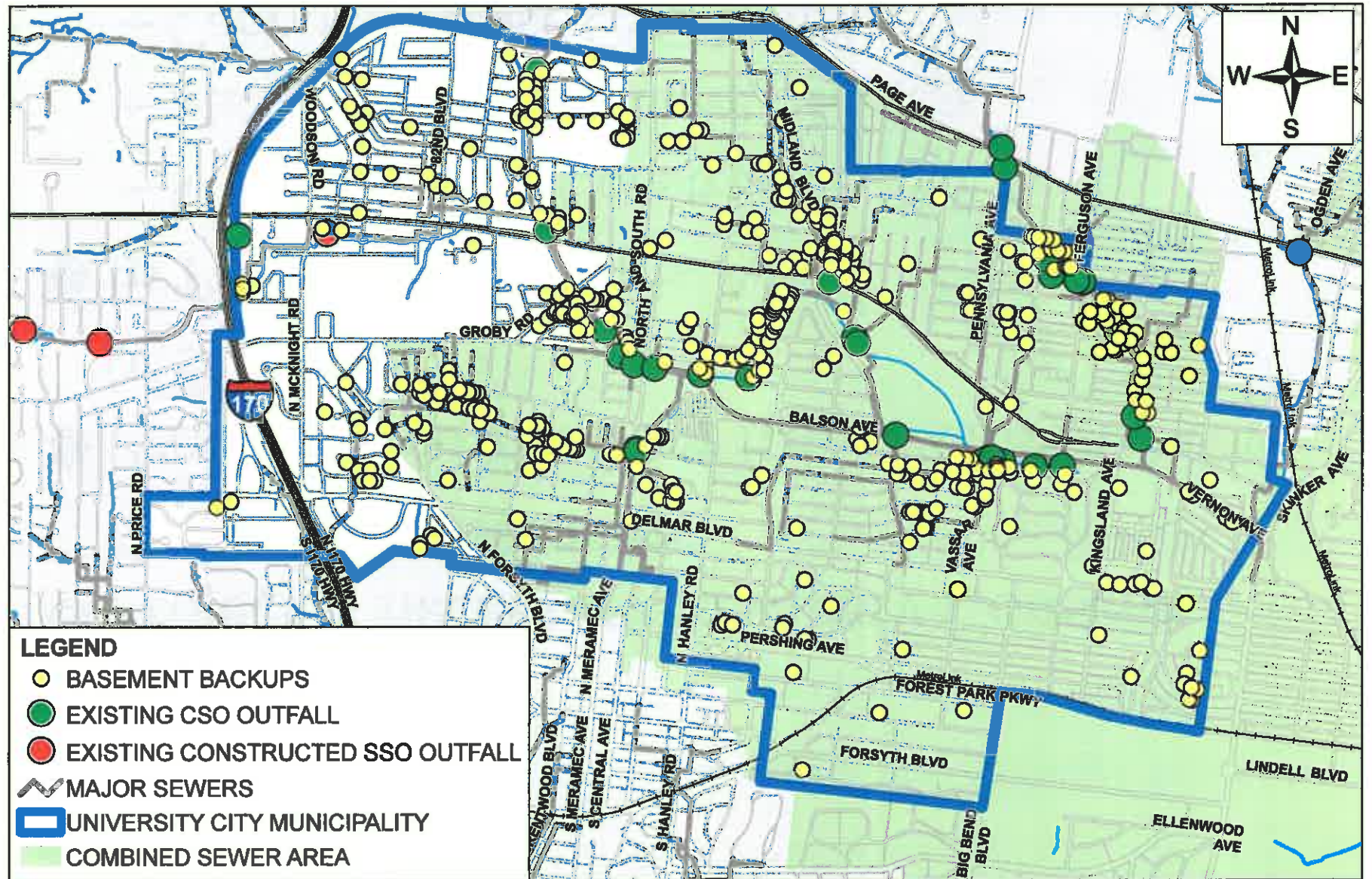
🔹 Contains schedules of numerous projects that are dependent on each other.

🔹 Contains hard schedule for the removal of SSO's.

Project Overview

- ④ Project is necessary to satisfy Consent Decree requirements
- ④ Project is required for future elimination of SSO's.
- ④ In Particular for This Area:
 - Must eliminate Constructed SSO's
 - Must address basement backups
 - Cannot Increase CSO Volume

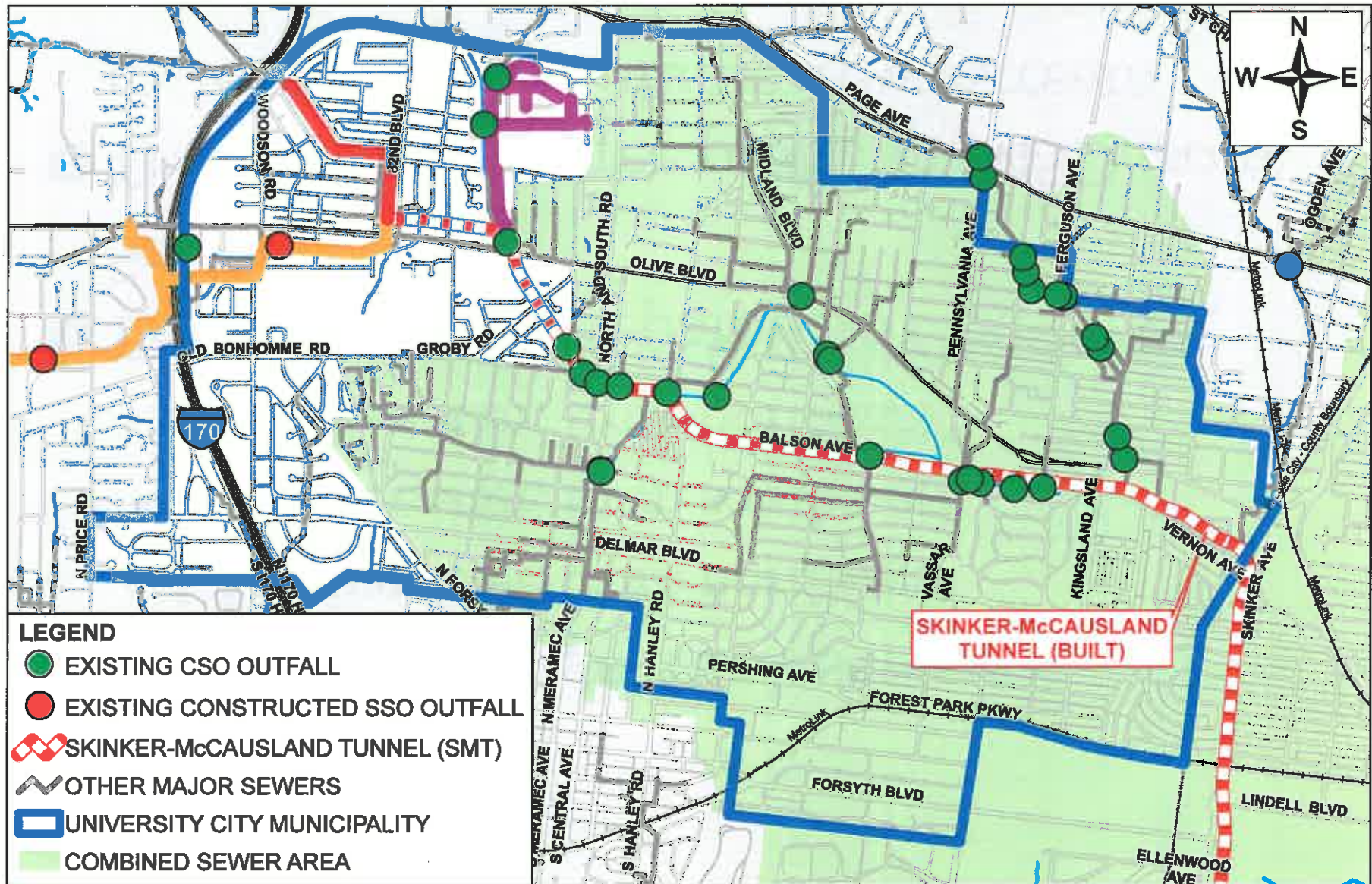
Basement Backups Since 1995 & Sewer Overflow Locations



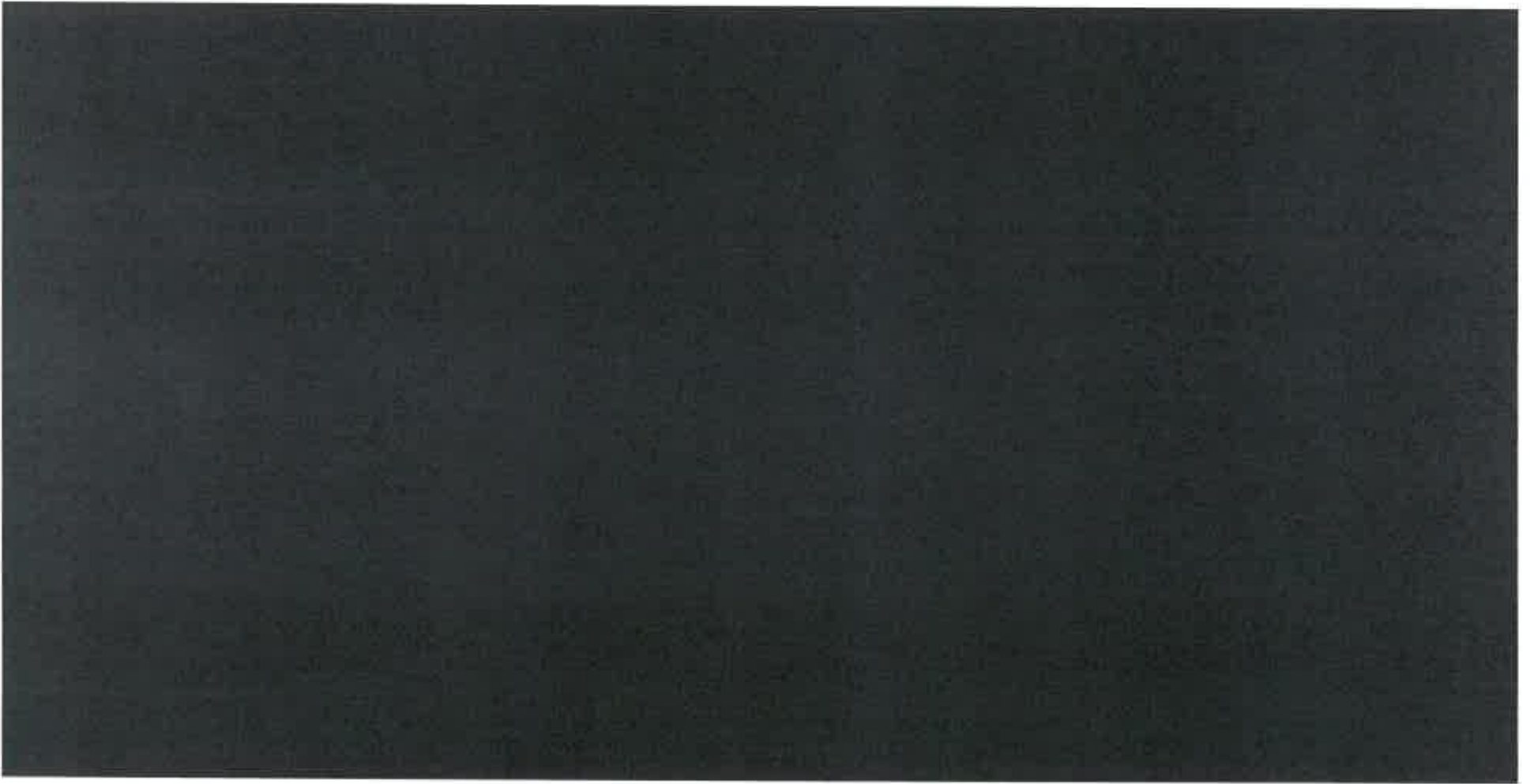
Why Here?

- ④ Junction of 3 large trunk sewers
 - 4.5-ft diameter, from northwest
 - 2.5-ft diameter, from southwest
 - 2.5-ft diameter, from northeast
- ④ Transition from Separate to Combined Sewers
- ④ The Consent Decree prohibits MSD from increasing CSO volume downstream

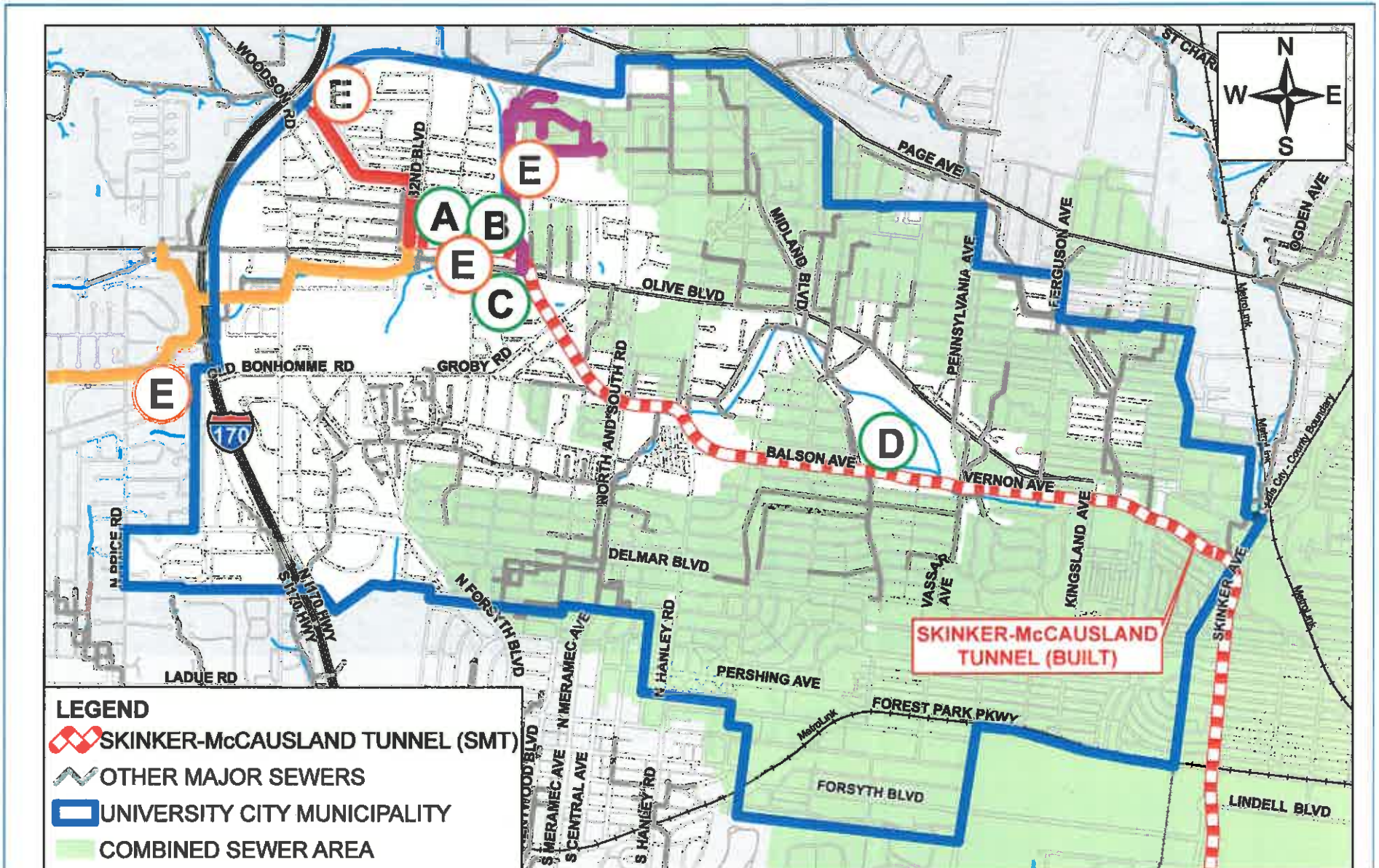
Major Sewer Lines Related to the Project

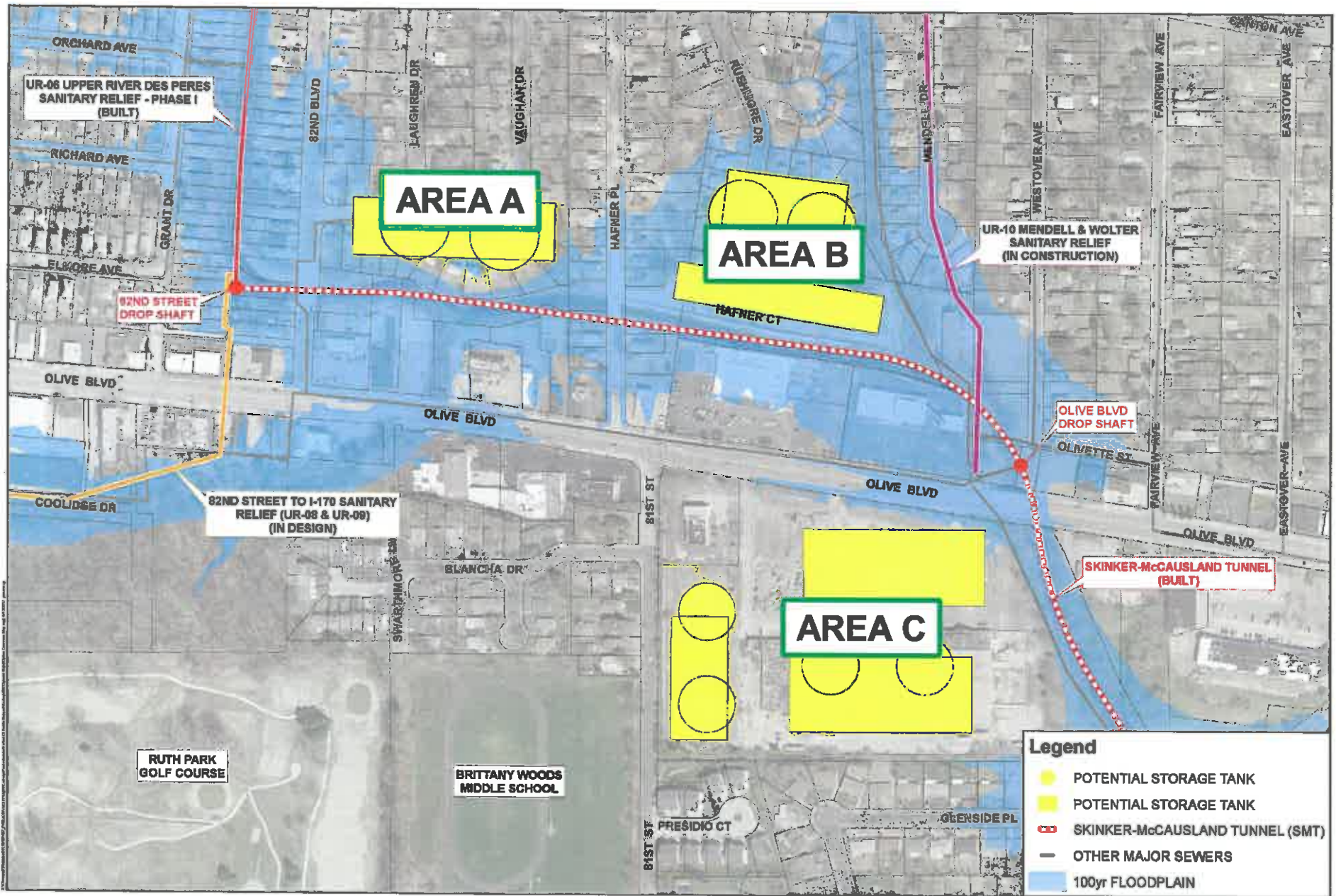


What is a Storage Facility?

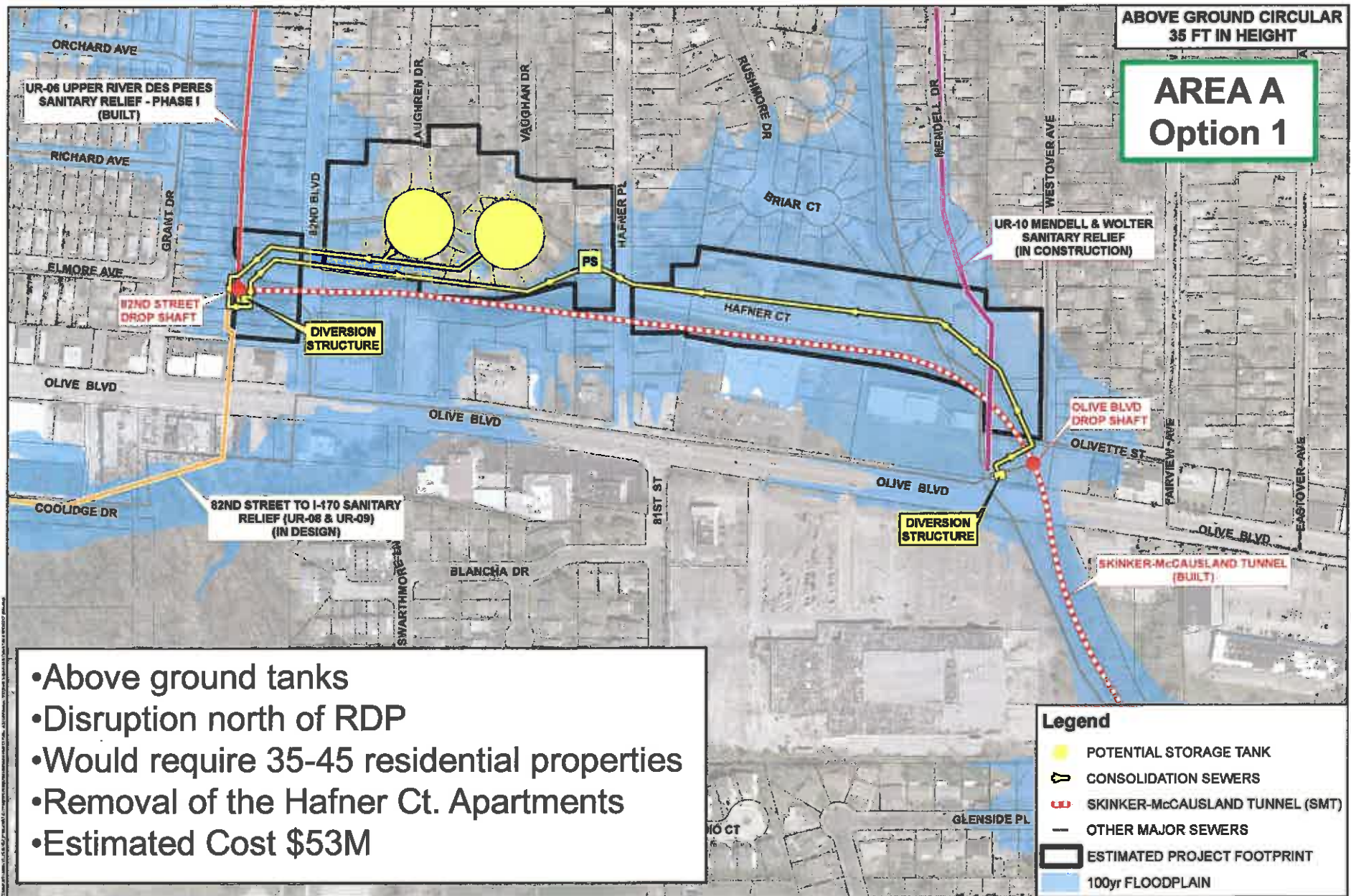


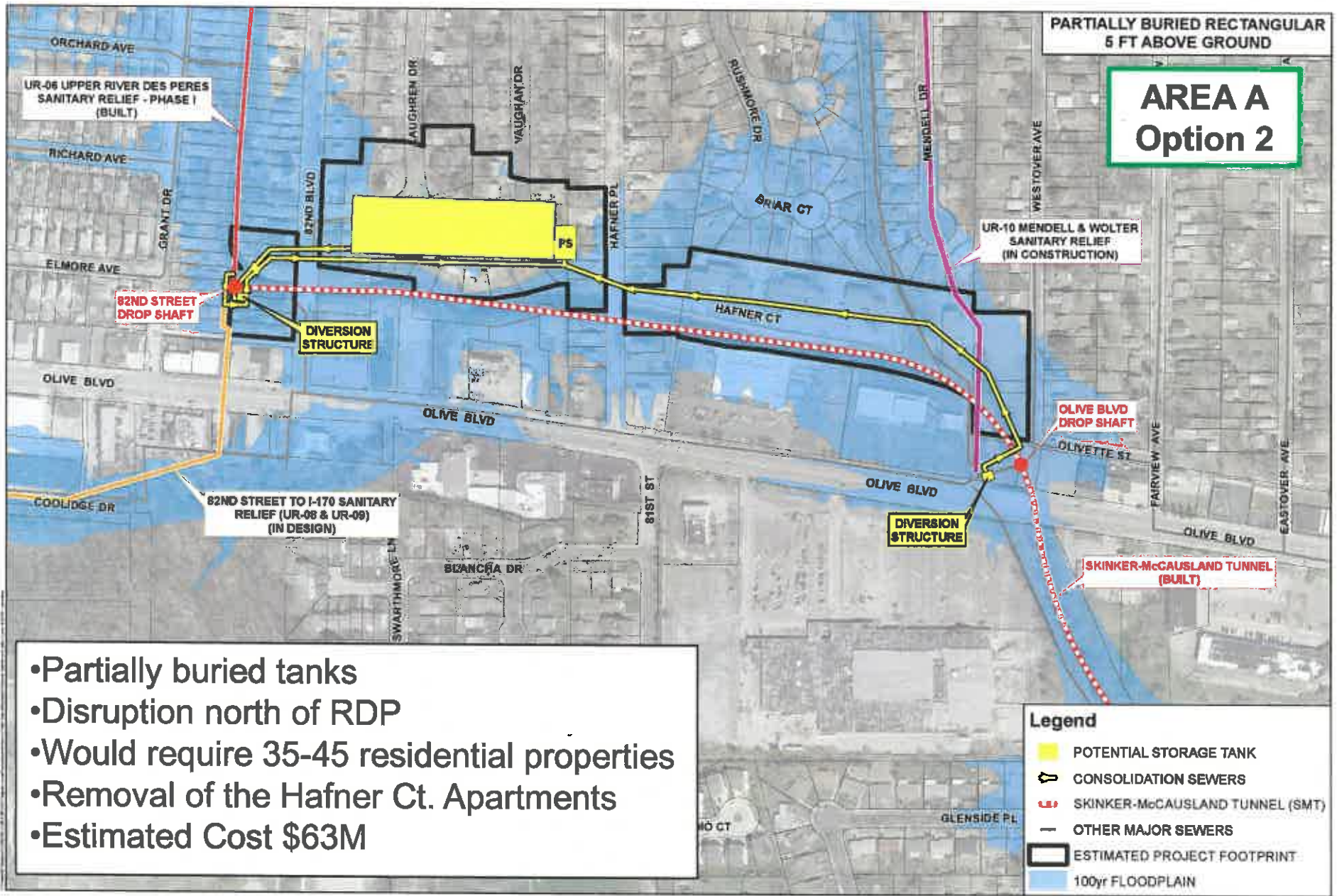
Potential Solution Areas - 5 Areas



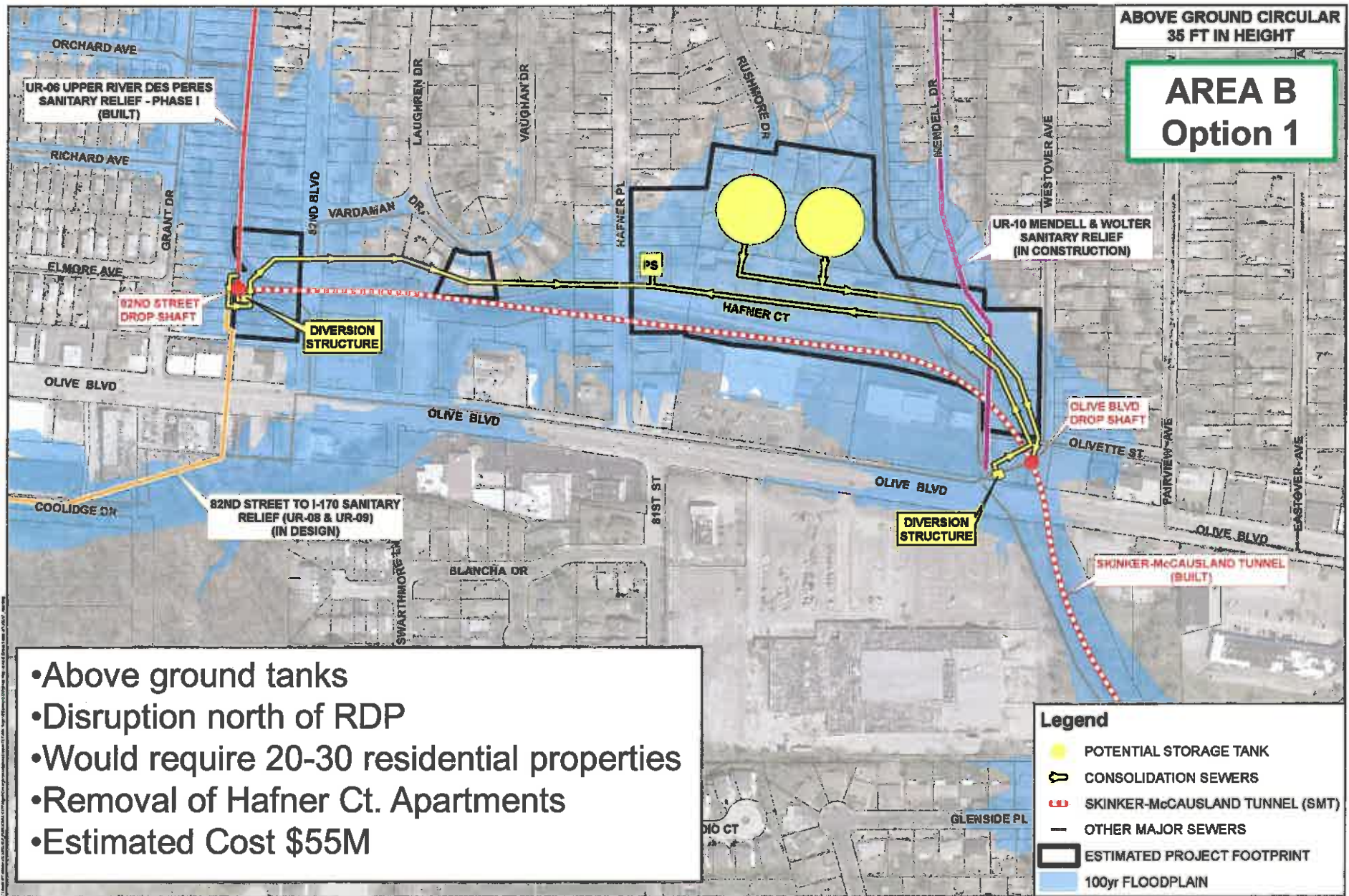


- Legend**
- POTENTIAL STORAGE TANK
 - POTENTIAL STORAGE TANK
 - SKINKER-McCAUSLAND TUNNEL (SMT)
 - OTHER MAJOR SEWERS
 - 100yr FLOODPLAIN

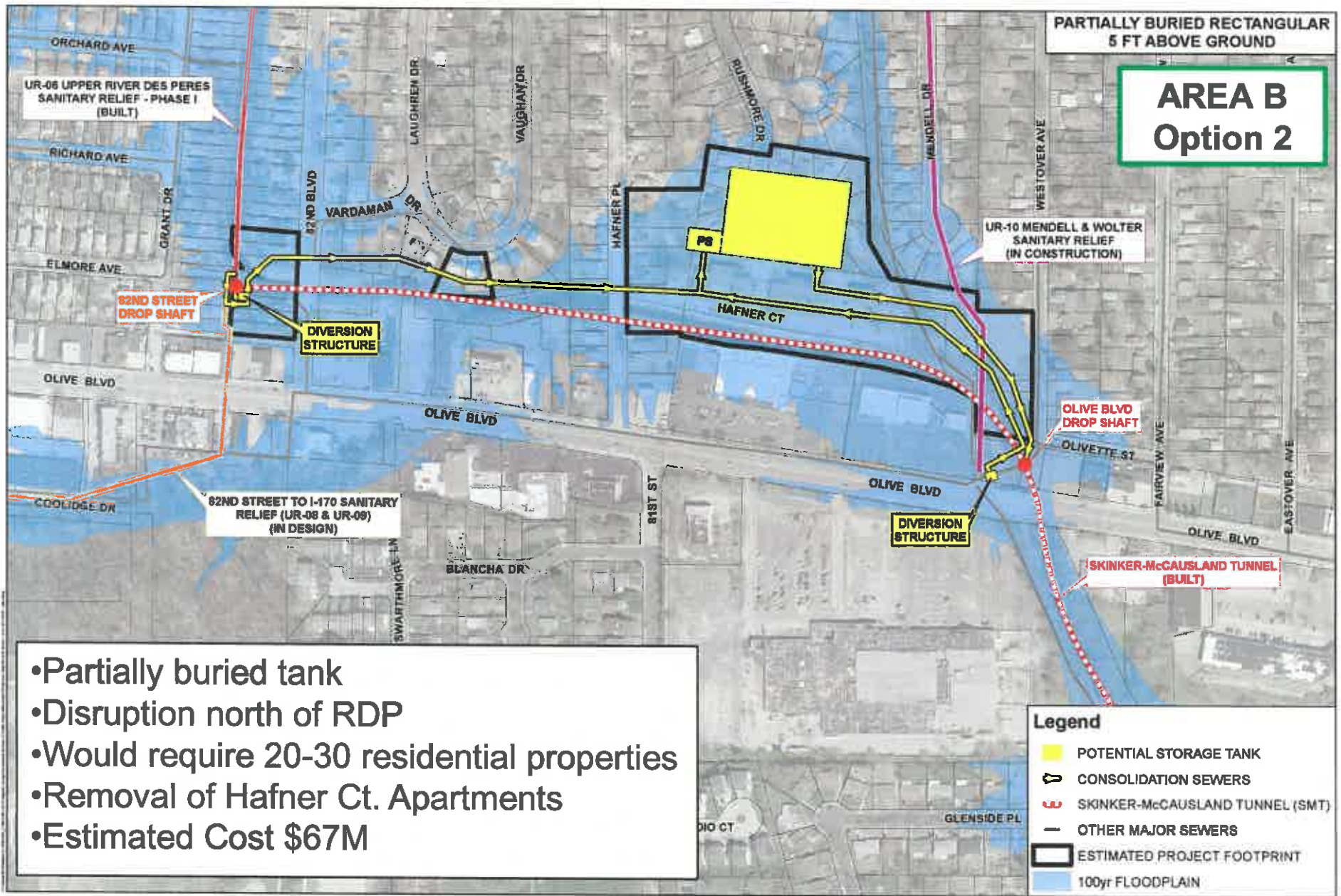


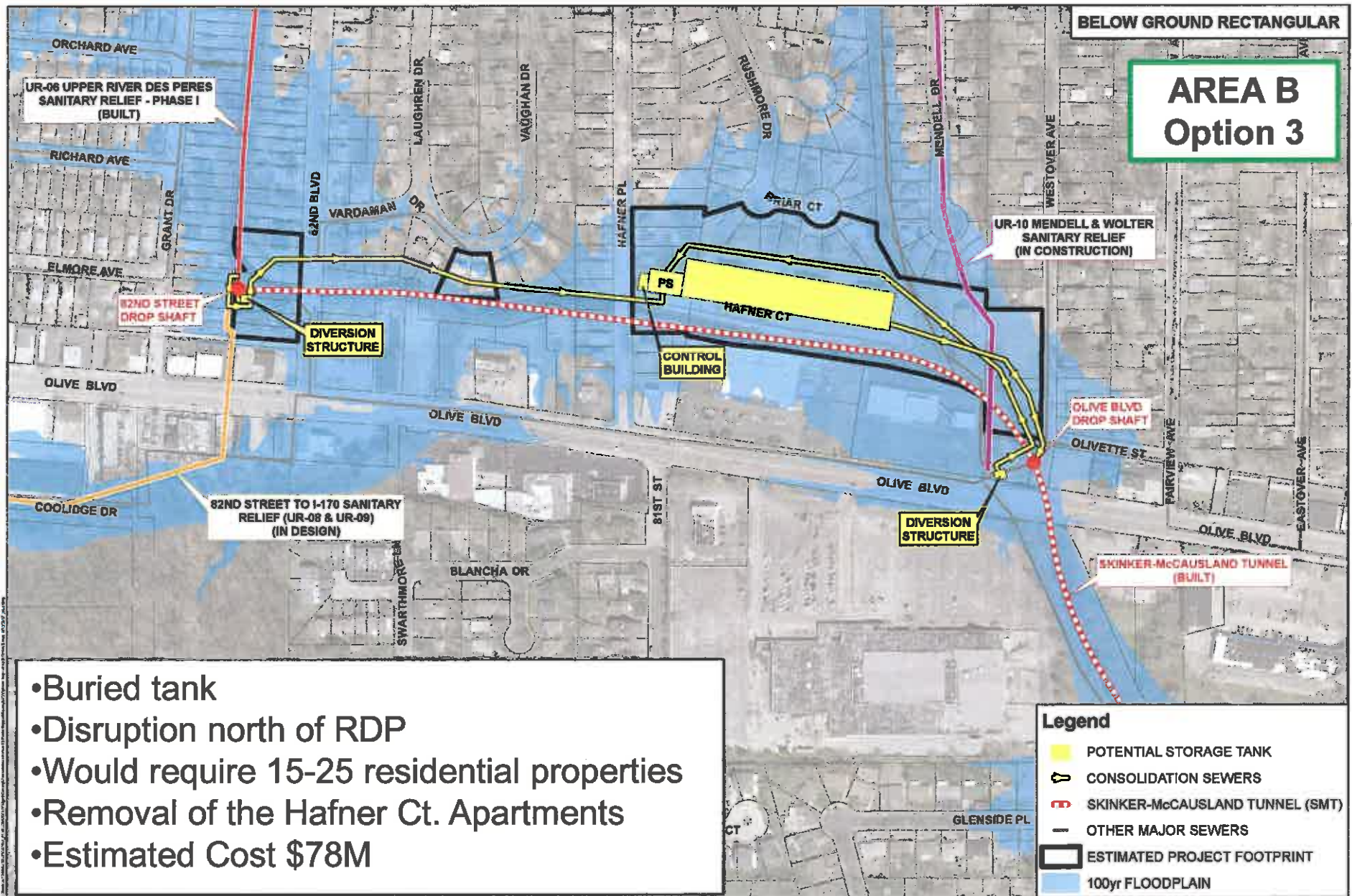


- Partially buried tanks
- Disruption north of RDP
- Would require 35-45 residential properties
- Removal of the Hafner Ct. Apartments
- Estimated Cost \$63M

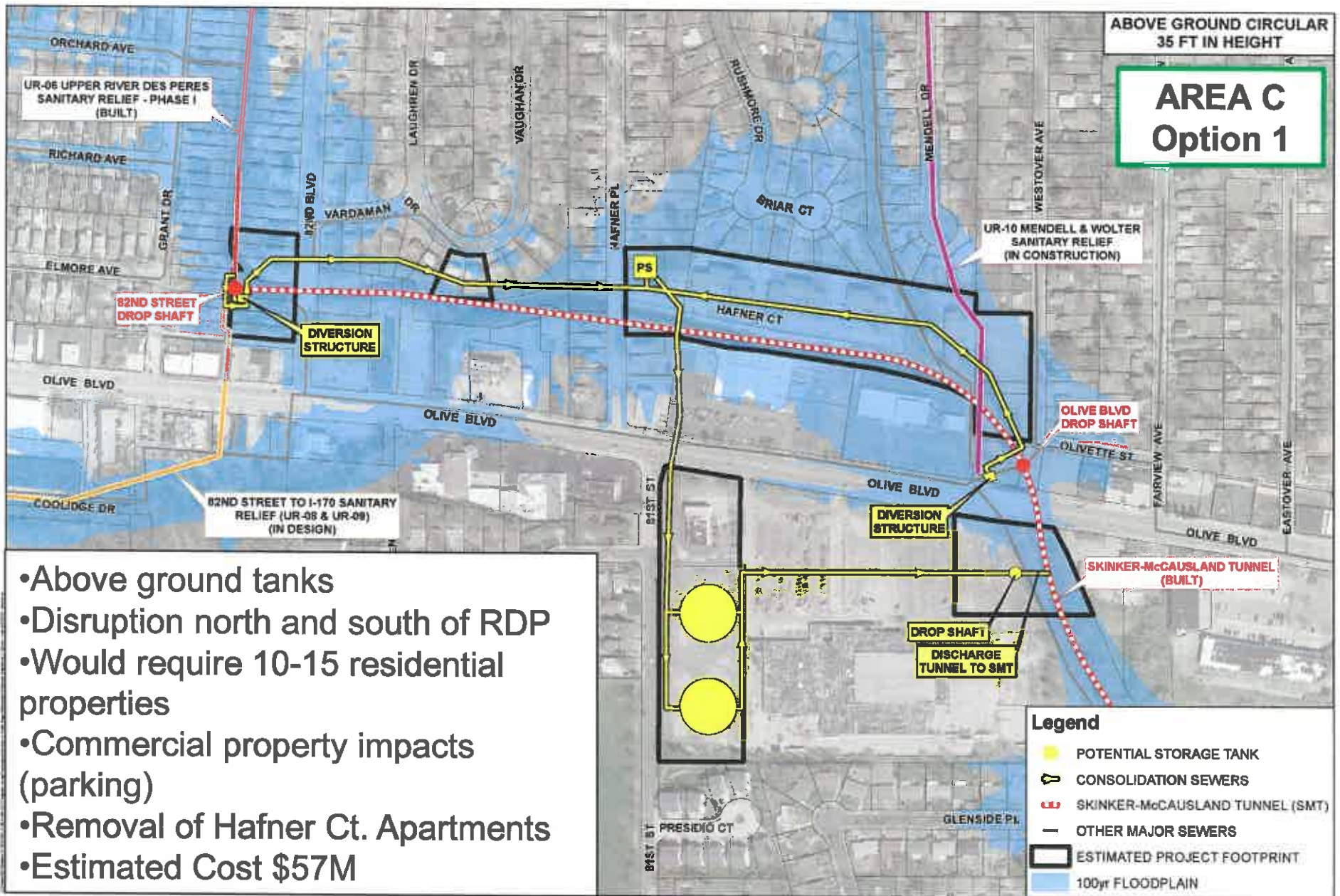


- Above ground tanks
- Disruption north of RDP
- Would require 20-30 residential properties
- Removal of Hafner Ct. Apartments
- Estimated Cost \$55M

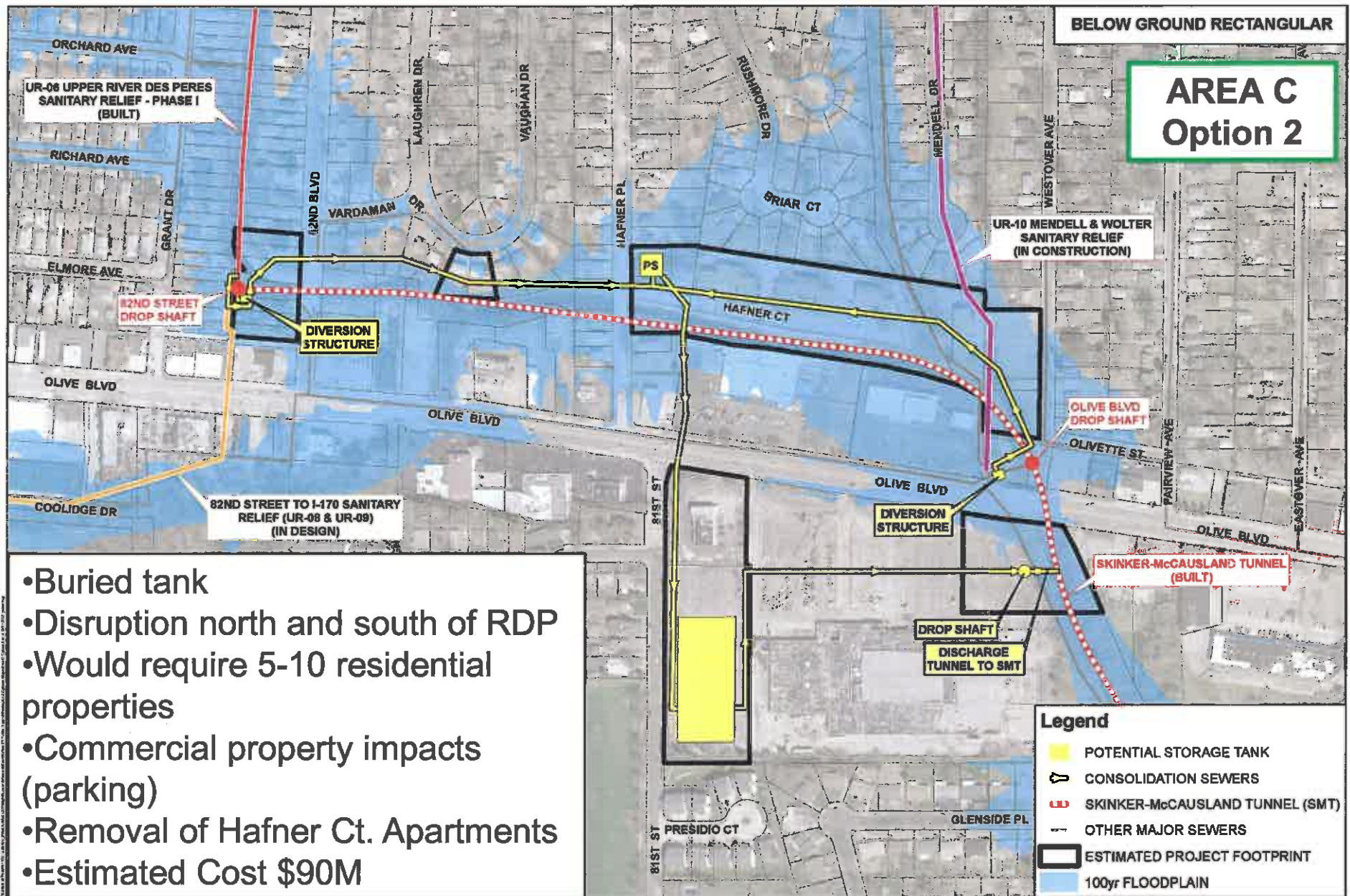




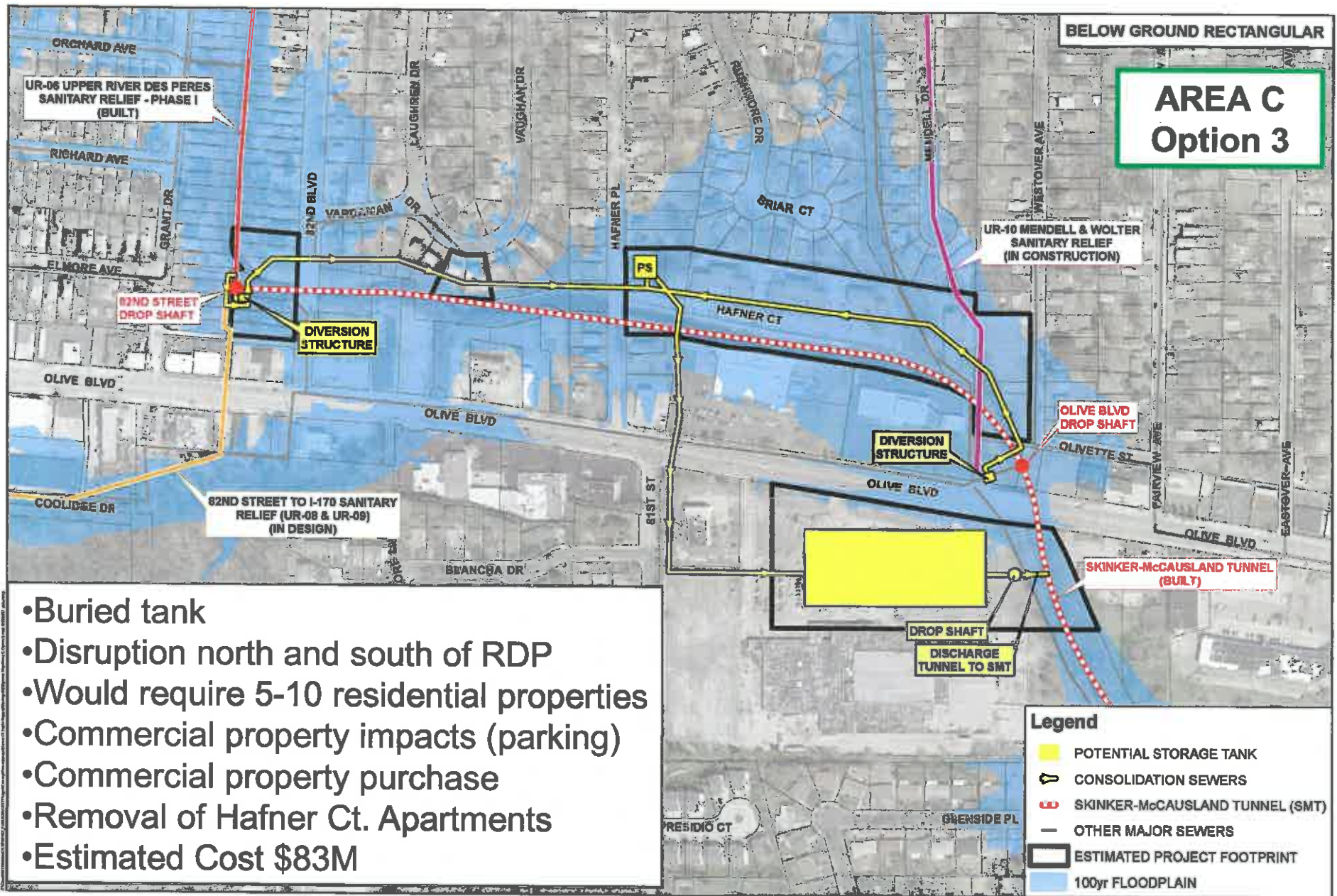
- Buried tank
- Disruption north of RDP
- Would require 15-25 residential properties
- Removal of the Hafner Ct. Apartments
- Estimated Cost \$78M

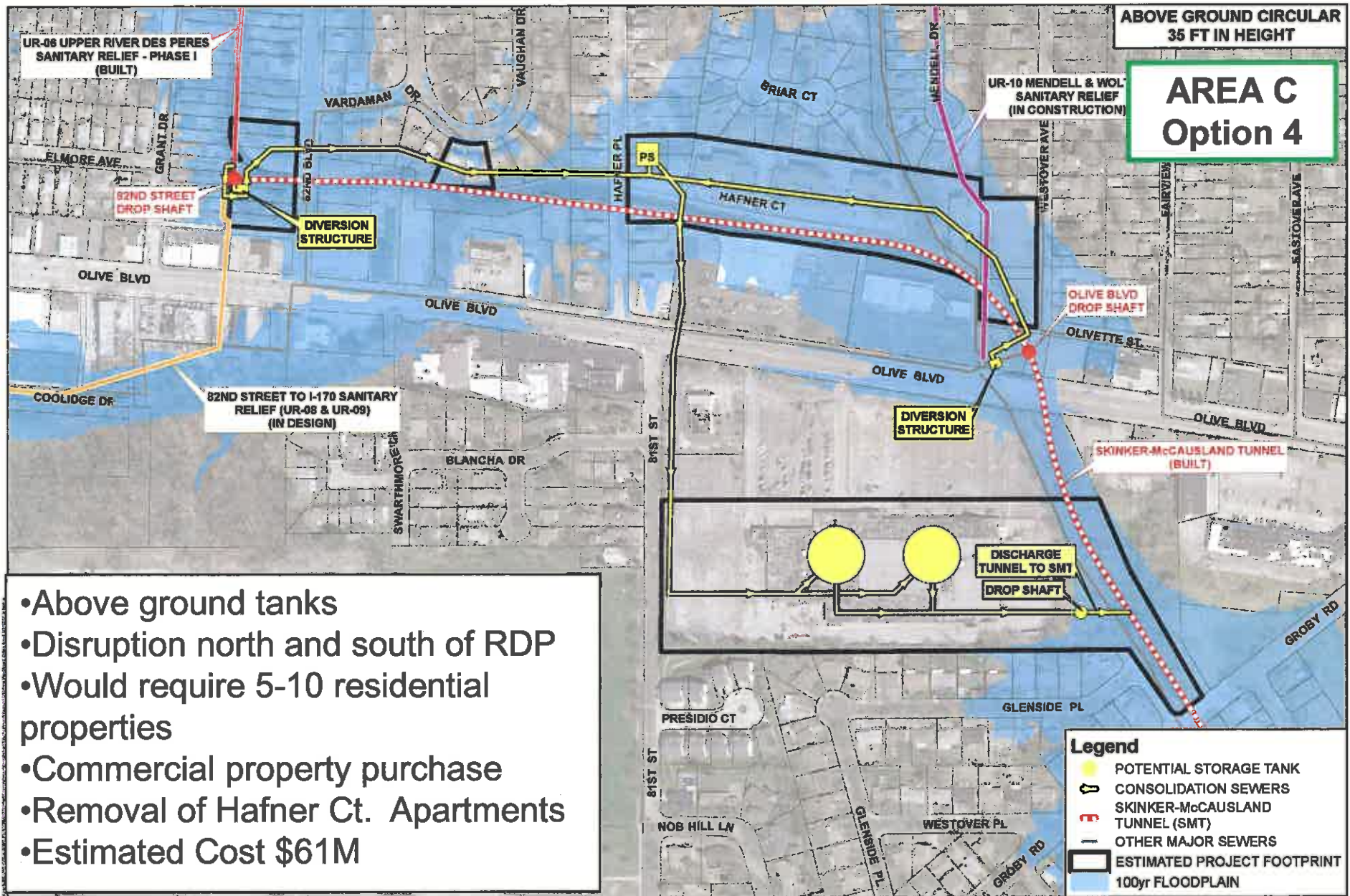


- Above ground tanks
- Disruption north and south of RDP
- Would require 10-15 residential properties
- Commercial property impacts (parking)
- Removal of Hafner Ct. Apartments
- Estimated Cost \$57M

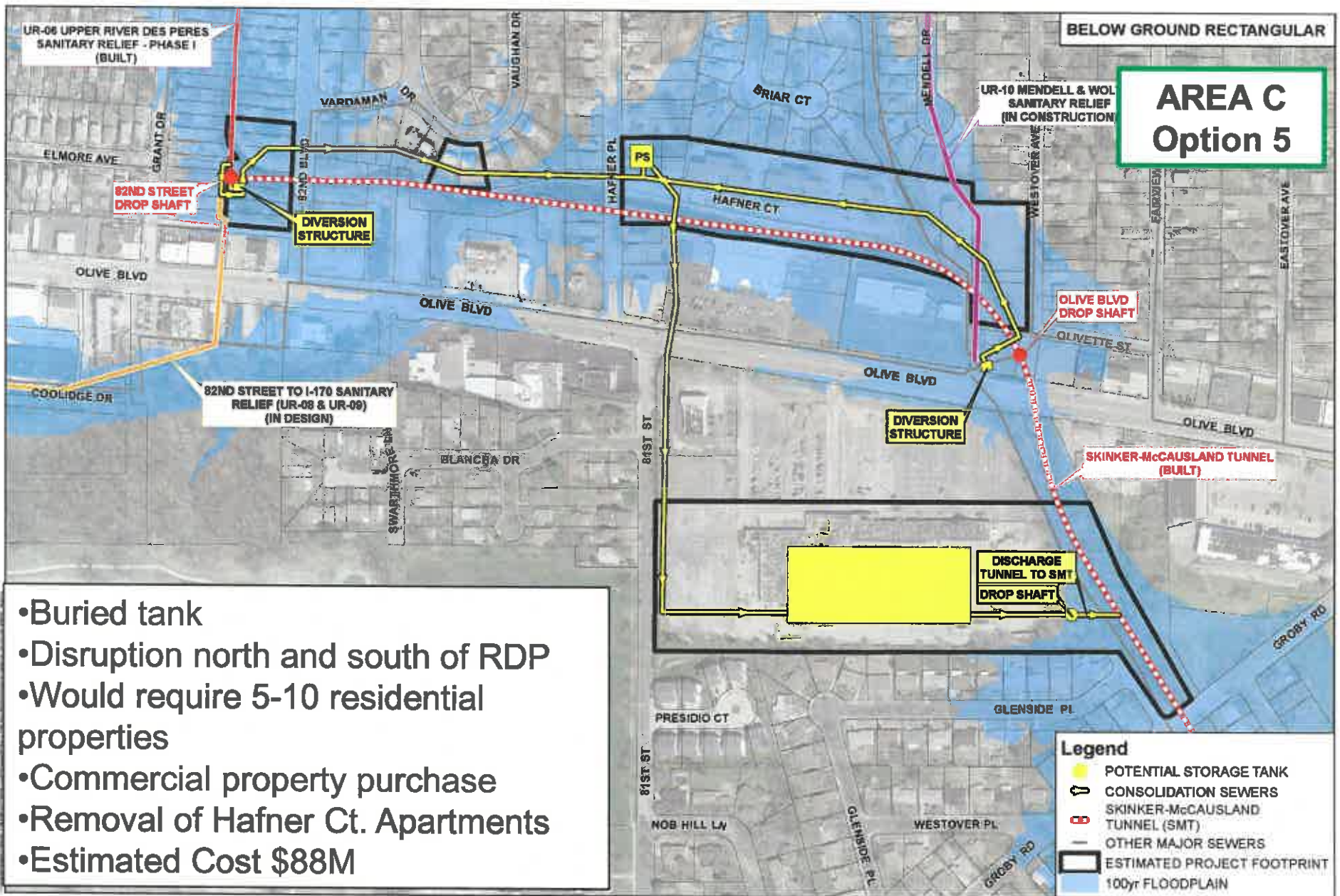


- Buried tank
- Disruption north and south of RDP
- Would require 5-10 residential properties
- Commercial property impacts (parking)
- Removal of Hafner Ct. Apartments
- Estimated Cost \$90M

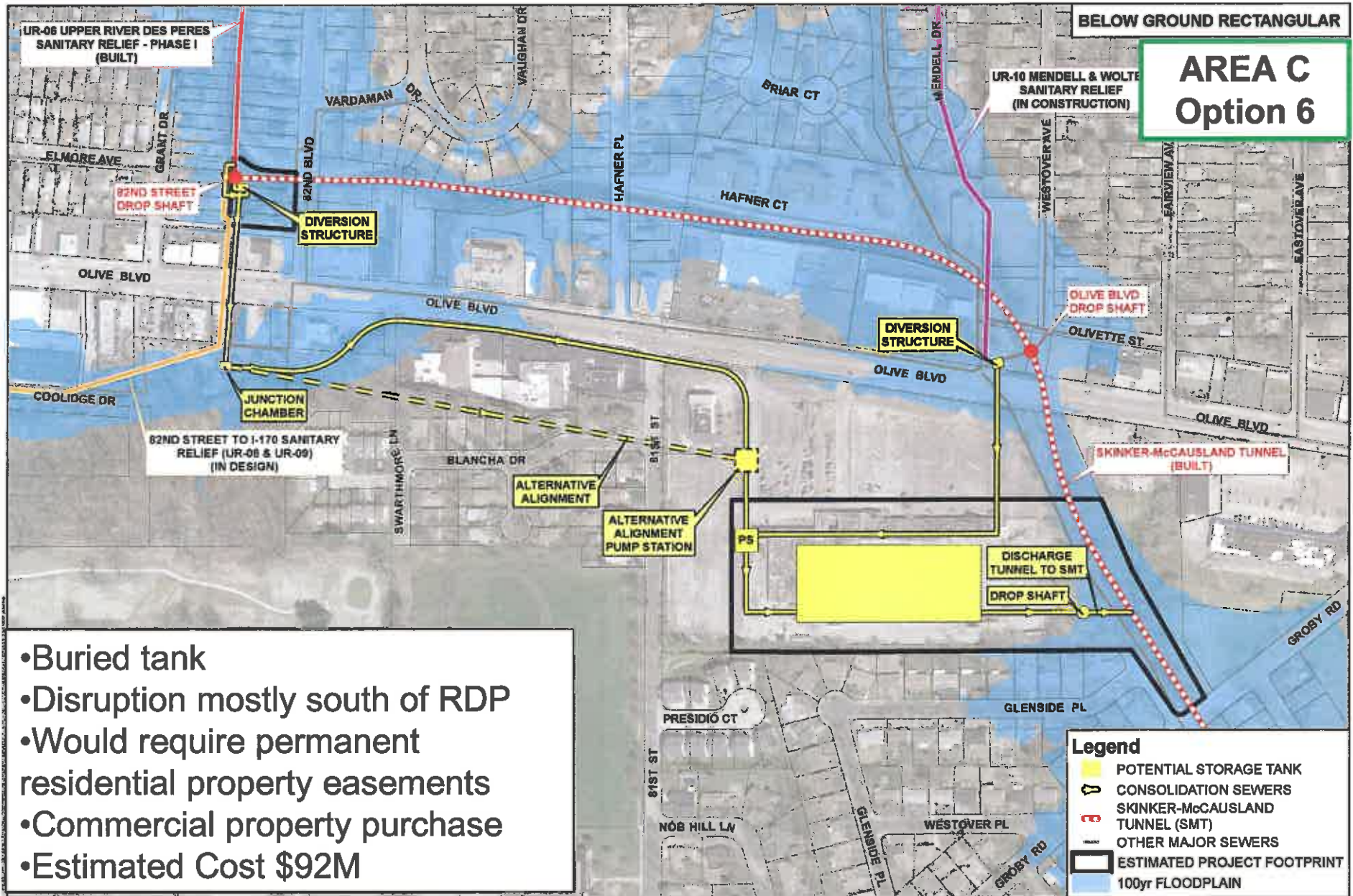




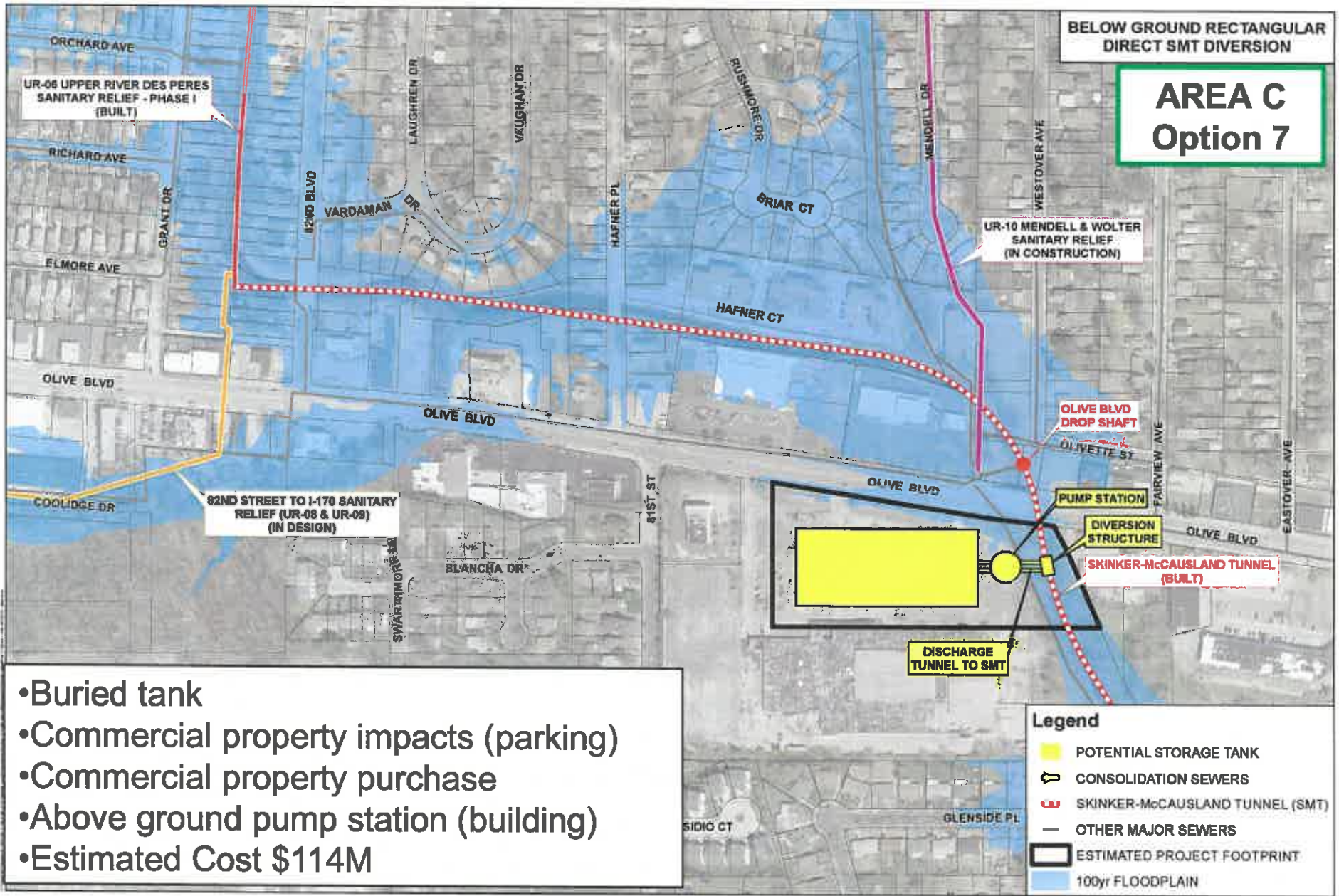
- Above ground tanks
- Disruption north and south of RDP
- Would require 5-10 residential properties
- Commercial property purchase
- Removal of Hafner Ct. Apartments
- Estimated Cost \$61M



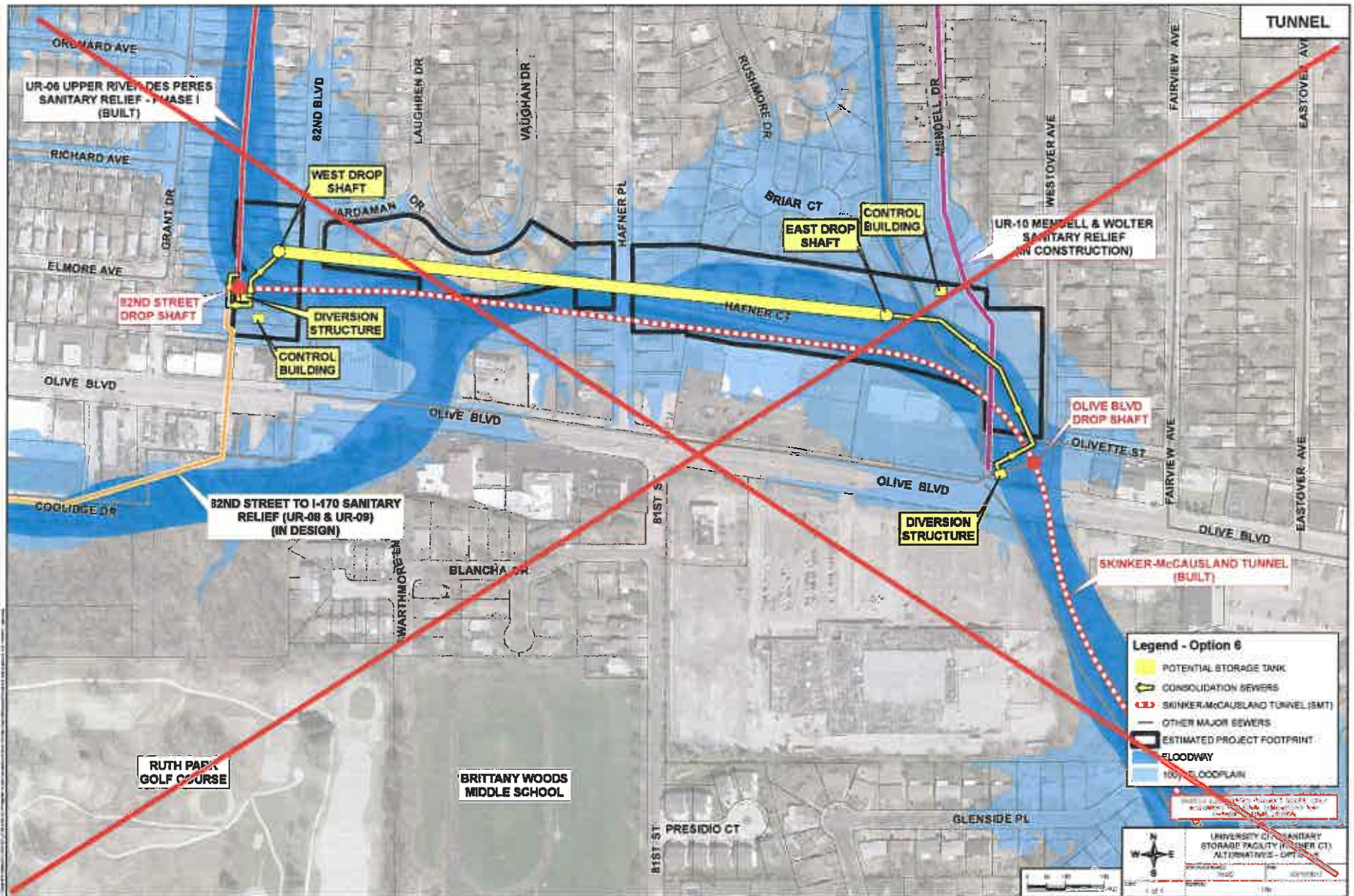
- Buried tank
- Disruption north and south of RDP
- Would require 5-10 residential properties
- Commercial property purchase
- Removal of Hafner Ct. Apartments
- Estimated Cost \$88M



- Buried tank
- Disruption mostly south of RDP
- Would require permanent residential property easements
- Commercial property purchase
- Estimated Cost \$92M

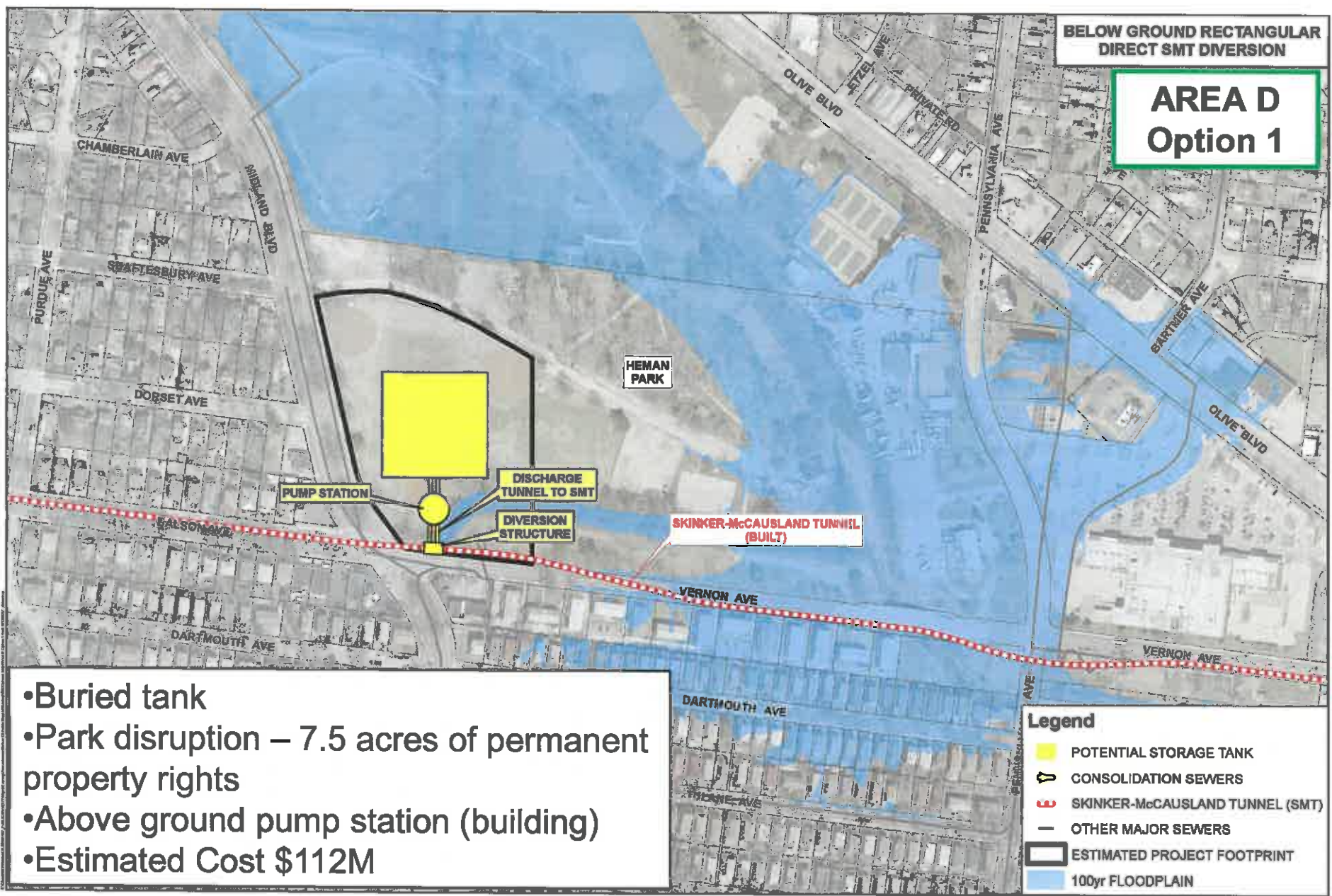


- Buried tank
- Commercial property impacts (parking)
- Commercial property purchase
- Above ground pump station (building)
- Estimated Cost \$114M



BELOW GROUND RECTANGULAR
DIRECT SMT DIVERSION

**AREA D
Option 1**

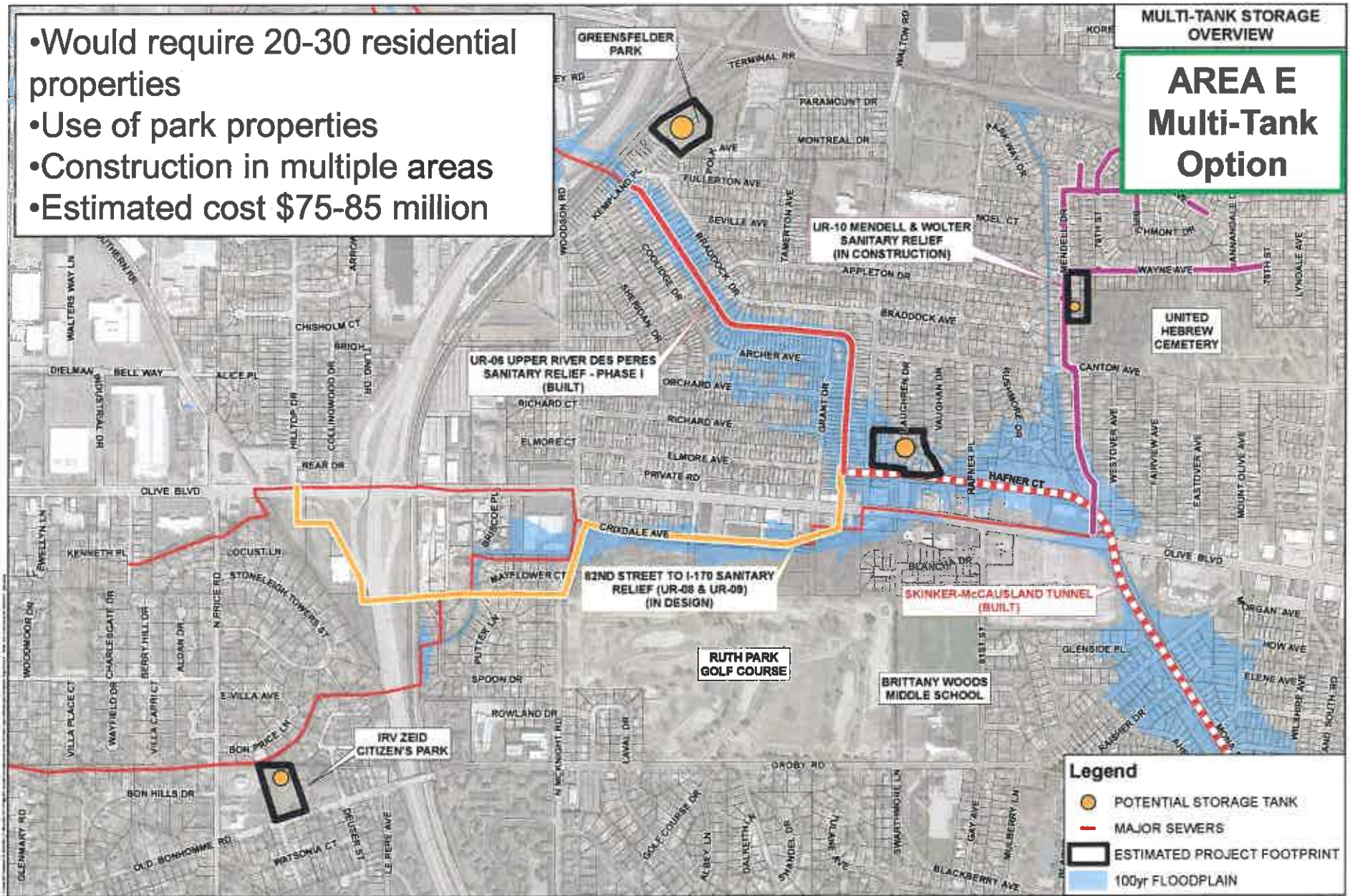


- Buried tank
- Park disruption – 7.5 acres of permanent property rights
- Above ground pump station (building)
- Estimated Cost \$112M

- Would require 20-30 residential properties
- Use of park properties
- Construction in multiple areas
- Estimated cost \$75-85 million

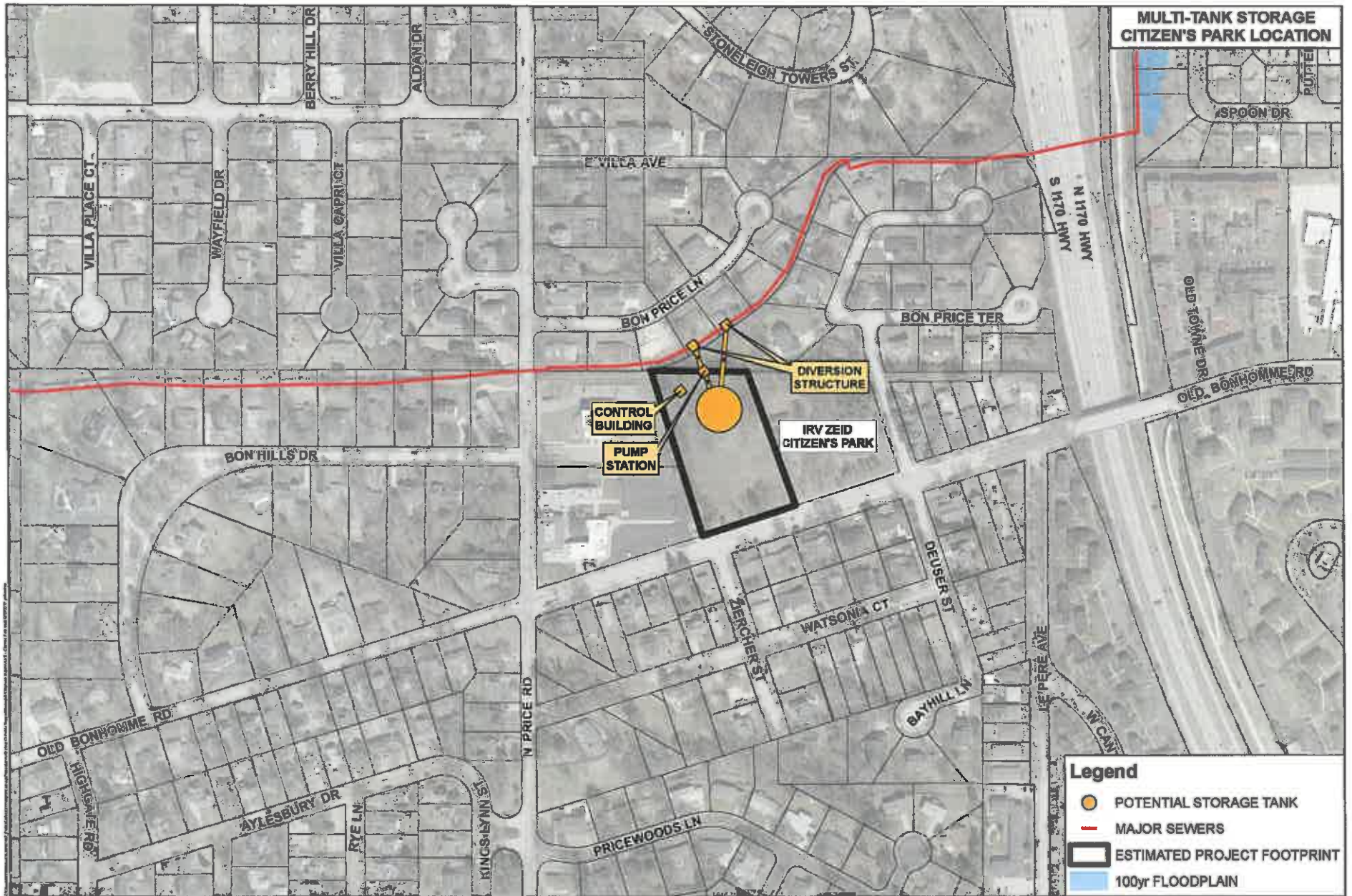
MULTI-TANK STORAGE OVERVIEW

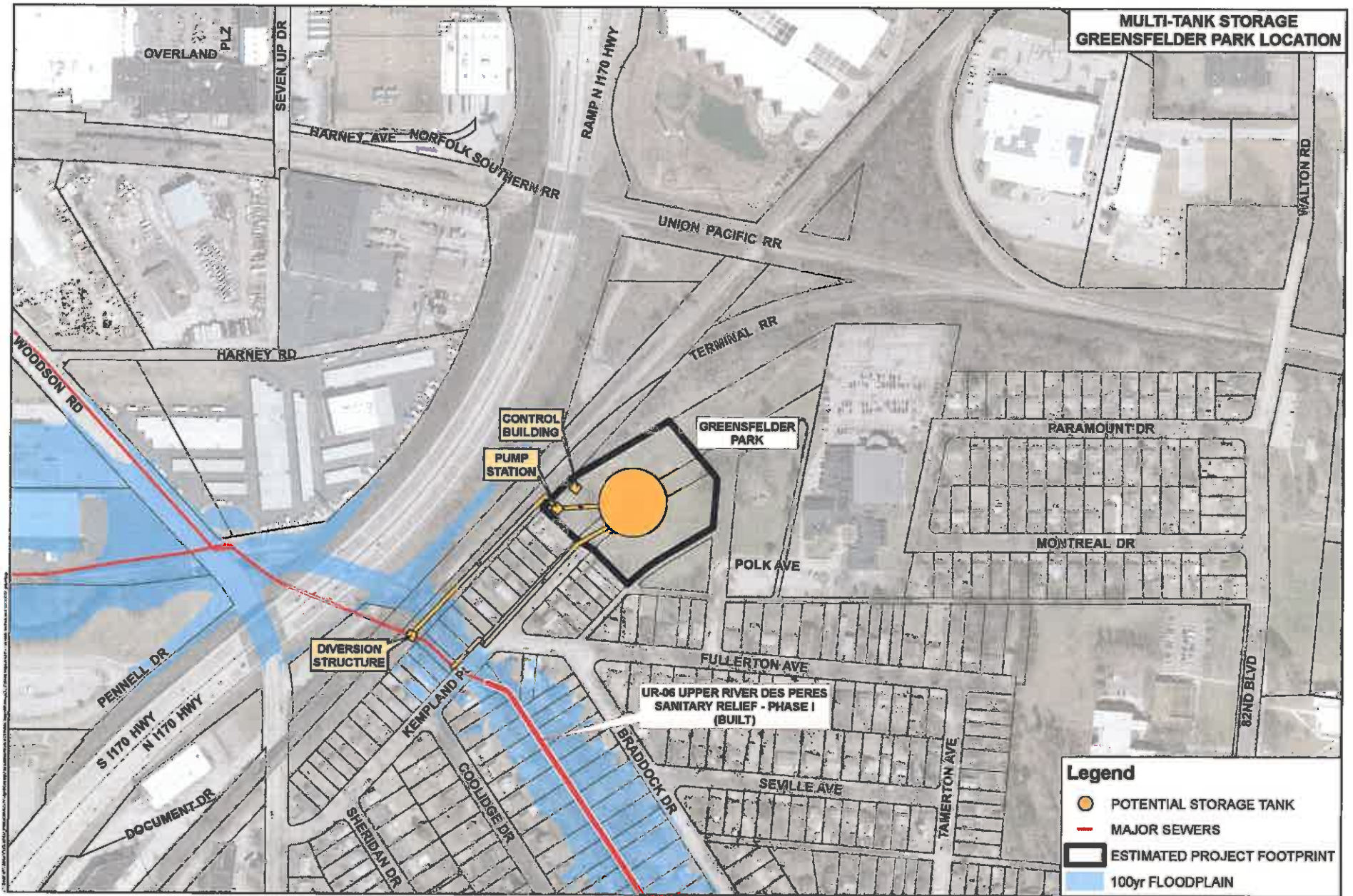
AREA E Multi-Tank Option

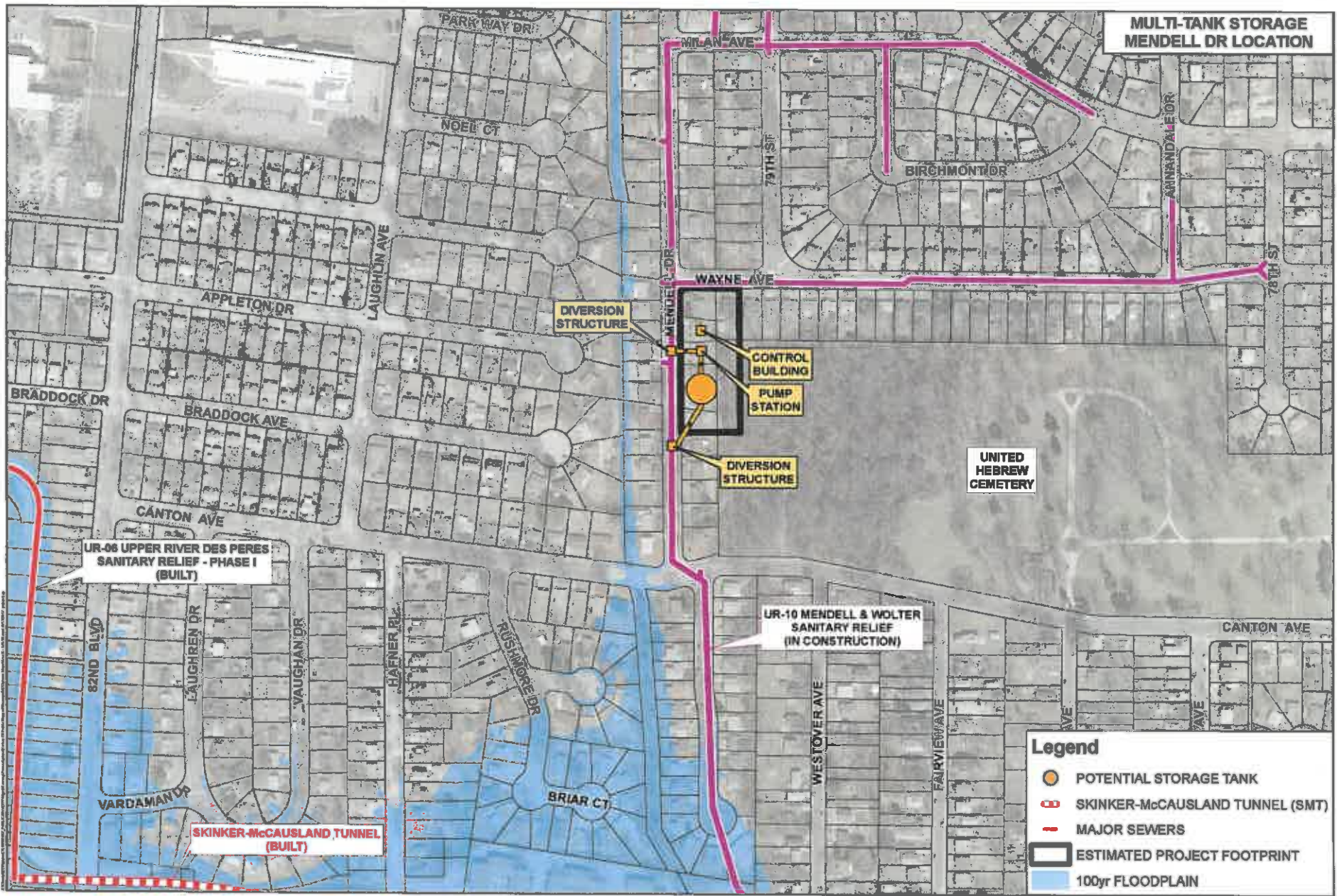


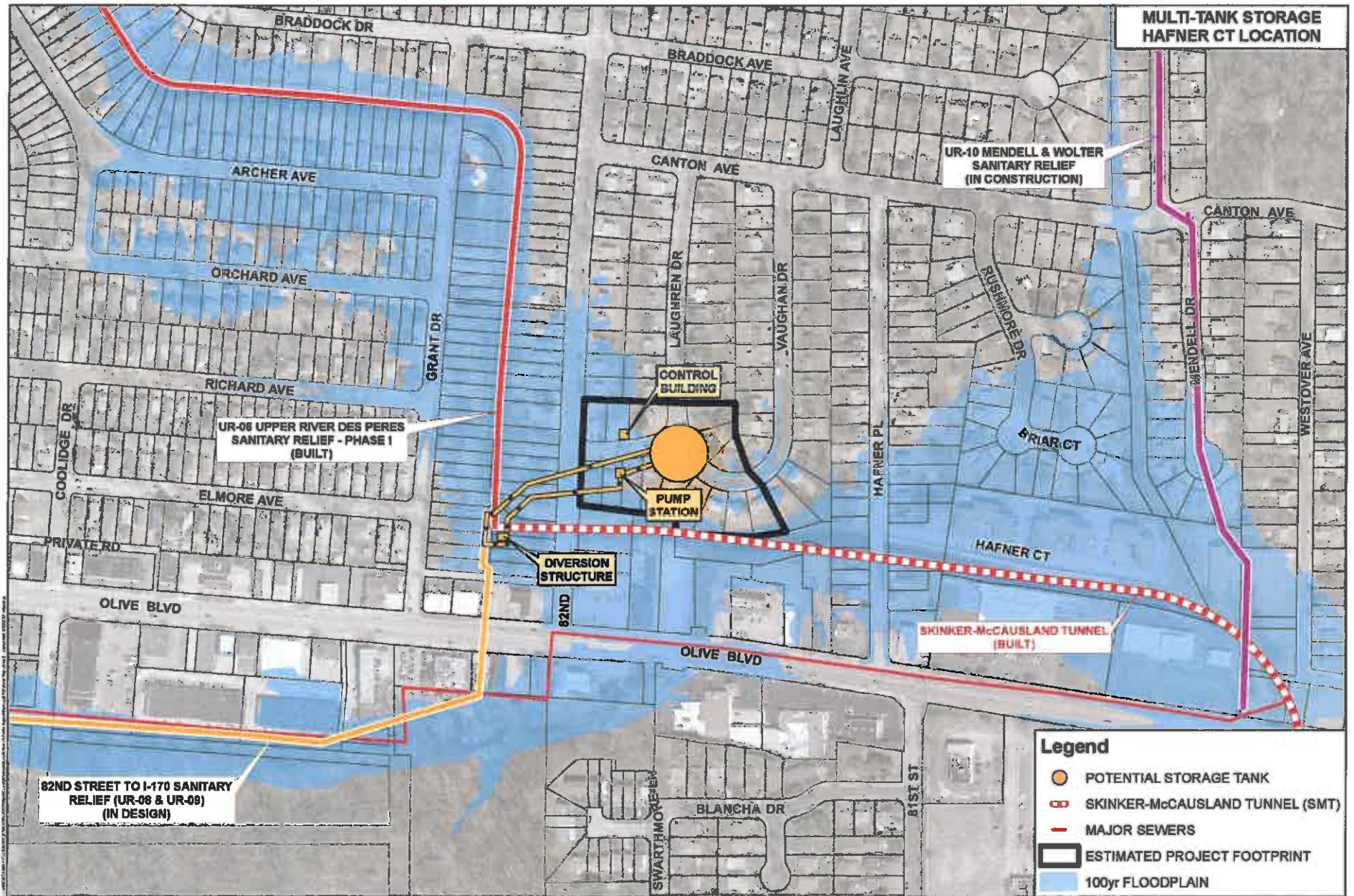
Legend

- POTENTIAL STORAGE TANK
- MAJOR SEWERS
- ESTIMATED PROJECT FOOTPRINT
- 100yr FLOODPLAIN









Feedback and Next Steps

🔗 Feedback

- Documenting Tonight's Comments
- Public Comment Forms Distributed
- Return Tonight or At a Later Time

🔗 Next Steps

- Additional Public Meeting to be Scheduled

🔗 Questions

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UNIVERSITYCITYSTORAGE@burnsmcd.com

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Sunshine Requests

Information Requests (Missouri Sunshine Law)

Tim Snoke

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Official Records Keeper of District Public
Information

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SunshineRequests@stlmsd.com