# Agenda
# City Council Meeting

**City Council Chambers**
**Historic City Hall, 830 Boonville**

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**Robert Stephens, Mayor**

| **Zone Councilmembers** | **General Councilmembers** |
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| Phyllis Ferguson, Zone 1 | Jan Fisk, General A |
| Justin Burnett, Zone 2 | Craig Hosmer, General B |
| Mike Schilling, Zone 3 | Kristi S. Fulnecky, General C |
| Craig Fishel, Zone 4 | Ken McClure, General D |

## Upcoming Council Meeting Agenda
## August 8, 2016 - 6:30 p.m.

**Speakers must sign up with the City Clerk to speak to an issue on the agenda.**
**Speakers are to limit their remarks to three to five minutes.**

**Note: Sponsorship does not denote Council member approval or support.**

1. **ROLL CALL.**
2. **APPROVAL OF MINUTES. July 25, 2016**

   Documents:

   07-25-2016.PDF

3. **FINALIZATION AND APPROVAL OF CONSENT AGENDAS. CITIZENS WISHING TO SPEAK TO OR REMOVE ITEMS FROM THE CONSENT AGENDAS MUST DO SO AT THIS TIME.**
4. **CEREMONIAL MATTERS.**
5. **CITY MANAGER REPORT AND RESPONSES TO QUESTIONS RAISED AT THE PREVIOUS CITY COUNCIL MEETING.**
6. **SECOND READING AND FINAL PASSAGE. Citizens Have Spoken. May Be Voted On.**
7. **Council Bill 2016-177. (Burnett)**

A general ordinance amending the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 0.41 acres of property, generally located at 2263 East Cherry Street, from R-MD, Medium density Multi-Family District, to HM, Heavy Manufacturing District with Conditional Overlay District No. 109; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.) (By: O'Reilly Automotive Stores, Inc.; 2263 East Cherry Street; Z-10-2016 Conditional Overlay District No. 109.)

Documents:

2016-177.PDF

8. **Council Bill 2016-178. (Hosmer)**

A general ordinance amending the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 0.62 acres of property, generally located at 2420 East Sunshine Street, from Planned Development 136, to GR, General Retail District; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.) (By: D.L. Rogers Corp; 2420 East Sunshine Street; Z-9-2016.)

Documents:

2016-178.PDF

9. **Council Bill 2016-179. (Fishel)**

A special ordinance amending authorizing the issuance of a “Use Permit,” generally referenced as Use Permit No. 423, to allow an automobile service garage within the GR, General Retail District, generally located at 2420 East Sunshine Street. (Staff and Planning and Zoning Commission recommend approval.) ( By: D.L. Rogers Corp; 2420 East Sunshine Street; Conditional Use Permit 423.)

Documents:

2016-179.PDF

10. **Council Bill 2016-180. (McClure)**

A general ordinance amending the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 10.8 acres of property, generally located at 4018 and 4022 South Lone Pine Avenue, from R-SF, Residential Single Family District, GR, General Retail District and GM, General Manufacturing District to Planned Development District No. 351; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.) (By: Kaonashi LLC and Lone Projects, LLC; 4018 and 4022 South Lone Pine Avenue; Planned Development 351.)

Documents:

2016-180.PDF

11. **Council Bill 2016-181. (Hosmer)**

A special ordinance approving the plans and bid specifications, and accepting the bid of Crossland Heavy Contractors, Inc. for the Biosolids Treatment Improvements Project (Plan No. 2016PW0027s) at the Southwest Wastewater Treatment Plant, in the amount of $32,389,415.00; authorizing the City Manager, or his designee, to enter into a contract with such bidder; and approving a budget adjustment to amend the Fiscal Year 2016-2017 budget of the Environmental Services Department for the Clean Water Fund in the amount of 10 percent of the construction of this project ($3,200,000.00) to cover contingencies and construction management services for this project.

Documents:

2016-181.PDF

12. **Council Bill 2016-182. (Hosmer, Fishel, And Fisk)**

A general ordinance amending the Springfield City Code, Chapter 2, Administration, Article VI, Finances, Division 2, Purchasing, Section 2-401, known as the Purchasing Manual, by amending Subsection 13-3.104.1.(D) to clarify the local preference provision and by deleting Subsections 13-3.105.2 and 13-3.105.3 to remove a conflicting local preference provision. (Plans and Policies Committee recommends approval.)

Documents:

2016-182.PDF

13. **RESOLUTIONS. Citizens May Speak. May Be Voted On.**

14. **Council Bill 2016-185. (Fisk)**

A resolution accepting a gift of $5,000 to be presented by Guy Mace or his designee, to assist with promotional expenses of the 2016 Birthplace of Route 66 Festival.

Documents:

2016-185.PDF

15. **EMERGENCY BILLS. Citizens May Speak. May Be Voted On.**

16. **Council Bill 2016-186. (Hosmer)**

A special ordinance authorizing the City Manager, or his designee, to enter into an agreement with the International Association of Chiefs of Police to provide a training program for the Springfield Police Department, and declaring an emergency pursuant to Charter Section 2.12 (1).

Documents:

2016-186.PDF

17. **PUBLIC IMPROVEMENTS.**

18. **GRANTS.**

19. **AMENDED BILLS.**

20. **COUNCIL BILLS FOR PUBLIC HEARING.**

21. **FIRST READING BILLS. Citizens May Speak. Not Anticipated To Be Voted On.**

22. **Council Bill 2016-187. (Ferguson)**

A special ordinance approving the plans and specifications for the Homeland Subdivision Pacific Street and Hillcrest Avenue – Colgate Avenue to Thoman Street project, and to accept the bid of Hamilton and Dad Inc., for that project; and authorizing the City Manager, or his designee, to enter into a contract with such bidder.

Documents:

2016-187.PDF

23. **Council Bill 2016-188. (Ferguson)**

A special ordinance approving the plans and specifications for Kimbrough Avenue and Cherry Street Signal Replacement Project, and to accept the bid of Ewing Signal Construction, LLC in

the amount of $276,347.05 for the project; and authorizing the City Manager, or his designee, to enter into a contract with such bidder.

Documents:

2016-188.PDF

24. **PETITIONS, REMONSTRANCES, AND COMMUNICATIONS.**

25. **NEW BUSINESS.**

City Manager recommends the following appointments to the Art Museum Board: Bill Hedrick and Linda Passeri with terms to expire June 1, 2019. T

he City Manager recommends the following reappointment to the Art Museum Board: Tim Rosenbury with term to expire June 1, 2019.

Ken McClure will be the employer representative at the upcoming 2016 Missouri Local Government Employees Retirement System (LAGERS) Annual meeting.

26. **UNFINISHED BUSINESS.**

27. **MISCELLANEOUS.**

28. **CONSENT AGENDA – FIRST READING BILLS. See Item #3.**

29. **Council Bill 2016-189. (Hosmer)**

A special ordinance authorizing the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and KSPR, for the purpose of sharing video from the closed-circuit television traffic monitoring cameras owned and operated by Missouri Department of Transportation and the City of Springfield.

Documents:

2016-189.PDF

30. **Council Bill 2016-190. (McClure)**

A special ordinance authorizing the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and Nexstar Broadcasting Group, Inc., for the purpose of sharing video from the closed-circuit television traffic monitoring cameras owned and operated by Missouri Department of Transportation and the City of Springfield.

Documents:

2016-190.PDF

31. **Council Bill 2016-191. (Fishel)**

A special ordinance authorizing the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and KYTV/KYCW, for the purpose of sharing video from the closed-circuit television traffic monitoring cameras owned and operated by Missouri Department of Transportation and the City of Springfield.

Documents:

2016-191.PDF

32. **CONSENT AGENDA – ONE READING BILLS.**

33. **CONSENT AGENDA – SECOND READING BILLS. Citizens Have Spoken. May Be**

**Voted On.**

34. **Council Bill 2016-183. (Fulnecky)**

A special ordinance authorizing the City Manager, or his designee, to enter into an agreement with the Board of Governors of Missouri State University for the purpose of continuing to provide enhanced law enforcement services within and around the Missouri State University campus.

Documents:

2016-183.PDF

35. **END OF CONSENT AGENDA.**

36. **ADJOURN.**

***Persons addressing City Council are asked to step to the microphone and clearly state their name and address before speaking.***

***All meetings are recorded.***

***In accordance with ADA guidelines, if you need special accommodations when attending any City meeting, please notify the City Clerk's Office at 864 -1443 at least 3 days prior to the scheduled meeting.***

# July 25, 2016
## Springfield, Missouri

The City Council met in regular session July 25, 2016 in the Council Chambers at Historic City Hall. The meeting was called to order by Mayor Bob Stephens. A moment of silence was observed.

**Roll Call**

Present: Jan Fisk, Craig Hosmer, Kristi Fulnecky, Phyllis Ferguson, Mike Schilling, Justin Burnett, Ken McClure and Bob Stephens. Absent: Craig Fishel.

**Minutes**

There being no additions, deletions or corrections, the minutes of July 11, 2016 were approved as presented.

**Consent Agenda**

The Consent Agenda was finalized and approved as presented.

**CEREMONIAL MATTERS**

**City Managers report and responses to questions raised at the previous City Council meeting:**

Greg Burris, City Manager, welcomes Frank Romines, City Attorney, to his first Council meeting. Mr. Burris stated there are many upcoming events through Springfield-Greene County Park Board including the Springfield Lasers Pro Tennis Team 21st season. Mr. Burris noted Blanche Jones retirement from the Dickerson Park Zoo after serving the City for 43 years. Mr. Burris stated Sheila Maerz, Human Resources Director, has announced her retirement and expressed his appreciation for her work and accomplishments while working for the City of Springfield. Mr. Burris noted Public Works, through the voter-approved 1/8-cent Transportation Sales Tax, funding has been designated to make safety and capacity improvements to several Springfield intersections. Mr. Burris stated updates from Paul Williams, Police Chief, have been provided to Council including the July sworn staffing chart and the monthly and year-to-date crime statistics and made himself available for questions.

Councilwoman Fulnecky asked if there is an opportunity to discuss crime within the City at an upcoming Council Lunch. Mr. Burris responded in the affirmative.

**The following bills appeared on the agenda under Second Reading Bills:**

**Amending the Operating Budget in the General Fund for the City of Springfield for Fiscal Year 2015-2016**

Sponsor: Schilling. Council Bill 2016-163. A special ordinance amending the operating budget in the General Fund for the City of Springfield, Missouri, for Fiscal Year 2015-2016, by increasing revenue and expenses in the amount of $658,335.89.

Council Bill 2016-163. Special Ordinance 26771 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Amending the Operating Budget for Various Special Revenue Funds for Fiscal Year 2015-2016**

Sponsor: Fulnecky. Council Bill 2016-164. A special ordinance amending the operating budget for various Special Revenue Funds for the City of Springfield, Missouri, for Fiscal Year 2015-2016, by increasing revenue and expenses in the amount of $801,278.79.

Council Bill 2016-164. Special Ordinance 26772 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Amending the Park Board's Fiscal Year 2015-2016 Operating Budget**

Sponsor: Fulnecky. Council Bill 2016-165. A special ordinance amending the Park Board's Fiscal Year 2015-2016 Operating Budget by increasing revenue and expenses in the amount of $600,000; and allocating appropriations between the Parks 2001 and 2006 Sales Tax Funds, respectively.

Council Bill 2016-165. Special Ordinance 26773 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Authorizing the City Manager to Apply for and Accept a Grant from the Environmental Protection Agency**

Sponsor: Ferguson. Council Bill 2016-166. A special ordinance authorizing the City Manager, or his designee, to apply for and accept an additional $500,000 grant from the Environmental Protection Agency for the purpose of providing supplemental funds for the Brownfields Revolving Loan Fund and to enter into contracts to carry out the grant objectives; and amending the Department of Planning and Development budget for Fiscal Year 2017 in the amount of $500,000.

Councilman Hosmer expressed his belief we should thank the federal government for the grant and expressed his appreciation for the proposed.

Mayor Stephens agreed with Councilman Hosmer and expressed his appreciation for the grant.

Council Bill 2016-166. Special Ordinance 26774 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Amending the Springfield City Code, Chapter 106-Traffic and Vehicles, Article II**

Sponsor: Ferguson. Council Bill 2016-167. A general ordinance amending the Springfield City Code, Chapter 106 – Traffic and Vehicles, Article II – Administration and Enforcement, Division 2 – Violations and Procedure Upon Arrest, to add Section 106-102 – City Agency Towing Authority.

Councilwoman Ferguson expressed her belief the proposed is a good way to address nuisance properties and thanked Mr. Straw and his department for their work.

Council Bill 2016-167. General Ordinance 6294 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Amending the Springfield City Code, Chapter 106, Traffic and Vehicles,**

Sponsor: Fishel. Council Bill 2016-168. A general ordinance amending the Springfield City Code, Chapter 106, Traffic and Vehicles, Article IV, In General Section 106-157, Flashing signals by adding a new subsection (3) pertaining to

**Article IV**

flashing yellow arrow signals.

Council Bill 2016-168. General Ordinance 6295 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Amending the Springfield City Code, Chapter 106, Traffic and Vehicles, Articles VI**

Sponsor: Hosmer. Council Bill 2016-169. A general ordinance amending the Springfield City Code, Chapter 106, Traffic and Vehicles, Article VI Stopping, Standing and Parking, Division 3, Method of Parking, by amending Sections 106-295 and 106-298 to add language allowing reverse angle parking.

Mayor Stephens stated earlier during the week he ate dinner at Pizza House and saw multiple people parked the wrong direction on Commercial Street and expressed his belief further education on the new parking may be needed.

Council Bill 2016-169. General Ordinance 6296 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Amending Chapter 120, Wastewater Regulations, Articles VI**

Sponsor: Burnett. Council Bill 2016-170. A general ordinance amending Chapter 120, Wastewater Regulations, Article VI, Wastewater Charges and Rates, Section 120-247, Extra charges, of the Springfield City Code, by repealing Section 120-247(6) to maintain the existing surcharge for biochemical oxygen demand and total suspended solids.

Council Bill 2016-170. General Ordinance 6297 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Approving the Plans and Specifications for Sanitary Sewers for District 38**

Sponsor: Fisk. Council Bill 2016-171. A special ordinance approving the plans and specifications for Sanitary Sewers for District 38 of Section 1 - Aerial Sanitary Sewer Replacement, accepting the bid of Hamilton & Dad, Inc., for that project and authorizing the City Manager, or his designee, to enter into a contract for said improvement.

Council Bill 2016-171. Special Ordinance 26775 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Authorizing the City of Springfield, Missouri to Enter into Schedule of Equipment No. 5**

Sponsor: Hosmer. Council Bill 2016-172. A special ordinance authorizing the City of Springfield, Missouri, to enter into Schedule of Equipment No. 5, which will become a part of its existing Master Equipment Lease Purchase Agreement, the proceeds of which will be used to pay the costs of acquiring equipment for the Parks Department, to do all things necessary to carry out the lease-purchase transaction, including the execution of certain documents in connection therewith; and amending the budget of the Parks Department for Fiscal Year 2016-2017 in the amount of not to exceed $490,000.

Council Bill 2016-172. Special Ordinance 26776 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**RESOLUTIONS.**

**A Resolution appointing Mary Cullers to the Board of Equalization**

Sponsor: Fishel, Burnett and Schilling. Council Bill 2016-184. A resolution appointing Mary Cullers to the Board of Equalization, to fill the remaining term of Bill Drummond, said term to expire on April 1, 2018. (Public Involvement Committee recommends approval.)

Frank Romines, City Attorney, spoke on the proposed. Mr. Romines stated the proposed is being presented as a resolution to appoint Ms. Cullers in time for the meeting that will occur on July 26, 2016. Mr. Romines noted a city appointee to the board had previously resigned and the Public Involvement Committee had met recently to approve Mary Culler's appointment to the Board of Equalization.

Councilwoman Ferguson asked if the application was received on July 19, 2016. Ms. Cotter responded in the affirmative.

Council Bill 2016-184. Resolution 10277 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

At 6:51 p.m. Mayor Stephens left the meeting and Mayor Pro Tem McClure presided over the meeting.

**EMERGENCY BILLS.**

**PUBLIC IMPROVEMENTS.**

**GRANTS.**

**AMENDED BILLS.**

**COUNCIL BILLS FOR PUBLIC HEARING.**

**A General Ordinance Amending the Springfield Land Development Code, Section 36-306, Zoning Maps, 2263 East Cherry Street**

Sponsor: Burnett. Council Bill 2016-177. A general ordinance amending the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 0.41 acres of property, generally located at 2263 East Cherry Street, from R-MD, Medium density Multi-Family District, to HM, Heavy Manufacturing District with Conditional Overlay District No. 109; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.) (By: O'Reilly Automotive Stores, Inc.; 2263 East Cherry Street; Z-10-2016 Conditional Overlay District No. 109.)

Mary Lilly Smith, Director of Planning and Development, spoke on the proposed. Ms. Smith demonstrated on the map where the rezoned area would be. Ms. Smith stated by rezoning the location it will allow for additional parking for the location and a second O'Reilly Automotive office. Ms. Smith noted the property will require additional right of way on Cherry Street and made herself available for questions.

Mayor Pro Tem McClure asked for clarification where the right-of-way would be located. Ms. Smith showed the location on the map.

Councilman Hosmer asked why the proposed is being changed to heavy manufacturing if the property is going to be used for parking. Ms. Smith responded in residential districts, off-street parking is not allowed for commercial uses. Ms. Smith noted the heavy manufacturing rezoning is consistent with the surrounding land and limits the usage so only parking is allowed on the proposed.

Councilman Hosmer asked for clarification on commercial-use zoning and why parking cannot be added and expressed his belief the proposed is over-expanding the use of the property. Ms. Smith expressed her belief the same function may be allowed if changed to office-use, but will look into gathering further information and make it available to Council.

Councilman Hosmer asked for additional information on office-use zoning. Ms. Smith responded she will look into it and stated the conditional overlay use allows the lot to only be used for parking.

Councilman Schilling asked how many vehicles can be accomodated in the proposed. Ms. Smith responded the applicants represented may know the amount of vehicles that can be accomodated.

Councilwoman Fulnecky asked if Council would have to approve any changes in usage to the proposed. Ms. Smith responded in the affirmative.

Councilwoman Fulnecky asked if the proposed would be combined into one lot. Ms. Smith responded in the affirmative.

Councilwoman Fulnecky asked if there are buildings to the west of the location. Ms. Smith responded in the negative.

Councilwoman Fulnecky asked if the surrounding neighbors had any issues with the proposed. Ms. Smith responded in the negative.

Councilwoman Ferguson asked if set parking buffers would be used. Ms. Smith responded in the affirmative.

An opportunity was given for citizens to express their views. With no appearances, public hearing was closed.

**The following bills were read simaltaneously:**

**A General Ordinance Amending the Springfield Land Development Code, Section 36-306, Zoning Maps, 2420 East Sunshine**

Sponsor: Hosmer. Council Bill 2016-178. A general ordinance amending the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 0.62 acres of property, generally located at 2420 East Sunshine Street, from Planned Development 136, to GR, General Retail District; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.)(By: D.L. Rogers Corp; 2420 East Sunshine Street; Z-9-2016.)

**A General Ordinance Authorizing the Issuance of a Use Permit at 2420 East**

Sponsor: Fishel. Council Bill 2016-179. A general ordinance authorizing the issuance of a "Use Permit," generally referenced as Use Permit No. 423, to allow an automobile service garage within the GR, General Retail District, generally located at 2420 East Sunshine Street. (Staff and Planning and Zoning

**Sunshine Street**

Commission recommend approval.) ( By: D.L. Rogers Corp; 2420 East Sunshine Street; Conditional Use Permit 423.)

Mary Lilly Smith spoke on both Council Bill 2016-178 and Council Bill 2016-179. Ms. Smith stated the proposed requires rezoning and a conditional use permit. Ms. Smith noted the application meets the required standards and the use permit is valid for eighteen months with no outside storage allowed. Ms. Smith stated the retail location will be used primarily as a tire shop.

An opportunity was given for citizens to express their views on both items. With no appearances, public hearing was closed on both Council Bill 2016-178 and Council Bill 2016-179.

**A General Ordinance Amending the Springfield Land Development Code, Section 36-306, Zoning Maps, 4018 and 4022 South Lone Pine Avenue**

Sponsor: McClure. Council Bill 2016-180. A general ordinance amending the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 10.8 acres of property, generally located at 4018 and 4022 South Lone Pine Avenue, from R-SF, Residential Single Family District, GR, General Retail District and GM, General Manufacturing District to Planned Development District No. 351; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.) (By: Kaonashi LLC and Lone Projects, LLC; 4018 and 4022 South Lone Pine Avenue; Planned Development 351.)

Ms. Fisk recused herself and left the dais.

Mary Lilly Smith spoke on the proposed. Ms. Smith stated Lone Pine is a secondary arterial, adjacent to Galloway Creek Greenway and is walking and biking distance to Sequiota Park. Ms. Smith noted there are three tracts and will require a traffic study as plans are finalized, left turn lane required on Lone Pine, and improving and widening Allen Street for on-street parking.

Councilman Schilling asked if there is a tax abatement associated with the proposed. Ms. Smith responded it has not been requested but would be available to them through the Galloway Redevelopment Area Chapter 99 for new improvements over a period of ten years.

Mayor Pro Tem McClure asked if there were flooding concerns in the proposed area. Dan Smith responded the proposed is in a flooding zone and stated the applicant is available for questions about what is going to be done to prevent flooding in the area.

Jessica Pearson spoke in favor of the proposed. Ms. Pearson expressed her belief the applicants are looking at ways to preserve and manage trees and discussed stormwater management with employees from the City of Springfield and the Watershed Committee.

Matt O'Reily spoke in favor of the proposed. Mr.O'Reilly expressed his belief the proposed areas are very distressed and stated the proposed is embracing the history of the location while addressing the negative impact of the property to the area.

Mayor Pro Tem McClure expressed his appreciation for revitalizing the area.

Councilwoman Fulnecky expressed her appreciation for the proposed and thanked Mr. O'Reilly for his challenging work.

Councilman Hosmer asked if the project will be using tax abatement and asked for the amount. Mr. O'Reilly responded in the affirmative and stated the first phase is about $12 million and $1-$2 per square foot, or approximately $60,000 a year.

Councilman Hosmer asked if the City could do an under or over-pass over the roadway. Mr. Burris responded an under or over-pass would be expensive and stated the cost could range from a half of a million to a million dollars. Mr. O'Reilly stated there are funds and grants available and stated there will be opportunities available to discuss more options with Council at future meetings. Mr. O'Reilly noted there is a trail that is underway that will encourage travelers to walk along the commercial side of the road.

Dan Smith stated there are other ways to make the crossing safer such as signage or flashing lights. Mr. O'Reilly stated there have been requests to lower the traffic speed on the route to make the crossing safer.

Councilwoman Ferguson asked there had been further discussion of a previously discussed plan to have the proposed area looked at for mass transit. Ms. Smith responded in the negative.

Councilwoman Ferguson asked if a charging station will be available. Mr. O'Reilly responded in the affirmative.

An opportunity was given for citizens to express their views. With no appearances, public hearing was closed.

**The following bills appeared on the agenda under First Reading Bills:**

**A Special Ordinance Approving the Plans and Bid Specifications and Accepting the Bid of Crossland Heavy Contractors, Inc. for the Biosolids Treatment Improvements Project**

Sponsor: Hosmer. Council Bill 2016-181. A special ordinance approving the plans and bid specifications, and accepting the bid of Crossland Heavy Contractors, Inc. for the Biosolids Treatment Improvements Project (Plan No. 2016PW0027s) at the Southwest Wastewater Treatment Plant, in the amount of $32,389,415.00; authorizing the City Manager, or his designee, to enter into a contract with such bidder; and approving a budget adjustment to amend the Fiscal Year 2016-2017 budget of the Environmental Services Department for the Clean Water Fund in the amount of 10 percent of the construction of this project ($3,200,000.00) to cover contingencies and construction management services for this project.

Errin Kemper, Director of Public Works, spoke on the proposed. Mr. Kemper stated the project is included in the longterm overflow control plan. Mr. Kemper noted the proposed will produce electricity through methane gas and will provide savings for citizens as well as the facility and made himself available for questions.

Mayor Pro Tem McClure asked for clarification on methane gas. Mr. Kemper responded as the organic material brought in breaks down, produces methane gas which, through the expanded facility, will provide electricity.

Councilwoman Ferguson asked if the oils produced could be used as bio-fuels. Mr. Kemper responded the types of oils in the proposed do not have a value as a bio-diesel.

Councilman Hosmer asked when bids are received, does the City receive information on whether or not the company has had prevailing wage problems. Mr. Kemper responded in the negative and stated in anticipation of questions, Public Works has been working with the Department of Labor of Oklahoma who said there has only been one instance of wage issues. Mr. Kemper noted the case was classified as a conciliation that required no further action.

Councilman Hosmer asked about Occupational Safety and Health Administration (OSHA) violations. Mr. Kemper responded of the thirteen documented inspections, there was only one violation resulting in the fine of $1,313. Mr. Kemper noted Public Works had contacted the President of Crossland Heavy Contractors who provided a letter outlining their stance on the OSHA and wage issues. Mr. Kemper stated the President of Crossland Heavy Contractors noted Crosslands Heavy Contractors had zero OSHA violations or citations in the past five years.

Councilman Hosmer asked for clarification of the bid process, specifically if OSHA violation and wage issue information are included. Mr.Kemper responded in the negative and stated wage requirements for all employees are included in their agreement. Councilman Hosmer stated he had been given information from the unions in Springfield that included information stating Crosslands Heavy Contractors had received 43 OSHA violations as of 2002 and fined almost a quarter of a million dollars for OSHA violations including fatalities, including a large number of lawsuits.

Councilman Hosmer asked if the City of Springfield had done business with Crosslands Heavy Contractors before. Mr. Kemper responded in the negative.

Councilman Hosmer asked if Crosslands Heavy Contractors has built this type of facility before. Mr. Kemper responded in the affirmative.

Councilman Hosmer expressed his belief the City needs to be evaluating contractors to ensure they are following required standards, including OSHA, before entering into a contract with them.

Councilman Schilling asked for clarification on the 3.2 million dollars adjustment fund balance reserve. Mr. Kemper responded the adjustment is part contingency and part project management and stated a portion of it goes towards contracting the design engineer. Mr. Kemper noted approximately 2.8 million of the adjustment goes covers the design engineers service during the project and the remainder is to cover any unforeseen contingencies.

Councilman Schilling asked if this process was typical. Mr. Kemper responded in the affirmative.

Councilwoman Fulnecky asked if all of the proposed is budgeted except for the ten percent. Mr. Kemper responded the bulk is funded through the 2015 budget adopted by Council last year.

Councilman Hosmer asked where the company is located. Mr. Kemper responded Tulsa, Oklahoma.

Councilman Hosmer asked where the next lowest bidder was from. Mr. Kemper responded he could not remember, but local bids were considered.

Councilman Hosmer asked for the difference between the two bids. Mr. Kemper responded it was approximately 1.3 million dollars.

Councilwoman Ferguson asked if other municipalities had used Crosslands and if so, what was their level of satisfaction. Mr. Kemper stated they were recommended by the other municipalities they have spoke with.

Councilwoman Ferguson asked who from the City will be working with Crosslands. Mr. Kemper responded Brian Wirth will be the day to day contact and stated he will also be involved during the project. Councilwoman Ferguson expressed her opinion it would be beneficial to have someone from the City present during the beginning of the process. Mr. Kemper responded Public Works has been involved with the project for five to six years and will continue to be involved.

Councilwoman Ferguson asked if there would be benchmarks for quality control. Mr. Kemper responded in the affirmative.

Councilwoman Fulnecky expressed her opinion when a company's gross revenue is high there could be more violations and stated the City must be thorough when looking at bids for a project. Mr. Kemper stated he could provide the statement of qualifications.

Councilman Hosmer asked if there is a guarantee provided with these projects. Mr. Kemper responded the performance bond covers if something occurs and the same goes for a payment bond.

An opportunity was given for citizens to express their views. With no appearances, the discussion was closed.

**A Special Ordinance Amending the Springfield City Code, Chapter 2, Administration, Article VI, Finances, Division 2, Purchasing, Section 2-401**

Sponsor: Hosmer, Fishel and Fisk. Council Bill 2016-182. A special ordinance amending the Springfield City Code, Chapter 2, Administration, Article VI, Finances, Division 2, Purchasing, Section 2-401, known as the Purchasing Manual, by amending Subsection 13-3.104.1.(D) to clarify the local preference provision and by deleting Subsections 13-3.105.2 and 13-3.105.3 to remove a conflicting local preference provision. (Plans and Policies Committee recommends approval.)

Rhonda Lewsader spoke on the proposed. Ms. Lewsader stated bids are used for smaller projects and proposals are used for more complex projects. Ms. Lewsader noted the proposed clarifies the local prefence provision applied to both bids and proposals.

Jim Meadows spoke in favor of the proposed. Mr. Meadows expressed his appreciation for the proposed and stated the proposed levels the playing fields for

local companies and made himself available for questions.

Councilwoman Fulnecky asked how the City differentiates quality versus lowest bid. Mr. Burris responded it depends on the type of bid and stated if it is a commodity bid it is based on price, if it is a professional service it is based on quality. Dan Smith responded for surveyors there are specific laws that ensure a qualified firm is chosen. Mr. Smith stated the companies are scored based on the things needed by the City. Mr. Smith noted there can be points given to companies that are local.

Mayor Pro Tem McClure thanked Councilman Hosmer for his work on the proposed.

An opportunity was given for citizens to express their views. With no appearances, the discussion was closed.

**Petitions, Remonstrances, and Communications.**

**Did Not Appear**

Mr. Ken Duncan wishes to address City Council.

**Did Not Appear**

Mr. Sean Nowack wishes to address City Council.

**The following items appeared under New Business:**

As per RSMo. 109.230 (4), City records that are on file in the City Clerk's office and have met the retention schedule will be destroyed in compliance with the guidelines established by the Secretary of State's office.

**UNFINISHED BUSINESS.**

**MISCELLANEOUS.**

**The following bills appeared on the agenda under Consent Agenda First Reading Bills:**

**A Special Ordinance Authorizing the City Manager to Enter into an Agreement with the Board of Governors of Missouri State University**

Sponsor: Fulnecky. Council Bill 2016-183. A special ordinance authorizing the City Manager, or his designee, to enter into an agreement with the Board of Governors of Missouri State University for the purpose of continuing to provide enhanced law enforcement services within and around the Missouri State University campus.

**The following bills appeared on the agenda under Consent Agenda One Reading Bills:**

**The following bills appeared on the agenda under Consent Agenda Second Reading Bills:**

**A Special Ordinance Authorizing the City Manager to Enter into an Eighth Amendment to the 800 MHz Trunked Radio System Participation Agreement**

Sponsor: Ferguson. Council Bill 2016-174. A special ordinance authorizing the City Manager, or his designee, to enter into an Eighth Amendment to the 800 MHz Trunked Radio System Participation Agreement, Contract No. 2000-0182-07, to expand the license pool from 300 licenses to 600 licenses.

Council Bill 2016-174. Special Ordinance 26777 was approved by the following vote: Ayes: Fisk, Hosmer, Fulnecky, Ferguson, Schilling, Burnett, McClure, Stephens. Nays: None. Absent: Fishel. Abstain: None.

**Adjourn**

With no further business to come before Council, the meeting adjourned at approximately 8:00 p.m.

Anita J. Cotter, CMC/MRCC
City Clerk

Prepared by Megan Cunningham

One-rdg. _____
P. Hrngs. _____
Pgs. 17
Filed: 07-19-16

Sponsored by: Burnett

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016- 177 GENERAL ORDINANCE NO. _____

AN ORDINANCE

AMENDING the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 0.41 acres of property, generally located at 2263 East Cherry Street, from R-MD, Medium density Multi-Family District, to HM, Heavy Manufacturing District with Conditional Overlay District No. 109; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.)

---

WHEREAS, an application has been filed for a zoning change of the property described in "Exhibit A" of this Ordinance, generally located at 2263 East Cherry Street, from R-MD, Medium density Multi-Family District, to HM, Heavy Manufacturing District with a Conditional Overlay District No. 109;

WHEREAS, following proper notice, a public hearing was held before the Planning and Zoning Commission, a copy of the Record of Proceedings from said public hearing being attached hereto as "Exhibit B;" and said Commission made its recommendation; and

WHEREAS, proper notice was given of a public hearing before the City Council, and that said hearing was held in accordance with the law.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The property described in "Exhibit A" of this Ordinance shall be, and the same hereby is, rezoned from R-MD, Medium density Multi-Family District, or such zoning district as is designated on the Official Zoning Map adopted by the City Council, to an HM, Heavy Manufacturing with a Conditional Overlay District No. 109; and the Springfield Land Development Code, Section 36-306 thereof, Zoning Maps, is hereby amended, changed and modified accordingly.

Section 2 – The City Council hereby directs the City Manager, or his designee, to update the City's digital zoning map to reflect this rezoning, and City Council adopts the

map thereby amended as the Official Zoning Map of Springfield, Missouri, as provided for in the Springfield Land Development Code, Section 36-306, Official Zoning Maps and Rules of Interpretation.

Section 3 − The Official Zoning Map herein adopted shall be maintained and archived in the same digital form in which this Council has approved its adoption.

Section 4 − This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: _____, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-177**

FILED: 07-19-16

ORIGINATING DEPARTMENT: Planning and Development

PURPOSE: To rezone approximately 0.41 acres of property generally located at 2263 East Cherry Street from a R-MD, Medium density Multi-family District to an HM, Heavy Manufacturing District and establishing Conditional Overlay District No. 109 (Staff and Planning and Zoning Commission both recommend approval).

BACKGROUND INFORMATION:

ZONING CASE NUMBER Z-10-2016 & CONDITIONAL OVERLAY DISTRICT NO. 109

The applicant is requesting to rezone the subject property from a R-MD, Medium density Multi-family District to an HM, Heavy Manufacturing District with Conditional Overlay District No. 109. The *Growth Management and Land Use Plan* Element of the *Comprehensive Plan* identifies this area as appropriate for General Industry, Transportation and Utilities land uses.

Supports the following Field Guide 2030 goal(s): Chapter 6, Major Goal 4: Develop the community in a sustainable manner. Objectives 4a and 4b

REMARKS:

The Planning and Zoning Commission held a public hearing on, July 7, 2016, and recommended approval, by a vote of 9 to 0, of the proposed zoning on the tract of land described on the attached sheet (see the attached "Exhibit B," Record of Proceedings).

The Planning and Development staff recommends the application be approved (see the attached "Exhibit D," Development Review Staff Report).

FINDINGS FOR STAFF RECOMMENDATION:

1. The requested HM, Heavy Manufacturing District zoning is consistent with the recommendations of the *Growth Management and Land Use Plan* of the *Comprehensive Plan* which recommends General Industry, Transportation and Utilities land uses.

2. The proposed Conditional Overlay District requirements are consistent with the COD of the adjacent property to the west in regards to permitted uses and depth from Cherry Street.

3. Approval of this application will allow for development of this property for additional parking and access drive for a business and will promote development where investments have already been made in public services and infrastructure.

Submitted by:

Michael Sparlin, Senior Planner

Recommended by:

Brendan Griesemer, Planning & Development Manager

Approved by:

Greg Burris, City Manager

EXHIBITS:
Exhibit A, Legal Description
Exhibit B, Record of Proceedings
Exhibit C, Conditional Overlay District Provisions
Exhibit D, Development Review Staff Report

ATTACHMENTS:
Attachment 1: Department Comments
Attachment 2: Conditional Overlay District Provisions
Attachment 3: Neighborhood Meeting Summary

**Exhibit A**

LEGAL DESCRIPTION
ZONING CASE Z-10-2016 & CONDITIONAL OVERLAY DISTRICT NO. 109

A TRACT OF LAND AS LYING IN LOTS 5 AND 6 OF CHERRY HEIGHTS TERRACE, PLAT BOOK Q, PAGE 22 AS DESCRIBED IN THE GREENE COUNTY, MISSOURI, RECORDER'S OFFICE IN BOOK 2006, PAGE 012910-06 AND SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF LOT 5 OF CHERRY HEIGHTS TERRACE, SAID POINT ALSO LYING ON THE NORTH RIGHT-OF-WAY OF CHERRY STREET; THENCE ALONG SAID NORTH RIGHT-OF-WAY, NORTH 86°30'21" WEST, 119.51 FEET TO THE SOUTHWEST CORNER OF LOT 6; THENCE LEAVING SAID NORTH RIGHT-OF-WAY, AND ALONG THE WEST LINE OF LOT 6, NORTH 01°53'29" EAST, 150.06 FEET TO THE NORTHWEST CORNER OF LOT 6 CHERRY HEIGHTS TERRACE; THENCE ALONG THE NORTH LINE OF LOTS 5 AND 6, SOUTH 86°30'21" EAST, 124.18 FEET TO THE NORTHEAST CORNER OF LOT 5 OF CHERRY HEIGHTS TERRACE; THENCE ALONG THE EAST LINE OF LOT 5, SOUTH 03°40'37" WEST, 150.00 FEET TO THE POINT OF BEGINNING. ALL LYING IN THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 20, TOWNSHIP 29 NORTH, RANGE 21 WEST, IN THE CITY OF SPRINGFIELD, GREENE COUNTY, MISSOURI. CONTAINING 0.419 ACRES, MORE OR LESS. BEARINGS BASED ON GRID NORTH OF THE MISSOURI COORDINATE SYSTEM OF 1983, CENTRAL ZONE. DATE OF ADJUSTMENT 2000.

Exhibit B

# RECORD OF PROCEEDINGS
# ZONING CASE Z-10-2016 & CONDITIONAL OVERLAY DISTRICT NO. 109

Z-10-2016 w/COD #109
2263 East Cherry Street
Applicant: O'Reilly Automotive Stores, Inc.

Mr. Hosmer states that this is a request to rezone approximately 0.41 acres of property generally located at 2263 East Cherry Street from a R-MD, Medium density Multi-family District to an HM, Heavy Manufacturing District and establishing Conditional Overlay District No.

Commission and City Council approved COD No. 34 which prohibits all other uses except commercial off-street parking lots and structures along Cherry Street and COD No. 106 prohibits all other uses except commercial off-street parking lots and structures and office uses. The Growth Management and Land Use Plan Element of the Comprehensive Plan identify this area as appropriate for General Industry, Transportation, and Utilities land uses. The intent is to rezone the property for commercial off-street parking lots and structures consistent with COD #34. No traffic study is required. Must dedicate right-of-way to meet 35 feet from the centerline of Cherry Street. The property shall be combined with the property to the North (455 South Patterson Avenue). Bufferyards are required adjacent to R-MD District. Staff recommends approval.

Mr. Ray opened the public hearing.

Mr. Jared Davis, 2045 W. Woodland, Anderson Engineering, representing the owners.

Mr. Ray closed the public hearing.

COMMISSION ACTION:
Ms Cox motions that we approve item Z-10-2016 (2263 East Cherry Street). Mr. Doennig seconded the motion. The motion carried as follows: Ayes: Ray, Doennig, Shuler, Cline, Cox, Coltrin, Ogilvy, Edwards, and Rose. Nays: None. Abstain: None. Absent: None.

_____
Bob Hosmer, AICP
Principal Planner

**Exhibit C**

CONDITIONAL OVERLAY DISTRICT PROVISIONS
ZONING CASE Z-10-2016 & CONDITIONAL OVERLAY DISTRICT NO. 109

The requirements of Section 46-433 of the Springfield Zoning Ordinance shall be modified herein for development within this district.

(2) Permitted Uses

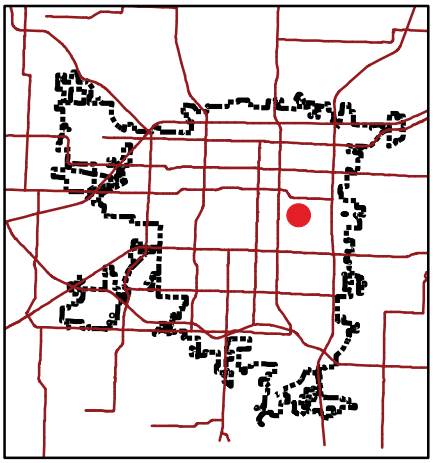
(m) Commercial off-street parking lots and structures

Additional Design Requirements

1. Dedicate additional right-of-way to meet 35 feet from the established centerline of Cherry Street.

2. The property shall be combined with the property to the North, 455 South Patterson Avenue.

Exhibit D



# Development Review Staff Report

*Department of Planning & Development - 417-864-1031*
*840 Boonville - Springfield, Missouri 65802*

## Z-10-2016 with Conditional Overlay District No. 109

LOCATION: 2263 East Cherry Street
CURRENT ZONING: R-MD, Medium Density Multi-family Residential
PROPOSED ZONING: HM, Heavy Manufacturing with Conditional Overlay District No. 109

LOCATION SKETCH

N

- Area of Proposal

0 100 200 400 Feet

1 inch = 225 feet

DEVELOPMENT REVIEW STAFF REPORT
ZONING CASE Z-10-2016 & CONDITIONAL OVERLAY DISTRICT NO. 109

PURPOSE: To rezone approximately 0.41 acres of property generally located at 2263 East Cherry Street from a R-MD, Medium density Multi-family District to an HM, Heavy Manufacturing District and establishing Conditional Overlay District No. 109

REPORT DATE: June 23, 2016

LOCATION: 2263 East Cherry Street

APPLICANT: O'Reilly Automotive Stores, Inc.

TRACT SIZE: Approximately 0.41 acres

EXISTING USE: Vacant Daycare facility

PROPOSED USE: Off-street parking and access drive

FINDINGS FOR STAFF RECOMMENDATION:

1. The requested HM, Heavy Manufacturing District zoning is consistent with the recommendations of the *Growth Management and Land Use Plan* of the *Comprehensive Plan* which recommends General Industry, Transportation and Utilities land uses.

2. The proposed Conditional Overlay District requirements are consistent with the COD of the adjacent property to the west in regards to permitted uses and depth from Cherry Street.

3. Approval of this application will allow for development of this property for additional parking and access drive for a business and will promote development where investments have already been made in public services and infrastructure.

RECOMMENDATION:

Staff recommends **approval** of this request.

SURROUNDING LAND USES:

| AREA | ZONING | LAND USE |
|---|---|---|
| North | HM | Office Building and parking lot |
| East | R-MD | Multi-family dwellings |
| South | R-SF | Single-family residence |
| West | HM COD #34 | Undeveloped land |

HISTORY:

City Council, on May 5, 2010, approved Ordinance No. 5872 to rezone the property to the west of the subject property to a HM district & Conditional Overlay District No. 34 which prohibits all other uses except commercial off-street parking lots and structures.

City Council, on May 16, 2016, approved Ordinance No. 6278 to rezone a portion of the property to the west of the subject property to a HM & Conditional Overlay District No. 106 which prohibits all other uses except commercial off-street parking lots and structures and General Office use group. This rezoning maintained the prior Conditional Overlay District No. 34 at a distance of 150 feet North of Cherry Street.

COMPREHENSIVE PLAN:

The *Growth Management and Land Use Plan* element of the *Comprehensive Plan* identifies this area as appropriate for General Industry, Transportation and Utilities land uses.

STAFF COMMENTS:

1. The applicant is requesting to rezone the subject property from a R-MD, Medium density Multi-family District to an HM, Heavy Manufacturing District with Conditional Overlay District No. 109. The *Growth Management and Land Use Plan* Element of the *Comprehensive Plan* identifies this area as appropriate for General Industry, Transportation and Utilities land uses.

2. The proposed Conditional Overlay District requirements are consistent with the COD of the adjacent property to the west in regards to permitted uses and depth from Cherry Street. The current Conditional Overlay District No. 34 area, subsequent to COD 106, maintained a depth of 150 feet from Cherry Street. This request is consistent with the depth from Cherry Street.

3. Approval of this application will allow for development of this property for additional parking and access drive for a business and will promote development where investments have already been made in public services and infrastructure.

4. The proposed rezoning was reviewed by City departments and comments are contained in Attachment 1.

NEIGHBORHOOD MEETING:

The applicant held a neighborhood meeting on June 13, 2016 regarding the rezoning request. A summary of the meeting is attached (Attachment 2).

PUBLIC COMMENTS:

The property was posted by the applicant at least 10 days prior to the public hearing. The public notice was advertised in the Daily Events at least 15 days prior to the public hearing. Public notice letters were sent out at least 10 days prior to the public hearing to all property owners within 185 feet. Ten (10) property owners within one hundred eighty-five (185) feet of the subject property were notified by mail of this request.

CITY COUNCIL MEETING:

July 25, 2016

STAFF CONTACT PERSON:

Michael Sparlin
Senior Planner
864-1091

ATTACHMENT 1
DEPARTMENT COMMENTS
ZONING CASE Z-10-2016 & CONDITIONAL OVERLAY DISTRICT NO. 109

BUILDING DEVELOPMENT SERVICES COMMENTS:

No BDS issues with proposed zoning.

PUBLIC WORKS TRAFFIC DIVISION COMMENTS:

The City's Transportation Plan classifies Cherry Street as a Secondary Arterial roadway. The standard right of way width for Cherry Street is 70 feet (35 feet from the centerline). It appears additional right of way is acquired to meet this standard. This is a City maintained street. The most recent traffic count on Cherry Street is 26,588 vehicles per day. There is one existing driveway access point along Cherry Street. This existing access will need to be reconstructed to meet current city standard for a commercial driveway. There is a sidewalk along the property frontage. The existing infrastructure meets current city standards. On-street parking is not allowed along the adjacent streets. There is not a greenway trail in the area. There is one bus stop along Cherry Street. The proposed development is in an area that provides for multiple direct connections and provides for good connectivity in the area. There are proposed improvements along Cherry Street. These are planned for construction in 2018. They include widening to three lanes with curb & gutter, bike lanes and sidewalk. This request will require right of way be dedicated in the amount needed to meet the 35 feet standard from the centerline. A survey is recommended to determine the exact existing right of way.

| Public Works Traffic Division | Response |
|---|---|
| Street classification | Secondary Arterial |
| On-street parking along streets | No |
| Trip generation - existing use | 180 vehicles per day |
| Trip generation change - proposed use | 39 vehicles per day |
| Existing street right of way widths | 31 |
| Standard right of way widths | 35 |
| Traffic study submitted | Not required |
| Proposed street improvements | None required |

Transportation Plan
Growth Management Land Use Plan

FIRE DEPARTMENT COMMENTS:

Fire has no issues.

STORMWATER COMMENTS:

The property is located in the Jordan Creek drainage basin. The property is not located in a FEMA designated floodplain. Staff is aware of flooding problems in the area. If the project increases the amount of impervious surfacing; detention and water quality is required according to Chapter 96. Buyout in lieu of on-site stormwater detention is not an option. Since the project will be disturbing more than one (1) acre there will be a land disturbance permit required. There is an existing channel available for this development to discharge into. There are no sinkholes on the proposed property.

Please note that development of the property will be subject to the following conditions at the time of development:

1. Post development peak run-off rates shall not exceed pre-development peak run-off rates for the 1, 10 and 100 year rain events. Any increase in impervious surfacing will require the development to meet current detention and water quality requirements.
2. Concentrated points of discharge from these improvements will be required to drain into a certified natural surface-water channel, public right-of-way, or a drainage easement.
3. Based upon City data, there is a significant amount of offsite concentrated stormwater crossing the subject property. Although stormwater detention and water quality do not have to be provided for these flows, public improvement plans will be required to convey these flows across the subject property. Drainage easements must be provided for this conveyance.
4. Please keep in mind that more detailed stormwater calculations will have to be submitted before any permits can be approved.

| Public Works Stormwater Division | Response |
|---|---|
| Drainage Basin | Jordan Creek |
| Is property located in Floodplain? | No |
| Is property located on a sinkhole? | No |
| Is stormwater buyout an option? | No |

CLEAN WATER SERVICES COMMENTS:

No objection to rezoning. Public sewer is available to tract.

CITY UTILITIES:

No objection to rezoning. All utilities are available.

ATTACHMENT 2
CONDITIONAL OVERLAY DISTRICT PROVISIONS
ZONING CASE Z-10-2016 & CONDITIONAL OVERLAY DISTRICT NO. 109

The requirements of Section 46-433 of the Springfield Zoning Ordinance shall be modified herein for development within this district.

(2) Permitted Uses

(m) Commercial off-street parking lots and structures

Additional Design Requirements

1. Dedicate additional right-of-way to meet 35 feet from the established centerline of Cherry Street.

2. The property shall be combined with the property to the North, 455 South Patterson Avenue.

## AFFIDAVIT OF NEIGHBORHOOD NOTIFICATION AND MEETING SUMMARY

1. Request change to zoning from: R-MD (*existing zoning*) to HM COD (parking lot) (*proposed zoning*)
2. Meeting Date & Time: June 13, 2016; 4:00 PM to 6:30 PM
3. Meeting Location: 3057 East Cairo Street, Springfield, MO 65802
4. Number of invitations that were sent: 66
5. How was the mailing list generated: City of Springfield, MO Planning Dept.
6. Number of neighbors in attendance (attach a sign-in sheet): 0
7. List the verbal comments and how you plan to address any issues:
   (City Council does not expect all of the issues to be resolved to the neighborhood's satisfaction; however, the developer must explain why the issues cannot be resolved.)

   No community attendance at Neighborhood meeting.
   4 Phone call messages were received prior to the Neighborhood meeting & attached to this summary as Exhibit A.
   There were no objections noted in the phone calls. Just questions about what is being proposed.
   Given there are no objections to the re-zoning; there is no issue to address.

8. List or attach the written comments and how you plan to address any issues:

   No written comments received.

I, Paul Engel, PE (*print name*), attest that the neighborhood meeting was held on 06/13/2016 (*month/date/year*), and is at least twenty-one (21) days prior to the Planning and Zoning Commission public hearing and in accordance with the attached "Neighborhood Notification and Meeting Process."

*Signature of person completing affidavit*

Paul Engel, PE

*Printed name of person completing affidavit*

ANDERSON ENGINEERING
EMPLOYEE OWNED

# 2263 E. Cherry Street Re-Zoning
# PLN2016-00185 Neighborhood Meeting
# 4 PM - 6:30 PM; June 13, 2016

3057 East Cairo Street, Springfield, MO 6580

## ---Please Print Your Name---

| | |
|---|---|
| 1. | 22. |
| 2. | 23. |
| 3. | 24. |
| 4. | 25. |
| 5. | 26. |
| 6. | 27. |
| 7. | 28. |
| 8. | 29. |
| 9. | 30. |
| 10. | 31. |
| 11. | 32. |
| 12. | 33. |
| 13. | 34. |
| 14. | 35. |
| 15. | 36. |
| 16. | 37. |
| 17. | 38. |
| 18. | 39. |
| 19. | 40. |
| 20. | 41. |
| 21. | 42. |

NO NEIGHBOR OR COMMUNITY ATTENDANCE DURING OPEN TIME OF 4 PM - 6:30 PM ON JUNE 13, 2016.

Page 1 of 1

PAUL ENGEL
6/13/2016 6:31 PM

# 2263 E. Cherry Street Re-Zoning
# PLN2016-00185: EXHIBIT A
# Phone Call Question Log
# to Anderson Engineering

**Call #1: 06/03/2016 Goldie Burns (417-869-3534)**
Message: Lives near Cherry & Sparks. Asked what is going to be put in.
Anderson called Goldie Burns back on 06/03/2016, ~11 am.
Left message that O'Reilly is wanting to add a drive access and parking lot.
No return call from Goldie Burns.

**Call #2: 06/03/2016 Linda Dobbins (417-862-6693)**
Left message wanting to know why the property needs to be re-zoned.
Anderson called back and explained that for O'Reilly to construct a parking lot & drive access to Cherry St, the City of Springfield requires the property to be re-zoned.
Linda Dobbins is okay with the parking lot & drive access proposed zoning change.

**Call #3: 06/06/2016 Loretta Chilton (417-864-4514)**
Message: Lives at 2306 E Cherry. Asked what is going to be built.
Anderson called Loretta Chilton on 06/06/2016, ~1:30 pm.
Left message that O'Reilly is wanting to add a drive access and parking lot.
Loretta Chilton called back (06/06/2016, ~1:50 pm) and said she is okay with the proposed change.

**Call #4: 06/08/2016 Celeste - Realtor (417-343-2098)**
Message: Client owns property on Sparks but lives in Florida. Question about what is proposed to be built. Anderson said parking lot & access drive. Celeste said that sounds okay & will forward the info to her client.

One-rdg._____
P. Hrngs._____
Pgs. 15
Filed: 07-19-16

Sponsored by: Hosmer

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016 - 178 GENERAL ORDINANCE NO. _____

AN ORDINANCE

AMENDING the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 0.62 acres of property, generally located at 2420 East Sunshine Street, from Planned Development 136, to GR, General Retail District; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.)

_____

WHEREAS, an application has been filed for a zoning change of the property described on "Exhibit B" of this Ordinance, generally located at 2420 East Sunshine Street, from Planned Development 136, to GR, General Retail District; and

WHEREAS, following proper notice, a public hearing was held before the Planning and Zoning Commission, a copy of the Record of Proceedings from said public hearing being attached hereto as “Exhibit A” and said Commission made its recommendation; and

WHEREAS, proper notice was given of a public hearing before the City Council and that said hearing was held in accordance with the law.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The property described on “Exhibit B” of this Ordinance be, and the same hereby is, rezoned from Planned Development 136, or such zoning district as is designated on the Official Zoning Map adopted by the City Council, to GR, General Retail District; and the Springfield Land Development Code, Section 36-306 thereof, Zoning Maps, is hereby amended, changed and modified accordingly.

Section 2 – The City Council hereby directs the City Manager, or his designee, to update the City's digital zoning map to reflect this rezoning, and City Council adopts the map thereby amended as the Official Zoning Map of Springfield, Missouri, as provided for in the Springfield Land Development Code, Section 36-306, Official Zoning Map and Rules of Interpretation.

Section 3 – The Official Zoning Map herein adopted shall be maintained and archived in the same digital form in which this Council has approved its adoption.

Section 4 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: _____, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-178**

FILED: 07-19-16

ORIGINATING DEPARTMENT: Planning and Development

PURPOSE: To rezone approximately 0.62 acres of property generally located at 2420 East Sunshine Street from a Planned Development 136 to a GR, General Retail District. (Planning and Zoning Commission and Staff recommend approval)

BACKGROUND INFORMATION: ZONING CASE NUMBER Z-9-2016

The applicant is proposing to rezone the subject properties from a Planned Development 136 to a GR, General Retail District. The intent of this application is to rezone the subject property which will facilitate the redevelopment of the site for a new automotive service garage. This use is not currently permitted by the existing PD 136 Amended. A conditional use permit (Use Permit 423) to allow an automotive service garage accompanies this rezoning request.

The *Growth Management and Land Use Plan* of the *Comprehensive Plan* designates this area along the Sunshine Street corridor as appropriate for medium-intensity retail, office and residential uses. General Retail is one of the zoning districts recommended in these areas. The General Retail District is intended for uses that provide community-wide personal and business services, shopping centers and specialty shops. The need for community-wide accessibility dictates that this district be located along or at the intersection of two or more arterial or higher classification streets (Sunshine and Lone Pine).

This ordinance supports the following Field Guide 2030 goal(s): Chapter 6, Growth Management and Land Use; Major Goal 4, Develop the community in a sustainable manner; Objective 4a, Increase density in activity centers and transit corridors.

FINDINGS FOR STAFF RECOMMENDATION:

1. The *Growth Management and Land Use Plan* of the *Comprehensive Plan* designates this area along the Sunshine Street corridor as appropriate for medium-intensity retail, office and residential uses. General Retail is one of the zoning districts recommended in these areas.

2. The proposed GR, General Retail zoning is consistent with adjacent commercial zoning and uses that front along Sunshine Street.

3. Approval of this application will facilitate redevelopment of these properties and promote infill development and increased intensity where investments have already been made in public services and infrastructure.

REMARKS:

The Planning and Zoning Commission held a public hearing on July 7, 2016, and recommended approval, by a vote of 9 to 0, of the proposed zoning on the tract of land described on the attached sheet (see the attached Record of Proceedings ("Exhibit A").

The Planning and Development staff recommends the application be approved (see the attached Development Review Staff Report, "Exhibit C").

Submitted by:

Daniel Neal, Senior Planner

Recommended by:

Bob Hosmer, AICP Principal Planner

Approved by:

Greg Burris, City Manager

EXHIBITS:
Exhibit A, Record of Proceedings
Exhibit B, Legal Description
Exhibit C, Development Review Staff Report
ATTACHMENTS:
Attachment 1: Department Comments
Attachment 2: Neighborhood Meeting Summary

**Exhibit A**

RECORD OF PROCEEDINGS
ZONING CASE Z-9-2016

Z-9-2016
2420 East Sunshine Street
Applicant: D.L. Rogers Corp

Mr. Hosmer states that this is a request to rezone approximately 0.62 acres of property generally located at 2420 East Sunshine Street from a Planned Development 136 to a GR, General Retail District.

The Growth Management and Land Use Plan of the Comprehensive Plan designate this area along the Sunshine Street corridor as appropriate for medium-intensity retail, office and residential uses. General Retail is one of the zoning districts recommended in these areas. The intent of this application is to rezone the subject property for a new automotive service garage. A conditional use permit is required to allow an automotive service garage. Use Permit 423. A traffic study was not warranted. There are no bufferyards required adjacent to PD 136 Amended since the permitted uses are similar to the GR, General Retail District. Staff recommends approval

Mr. Ray opened the public hearing.

Mr. Derek Lee, Lee Engineering, 1200 E. Woodhurst Drive, stated that they are turning a Sonic Drive-In into a tire store. Conditional Use Permit 423 has the site plan.

Mr. Ray closed the public hearing.

COMMISSION ACTION:
Mr. Edwards motions that we approve item Z-9-2016 (2420 East Sunshine Street). Mr. King seconded the motion. The motion carried as follows: Ayes: Ray, Doennig, Shuler, Cline, Cox, Coltrin, Ogilvy, Edwards, and Rose. Nays: None. Abstain: None. Absent: None.

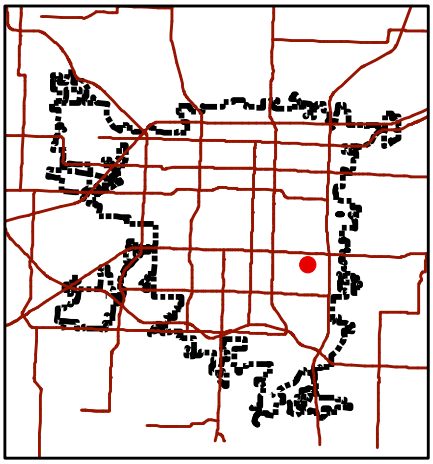
Bob Hosmer, AICP
Principal Planner

**Exhibit B**

LEGAL DESCRIPTION
ZONING CASE Z-9-2016

Lot Three (3), Lone Pine Place Final Plat, also a replat of Lots 1-8 of the Linwood Heights Fifth Addition, a Subdivision in the City of Springfield, Greene County, Missouri, according to the recorded plat thereof, recorded in Plat Book PP, Page 3.

Exhibit C



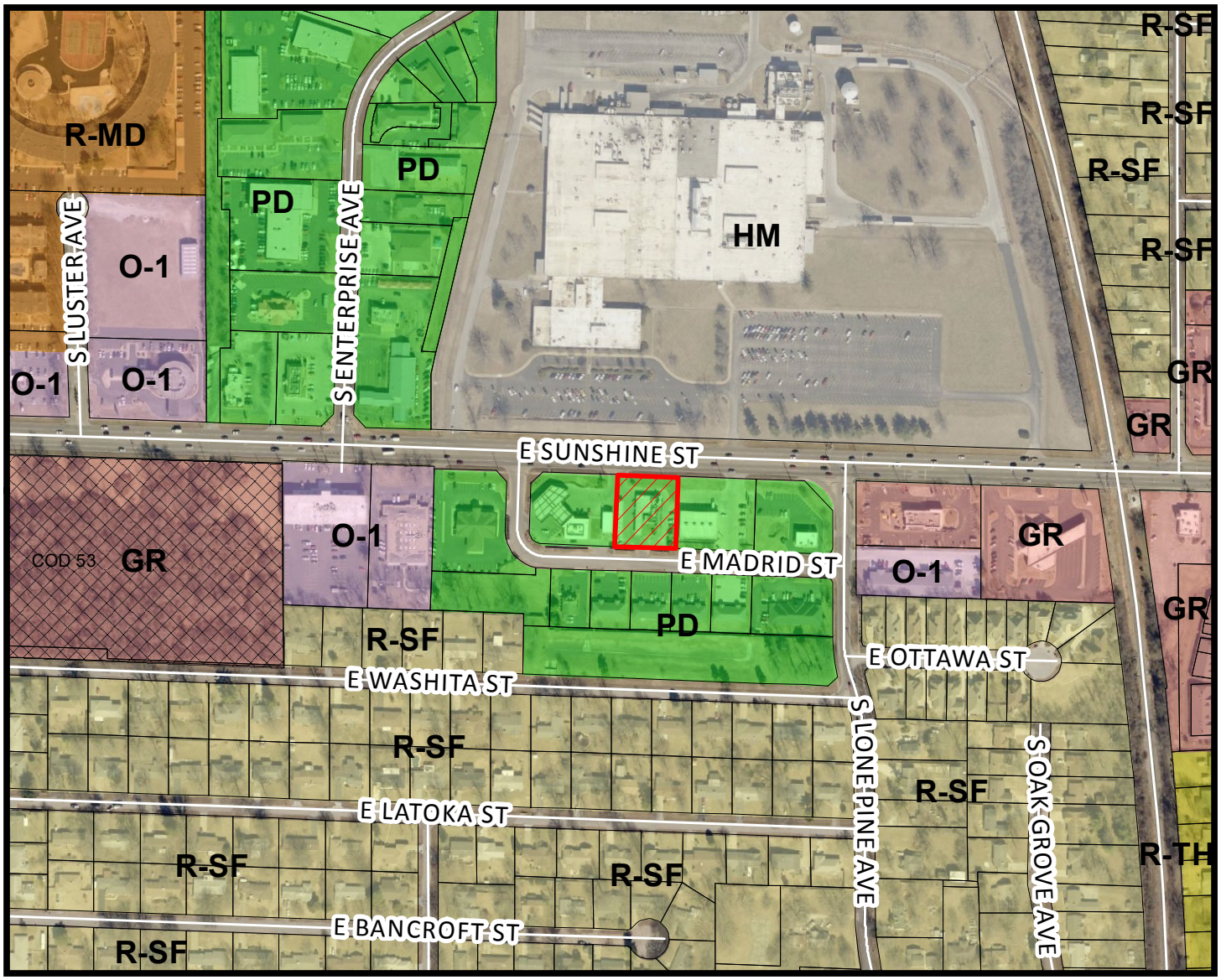
# Development Review Staff Report

*Department of Planning & Development - 417-864-1031*
*840 Boonville - Springfield, Missouri 65802*

## Z-9-2016

LOCATION: 2420 E. Sunshine Street
CURRENT ZONING: Planned Development 136 Amended
PROPOSED ZONING: GR, General Retail District

LOCATION SKETCH




N

- Area of Proposal

0 200 400 800 Feet

1 inch = 400 feet

DEVELOPMENT REVIEW STAFF REPORT
ZONING CASE Z-9-2016

PURPOSE: To rezone approximately 0.62 acres of property generally located at 2420 East Sunshine Street from a Planned Development 136 to a GR, General Retail District.

REPORT DATE: June 3, 2016

LOCATION: 2420 E. Sunshine St.

APPLICANT: D.L. Rogers Corporation

TRACT SIZE: Approximately 0.62 acres

EXISTING USE: Restaurant

PROPOSED USE: Automotive service garage

FINDINGS FOR STAFF RECOMMENDATION:

1. The *Growth Management and Land Use Plan* of the *Comprehensive Plan* designates this area along the Sunshine Street corridor as appropriate for medium-intensity retail, office and residential uses. General Retail is one of the zoning districts recommended in these areas.

2. The proposed GR, General Retail zoning is consistent with adjacent commercial zoning and uses that front along Sunshine Street.

3. Approval of this application will facilitate redevelopment of these properties and promote infill development and increased intensity where investments have already been made in public services and infrastructure.

4. Supports the following Field Guide 2030 goal(s): <u>Chapter 6, Growth Management and Land Use Major Goal 4: Develop the community in a sustainable manner. Objective 4a, Increase density in activity centers and transit corridor.</u>

RECOMMENDATION:

Staff recommends **approval** of this request.

SURROUNDING LAND USES:

| AREA | ZONING | LAND USE |
|---|---|---|
| North | HM | Manufacturing and industrial uses |
| East | PD 136 | Automotive parts store uses |
| South | PD 136 | Office uses |
| West | PD 136 | Convenience store and fueling station uses |

COMPREHENSIVE PLAN:

The *Growth Management and Land Use Plan* of the *Comprehensive Plan* designates this area along the Sunshine Street corridor as appropriate for medium-intensity retail, office and residential uses. General Retail is one of the zoning districts recommended in these areas. The General Retail District is intended for uses that provide community-wide personal and business services, shopping centers and specialty shops. The need for community-wide accessibility dictates that this district be located along or at the intersection of two or more arterial or higher classification streets.

STAFF COMMENTS:

1. The applicant is proposing to rezone the subject property from a Planned Development 136 to a GR, General Retail District. The intent of this application is to rezone the subject property which will facilitate the redevelopment of the site for a new automotive service garage. This use is not currently permitted by the existing PD 136 Amended. A conditional use permit (Use Permit 423) to allow an automotive service garage accompanies this rezoning request.

2. The *Growth Management and Land Use Plan* of the *Comprehensive Plan* designates this area along the Sunshine Street corridor as appropriate for medium-intensity retail, office and residential uses. General Retail is one of the zoning districts recommended in these areas. The General Retail District is intended for uses that provide community-wide personal and business services, shopping centers and specialty shops. The need for community-wide accessibility dictates that this district be located along or at the intersection of two or more arterial or higher classification streets. Staff believes the subject site meets the recommendation of the *Comprehensive Plan* and intent of the General Retail District.

3. A traffic study was not warranted by Public Works Traffic Division since the rezoning from PD 136 Amended to GR will not generate a significant amount of additional traffic.

4. There are no bufferyards required adjacent to PD 136 Amended since the permitted uses are similar to the GR, General Retail District.

5. The proposed rezoning was reviewed by City departments and comments are contained in Attachment 1.

NEIGHBORHOOD MEETING:

The applicant held a neighborhood meeting with property owners, residents and any registered neighborhood association within 500 feet of the subject properties on May 12, 2016. A summary of the meeting is attached (Attachment 2).

PUBLIC COMMENTS:

The property was posted by the applicant or their representative on June 10, 2016 at least 10 days prior to the public hearing. The public notice was advertised in the Daily Events at least 15 days prior to the public hearing. Public notice letters were sent out at least 10 days prior to the public hearing to all property owners within 185 feet. Nine (9) property owners within one hundred eighty-five (185) feet of the subject property were notified by mail of this request.

CITY COUNCIL MEETING:

July 25, 2016

STAFF CONTACT PERSON:

Daniel Neal
Senior Planner
864-1036

ATTACHMENT 1
DEPARTMENT COMMENTS
ZONING CASE Z-9-2016

BUILDING DEVELOPMENT SERVICES COMMENTS:

Building Development Services does not have any issues with the proposed rezoning to General Retail.

CITY UTILITIES:

No objection to rezoning. All utility services are available.

CLEAN WATER SERVICES COMMENTS:

No objections to rezoning. Public sewer and service lateral available.

MODOT COMMENTS:

No comments.

PUBLIC WORKS TRAFFIC DIVISION COMMENTS:

The City's Transportation Plan classifies Sunshine Street as a Primary Arterial and Madrid Street as a local commercial roadway. Sunshine is a State maintained street. The standard right of way for Madrid Street is 30 feet from the centerline. The most recent traffic count on Sunshine Street is 33,021 vehicles per day. There is no recent traffic count on Madrid Street. There is one existing driveway access points along the property frontage on Sunshine Street and one on Madrid Street. There is a sidewalk along Sunshine Street but no sidewalk along Madrid Street. The existing infrastructure meets current city standards. On-street parking is not allowed along the adjacent streets. There is not a greenway trail in the area. There is one bus stop along Sunshine Street and no bus stops along Madrid Street. The proposed development is in an area that provides for multiple direct connections and provides for good connectivity in the area. There are not any proposed improvements along Sunshine Street or Madrid Street. Staff recommends approval of this rezoning request.

| Public Works Traffic Division | Response |
|---|---|
| Street classification | Sunshine - Primary Arterial; Madrid - Local Commercial |
| On-street parking along streets | No |
| Trip generation - existing use | 720 trips per day |
| Trip generation - proposed use | 20 trips per day per service bay |
| Existing street right of way widths | 50 feet from centerline for Sunshine (city standards - this is a MoDOT route) |

| | |
|---|---|
| | 30 feet from centerline for Madrid |
| Standard right of way widths | 50 feet from centerline for Sunshine (city standards - this is a MoDOT route)<br>30 feet from centerline for Madrid |
| Traffic study submitted | Not required |
| Proposed street improvements | None |

STORMWATER COMMENTS:

The property is located in the Galloway Creek drainage basin. The property is not located in a FEMA designated floodplain. Staff is aware of flooding problems in the area. If the project increases the amount of impervious surfacing; detention and water quality is required according to Chapter 96. Buyout in lieu of on-site stormwater detention is not an option. Since the project will be disturbing less than one (1) acre there will not be a land disturbance permit required. There is an existing detention basin and underground storm sewer serving this development. There are no sinkholes on the proposed property.

| Public Works Stormwater Division | Response |
|---|---|
| Drainage Basin | Galloway Creek |
| Is property located in Floodplain? | No |
| Is property located on a sinkhole? | No |
| Is stormwater buyout an option? | No |

## AFFIDAVIT OF NEIGHBORHOOD NOTIFICATION AND MEETING SUMMARY

1. Request change to zoning from: PD 136 *(existing zoning)* to GR *(proposed zoning)*
2. Meeting Date & Time: May 12, 2016 4 to 6:30pm
3. Meeting Location: Panera Bread, 2924 East Sunshine
4. Number of invitations that were sent: 47
5. How was the mailing list generated: City of Springfield
6. Number of neighbors in attendance (attach a sign-in sheet): 3
7. List the verbal comments and how you plan to address any issues:
   (City Council does not expect all of the issues to be resolved to the neighborhood's satisfaction; however, the developer must explain why the issues cannot be resolved.)

   Dan Malachowski telephoned our office with concerns about noise issues. Attached is a letter from Plaza Tire that was given to Mr. Malachowski at the neighborhood meeting in regards to that concern.

8. List or attach the written comments and how you plan to address any issues:

   No written comments.

I, Leslie Chrystal *(print name)*, attest that the neighborhood meeting was held on 5/12/16 *(month/date/year)*, and is at least twenty-one (21) days prior to the Planning and Zoning Commission public hearing and in accordance with the attached "Neighborhood Notification and Meeting Process."

Leslie Chrystal

*Signature of person completing affidavit*

Leslie Chrystal

*Printed name of person completing affidavit*

# LEE ENGINEERING AND ASSOCIATES, L.L.C.

CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz


## SIGN IN SHEET

Neighborhood Meeting

Thursday, May 12, 2016

Re: Proposed Rezone
With A Conditional Use Permit
2420 East Sunshine
Springfield, Missouri

| NAME | ADDRESS | PHONE |
|---|---|---|
| Ken Blankenship | 2315 E Washita | 886-7463 |
| Toni Lightner | 2402 E Madrid | 883-3235 |
| IAN MALACHOWSKI | 2432 E. MADRID | 886-1111 |
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May 12, 2016

Mr. Derek Lee
Lee Engineering
1200 E Woodhurst Dr Bldg D 200
Springfield MO 65804

RE: New Plaza Tire Service, 2420 East Sunshine, Springfield, Missouri

Dear Derek,

Please allow this letter to address concerns about possible noise issues coming from our store operations.

1) All work will be inside the building
2) The bays will be facing west toward Kum & Go.
3) We will use rotary driven compressor not a piston type compressor. This compressor makes noise similar to a residential refrigerator.

The noise from our operations is typical of retail developments such as Kum & Go or Sonic. We have never had a compliant or violation regarding noise from any of our other 58 stores. Some stores operate within 100' from residential areas. This is our first store in Springfield and we want to be a part of the Springfield community. We will fully comply with the City's noise ordinance (Division 2 Sec. 78-111-114). It is our goal to be a good neighbor and corporate citizen to the City of Springfield.

Sincerely,

Plaza Tire Service, Inc.

Scott M. Rhodes
Vice President
Co-Owner

ESTABLISHED 1961

One-rdg. _____
P. Hrngs. _____
Pgs. 25
Filed: 07-19-16

Sponsored by: Fishel

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016-179 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

AUTHORIZING the issuance of a "Use Permit," generally referenced as Use Permit No. 423, to allow an automobile service garage within the GR, General Retail District, generally located at 2420 East Sunshine Street. (Staff and Planning and Zoning Commission recommend approval.)

_____

WHEREAS, by the authority of Section 36-363 of the Land Development Code of the City of Springfield, Missouri, the City Council may grant permits for certain types of uses in certain zoning districts; and

WHEREAS, application has been made, and notice and hearings have been held as provided in Section 36-363 prior to the granting of such Use Permit, and the Planning and Zoning Commission has found the necessary conditions to exist; and

WHEREAS, the City Council finds the following conditions to exist:

1. The application is complete and does not contain or reveal violations of this provision or other applicable regulations which the applicant has failed or refused to supply or correct;

2. The site plan meets the standards required by this Article or other applicable regulations with respect to such development or use;

3. The proposed site plan does not interfere with easements, roadways, rail lines, utilities, and public or private rights-of-way;

4. The proposed site plan does not destroy, damage, detrimentally modify or interfere with the enjoyment and function of significant natural topographic or physical features of the site;

5. The proposed site plan is not injurious or detrimental to the use and enjoyment of surrounding property;

6. The circulation elements of the proposed site plan do not create hazards to safety on or off the site, disjointed vehicular or pedestrian circulation paths on or off the site, or undue interferences and inconveniences to vehicular and pedestrian travel;

7. The screening of the site provides adequate shielding for nearby uses which may be incompatible with the proposed use;

8. The proposed structures or landscaping are not lacking amenity in relation to, or are not incompatible with, nearby structures and uses;

9. The proposed site plan does not create drainage or erosion problems on or off the site; and

WHEREAS, the granting of such permit is deemed proper and beneficial to the welfare of the City of Springfield, Missouri.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – Permission is hereby granted to use the tract of land generally located at 2420 East Sunshine Street, and more fully described in “Exhibit B,” which is attached hereto and incorporated herein as if copied verbatim, for an automobile service garage within a GR, General Retail District, on certain conditions in accordance with Section 36-363 of the Land Development Code of the City of Springfield, Missouri. This Use Permit shall be generally referenced as Conditional Use Permit No. 423.

Section 2 – Such use shall be subject to the conditions set forth in the Explanation and “Exhibit A” to this ordinance, both of which are attached hereto and incorporated herein as if set out verbatim.

Section 3 − Building permits and certificates of occupancy may be issued by the proper authorities pursuant to the permission granted by this ordinance.

Section 4 − This permit shall be in full force and effect only so long as the use of said premises and any improvements thereon conform with the use herein granted and are in accordance with the application and plans herein approved and referred to, unless special exceptions shall have been granted by the Board of Adjustment, and any violation of the requirements of this ordinance may be grounds for the revocation of this permit by the City Council after a hearing before said City Council.

Passed at meeting: _____

_____

Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: _____, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-179**

FILED: 07-19-16

ORIGINATING DEPARTMENT: Planning and Development

PURPOSE: To allow an automobile service garage within a GR, General Retail District generally located at 2420 East Sunshine Street. (Planning and Zoning Commission and Staff recommend approval)

BACKGROUND INFORMATION: CONDITIONAL USE PERMIT NO. 423

This is a request for a Conditional Use Permit to allow an automobile service garage within a GR, General Retail District generally located at 2420 East Sunshine Street. This use is not currently permitted by the existing PD 136 Amended. A request to rezone this property to GR, General Retail (Z-9-2016) is being concurrently processed with this conditional use permit request.

The *Growth Management and Land Use Plan* of the *Comprehensive Plan* identifies this property as an appropriate area for medium intensity retail, office or housing. The site is an appropriate location for an automobile service garage. Approval of this request will provide for the productive use of the subject property where investments have been made in public infrastructure and services. Staff has reviewed the applicant's request for a Conditional Use Permit and has determined that it satisfies the standards for Conditional Use Permits outlined in Section 36-363 (10) of the Zoning Ordinance.

Supports the following Field Guide 2030 goal(s): Chapter 6, Growth Management and Land Use; Major Goal 4, Develop the community in a sustainable manner; Objective 4a, Increase density in activity centers and transit corridors.

FINDINGS FOR STAFF RECOMMENDATION:

1. The *Growth Management and Land Use Plan* of the *Comprehensive Plan* identifies this property as an appropriate area for medium intensity retail, office or housing. This land use category would accommodate a variety of commercial uses.

2. Approval of this request will provide for the productive use of the subject property which is already served with public infrastructure and services and is not expected to adversely impact the surrounding properties.

3. This application meets the approval standards for a Conditional Use Permit and is in conformance with the *Comprehensive Plan,* which identifies this area as appropriate for a variety of commercial uses.

CONDITIONS:

1. The regulations and standards listed on “Exhibit D - Attachment 2” shall govern and control the use and development of the land in Use Permit Number 423 in a manner consistent with the attached site plan (“Exhibit D - Attachment 5”).

2. The proposed automobile service garage shall be located and constructed in substantial conformance to the attached site plan.

REMARKS:

The Planning and Zoning Commission held a public hearing on July 7, 2016, and recommended approval with modifications to the site plan, by a vote of 9 to 0, of the proposed conditional use permit on the tract of land described on the attached sheet (“Exhibit C”).

The Planning and Development staff recommends the application be approved (“Exhibit D”).

Submitted by:

Daniel Neal, Senior Planner

Recommended by:

Bob Hosmer, AICP Principal Planner

Approved by:

Greg Burris, City Manager

EXHIBITS:
Exhibit A, Requirements for Conditional Use Permit 423
Exhibit B, Legal Description
Exhibit C, Record of Proceedings
Exhibit D, Development Review Staff Report
ATTACHMENTS:
Attachment 1, Department Comments
Attachment 2, Requirements for Conditional Use Permit 423
Attachment 3, Standards and Responses for Conditional Use Permits
Attachment 4, Neighborhood Meeting Summary
Attachment 5, Site Plan

**Exhibit A**

REQUIREMENTS FOR CONDITIONAL USE PERMIT 423

1. An automobile service garage is permitted in substantial conformance with Exhibit D - Attachment 5.

2. All other standards of the Zoning Ordinance and other applicable ordinances shall be adhered to.

**Exhibit B**

LEGAL DESCRIPTION
CONDITIONAL USE PERMIT 423

Lot Three (3), Lone Pine Place Final Plat, also a replat of Lots 1-8 of the Linwood Heights Fifth Addition, a Subdivision in the City of Springfield, Greene County, Missouri, according to the recorded plat thereof, recorded in Plat Book PP, Page 3.

**Exhibit C**

RECORD OF PROCEEDINGS
CONDITIONAL USE PERMIT 423

Conditional Use Permit 423
2420 East Sunshine Street
Applicant: D.L. Rogers Corp

Mr. Hosmer states that this is a request to allow an automotive service garage on property located at 2420 East Sunshine Street in a GR, General Retail District.

A conditional use permit is required to allow an automotive service garage in a GR, General Retail District. The Growth Management and Land Use Plan of the Comprehensive Plan designate this area as appropriate for medium-intensity retail, office and residential uses. There are 21 standards for a Conditional Use Permit in the Zoning Ordinance. An automobile service garage site plan has been reviewed by staff and is in substantial conformance with these standards. The Conditional Use Permit is valid for 18 months or until a building permit or occupancy permit is issued. The Conditional Use Permit shall adhere to the attached site plan. This application meets the approval standards for a Conditional Use Permit. GR, General Retail District does not allow outside storage. Staff recommends approval.

Mr. Ray opened the public hearing.

Mr. Derek Lee, Lee Engineering, 1200 E. Woodhurst Drive stated that this is the site plan for Z-9-2016.

Mr. Edwards asked about the storage of the tires regarding the possibility of the Zika (mosquito) problem.

Mr. Hosmer stated that there are regulations on storing tires, they have to be store inside to prevent them from getting wet and have them removed them from the premises.

Ms. Cox asked about the site plan showing an area that looks like it may be outside of the building.

Mr. Lee noted that it shows an existing building (Sonic Drive-In) on the site plan that will not be part of the new building. The plans are for the waste tire enclosure to be inside the building.

Mr. Hosmer requests a new site plan to only show the planned site and not the existing conditions before it goes to City Council.

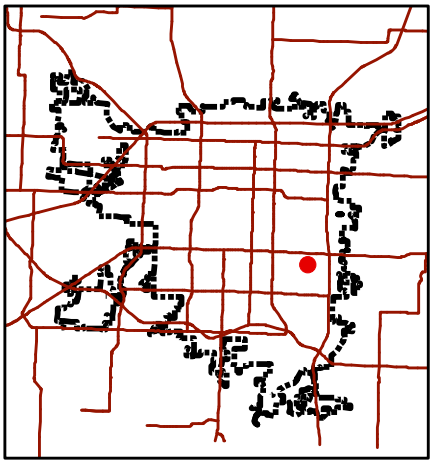
Mr. Ray closed the public hearing.

COMMISSION ACTION:
Ms. Cox motions that we approve Conditional Use Permit 423 (2420 East Sunshine Street) with modifications to remove the existing conditions and only show the planned site. Mr. Edwards seconded the

motion. The motion carried as follows: Ayes: Ray, Doennig, Shuler, Cline, Cox, Coltrin, Ogilvy, Edwards, and Rose. Nays: None. Abstain: None. Absent: None.

Bob Hosmer, AICP
Principal Planner

Exhibit D



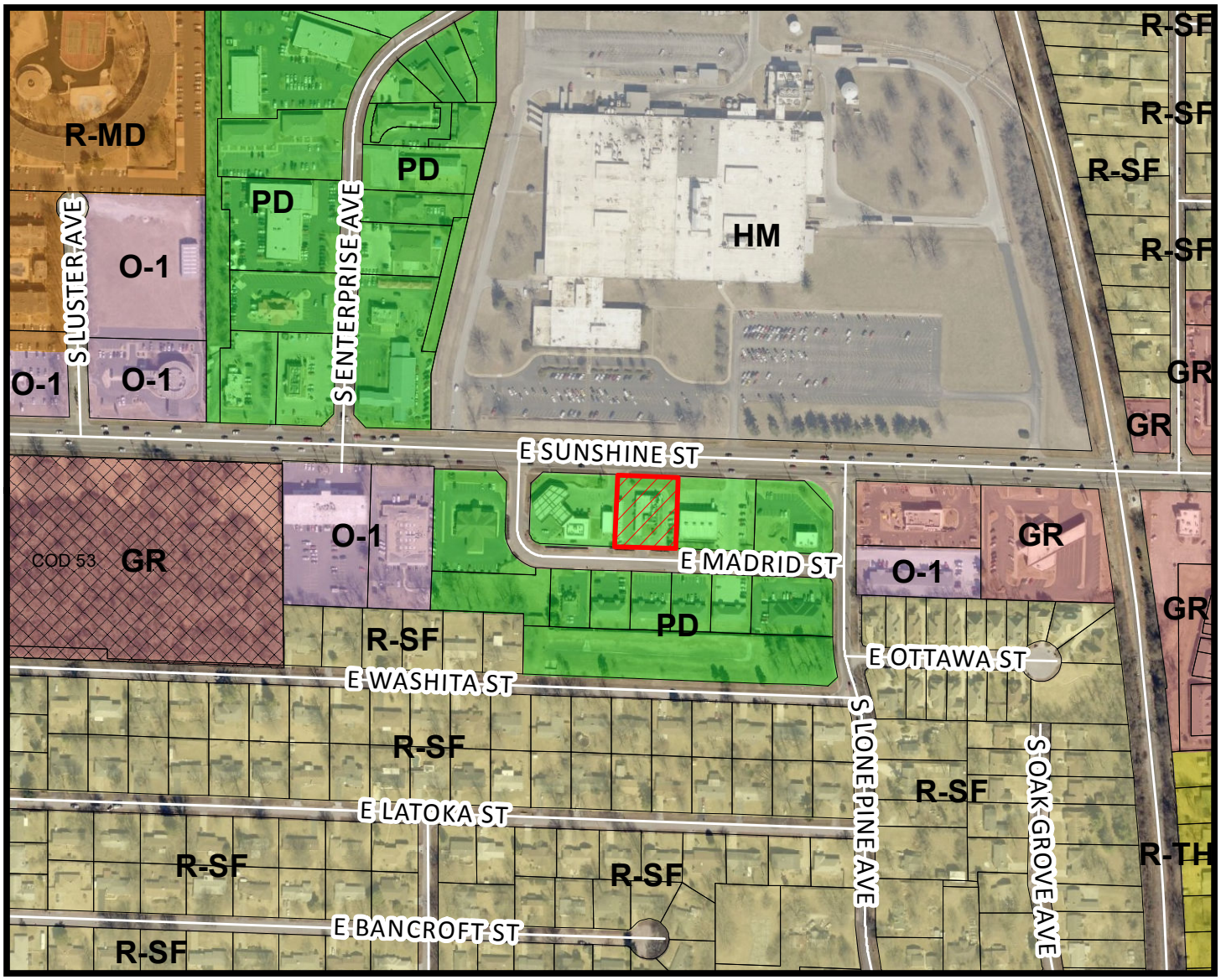
# Development Review Staff Report

*Department of Planning & Development - 417-864-1031*
*840 Boonville - Springfield, Missouri 65802*

## Use Permit 423

LOCATION: 2420 E. Sunshine Street
CURRENT ZONING: Planned Development 136 Amended
PROPOSED ZONING: GR, General Retail District
PROPOSED USE: Automotive Service Garage

LOCATION SKETCH




N

- Area of Proposal

0 200 400 800 Feet

1 inch = 400 feet

DEVELOPMENT REVIEW STAFF REPORT
CONDITIONAL USE PERMIT 423

PURPOSE: To allow an automobile service garage within a GR, General Retail District generally located at 2420 East Sunshine Street

REPORT DATE: June 9, 2016

LOCATION: 2420 E. Sunshine St.

APPLICANT: D.L. Rogers Corporation

TRACT SIZE: Approximately 0.62 acres

EXISTING USE: Restaurant

PROPOSED USE: Automotive service garage

FINDINGS FOR STAFF RECOMMENDATION:

1. The *Growth Management and Land Use Plan* of the *Comprehensive Plan* identifies this property as an appropriate area for medium intensity retail, office or housing. This land use category would accommodate a variety of commercial uses.

2. Approval of this request will provide for the productive use of the subject property which is already served with public infrastructure and services and is not expected to adversely impact the surrounding properties.

3. This application meets the approval standards for a Conditional Use Permit and is in conformance with the *Comprehensive Plan,* which identifies this area as appropriate for a variety of commercial uses.

4. Supports the following Field Guide 2030 goal(s): Chapter 6, Growth Management and Land Use Major Goal 4: Develop the community in a sustainable manner. Objective 4a, Increase density in activity centers and transit corridor.

RECOMMENDATION:

Staff recommends approval of this request with the following conditions:

1. The regulations and standards listed on Attachment 3 shall govern and control the use and development of the land in Use Permit Number 423 in a manner consistent with the attached site plan (Attachment 5).

2. The proposed automobile service garage shall be located and constructed in substantial conformance to the attached site plan.

SURROUNDING LAND USES:

| AREA | ZONING | LAND USE |
|---|---|---|
| North | HM | Manufacturing and industrial uses |
| East | PD 136 | Automotive parts store uses |
| South | PD 136 | Office uses |
| West | PD 136 | Convenience store and fueling station |

ZONING ORDINANCE REQUIREMENTS:

1. The conditional use permit procedure is designed to provide the Planning and Zoning Commission and the City Council with an opportunity for discretionary review of requests to establish or construct uses or structures which may be necessary or desirable in a zoning district, but which may also have the potential for a deleterious impact upon the health, safety and welfare of the public. In granting a conditional use, the Planning and Zoning Commission may recommend, and the City Council may impose such conditions, safeguards and restrictions upon the premises benefited by the conditional use as may be necessary to comply with the standards set out in the Zoning Ordinance to avoid, or minimize, or mitigate any potentially adverse or injurious effect of such conditional uses upon other property in the neighborhood. The general standards for conditional use permits are listed in Attachment 3.
2. No conditional use permit shall be valid for a period longer than 18 months from the date City Council grants the conditional use permit, unless within this 18 months:
    a. A building permit is obtained and the erection or alteration of a structure is started; or
    b. An occupancy permit is obtained and the conditional use is begun.

COMPREHENSIVE PLAN:

The *Growth Management and Land Use Plan* of the *Comprehensive Plan* designates this area along the Sunshine Street corridor as appropriate for medium-intensity retail, office and residential uses. General Retail is one of the zoning districts recommended in these areas. The General Retail District is intended for uses that provide community-wide personal and business services, shopping centers and specialty shops. The need for community-wide

accessibility dictates that this district be located along or at the intersection of two or more arterial or higher classification streets.

STAFF COMMENTS:

1. This is a request for a Conditional Use Permit to allow an automobile service garage within a GR, General Retail District generally located at 2420 E. Sunshine Street. This use is not currently permitted by the existing PD 136 Amended. A request to rezone this property to GR, General Retail (Z-9-2016) is being concurrently processed with this conditional use permit request.

2. The *Growth Management and Land Use Plan* of the *Comprehensive Plan* identifies this property as an appropriate area for medium intensity retail, office or housing. The site is an appropriate location for an automobile service garage. Approval of this request will provide for the productive use of the subject property where investments have been made in public infrastructure and services. Staff has reviewed the applicant's request for a Conditional Use Permit and has determined that it satisfies the standards for Conditional Use Permits outlined in Section 36-363 (10) of the Zoning Ordinance.

3. Development of this site will comply with all of the requirements of the GR, General Retail District. All requirements for parking, open space, bufferyards and height will be met with the development of this property.

4. Staff has reviewed the applicant's request for a Conditional Use Permit and has determined that it satisfies the standards for Conditional Use Permits outlined in Section 36-363 (10) of the Zoning Ordinance. Any development of this property must also follow the GR, General Retail District requirements.

5. The proposed Conditional Use Permit was reviewed by City departments and comments are contained in Attachment 1.

NEIGHBORHOOD MEETING:

The applicant held a neighborhood meeting with property owners, residents and any registered neighborhood association within 500 feet of the subject properties on May 12, 2016. A summary of the meeting is attached (Attachment 2).

PUBLIC COMMENTS:

The property was posted by the applicant or their representative on June 10, 2016 at least 10 days prior to the public hearing. The public notice was advertised in the Daily Events at least 15 days prior to the public hearing. Public notice letters were sent out at least 10 days prior to the public hearing to all property owners within 185 feet. Nine (9) property owners within one hundred eighty-five (185) feet of the subject property were notified by mail of this request.

CITY COUNCIL PUBLIC HEARING:

July 25, 2016

STAFF CONTACT PERSON:

Daniel Neal
Senior Planner
864-1036

ATTACHMENT 1
DEPARTMENT COMMENTS
CONDITIONAL USE PERMIT 423

BUILDING DEVELOPMENT SERVICES COMMENTS:

No issues with the Conditional Use Permit.

CLEAN WATER SERVICES COMMENTS:

No impact on public sewer.

CITY UTILITIES:

No objections to use permit.

FIRE DEPARTMENT:

No comments.

MODOT COMMENTS:

Any work, material, equipment on state r/w requires a MoDOT permit.

PUBLIC WORKS TRAFFIC DIVISION COMMENTS:

The City's Transportation Plan classifies Sunshine Street as a Primary Arterial and Madrid Street as a local commercial roadway. Sunshine is a State maintained street. The standard right of way for Madrid Street is 30 feet from the centerline. The most recent traffic count on Sunshine Street is 33,021 vehicles per day. There is no recent traffic count on Madrid Street. There is one existing driveway access points along the property frontage on Sunshine Street and one on Madrid Street. There is a sidewalk along Sunshine Street but no sidewalk along Madrid Street. The existing infrastructure meets current city standards. On-street parking is not allowed along the adjacent streets. There is not a greenway trail in the area. There is one bus stop along Sunshine Street and no bus stops along Madrid Street. The proposed development is in an area that provides for multiple direct connections and provides for good connectivity in the area. There are not any proposed improvements along Sunshine Street or Madrid Street. Staff recommends approval of this rezoning request.

| Public Works Traffic Division | Response |
|---|---|
| Street classification | Sunshine - Primary Arterial; Madrid - Local Commercial |
| On-street parking along streets | No |
| Trip generation - existing use | 720 trips per day |
| Trip generation - proposed use | 20 trips per day per service bay |

| | |
|---|---|
| Existing street right of way widths | 50 feet from centerline for Sunshine (city standards - this is a MoDOT route)<br>30 feet from centerline for Madrid |
| Standard right of way widths | 50 feet from centerline for Sunshine (city standards - this is a MoDOT route)<br>30 feet from centerline for Madrid |
| Traffic study submitted | Not required |
| Proposed street improvements | None |

PUBLIC WORKS STORMWATER COMMENTS:

The property is located in the Galloway Creek drainage basin. The property is not located in a FEMA designated floodplain. Staff is aware of flooding problems in the area. If the project increases the amount of impervious surfacing; detention and water quality is required according to Chapter 96. Buyout in lieu of on-site stormwater detention is not an option. Since the project will be disturbing less than one (1) acre there will not be a land disturbance permit required. There is an existing detention basin and underground storm sewer serving this development. There are no sinkholes on the proposed property.

| Public Works Stormwater Division | Response |
|---|---|
| Drainage Basin | Galloway Creek |
| Is property located in Floodplain? | No |
| Is property located on a sinkhole? | No |
| Is stormwater buyout an option? | No |

ATTACHMENT 2
REQUIREMENTS FOR CONDITIONAL USE PERMIT 423

1. An automobile service garage is permitted in substantial conformance with Attachment 5.

2. All other standards of the Zoning Ordinance and other applicable ordinances shall be adhered to.

LEE ENGINEERING AND ASSOCIATES, L.L.C.
CIVIL ENGINEERING & DESIGN

2101 W. CHESTERFIELD BLVD., SUITE C202, SPRINGFIELD, MO 65807
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz

April 28, 2016

Re: Conditional Use Permit – Tire Service Center
2420 E Sunshine St.

***The existing site is a closed Sonic facility. The owner would like to construct a Plaza Tire Service facility. Plaza Tire Service is an automotive tire and vehicle repair facility.***

With respect to all proposed conditional uses, to the extent applicable:

1. The proposed conditional use will be consistent with the adopted policies in the Springfield Comprehensive Plan;

***The proposed tire service center is consistent with the Comprehensive Plan. The lot has been zoned Planning Development (PD) which allows GR uses. We are proposing GR zoning with this conditional overlay to allow automotive tire and vehicle repair. This conditional use permit will allow for the tire service center to be developed on the lot.***

2. The proposed conditional use will not adversely affect the safety of the motoring public and of pedestrians using the facility and the area immediately surrounding the site;

***The site is located at 2420 E. Sunshine. Sunshine St. has a five lane section with a center turn lane. The traffic volume for an automobile repair shop will be less than for a fast food restaurant. There are existing sidewalks on the South side of Sunshine St. which will assist in pedestrian safety.***

3. The proposed conditional use will adequately provide for safety from fire hazards, and have effective measures of fire control;

***The tire service center will be built per the latest fire code required by the City of Springfield to adequately provide for safety.***

4. The proposed conditional use will not increase the hazard to adjacent property from flood or water damage;

***The existing site is fully developed with similar flows to the proposed site. The proposed tire service center will be designed to the latest standards to prevent flood damage to the adjacent property owners.***

5. The proposed conditional use will not have noise characteristics that exceed the sound levels that are typical of uses permitted as a matter of right in the district;

***The site is in the middle of other retail developments. The noise from an automotive repair shop should not be significantly higher than the existing fast food restaurant.***

6. The glare of vehicular and stationary lights will not affect the established character of the neighborhood, and to the extent such lights will be visible from any residential district, measures to shield or direct such lights so as to eliminate or mitigate such glare are proposed;

***The tire service center lights will be typical for a commercial development and similar to the existing lighting. The site lighting will follow City of Springfield lighting standards. The site is not adjacent to any residential districts.***

7. The location, lighting, and type of signs and the relationship of signs to traffic control is appropriate for the site;

***The proposed tire service center signage will be in accordance with the zoning ordinance.***

8. Such signs will not have an adverse effect on any adjacent properties;

***The signage will be along the Sunshine St. right of way. The adjoining property is zoned Planning Development (PD) with GR uses and should not be affected by signage.***

9. The street right-of-way and pavement width in the vicinity is or will be adequate for traffic reasonably expected to be generated by the proposed use;

***The surrounding pavement widths are typical of a primary arterial and adequate for GR uses.***

10. The proposed conditional use will not have any substantial or undue adverse effect upon, or will lack amenity or will be incompatible with, the use or enjoyment of adjacent and surrounding property, the character of the neighborhood, traffic conditions, parking utility facilities, and other matters affecting the public health, safety and general welfare;

***The proposed tire service center will not have adverse effect on the businesses surrounding its location.***

11. The proposed conditional use will be constructed, arranged and operated so as not to dominate the immediate vicinity or to interfere with the development and use of neighboring property in accordance with the applicable district regulations. In determining whether the proposed conditional use will so dominate the immediate neighborhood, consideration shall be given to:

a. The location, nature and height of buildings, structures, walls and fences on the site; and

***The proposed facilities will be similar in location, nature, and height of building to the adjoining Kum & Go and Autozone. We are not proposing fences or walls.***

b. The nature and extent of landscaping and screening on the site;

***The proposed facilities will have similar landscaping and screening to the adjoining properties. The nature and extent of landscaping and screening will be consistent with the requirements of the zoning ordinance.***

12. The proposed conditional use, as shown by the application, will not destroy, damage, detrimentally modify or interfere with the enjoyment and function of any significant natural topographic or physical features of the site;

***The existing site is a Sonic fast food facility. The proposed tire service center will not adversely affect natural topographic or physical features of the site.***

13. The proposed conditional use will not result in the destruction, loss or damage of any natural, scenic or historic feature of significant importance;

***The existing site is a vacant fast food facility that is not of any significant natural, scenic, or historical importance.***

14. The proposed conditional use otherwise complies with all applicable regulations of the Article, including lot size requirements, bulk regulations, use limitations and performance standards;

***The proposed tire service center complies with all the other standards.***

15. The proposed conditional use at the specified location will contribute to or promote the welfare or convenience of the public;

***The proposed tire service center will allow a facility to be constructed on site that benefit motorists using Sunshine St and is easily accessible off of Highway 65. The adjoining Kum & Go and the adjoining Autozone will benefit from the service center customers. If the Conditional Use Permit is not granted, the development would not occur.***

16. Off-street parking and loading areas will be provided in accordance with the standards set out in 5-1500, 5-1600 and 6-1300 of this article, and such areas will be screened from any adjoining residential uses and located so as to protect such residential uses from any injurious effect;

***The proposed tire service center will follow the standards set out in 5-1500, 5-1600 and 6-1300. There are no adjoining residential uses.***

17. Adequate access roads or entrance or exit drives will be provided and will be designed so as to prevent traffic hazards and to minimize traffic congestion in public streets and alleys;

***The site will be designed to meet the City of Springfield's site design guidelines. The existing roads are adequate to minimize traffic congestion.***

18. The vehicular circulation elements of the proposed application will not create hazards to the safety of vehicular or pedestrian traffic on or off the site, disjointed vehicular or pedestrian circulation paths on or off the site, or undue interference and inconvenience to vehicular and pedestrian travel;

***The proposed tire service center will not affect vehicular circulation elements.***

19. The proposed use, as shown by the application, will not interfere with any easements, roadways, rail lines, utilities and public or private rights-of-way;

***The proposed tire service center will not interfere with any easements, roadways, rail lines, utilities and public or private rights-of-way.***

20. In the case of existing structures proposed to be converted to uses requiring a conditional use permit, the structures meet all fire, health, building, plumbing and electrical requirements of the City of Springfield.

***The existing structures will be removed and the new structure will meet the fire, health, building, plumbing and electrical requirements of the City of Springfield.***

21. The proposed conditional use will be served adequately by essential public facilities and services such as highways, streets, parking spaces, police and fire protection, drainage structures, refuse disposal, water and sewers, and schools; or that the persons or agencies responsible for the establishment of the proposed use will provide adequately for such services.

***The proposed tire service center will be adequately served by essential public facilities and services such as highways, streets, parking spaces, police and fire protection, drainage structures, refuse disposal, water and sewers, and schools.***



LEE ENGINEERING AND ASSOCIATES, L.L.C.
2101 W. CHESTERFIELD BLVD. • SUITE G202 • SPRINGFIELD, MO 65807
FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz • TELEPHONE: (417) 886-9100

## AFFIDAVIT OF NEIGHBORHOOD NOTIFICATION AND MEETING SUMMARY

1. Request change to zoning from: PD 136 *(existing zoning)* to GR *(proposed zoning)*
2. Meeting Date & Time: May 12, 2016 4 to 6:30pm
3. Meeting Location: Panera Bread, 2924 East Sunshine
4. Number of invitations that were sent: 47
5. How was the mailing list generated: City of Springfield
6. Number of neighbors in attendance (attach a sign-in sheet): 3
7. List the verbal comments and how you plan to address any issues:
   (City Council does not expect all of the issues to be resolved to the neighborhood's satisfaction; however, the developer must explain why the issues cannot be resolved.)

   Dan Malachowski telephoned our office with concerns about noise issues. Attached is a letter from Plaza Tire that was given to Mr. Malachowski at the neighborhood meeting in regards to that concern.

8. List or attach the written comments and how you plan to address any issues:

   No written comments.

I, Leslie Chrystal *(print name)*, attest that the neighborhood meeting was held on 5/12/16 *(month/date/year)*, and is at least twenty-one (21) days prior to the Planning and Zoning Commission public hearing and in accordance with the attached "Neighborhood Notification and Meeting Process."

Leslie Chrystal

*Signature of person completing affidavit*

Leslie Chrystal

*Printed name of person completing affidavit*

# LEE ENGINEERING AND ASSOCIATES, L.L.C.

CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz


## SIGN IN SHEET

Neighborhood Meeting

Thursday, May 12, 2016

Re: Proposed Rezone
With A Conditional Use Permit
2420 East Sunshine
Springfield, Missouri

| NAME | ADDRESS | PHONE |
|---|---|---|
| Ken Blankenship | 2315 E Washita | 886-7463 |
| Toni Lightner | 2402 E Madrid | 883-3235 |
| IAN MALACHOWSKI | 2432 E. MADRID | 886-1111 |
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May 12, 2016

Mr. Derek Lee
Lee Engineering
1200 E Woodhurst Dr Bldg D 200
Springfield MO 65804

RE: New Plaza Tire Service, 2420 East Sunshine, Springfield, Missouri

Dear Derek,

Please allow this letter to address concerns about possible noise issues coming from our store operations.

1) All work will be inside the building
2) The bays will be facing west toward Kum & Go.
3) We will use rotary driven compressor not a piston type compressor. This compressor makes noise similar to a residential refrigerator.

The noise from our operations is typical of retail developments such as Kum & Go or Sonic. We have never had a compliant or violation regarding noise from any of our other 58 stores. Some stores operate within 100' from residential areas. This is our first store in Springfield and we want to be a part of the Springfield community. We will fully comply with the City's noise ordinance (Division 2 Sec. 78-111-114). It is our goal to be a good neighbor and corporate citizen to the City of Springfield.

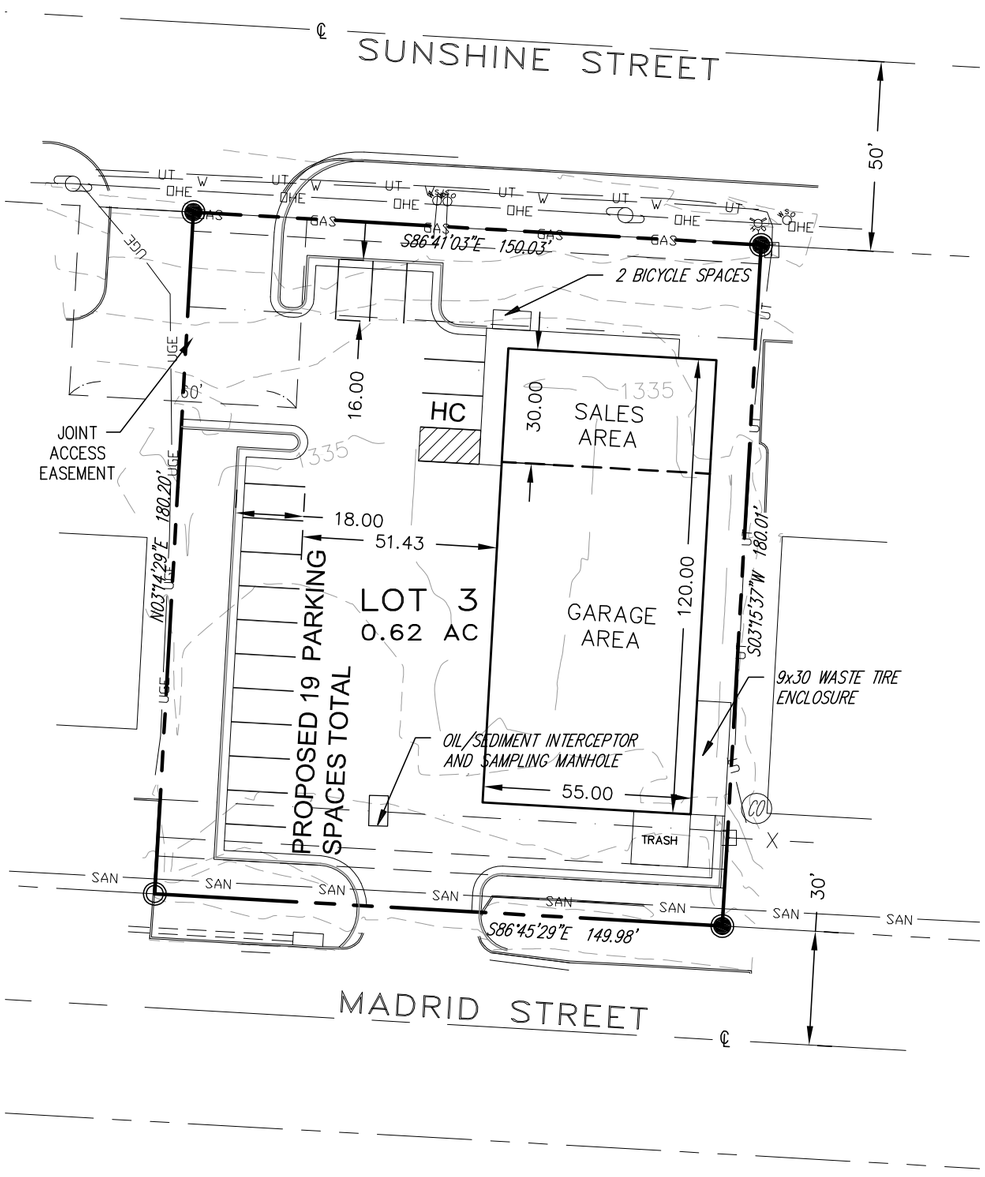
Sincerely,

Plaza Tire Service, Inc.

Scott M. Rhodes
Vice President
Co-Owner

ESTABLISHED 1961

SCALE 1" = 40'




ZONING INFORMATION:
CURRENT ZONING - PD 136 AMENDMENT 1
PROPOSED ZONING - GR
PROPOSED CUP - AUTOMOBILE SERVICE GARAGE
MINIMUM OPEN SPACE REQUIRED: 20%
OPEN SPACE PROVIDED: 20%

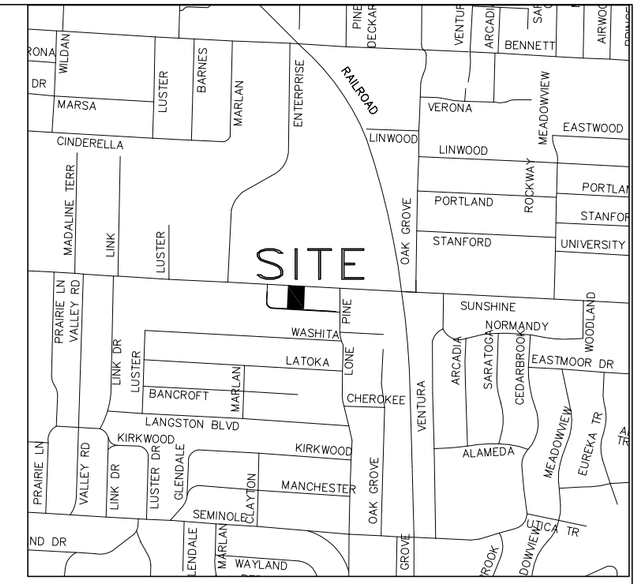
PARKING SCHEDULE:
PARKING REQUIRED - 2 FOR EACH SERVICE GARAGE PLUS EMPLOYEES: THE PROPOSED GARAGE HAS UP TO 7 BAYS AND 5 EMPLOYEES.

7 BAYS * 2 SPACES = 14 SPACES
5 EMPLOYEES * 1 SPACE = 5 SPACES
TOTAL REQUIRED = 19 SPACES

PARKING PROVIDED: 19 SPACES

BICYCLE PARKING SCHEDULE:
BICYCLE SPACES REQUIRED = 2 SPACES

TOTAL BICYCLE SPACES PROVIDED = 2 SPACES




VICINITY MAP
NOT TO SCALE

FLOOD NOTE:
This property lies in Flood Zone "X" (areas determined to be outside of the 0.2% annual chance floodplain) according to FIRM Community Panel 29077C 0361 E, effective December 17, 2010.

DESCRIPTION –
LOT 3, LONE PINE PLACE, A SUBDIVISION IN THE CITY OF SPRINGFIELD, GREENE COUNTY, MISSOURI.


LEE Engineering & Associates, L.L.C.
1200 E. Woodhurst,
Suite D200
Springfield, MO 65804
417-886-9100 (phone)
417-886-9336 (fax)
dlee@leeengineering.biz
"Engineering with integrity"
Missouri State Certificate of Authority
Engineering #2005015504
Land Surveying #2009028050


DWG: CUP Sketch.dwg
DATE: 06/02/2016
PROJECT NO.: 1619

CONDITIONAL USE PERMIT SKETCH PLAN
FOR PLAZA TIRE, INC.

2420 E Sunshine
Springfield, Greene County, Missouri

| SURVEY BY | DESIGN | SCALES | SHEET 1 |
|---|---|---|---|
| FIELD BK | DRAWN DRB | HOR. 1"=40' | OF 1 SHEETS |
| LEVEL BK | CHECKED LEE | VERT. n/a | FILE NO. |

One-rdg._____
P. Hrngs._____
Pgs. 140
Filed: 07-19-16

Sponsored by: McClure

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016 - 180 GENERAL ORDINANCE NO. _____

AN ORDINANCE

AMENDING the Springfield Land Development Code, Section 36-306, Zoning Maps, by rezoning approximately 10.8 acres of property, generally located at 4018 and 4022 South Lone Pine Avenue, from R-SF, Residential Single Family District, GR, General Retail District and GM, General Manufacturing District to Planned Development District No. 351; and adopting an updated Official Zoning Map. (Staff and Planning and Zoning Commission recommend approval.)

_____

WHEREAS, an application has been filed for a zoning change of the property described on "Exhibit A" of this Ordinance, generally located at 4018 and 4022 South Lone Pine Avenue, from R-SF, Residential Single Family District, GR, General Retail District and GM, General Manufacturing District to Planned Development District No. 351; and

WHEREAS, following proper notice, a public hearing was held before the Planning and Zoning Commission, a copy of the Record of Proceedings from said public hearing being attached hereto as “Exhibit B” and said Commission made its recommendation; and

WHEREAS, proper notice was given of a public hearing before the City Council and that said hearing was held in accordance with the law.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The property described on “Exhibit A” of this Ordinance shall be, and the same hereby is, rezoned from R-SF, Residential Single Family District, GR, General Retail District and GM, General Manufacturing District, or such zoning district as is designated on the Official Zoning Map adopted by the City Council, to Planned Development District No. 351; and the Springfield Land Development Code, Section 36-306 thereof, Zoning Maps, is hereby amended, changed and modified accordingly.

Section 2 - The property described on “Exhibit A” of this ordinance will be subject to the requirements and standards included in “Attachment 4 of Exhibit C,” which are attached hereto and incorporated herein as if copied verbatim; and these requirements and standards shall govern and control the use and development of the land in Planned Development District No. 351.

Section 3 – The City Council hereby directs the City Manager, or his designee, to update the City's digital zoning map to reflect this rezoning, and City Council adopts the map thereby amended as the Official Zoning Map of Springfield, Missouri, as provided for in the Springfield Land Development Code, Section 36-306, Official Zoning Map and Rules of Interpretation.

Section 4 – The Official Zoning Map herein adopted shall be maintained and archived in the same digital form in which this Council has approved its adoption.

Section 5 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: _____, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO. 2016 - 180**

FILE DATE: 07-19-16

ORIGINATING DEPARTMENT: Planning and Development

PURPOSE: To rezone approximately 10.8 acres of property generally located at 4018 and 4022 South Lone Pine Avenue from R-SF, Residential Single-Family District, GR, General Retail District and GM, General Manufacturing District to a Planned Development District No. 351 District (Staff and Planning and Zoning Commission recommend approval).

PLANNED DEVELOPMENT DISTRICT NO. 351

BACKGROUND INFORMATION: The applicant is proposing a Planned Development for a mixed use development on property located at 4018 and 4022 South Lone Pine Avenue. The proposed PD is within the Redevelopment Plan and Blight Study for the Galloway Redevelopment Area (South Lone Pine Ave). This Plan was adopted by the City Council on May 12, 2014 and recommends rezoning properties to accommodate reinvestment opportunities in this area.

RECOMMENDATIONS:

The Planning and Zoning Commission held a public hearing on July 7, 2016 and recommended approval with modification to bufferyard requirements, by a vote of 8 to 0, of the proposed zoning on the tracts of land described on the attached sheet (see the attached Record of Proceedings).

FINDINGS FOR STAFF RECOMMENDATION:

1. The *Growth Management and Land Use* element of the Comprehensive Plan designates a portion of this area as Medium Intensity Retail, Office or Housing and as well as Low Density Housing. The Redevelopment Plan and Blight Study for the Galloway Redevelopment Area adopted by City Council, May 12, 2014, supports the proposed uses.
2. The Southeast Springfield Development Study accepted by City Council on November 4, 2002 supports allowing mixed use developments within this area.
3. The proposed development is within proximity to the US 65/60 Development (Planned Development 330 amended) which is a proposed 500 acre mixed use development approved by City Council in 2011.
4. This proposal will provide for a mixed-use development with opportunities for employment and living in the area with the benefit of internal circulation to allow people to live, work and shop in the same location.

5. The subject property is located along South Lone Pine Avenue which is classified as a secondary arterial and Allen Drive which is classified as a local roadway. The proposed project is within walking and bicycling distance of the Sequiota Park and Greenway Trail.
6. Approval of this application will allow the redevelopment of the area by increasing intensity where investments have been made in public services and infrastructure.
7. The Multi-Family Development Location and Design Guidelines were evaluated for this project because a portion of the project is proposing multi-family uses. The request is consistent with the Multi-Family Development Location and Design Guidelines as approved by the Planning and Zoning Commission and City Council
8. This project supports the following Field Guide 2030 goal(s): Chapter 6, Growth Management and Land Use; Major Goal 4, Develop the community in a sustainable manner; Objectives 4a, Increase density in activity centers and transit corridors; and 4b, Increase mixed-use development areas.

REMARKS:

The Planning and Development staff recommends the application be approved.

Submitted by:

Bob Hosmer, AICP
Principal Planner

Approved by:

Greg Burris, City Manager

EXHIBITS:

Exhibit A, Legal Description
Exhibit B, Record of Proceedings
Exhibit C, Development Review Staff Report
Attachment 1, Department Comments
Attachment 2, Neighborhood Meeting Summary
Attachment 3, Multi-Family Development Location and Design Guidelines

PLANNED DEVELOPMENT 351 AMENDMENT:
Attachment 4, Planned Development Ordinance Text
Attachment 5, Preliminary Development Plan

**Exhibit A**

LEGAL DESCRIPTION
PLANNED DEVELOPMENT 351

ALL OF THE NORTH ONE-HALF (N ½ ) OF THE FOLLOWING DESCRIBED LAND, TO WIT:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER (SE ¼ ) OF THE SOUTHWEST QUARTER (SW ¼ ) OF SECTION NINE (9), TOWNSHIP TWENTY-EIGHT (28), RANGE TWENTY-ONE (21); THENCE SOUTH 24 ½ RODS; THENCE WEST 39 RODS TO THE RAILROAD; THENCE NORTH 24 ½ RODS; THENCE EAST 41 RODS AND 10 LINKS TO THE PLACE OF BEGINNING, IN GREENE COUNTY, MISSOURI.

**Exhibit B**

RECORD OF PROCEEDINGS
PLANNED DEVELOPMENT 351

Planned Development No. 351
4018 & 4022 South Lone Pine Avenue
**Applicant:** Kaonashi, LLC and Lone Projects, LLC

Ms. Melissa Cox recused herself from the current item.

Mr. Hosmer states that this is a request to rezone approximately 10.8 acres of property generally located at 4018 and 4022 South Lone Pine Avenue from R-SF, Residential Single-Family District, GR, General Retail District and GM, General Manufacturing District to a Planned Development District No. 351.

The Growth Management and Land Use element of the Comprehensive Plan designates a portion of this area as Medium Intensity Retail, Office or Housing and as well as Low Density Housing. The Redevelopment Plan and Blight Study for the Galloway Redevelopment Area adopted by City Council, May 12, 2014, supports the proposed uses. The Southeast Springfield Development Study accepted by City Council on November 4, 2002 supports allowing mixed use developments within this area. The proposed development is within proximity to the US 65/60 Development (Planned Development 330 amended) which is a proposed 500 acre mixed use development approved by City Council in 2011 (to the east of the property). The subject property is located along South Lone Pine Avenue which is classified as a secondary arterial and Allen Drive which is classified as a local roadway. The proposed project is within walking and bicycling distance of the Sequiota Park and Greenway Trail. This proposal will provide for a mixed-use development with opportunities for employment and living in the area with the benefit of internal circulation to allow people to live, work and shop in the same location. The project will consist of office, commercial and residential (tract A), 100 Multi-family units/ office/ self-storage (tract C), and 22 single-family/ duplex units (tract B). The Multi-Family Development Location and Design Guidelines were evaluated and the request is consistent with Guidelines. The applicant is requesting a maximum density of 12 dwelling units per acre within the development. A traffic study is required based on the proposed uses. Lone Pine Avenue is classified as a secondary arterial which will require a left turn lane to be constructed; Allen Drive is classified as a local street and must be improved and widened to accommodate on-street parking. Sidewalks required along both streets. A box culvert is required to be constructed for stormwater from the development to the creek on the west side of the BNSF railroad tracks. The project will provide for 30% open space. The project will provide water quality according to the proposed changes to Chapter 10 Stormwater Design Criteria as attached. The proposed planned development will mitigate the potential impact between the permitted uses and the adjacent R-SF property to the east with a bufferyard type C which includes plantings and 6 feet wood fence. The planned development will allow parking adjacent to a public

right-of-way on private property and will be allowed to back onto a public street. There will be landscaped islands provided within the right-of-way of South Lone Pine Avenue, however, the maintenance will be the responsibility of the developer through a license agreement. The development is permitted to reduce the overall parking by 10% per bicycle parking reduction standards provided in the zoning ordinance. The applicant is requesting to reduce the overall parking requirements by an additional 10% for Tracts A and C. This additional 10% reduction is requested due to the mixed uses on-site and reduced parking needs i.e., Greenway Trails walking and biking and internal trip captures. Staff recommends approval.

Mr. Coltrin asks about the reference in Exhibit 1 to "recreational district" since we do not have a zoning district called "recreational district" and will this be taken out of the Planned Development.

Mr. Hosmer stated that the applicant had requested that we look at this district holistically, do an overlay district or corridor study, but that never happened. However we are leaving this option open to possibly having a corridor study or overlay district that would have a holistic look because this was a village a long time ago.

Mr. Coltrin stated that he cannot vote on something that does not exist and not knowing what it is stating that most Planned Developments have to be clearly defined to be processed.

Mr. Edwards asked why this project was proposed as a Planned Development.

Mr. Hosmer noted that this is an unique situation such as being in a flood plain and a large tract of 10 acres that couldn't meet conventional type of zoning.

Mr. Ray opened the public hearing

Mr. Derek Lee, Lee Engineering, 1200 E. Woodhurst Drive representing the owner, agrees that "recreational district" should be removed from Exhibit 1.

Mr. Barrett Fisk, 1918 E. Meadowmere, property owner of 2960 E. Allen Street asking for assistance with the current proposal. The current proposal is only giving a 10' bufferyard from my single family residential to the proposed commercial property. Mr. Fisk passed out an e-mail from the developers agent and quoted, "I would advise considering this offer, as it is my belief that your property value, or at very least any marketability will go down once construction begins and there is a giant fence on one side of the property and a trailer park on the other. My client has advised me to tell you that his offer would also either go down or go away." He voiced concerns about his property being devalued, however he is for the development, but in a way to be fair to the property owners in the area. He stated that he is very concerned about the beautiful old trees on the west side of his property because they are planning on removing them and putting in a fence. He would like to have a 30' or 35' natural border as part of the bufferyard requirements by leaving the trees. He believes that the developer can shift

the multi-family structures closer to the corner.

Mr. Doennig asked Mr. Fisk if this is his primary residence and about the trees on the property, stating that they look like they are on his property.

Mr. Fisk replied that it is not his primary residence and uses it as a rental and most of the trees are on the developers property but most the canopy from the trees do fall on his property. He would like to keep the trees and not build a fence for a more natural bufferyard.

Mr. Edwards asked if Mr. Fisk is in current negations to sell the property.

Mr. Fisk stated that he tried to sell the property and that the developer offered him $75,000 but declined to sell.

Mr. Coltrin asked about the current proposed 10' bufferyard.

Mr. Fisk stated that he did not feel that the 10' bufferyard is adequate and does not want a fence but a larger bufferyard.

Mr. Ray closed the public hearing.

Mr. Edwards ask Mr. Lee if there could be an accommodation regarding the trees and the fence.

Mr. Lee stated that the applicant would be fine with leaving the trees, but the bufferyard is the standard city bufferyard. The 10' bufferyard is critical to the plans due to the steep rock bluff to the west and there not enough room to allow a 35' bufferyard.

Mr. Edwards stated that he hopes that the developer and staff will work on keeping the trees.

Mr. Coltrin asked about the bufferyard to the south of Mr. Fisk's property.

Mr. Lee stated that they can allow a 15' bufferyard instead of the 10' bufferyard.

Mr. Coltrin agrees with Mr. Edwards about working with the developer and keeping the current trees as the bufferyard.

Mr. Hosmer stated that we will need two motions, one to strike out "recreational district" wording from the planned development and one for the bufferyard changes.

**COMMISSION ACTION:1**
Mr. Coltrin motions that we remove/strike "recreational district" wording from Planned Development No. 351 (4018 & 4022 South Lone Pine Avenue). Mr. Edwards seconded the motion. The motion **carried** as follows: Ayes: Ray, Doennig, Shuler, Cline, Coltrin,

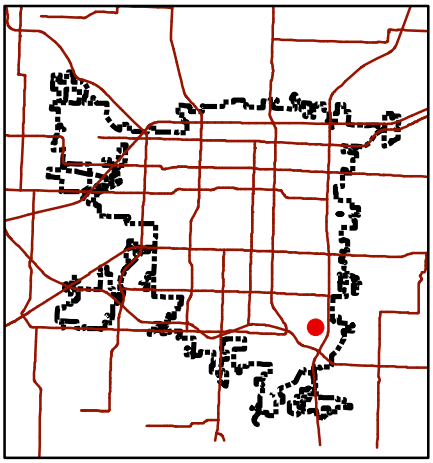
Ogilvy, Edwards, and Rose. Nays: None. Abstain: Melissa Cox. Absent: None.

**COMMISSION ACTION: 2**
Mr. Edwards motions that we amend the text in Planned Development No. 351 (4018 & 4022 South Lone Pine Avenue) by removing/striking the proposed fence and keeping the natural growth bufferyard barrier along the north/south (common property line) and the east/west (common property line) and extending the east/west bufferyard to 15'. Mr. Coltrin seconded the motion. The motion **carried** as follows: Ayes: Ray, Doennig, Shuler, Cline, Coltrin, Ogilvy, Edwards, and Rose. Nays: None. Abstain: Melissa Cox. Absent: None.

**COMMISSION ACTION: 3**
Mr. Doennig motions that we approve Planned Development No. 351 (4018 & 4022 South Lone Pine Avenue) as amended. Mr. Rose seconded the motion. The motion **carried** as follows: Ayes: Ray, Doennig, Shuler, Cline, Coltrin, Ogilvy, Edwards, and Rose. Nays: None. Abstain: Melissa Cox. Absent: None.

Bob Hosmer, AICP
Principal Planner

Exhibit C



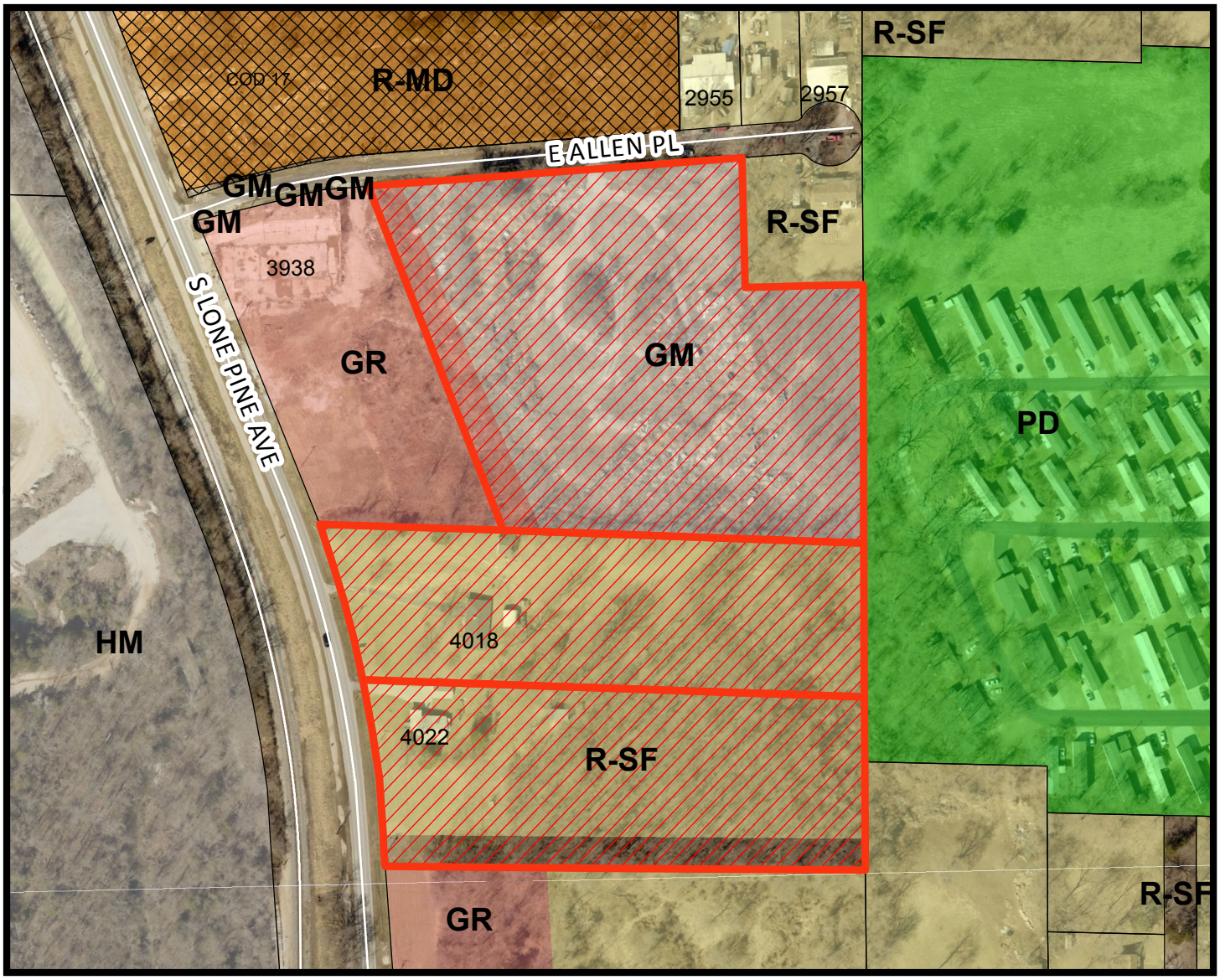
# Development Review Staff Report

*Department of Planning & Development - 417-864-1031*
*840 Boonville - Springfield, Missouri 65802*

## Planned Development 351

LOCATION: 4018 and 4022 Lone Pine Ave
CURRENT ZONING: GR, General Retail District,
GM, General Manufacturing District and
R-SF, Single Family Residential District
PROPOSED ZONING: Planned Development 351

LOCATION SKETCH




N

- Area of Proposal

0 100 200 400 Feet

1 inch = 200 feet

DEVELOPMENT REVIEW STAFF REPORT
PLANNED DEVELOPMENT 351

PURPOSE: To rezone approximately 10.8 acres of property generally located at 4018 and 4022 South Lone Pine Avenue from R-SF, Residential Single-Family District, GR, General Retail District and GM, General Manufacturing District to a Planned Development District No. 351 District.

DATE: June 6, 2016

LOCATION: 4018 and 4022 South Lone Pine Avenue

APPLICANT: Kaonashi LLC and Lone Projects, LLC

TRACT SIZE: Approximately 10.8 acres

EXISTING USE: Three vacant lots

PROPOSED USE: Planned Development for a mixed use development (commercial, office, multi-family and single-family uses).

FINDINGS FOR STAFF RECOMMENDATION:

1. The *Growth Management and Land Use* element of the Comprehensive Plan designates a portion of this area as Medium Intensity Retail, Office or Housing as well as designating some of the area as Low Density Housing.
2. The subject property is within the Redevelopment Plan and Blight Study for the Galloway Redevelopment Area which was adopted by City Council on May 12, 2014. The Redevelopment Plan objectives support the redevelopment of this area to increase investment opportunities in the area.
3. The subject property is also within the *Southeast Springfield Development Study* which recommends retail or services business including offices land uses for this area as well as mixed use developments.
4. The proposed development is within proximity to the US 65/60 Development (Planned Development 330 amended) which is a proposed 500 acre mixed use development approved by City Council in 2011.
5. A traffic study is required based on the proposed uses. Lone Pine Avenue is classified as a secondary arterial which is appropriate roadway for the proposed intensity. Allen Drive is classified as a local street.
6. The subject property is within walking and bicycling distance of the Sequiota Park and Greenway Trail.
7. The Multi-Family Development Location and Design Guidelines were evaluated for this project because of the proposed multi-family development.

The proposed Planned Development meets the standards outlined in the Guidelines.

8. The proposed planned development will mitigate the potential impact between the permitted uses and the adjacent R-SF property to the west with a bufferyard type C which includes plantings and 6 feet wood fence as outlined in Exhibit 1 and Exhibit 2. The proposed Planned Development will not have a significant impact on the surrounding neighborhood.

RECOMMENDATION:

Staff recommends **approval** of this request.

SURROUNDING LAND USES:

| AREA | ZONING | LAND USE |
|---|---|---|
| North | R-MD COD#17 | Multi-Family Apartments |
| East | PD 276 and R-SF | Manufactured Homes and a residential house |
| South | GR and R-SF | Commercial and residential uses |
| West | GR and HM | Vacant land and Ash Grove Mining |

COMPREHENSIVE PLAN:

1. The *Growth Management and Land Use* element of the Comprehensive Plan designates this area as Medium Intensity Retail, Office or Housing and Low Density Housing. This area is within Redevelopment Plan and Blight Study for the Galloway Redevelopment Area adopted by City Council May 12, 2014. The Study supports rezoning to increase investments in the area. The Southeast Springfield Development Study accepted by City Council on November 4, 2002 recommended retail or service businesses including offices and mixed land uses for this area.

STAFF COMMENTS:

1. The applicant is proposing a planned development for a mixed use development on 10 acres of property located along South Lone Pine Avenue just south of the Sequiota Park and Greenway Trail.
2. The proposed mixed use planned development will allow for commercial and office uses as well as multi-family and single-family residential uses.
3. The subject property is within the Redevelopment Plan and Blight Study for the Galloway Redevelopment Area adopted by City Council on May 12, 2014. This plan proposed the following objectives;

a. To enhance public health, safety, and welfare of the community by curing blighting conditions and encouraging redevelopment necessary for insuring the Redevelopment Area's future stability,
b. To increase the level and perception of safety and revitalization in the Redevelopment Area which will in turn encourage an influx of new business and residents in the area'
c. To enhance the tax base by including development on the redevelopment area to its highest and best use to benefit taxing districts and to encourage private investment in and around the Redevelopment Area,
d. To increase property values of the Redevelopment Area;
e. To provide development/business opportunities in the Redevelopment Area and surrounding areas;
f. To serve as a catalyst for new multiple-family housing in the Redevelopment Area, and;
g. To stimulate construction and permanent employment opportunities as well as increase demand for goods and services offered by the business within the Redevelopment Area.

4. The Southeast Springfield Development Study accepted by City Council on November 4, 2002 recommended retail or service businesses including office uses within the area. The study states that the City should allow and encourage investments that combine more than one type of use on a site. Mixed-use developments implies a vertical relationship (i.e. offices or housing over shops) while multiple-use development means a side by side positioning. Either case promotes more efficient land uses, reduces auto trips and creates a more interesting urban environment.
5. The proposed planned development is also within proximity to the US Highway 60/65 Planned Development 330 amended. This PD was approved by City Council in 2011 to allow a mixed use development on 500 acres on the east and west sides of U.S. Highway 65 north of Highway 60.
6. The Multi-Family Development Location and Design Guidelines were evaluated for this project because of the proposed multi-family development. The applicant is requesting a maximum density of 12 dwelling units per acre within the development. The site received a total score of 8 points on the assessment, which sets the permitted dwelling units to 11 units per acre. The site scored one out of a potential three points in Land Use Accessibility, one out of a possible five points in the Connectivity Analysis, zero points in Road Network Evaluation and six points for Design Guidelines. There will be additional bonus densities awarded for Green building and mixed use developments per the guidelines to allow 12 dwelling units per acre. A copy of the assessment is attached (Attachment 3).
7. Lone Pine Avenue is classified as a secondary arterial which is appropriate roadway for the proposed intensity. Allen Drive is classified as a local street. A traffic study is required based on the proposed uses and will require a left turn lane to be constructed along Lone Pine Avenue as shown on the Exhibit 2. Sidewalks are required to be constructed along the property frontage along Lone Pine and Allen Drive. Allen Drive must be improved and widened to accommodate on-street parking. The project intends to provide cross access driveways at both the north adjacent property fronting on Lone Pine, as well as the south adjacent property**.** The planned development will allow parking adjacent to a public

right-of-way on private property and will be allowed to back onto a public street. There will be landscaped islands provided within the right-of-way of South Lone Pine Avenue, however, the maintenance will be the responsibility of the developer through a license agreement.

8. The development is permitted to reduce the overall parking by 10% per bicycle parking reduction standards provided in the zoning ordinance. The applicant is requesting to reduce the overall parking requirements by an additional 10%. This additional 10% reduction is requested due to the mixed uses on-site, high pedestrian/bicycle volumes due to the Greenway trail and adjacent residential foot traffic from on-site and from adjacent properties.
9. The project will provide street trees by preserving existing trees along the internal circulating streets and will provide pedestrian connectivity through the site. Trees have been surveyed and documented. Houses, buildings and roads are planned to preserve trees where feasible. A minimum of 5% interior landscaping will be provided and configured to incorporate existing trees where it is reasonably feasible. The project will provide for 30% open space. A box culvert is required to be conveyed for stormwater from this development to the creek on the west side of the BNSF railroad tracks.
10. Approval of this application will facilitate redevelopment of these properties and promote infill development and increased intensity where investments have already been made in public services and infrastructure.

NEIGHBORHOOD MEETING:

The applicant held two neighborhood meetings one on November 19, 2015 and the second meeting was held on May 17, 2016. A summary of theses meetings is attached (Attachment 2).

PUBLIC COMMENT:

The property was posted by the applicant at least 10 days prior to the public hearing. The public notice was advertised in the Daily Events at least 15 days prior to the public hearing. Public notice letters were sent out at least 10 days prior to the public hearing to all property owners within 185 feet. There are eleven (11) property owners notified by mail of this request within one hundred eighty-five (185) feet of the subject property. Staff has received no objections to date.

CITY COUNCIL MEETING: July 25, 2016

STAFF CONTACT PERSON:

Bob Hosmer, AICP
Principal Planner
864-1834

ATTACHMENT 1
DEPARTMENT COMMENTS
PLANNED DEVELOPMENT 351

TRAFFIC DIVISION COMMENTS:

The City's Transportation Plan classifies Lone Pine Avenue as a secondary arterial and Allen Drive as a local roadway. The standard right of way width for Lone Pine Avenue is 70 feet and for Allen Drive is 60 feet. Both streets are City maintained. The most recent traffic counts on Lone Pine south of Battlefield Road is 5,952 vehicles per day. There is no existing traffic counts on Allen Drive since it is classified as a local street. There are two existing driveway access points along this property frontage on Lone Pine and one along the property frontage on Allen Drive. There is no sidewalk along either street. The existing right of way width on Lone Pine meets current city standard, but the existing right of way along Allen Drive does not. On-street parking is not allowed along the adjacent streets. There is a greenway trail in the area. There are not any bus stops along Lone Pine or Allen. The proposed development is in an area that provides for multiple direct connections and provides for good connectivity in the area. There are no proposed city improvements along Lone Pine or Allen Drive. Staff recommends the following based on the approved Traffic Study and city requirements along Lone Pine Avenue and Allen Drive. A left turn lane will be constructed along Lone Pine Avenue as shown in the Exhibit. Sidewalks are required to be constructed along the property frontage along Lone Pine and along Allen. Allen Drive must be improved and widened to accommodate on-street parking.

| Public Works Traffic Division | Response |
|---|---|
| Street classification | Lone Pine - Secondary Arterial<br>Allen Drive - Local Commercial |
| On-street parking along streets | No |
| Trip generation - existing use | 48 trips per day |
| Trip generation - proposed use | 720 trips per day/1,000 sf of General Retail space |
| Existing street right of way widths | Lone Pine - 140 ft<br>Allen Drive - 40 ft |
| Standard right of way widths | Lone Pine - 70 ft<br>Allen Drive - 60 ft |
| Traffic study submitted | Yes |
| Proposed street improvements | Left Turn Lane on Lone Pine<br>Sidewalks on Lone Pine & Allen Drive<br>Widen and Improve Allen Drive |

BUILDING DEVELOPMENT SERVICES COMMENTS:

No issues with rezoning to Planned Development

STORMWATER COMMENTS:

The property is located in the Galloway Creek drainage basin. The property is located in a FEMA designated floodplain. Staff is aware of flooding problems in the area. If the project increases the amount of impervious surfacing; detention and water quality is required according to Chapter 96. Buyout in lieu of on-site stormwater detention is preferred based on the information provided. Since the project will be disturbing more than one (1) acre there will be a land disturbance permit required. There is not an existing underground drainage system available for this development to discharge into. The developer is planning to construct downstream stormwater improvements and receive credit towards their stormwater buyout. There are sinkholes on the proposed property.

Please note that development of the property will be subject to the following conditions at the time of development:

1. Any increase in impervious surfacing will require the development to meet current detention and water quality requirements. A fee in lieu of on-site stormwater detention is preferred.
2. Concentrated points of discharge from these improvements will be required to drain into a certified natural surface-water channel, public right-of-way, or a drainage easement.
3. Based upon City data, there is a significant amount of offsite concentrated stormwater crossing the subject property. Public improvement plans will be required to convey these flows across the subject property. Drainage easements must be provided for this conveyance.
4. Please keep in mind that more detailed stormwater calculations will have to be submitted before any permits can be approved.

| Public Works Stormwater Division | Response |
|---|---|
| Drainage Basin | Galloway Creek |
| Is property located in Floodplain? | Yes |
| Is property located on a sinkhole? | Yes |
| Is stormwater buyout an option? | Yes |

SANITARY SERVICES COMMENTS:

1. Are the single family residential units going to be condominium lots with common area between each unit? If not, public sewer will need to be extend adjacent to each lot. If they are, maintenance and access rights will need to be defined for the common area in the subdivision covenants.
2. It appears as though these tracts will not be individual properties. It would be preferred that only one connection be made to public sewer for the entire development. The new connection will need to connect into a manhole and would have to be 8 inch minimum. If a new manhole is added to the trunkline, a public improvement plan would be required. It would be preferred that no direct

connections be made to the trunkline. There have been wet weather flow issues along the 24 inch trunkline along Lone Pine. Back flow preventers or holding tanks may be recommended for any new connections to the trunkline.

3. Submit the peak and average flow rates for review to mtaylor@springfieldmo.gov.
4. There needs to be a dedicated sanitary sewer easement across the development to facilitate sewer access for 4059 South Hooper.

CITY UTILITIES COMMENTS:

1. CU has met with Lee Engineering to discuss electric relocations, possible gas conflicts with the parking and installing services to the new development on Tract A. The site plan is acceptable with the understanding that there will be costs involved with relocating facilities required by the development. It should also be understood that there are space requirements for meters, junction boxes, transformer installations etc. These details can be worked out at the development stage, but should be accounted for designing the site plan.
2. The method of extending service to tracts B and C have not been finalized, however there is electric and water facilities on Allen Drive that can be extended in lieu of extending through Tract A.

FIRE DEPARTMENT COMMENTS:

Fire has no issues with the PD. Some of the buildings as drawn will not meet fire code requirements for Fire Access and Fire hydrant proximity. However all the buildings when built will need to meet the following:

1. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (IFC D103.1)
2. Make note of the spacing requirements of hydrants for a complex of buildings as required in appendix C of the IFC 2012.
3. Provide required fire load flow calculations for total fire area of the building based on structure building type and square footage. This information needs to include minimum GPM and required minimum number of hydrants. (IFC 507.3)(Appendix tables B105.1 & C105.1) Provide this information on the site plan.
4. Provide available flow data for existing fire hydrants. Hydraulic calculations may be used for new/proposed hydrants. (IFC 507.1) Raw flow data must be input into a hydraulic calculation formula (such as Hazen-Williams) to show maximum flow output at 20 psi residual pressure. Provide this information on the site plan.
5. Show the location of existing and proposed hydrants on site plan; ensure hydrants meet the minimum requirements for spacing of hydrants along apparatus access lanes/roads as well as maximum allowable distances to the structure. (IFC Section 507 & Appendix C). Provide this information on the site plan.
6. Provide a Knox Box for the building in an approved location (IFC 506.1). Typical location is in the immediate vicinity of the main entrance at 5’ above finish floor. Provide this information on the site plan.
7. Show that the minimum Fire Department apparatus access requirements (including road width, proximity to structures, required turn-around, turning radii,

required fire lane marking, 75,000 lb imposed load) are met (IFC 503 & IFC Appendix D). Provide this information on the site plan.

8. Fire apparatus access lanes shall be marked with 4" red striping on either side of the fire lane along the entire length of the lane and "NO PARKING FIRE LANE" shall be stenciled in 12 inch letters every 50 feet in the center of the fire lane (perpendicular to traffic flow and in alternating directions). If a curb is present along one side of the lane the curb should be painted red in place of the 4 inch striping. (IFC 503.3)
9. Specify Knox locking caps for the Fire Department Connection (FDC) (IFC amended 903.3.7.1)
10. Specify Fire Department Connection (FDC) for sprinkler systems and standpipes as 2-1/2” Siamese (13R and 13D systems require 2-1/2” connections as well). (IFC amended 903.3.7.2 & 905.1.2). Provide this information on the site plan. FDC shall be located on address side of the building.
11. Fire Lane will be required in the Residential Single Family area. Bridge over Open Channel Ditch will need to support 75,000 pounds. Possible Future Connection will need to be connected for Fire access. Fire access issues with storage units.

# LEE ENGINEERING AND ASSOCIATES, L.L.C.

CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz


May 3, 2016

Re: Proposed Rezone
4018 & 4022 S. Lone Pine
3500 Block E. Allen Place
Springfield, Missouri

Dear Property Owner:

A 2nd neighborhood meeting will be held Tuesday, May 17, 2016 to discuss a proposed rezone on the properties listed above. We would like to rezone the properties from R-SF (Residential-Single Family) and GM (General Manufacturing) to a (PD) planned development. The intent is to provide retail along Lone Pine and residential or office uses above and behind the retail along Lone Pine.

The neighborhood meeting will be held at Galloway Baptist Church, 2816 E. Republic Road, Springfield, Mo., in the Fellowship Hall in the basement, between 4:00 and 6:30pm. The entrance will be at the east basement door. The owner's representatives will be present to answer any questions you may have concerning this proposed rezone. Please feel free to come and go between 4:00 and 6:30pm. If you have any questions prior to this meeting, please contact our office at 417-886-9100.

Sincerely,

Leslie K. Chrystal
Office Manager

2nd

## AFFIDAVIT OF NEIGHBORHOOD NOTIFICATION AND MEETING SUMMARY

1. Request change to zoning from: R-SF, GM & GR to PD 351
   *(existing zoning)* *(proposed zoning)*
2. Meeting Date & Time: May 17, 2016 4 to 6:30pm
3. Meeting Location: Galloway Baptist Church, 2816 E. Republic Road
4. Number of invitations that were sent: 48
5. How was the mailing list generated: City of Springfield
6. Number of neighbors in attendance (attach a sign-in sheet): 2 + Lee Eng. Representatives
7. List the verbal comments and how you plan to address any issues:
   (City Council does not expect all of the issues to be resolved to the neighborhood's satisfaction; however, the developer must explain why the issues cannot be resolved.)

   There were no verbal comments or nor did anyone appose the rezone. The neighbors in attendance stopped by to see the proposed layout of the property and what exactly did the rezone mean and how it would affect them.

8. List or attach the written comments and how you plan to address any issues:

   There were no written comments.

I, Leslie Chrystal *(print name)*, attest that the neighborhood meeting was held on 5/17/2016 *(month/date/year)*, and is at least twenty-one (21) days prior to the Planning and Zoning Commission public hearing and in accordance with the attached "Neighborhood Notification and Meeting Process."

Leslie K Chrystal

*Signature of person completing affidavit*

Leslie K. Chrystal

*Printed name of person completing affidavit*

# LEE ENGINEERING AND ASSOCIATES, L.L.C.

CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz


## SIGN IN SHEET

2nd Neighborhood Meeting

Tuesday, May 17, 2016

Re: Proposed Rezone
4018 & 4022 S. Lone Pine
3500 Block E. Allen Place
Springfield, Missouri

| NAME | ADDRESS | PHONE |
|---|---|---|
| MATTHEW LAIR | 2936 E BARTON | 880-0411 |
| KAREN DECKER | 5726 S PINEHURST | 860-2220 |
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# LEE ENGINEERING AND ASSOCIATES, L.L.C.

CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz


May 18, 2016

City of Springfield
Attn: Bob Hosmer
840 Boonville
Springfield, Mo. 65801

Re: PLN2016-00141

Dear Bob:

We held 2 neighborhood meetings for this proposed rezone. The first meeting being back in November with our intent of submitting the application by the December deadline. However, there were issues that had to be resolved, therefore, we did not submit an application until recently. The second meeting was just held.

I thought an explanation of the reasoning for 2 neighborhood meetings and why they were so far apart was needed. If you have any questions, please contact our office. Thank you.

Sincerely,

Leslie K. Chrystal
Office Manager

(1st)

# AFFIDAVIT OF NEIGHBORHOOD NOTIFICATION AND MEETING SUMMARY

1. Request change to zoning from: R-SF, GM & GR *(existing zoning)* to PD 351 *(proposed zoning)*
2. Meeting Date & Time: November 19, 2015 4 to 6:30pm
3. Meeting Location: Galloway Baptist Church, 2816 E. Republic Road
4. Number of invitations that were sent: 48
5. How was the mailing list generated: City of Springfield
6. Number of neighbors in attendance (attach a sign-in sheet): 9 + Owner & Representative
7. List the verbal comments and how you plan to address any issues:
(City Council does not expect all of the issues to be resolved to the neighborhood's satisfaction; however, the developer must explain why the issues cannot be resolved.)

8. List or attach the written comments and how you plan to address any issues:

Comment Sheets attached.

The only written comment issue was they did not want to see a Title Loan Business to go in the retail center. At this time, there is no plans to have a Title Loan Business located at this facility.

I, Leslie Chrystal *(print name)*, attest that the neighborhood meeting was held on 11/19/15 *(month/date/year)*, and is at least twenty-one (21) days prior to the Planning and Zoning Commission public hearing and in accordance with the attached "Neighborhood Notification and Meeting Process."

Leslie Chrystal

*Signature of person completing affidavit*

Leslie Chrystal

*Printed name of person completing affidavit*

## AFFIDAVIT OF NEIGHBORHOOD NOTIFICATION AND MEETING

1st

I, Leslie Chrystal (*print name*), attest that the invitation letter to the neighborhood meeting (attached) was mailed ten (10) days prior to the neighborhood meeting on 11/6/15 (*month/date/year*), the neighborhood meeting is scheduled to be held on 11/19/15 (*month/date/year*), which is at least twenty-one (21) days prior to the Planning and Zoning Commission public hearing and in accordance with the attached "Exhibit 1: Neighborhood Notification and Meeting Process."

Leslie K Chrystal

*Signature of person completing mailings*

Leslie K. Chrystal

*Printed name of person completing mailings*

**NOTE: this affidavit must be submitted by the Friday following the application deadline.*

# LEE ENGINEERING AND ASSOCIATES, L.L.C.

CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz


## SIGN IN SHEET

Neighborhood Meeting

Thursday, November 19, 2015

Re: Proposed Rezone
4018 & 4022 S. Lone Pine
3500 Block E. Allen Place
Springfield, Missouri

| NAME | ADDRESS | PHONE |
|---|---|---|
| BOB BRADFORD | 2850 E. BARTON ST., SPFLD., MO. | 883-2355 |
| Matt Blevins | 2114 E. Republic Rd Spfd MO | 417-846-5572 |
| Randy Mitchell | 2957 S Allen " " | 350-1227 |
| Jessica Pearson | 4062 E Wilshire St | 417-849-1333 |
| KRISTI BEATTIE | 3750 S. Fremont, Spfd, MO | 417-8480919 |
| LARRY & JOAN CARTER | 3016 E BARTON SPFD MO | 417 890-4055 |
| STEVE TELSCHER | 3750 S. FREMONT SPFD, MO | 417-877-9000 |
| [illegible] | 4110 S. Hughes Spfd MO 65804 | 417881-8912 |
| Barrett Fisk | 1918 E. Meadowmere, 2960 E Allen | 417-773-3700 |
| Matt O'Reilly | 4174 E Canyon Spfd. | 417-848-3358 |
| DEREK LEE | 2100 WOODHURST | 886-9100 |
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# LEE ENGINEERING AND ASSOCIATES, L.L.C.

CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
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## COMMENT SHEET

Neighborhood Meeting

Thursday, November 19, 2015

Re: Proposed Rezone
4018 & 4022 S. Lone Pine
3500 Block E. Allen Place
Springfield, Missouri

| NAME | ADDRESS | PHONE |
|---|---|---|
| BOB BRADFORD | 2850 E. BARTON ST., SPFLD., MO. | 883-2355 |

COMMENTS: I FEEL IT WOULD BE A PLUS FOR THE GALLOWAY AREA.

LEE ENGINEERING AND ASSOCIATES, L.L.C.
CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz

# COMMENT SHEET

Neighborhood Meeting

Thursday, November 19, 2015

Re: Proposed Rezone
4018 & 4022 S. Lone Pine
3500 Block E. Allen Place
Springfield, Missouri

| NAME | ADDRESS | PHONE |
|---|---|---|
| R. Mitchell | 2957 S ALLEN | 380-1227 |

COMMENTS:

ALLEN Dr. Not to be used as acess to the properties if possible. Thank you

LEE ENGINEERING AND ASSOCIATES, L.L.C.
CIVIL ENGINEERING & LAND SURVEYING

1200 E. WOODHURST DR., SUITE D200, SPRINGFIELD, MO 65804
TELEPHONE: (417) 886-9100 • FACSIMILE: (417) 886-9336 • dlee@leeengineering.biz

# COMMENT SHEET

Neighborhood Meeting

Thursday, November 19, 2015

Re: Proposed Rezone
4018 & 4022 S. Lone Pine
3500 Block E. Allen Place
Springfield, Missouri

| NAME | ADDRESS | PHONE |
|---|---|---|
| | | |

COMMENTS:

Business that I would not want... any type of title loan business.

Thank You.

ATTACHMENT 3
MULTI FAMILY DEVELOPMENT LOCATION AND DESIGN GUIDELINES
ASSESSMENT FOR PLANNED DEVELOPMENT 351

The applicant is requesting a maximum density of 12 dwelling units per acre within the development. The site received a total score of 8 points on the assessment, which sets the permitted dwelling units to 11 units per acre. There will be additional bonus densities awarded for Green building and mixed use developments per the guidelines to allow the requested 12 dwelling units per acre. The applicant is requesting 102 multi-family residential units and 22 single family units which equates to approximately 12 dwelling units per acre. Below is an analysis of the four categories used to calculate the Matrix score.

A. Land Use Accessibility (1/3 points)
One point was given for land use accessibility. There is a recreational-park/greenway (Sequiota Park and Greenway Trail) as well as a neighborhood retail mixture within 1/4 mile of the subject property.

B. Connectivity Analysis (1/5 points)
One out of a maximum of five points were given for connectivity analysis. The proposed development received high scores for its proximity to a greenways, sidewalks, transit and bicycle paths.

C. Road Network Evaluation (0/2 points)
Zero points were given for the road network evaluation.

D. Design Guidelines (6/6 points)
Six points were given for design guideline criteria. Below are some of the design considerations that have been incorporated into the proposed development.

1. Pedestrian Amenities - Pedestrian amenities shall include benches placed near walkways at appropriate locations throughout the development. Pedestrian-scale lighting shall be provided within the development lighting sources or luminaries that do have a cutoff shall not exceed a maximum of 30 feet in height. All lighting shall be glare-free and shielded from the sky and adjacent residential properties and structures, either through external shields or through optics within the fixture. A site lighting and photometric plan shall be submitted conforming to these requirements for building permits.

2. Building Scale and Articulation - Street facing walls that are greater than 50 feet in length shall be articulated at least each 25 feet with bays, projections or recesses. Articulation means a difference in the vertical place of the building at least 18 inches or more. This project shall be in compliance with the attached site plan and elevations

3. Building Orientation and Interior Landscaping - Building orientation shall address the street and building alignment per submitted site plan. Landscaping and open spaces shown shall be provided with approved ground cover and/or plantings per required city ordinances and zoning requirements. Landscaping islands with plantings shall be located throughout the parking lot. There shall be a 10 feet wide Type C bufferyard buffer yard and fence, shall be located along the western property per site plan. A landscaping plan shall be submitted conforming to these requirements for building permits.

4. Avoidance of Blank Walls along pedestrian circulation areas - Facades that face public streets or connecting pedestrian frontage that are greater than 25 feet in length shall be subdivided and proportioned using at least one or more of the following features windows, entrances, arcades, arbors, awning (over windows or doors), distributed along the façade at least once every 25 feet.

5. Internal Connectivity – Internal sidewalks shall connect internally and to the public sidewalk system.

6. Useable Recreational Area/Facility – Benches will be located throughout the common areas providing for useable tenant amenities. A minimum of 20% usable open space shall be provided in accordance with the attached site plan.

a. Amenity Calculation – There shall be at least 3 amenities provided by the development such as exercise room and/or recreation building, community center, resident clubhouse, swimming pool, picnic area with tables and grills or tot lot will be located on-site.

7. Preservation of Trees –All existing trees of 6” caliper or greater shall be preserved or replaced with 2-inch caliper trees in accordance with the attached site plan and the city ordinance.

8. Water Quality and Detention –The development will use LID, Low Impact Development Best Management Practices in managing its storm water runoff. A box culvert is required to be conveyed for stormwater from this development to the creek on the west side of the BNSF railroad tracks

Density Bonuses:

<u>Mixed Use Developments</u>: Mixed Use developments that contain an equal amount or greater total square footage of residential to non-residential are allowed an increase of 3 dwelling units per acre. Mixed Use developments that contain 50% or more non-residential square footage as residential square footage are allowed an increase of 2 dwelling units per acre.

Green Building: An increase of 1 du/ac for Certified, 1.5 du/ac for Silver, 2 du/ac for Gold and 2.5 du/ac for Platinum as defined by the “Leadership in Energy and Environmental Design” (LEED) Green Building Rating System or similar nationally recognized program as approved by the Planning and Zoning Commission and City Council. An increase of 0.50 du/ac for a rating between 1-50, 1.0 du/ac for a rating between 51-74 and 1.25 du/ac for a rating between 75-100 for EPA Energy Star. An increase of 0.25 du/ac for Bronze, 0.5 du/ac for Silver and 1.0 du/ac for Gold rating of the National Association of Home Builders Green Building Guidelines (see EPA Energy Star and NAHB Green Building guidelines for more information).

Maximum density (du/acre) shall not exceed maximum 12 units per acre per PD 351 zoning as indicated on the attached site plan.

**EXHIBIT 1**

**Requirements and Standards Applicable to**
**Planned Development District No. 351**

## A. APPLICATION

Building or other permits may not be issued for development permitted by this planned development nor can any changes be made to this property until the final development plan has been approved in the manner described at the end of this exhibit.

All requirements of the Springfield Zoning Ordinance shall apply unless modified by the requirements and standards that follow.

## B. INTENT

To create a modest, tasteful and hip community epicenter that serves the established residential base of the Galloway Corridor within a short radius of the project site while accentuating the unique and charming regional draw of the Galloway Creek and Lone Pine corridor as a destination park, retail and recreational area. The PD will allow mixed uses with a focus on contemporary overlap programming such as Live/Work retail and "small living" high end single family residential.

1. ***To allow single family residential on Tract B.***
2. ***To eliminate the perimeter buffer along Lone Pine. This will allow more of the wooded area on the east side of the property to remain.***
3. ***To reduce parking requirements based on mixed uses. This will allow more of the wooded area on the east side of the property to remain.***
4. ***To allow offsite parking within ½ of a mile of the site to count towards the onsite use.***
5. ***To allow an LID, Low Impact Development where water quality elements can be constructed last and saving existing trees to count towards the City's water quality design standards.***
6. ***To allow a sidewalk system that is integrated into the development's internal pedestrian system.***

## C. DEFINITIONS

The definitions contained in the *Zoning Ordinance* shall apply to this ordinance.

## D. USES PERMITTED

1. Tract A: All uses allowed in GR, General Retail District
2. Tract B: Single family residential uses.
3. Tract C: All uses allowed in O-1, Office and R-MD, Residential Medium Density District and self-service storage facilities

## E. USE LIMITATIONS

1. All uses shall operate in accordance with the noise standards contained in the *Springfield Zoning Ordinance*.
2. No use shall emit an odor that creates a nuisance as determined by the *Springfield City Code*.

## F. INTENSITY OF DEVELOPMENT

Development shall adhere to the following standards.

### TRACT A

The intent is to have multi-story buildings with retail and restaurant uses throughout the buildings.

1. The intensity shall be a maximum of 15,000 SF of retail sales group of which 7,000 of the 15,000 SF of the retail sales group can be eating and drinking establishment use group.
2. Office uses shall have a maximum of 13,000 SF dedicated to office use.
3. If offices are located on the first floor, then they count towards the 15,000 SF of retail sales group. If offices are located on the second or third floors, they count towards the 13,000 office maximum.
4. Residential uses shall have a maximum of 13,000 SF dedicated to residential uses above the retail uses (these uses would be substituted for the office uses).

### TRACT B

The intent is to have a multiple small unit residential development.

1. The density shall be a maximum of 22 residential units which will be a mixture of single family units or duplex units.

### TRACT C

The intent is to have multi-family residential, office buildings and self-storage space. However, the maximum intensity for residential and office space shall not be allowed for both.

1. The density shall be a maximum of 100 multi-family residential units.
2. The intensity shall be a maximum of 10,000 SF of self service storage space.
3. A maximum of 10,000 SF of office space (not including the accessory office use associated with multi-family and self-storage use) can be substituted for residential units based on required parking requirements.

## G. BULK, AREA AND HEIGHT REQUIREMENTS

Development shall adhere to the following standards.

1. Maximum structure heights shall be three stories on Tracts A and B. A maximum structure height of four stories shall be permitted on Tract C.

## H. DESIGN REQUIREMENTS

The intent of the Planned Development district is to encourage more creative and imaginative design than generally is possible under conventional zoning regulations. In addition, a development plan should be designed to ensure that the following general goals are achieved.

1. The proposed development shall be of such design that it will promote achievement of the stated purposes of the Springfield Comprehensive Plan.
2. The development will efficiently utilize the available land, and will protect and preserve to the extent possible, natural features of the land such as trees, streams and topographic features.
3. The development shall provide for harmonious and coherent site and building design that creates a sense of place.

Both the Multi-family Development Design and Location Guidelines for projects with Multi-family uses (more than 11 dwelling units per acre) and the City's Comprehensive Plan for non-residential uses will apply to this project, unless modified by the requirements and standards that follow:

<u>Section 5.7 Design Guidelines</u>

Encourage Pedestrian Activity:

1. The project will provide pedestrian amenities such as pedestrian scale lighting and non right-of- way street furniture to enhance the pedestrian environment. Lighting sources or luminaries that do not have a cutoff and are used in parking lots and pedestrian ways shall not exceed a maximum of 15 feet in height. Lighting sources or luminaries that do have a cutoff shall not exceed a maximum 30 feet in height. Parking lot lighting and pedestrian lighting should be appropriate to create adequate visibility at night and evenly distributed to increase security. All lighting should be glare-free and shielded from the sky and adjacent residential properties and structures, either through exterior shields or through optics within the fixture. Street furniture may include but is not limited to benches; shelters; and decorative trash bins. There shall be one (1) street/park bench

provided within each multi-family development, thereafter, one (1) park/street bench for every 50 dwelling units.

2. The project will blend the building scale and set back with existing developments that are consistent with these guidelines. Street facing walls that are greater than 50 feet in length must be articulated at least each 25 feet with bays, projections, or recesses. Articulation means a difference in the vertical plane of the building of at least 18 inches or more.

   ***The project intends to incorporate façade articulation at street-facing walls, both vertically and horizontally with bays, projections, recesses, or material changes. The specific dimensions of articulation will be defined in the final development plan.***

3. Buildings adjacent to the street will be situated on the site to provide pedestrian access to the street. Additional interior lot buildings may be oriented toward parking lots or public/common open space. Buildings adjacent to the street shall not have parking lots located between the building and the street. Corner lots may have parking on one street face. Interior areas of parking and vehicular use areas shall contain planting islands every 20 contiguous parking spaces whether double staked or linear. The size of the planting island shall be the equivalent area of one parking space. This shall be used toward satisfying the 5% interior landscaping requirements.

   ***The project intends to be sensitive to the existing trees and added landscape plantings will be provided to soften the visual impact of paved parking. Existing trees will also be "saved" where reasonably possible and integrated into landscape islands and the parking layout configuration. A minimum of 5% interior landscaping will be provided and configured to incorporate existing trees where it is reasonably feasible.***

4. The project will avoid blank walls along pedestrian circulation areas. Facades that face streets or connecting pedestrian frontage that are greater than 25 feet in length shall be subdivided and proportioned using at least one or more of the following features; windows, entrances, arcades, arbors, awnings (over windows or doors), distributed along the façade at least once every 25 feet.

   ***The project intends to be sensitive to facades along pedestrian circulation areas. Facades shall be subdivided and proportioned using architectural articulation. The specific dimensions of articulation will be defined in the final development plan.***

5. The project will avoid tearing down buildings that the Landmarks Board has determined to be historic or architecturally significant.

Provide a Good Circulation System:

1. The project will provide connectivity by including direct vehicular or access easements, pedestrian and bicycle connections between abutting or adjacent developments, including retail centers and bus stops, wherever possible.

2. The project will design streets to consider pedestrian safety and comfort (i.e. sidewalks, bump outs, crosswalks, street trees). All multi-family development site plans proposing multiple buildings shall connect building entrances to one another and to sidewalks on adjacent public and/or private streets via a minimum four (4) foot wide sidewalk separated from vehicular traffic by a four foot wide planting strip (the 4 foot planting strip does not apply to parking lots where the sidewalk is intended to provide access to the parking lot). Public sidewalks may be considered part of the walkway system if they provide convenient movement between structures. Fences, landscaping and other site improvements shall be located so as not to impede safe and convenient pedestrian circulation. On-site sidewalks shall be designed to connect to off-site sidewalks on adjoining properties and public and/or private streets. Sidewalks shall connect parking areas or parking structures that serve the principal multi-family building; community amenities, such as swimming pools, community centers, other recreational facilities, or common open space; and sub-community facilities intended to serve the particular multi-family building, such as mail centers or bike racks.

3. Each multi-family development shall provide pedestrian and bicycle connections to adjacent existing or proposed parks, greenways, bikeways, and trails wherever practical.

4. Provide shared driveways**,** cross access driveways and/or other forms of connectivity and secondary access to existing or future adjacent developments.

   ***The project intends to provide cross access driveways at both the north adjacent property fronting on Lone Pine, as well as the south adjacent property.***

5. Ensure that collector streets align with existing collector streets at thoroughfare intersections to promote safer crossings for pedestrians, cyclists and automobiles.

6. When internal streets are proposed or required design developments around an internal street system with at least one primary street that functions as the vehicular and pedestrian spine of the development:
   a. Include parallel parking, street trees and sidewalks on the primary street(s). (Parking should not be located between the curb and buildings along the street.)

***The project will provide street trees by preserving existing trees along the primary internal street. The project will provide pedestrian connectivity through the site. The specific details of pedestrian connectivity will be defined in the Final Development Plan.***

b. Provide driveways or secondary streets to function as the main connection between parking lots and the primary street(s).

c. Provide sidewalks on secondary streets, even if they are private streets.

***The project will provide pedestrian connectivity through the site. The specific details of pedestrian connectivity will be defined in the Final Development Plan. Due to the "natural environment" design criteria, and intent to preserve as much of the natural environment, secondary streets will not have sidewalks, but pathways will be incorporated to connect site uses to meet the needed pedestrian access.***

Respect the Natural Environment:

1. The project will provide a meaningful amount of useable and accessible recreational area/facility. Each multi-family development shall include at least 15% of the total site or premise as a usable recreational area and/or facility. Usable recreational area/facility is defined as an open recreational area or recreational facility which are designed and intended to be used for outdoor living and/or recreation, and/or amenity. Usable open recreational areas shall not include land occupied by buildings, structures, streets, sidewalks, driveways, or parking areas but may include outdoor recreational facilities such as walkways used solely for recreational purposes/connections, swimming pools, sports courts, clubhouse, community center, exercise room or other amenities as defined in these guidelines. The 15% usable recreational area or facility does not reduce the required 20% open space. All common open recreational areas on the site, including recreational facilities, shall be readily accessible to all occupants and should, wherever possible, be physically connected to other common open space areas on and off the site. Generally, usable open recreational areas should have a minimum dimension of thirty (30) feet in any direction and minimum area of nine hundred (900) square feet; however, it is recognized that open recreational areas can be of a smaller minimum dimension or area provided it meets the definition. The usable open recreational area required shall be generally contiguous and moderately level, with an overall gradient not exceeding ten (10%) percent.

2. The project will incorporate functional amenities, in the open space and recreational areas. Multifamily development site shall incorporate recreational amenities or facilities from the list below in the following amounts: Multi-family development site with 20 to 50 dwelling units: 1 amenity; Multi-family development sites with 51 to 100 dwelling units: 2 amenities; and Multi-family development sites with more than 100 dwelling units: 3 amenities. There must be at least two (2) different amenities used for Multi-family development sites with more than 100 units. Allowable recreational amenities:
    a. Swimming pool
    b. Golf course

c. Resident clubhouse
d. One tot lot with a minimum size of nine hundred square feet (900') per tot lot area;
e. Basketball, volleyball, tennis court, handball court or other sports court.
f. One (1) picnic area, with a minimum size of nine-hundred square feet (900') per area, and including a minimum of one (1) picnic table and one (1) barbeque grill/pits per picnic area;
g. Community center (meeting room, assembly hall, etc.);
h. Exercise room and/or recreation building;
i. Par 3 golf course (9 hole minimum);
j. Any proposed amenity found by the City Council to provide recreation or meet the needs of the multi-family development residents to a level similar to that provided by the above

3. The project will address the preservation of steep slopes along perennial streams or adjacent to significant natural landscape features in site plan submittals.
A tree six inches or greater in diameter measured 4 1/2 feet above ground must be preserved or replaced with a tree of at least two inches (2") in diameter—for a maximum total of 7 trees per acre. Trees meeting the landscape requirements in the zoning ordinance may be counted toward this requirement. A tree survey site plan must be submitted with a zoning application in order to assess this requirement. The life of all planted or saved trees shall be guaranteed and maintained for a period of 5 years or shall be replaced with an equal diameter tree. If this is not possible then the total diameter of trees at the time they are lost shall be replaced with an equal diameter amount of trees with no less than 2" in diameter throughout the project area

***The project intends to minimize the impact on the existing natural environment. Trees have been surveyed and documented. Houses, buildings and roads are planned to preserve trees where feasible and possible. Common open areas are planned around the core of the residential development and linked to the commercial and mixed use development areas with paths and trails. Additional trees, native plants and shrubs will be incorporated to augment the removal of such needed by the new construction.***

Section 5.9 Density Bonus

A density bonus is allowed if a development has met the minimum matrix points for a specified density, at least half the design guidelines are met, and will not exceed 40 dwelling units per acre (du/ac). The total additional bonus dwelling units are as follows;

4. Mixed Use Developments: Mixed Use developments that contain an equal amount or greater total square footage of residential to non-residential are allowed an increase of 3 dwelling units per acre. Mixed Use developments that contain 50% or more non-residential square footage as residential square footage are allowed an increase of 2 dwelling units per acre.

5. Green Building: An increase of 1 du/ac for Certified, 1.5 du/ac for Silver, 2 du/ac for Gold and 2.5 du/ac for Platinum as defined by the "Leadership in Energy and Environmental Design" (LEED) Green Building Rating System or similar nationally recognized program as approved by the

Planning and Zoning Commission and City Council. An increase of 0.50 du/ac for a rating between 1-50, 1.0 du/ac for a rating between 51-74 and 1.25 du/ac for a rating between 75-100 for EPA Energy Star. An increase of 0.25 du/ac for Bronze, 0.5 du/ac for Silver and 1.0 du/ac for Gold rating of the National Association of Home Builders Green Building Guidelines (see EPA Energy Star and NAHB Green Building guidelines for more information).

**The project will have up to 102 multi-family and 22 single family dwelling units or 124 units on 10.85 acres which equates to 11.42 du/ac. The project will not exceed 12 du/ac. The project will pursue LEED Silver rating. Pursuant to Section 5.9 Density Bonus, the project is eligible for up to 2 du/ac per Item 5.9.4, and up to an additional 1.5 du/ac for item 5.9.5.**

## I. OPEN SPACE, LANDSCAPING & SCREENING

1. Required Bufferyards.

   Tract A: No perimeter landscaping or bufferyards required

   Tract B: No perimeter landscaping or bufferyards required.

   Tract C: No perimeter landscaping is required. No bufferyards are required between on-site multi-family residential, office or self storage uses. A natural 10 foot bufferyard using existing vegetation that meets the intent and intensity of a Type C Bufferyard is required along the north/south common property line adjacent to property zoned R-SF and PD per the site plan. If a six (6) foot wooden fence is not feasible to be constructed because of conflicts with existing vegetation for a natural bufferyard this can be removed. A natural 15 foot Type C Bufferyard using existing vegetation that meets the intent and intensity of a Type C Bufferyard is required along the east/west common property line of the property zoned R-SF per the site plan. If a six (6) foot wooden fence is not feasible to be constructed because of conflicts with existing vegetation for a natural bufferyard this can be removed.

2. Vehicular use area open space.

   a. Perimeter – no perimeter landscaping is required. The intent of the development is to provide connections to the existing sidewalk system. This will enable outside patios, eating areas and entertainment areas to be close to the street.

   b. Interior – the development shall provide 5% interior green space in parking areas per the zoning ordinance requirements.

3. Open space.

The overall development shall provide a minimum of 30% open space.

4. Screening.

Screening shall be provided in accordance with the zoning ordinance.

5. Water Quality:

Water quality shall be provided in accordance with the City's proposed Chapter 10 Water quality Design guidelines. These guidelines are attached. The City will allow impervious area from this PD to discharge without water quality if the same amount of impervious area that is coming onto us treated. Specifically water quality can be provided in the residential Tract B area and can treat water from the adjoining trailer park.

6. Detention:

The site discharges directly into a flood plain. Therefore, detention will be bought out and the proceeds will be used to construct a storm pipe under Lone Pine and the Rail Road which will serve this development and the surrounding area.

**J. EXTERIOR LIGHTING**

The requirements and standards of the *Springfield Zoning Ordinance*, in effect at the time of development shall apply.

**K. ACCESS TO PUBLIC THOROUGHFARES**

Access to the public street system shown on Exhibit 2 shall be governed by the existing standards of the City of Springfield for the applicable street classification.

**L. OFF-STREET PARKING**

*T*he *Springfield Zoning Ordinance* in effect at the time of development shall apply. Three exceptions shall be provided to the requirements in the zoning ordinance.

1) Offsite parking may be provided within ½ mile of the site with a cooperative parking agreement.

2) Parking adjacent to Lone Pine Avenue and Allen Drive are permitted as shown on Exhibit 2. The actual parking stalls are not in the right of way.

3) The development is permitted to reduce the overall parking by 10% per the standard bicycle parking reduction provided in the zoning ordinance. The development is also permitted to reduce the overall parking requirements by and additional 10%. This additional 10% reduction is provided to account for mixed uses on site, high pedestrian/bicycle volume due to the green way trail and high adjoining residential foot traffic from on site and the adjoining

properties.

**M. SIGNS**

The *Springfield Zoning Ordinance*, in effect at the time of development shall apply.

**N. REQUIRED IMPROVEMENTS**

1) One left turn lane for the North entrance will be provided into the property in accordance with the traffic study.

2) A box culvert is required to convey the stormwater from this development to the creek on the West side of the BNSF railroad tracks.

3) Allen Drive must be overlayed with 1-1/2 inches of asphalt from Lone Pine Avenue to the development drive. Allen Drive must be widened to meet parking space standards based on ST-6 standards. This improvement is required when the development takes access to Allen Drive.

**O. MAINTENANCE OF COMMON AREAS AND FACILITIES**

The maintenance of common areas and facilities within the District shall remain the responsibility of the developer(s) or shall be assumed by a duly constituted property owners association meeting all legal requirements prescribed by the City Attorney. Maintenance of the Lone Pine median vegetation shall be provided by this development.

**P. PHASING**

A left turn lane on Lone Pine for the North entrance shall be provided prior to obtaining any occupancy permits.

**Q. FINAL DEVELOPMENT PLAN**

A final development plan, showing conformance with the requirements of this Exhibit, shall be submitted to the Planning and Development Department and approved in the manner described below prior to the issuance of any building permits or prior to the commencement of any of the permitted uses. The final development plan may be submitted in the form of a preliminary plat, provided the plat is prepared in accordance with the requirements, standards, and intent of this Exhibit. Development of this District shall be in accordance with the approved final development plan.

1. The intent of Exhibit 2 is to provide a schematic circulation system and general use guidelines. A final development plan shall be submitted to the ARC to determine conformance with Exhibits 1 and 2 and shall be approved if it is in substantial conformance as defined by 36-405 of the Springfield Zoning

Ordinance. If the final development plan is not in substantial conformance than it shall be submitted to the Planning and Zoning Commission for review and recommendation to the City Council for final action, either as a whole or in phases. The Planning and Zoning Commission is hereby authorized, at its discretion, to approve minor adjustments and modifications to the site plan. Such authority shall not, however, be construed to permit:

A. Any uses within the District other than those specifically prescribed by the ordinance.
B. Any increase in the intensity of use permitted within the District.
C. Any changes to landscaping and bufferyards.

# PLANNED DEVELOPMENT 351 EXHIBIT 2
## GALLOWAY VILLAGE
## 4018 S. LONE PINE AVE.
## SPRINGFIELD, GREENE COUNTY, MISSOURI

60 0 30 60 120
( IN FEET )
1 inch = 60 ft.

**NOTES:**

ALL UTILITIES TO BE PROVIDED BY:
CITY UTILITIES OF SPRINGFIELD
301 E. CENTRAL
SPRINGFIELD, MO 65802
(417)863-9000

TOTAL AREA OF PROPERTY: 10.85 ACRES
MINIMUM OPEN SPACE REQUIRED: 30%
MAXIMUM IMPERVIOUS SURFACE ALLOWED: 70%
PARKING REQUIREMENTS PER ZONING ORDINANCE

### TRACT A: GENERAL RETAIL USES

MAXIMUM – 15,000 S.F. RETAIL OF WHICH 7,000 CAN BE RESTAURANTS
MAXIMUM – 13,000 S.F. OFFICE OR
MAXIMUM – 13,000 S.F. RESIDENTIAL
BUILDING HEIGHT: MAXIMUM – 3 STORY
PARKING:

| | | |
|---|---|---|
| OFFICE | 1 SP/350 SF | = 24 |
| RETAIL | 1 SP/200 SF | = 30 |
| RESTAURANT | 1 SP/80 SF | = 88 |
| RESIDENTIAL | 2–4BR 2 SP/UNIT | = 4 |
| TOTAL | | = 146 |
| LESS 10% ALLOWED BICYCLE REDUCTION | | 15 |
| LESS 10% REDUCTION PER PD | | 15 |
| REQUIRE | | 116 |

126 PARKING SPACES PROPOSED

### TRACT B: RESIDENTIAL SINGLE FAMILY USES

MAXIMUM – 22 SINGLE FAMILY UNITS OR
BUILDING HEIGHT: MAXIMUM – 2 STORY

RESIDENTIAL 2/UNIT = 44

44 PARKING SPACES PROVIDED BY 2–CAR GARAGE AT EACH RESIDENCE.

LOCATION OF RESIDENTIAL UNITS IS APPROXIMATE AND MAY CHANGE WITH FINAL DESIGN.

### TRACT C: RESIDENTIAL MEDIUM DENSITY USES

MAXIMUM – 100 MULTI–FAMILY RESIDENTIAL UNITS (MIXTURE OF 1, 2, AND 3 BEDROOM UNITS)
MAXIMUM – 10,000 S.F. SELF SERVICE STORAGE SPACE
MAXIMUM – 10,000 S.F. OFFICE SPACE (OFFICE SPACE CAN BE SUBSTITUTED FOR THE RESIDENTIAL UNITS BASED ON PARKING REQUIREMENTS).
BUILDING HEIGHT: MAXIMUM – 3 STORY
PARKING:

| | | |
|---|---|---|
| 2–4 BR UNITS | 2 SP/UNIT * 56 UNITS+1.5 SP/UNIT * 38 UNITS | = 169 |
| 2 FOR SELF–SERVE STORAGE | | = 2 |
| TOTAL | | 171 |
| LESS 10% ALLOWED BICYCLE REDUCTION | | 17 |
| LESS 10% REDUCTION PER PD | | 17 |
| REQUIRE | | 137 |

137 PARKING SPACES PROPOSED

### GENERAL NOTES:

THIS PD EXHIBIT 2 IS INTENDED TO MEET PD GUIDELINES FOR A FINAL DEVELOPMENT PLAN SUBMITTED ADMINISTRATIVELY.

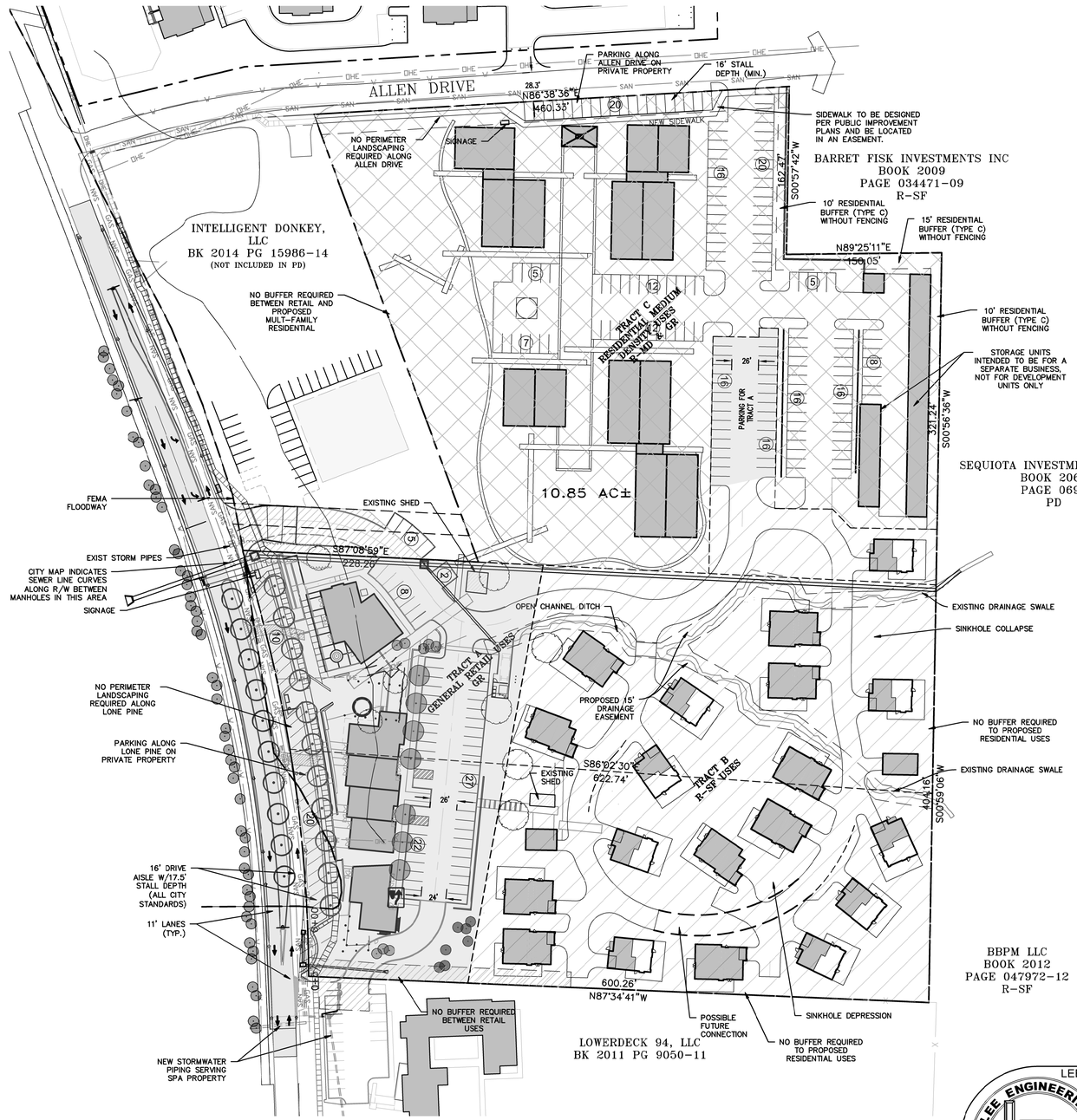
A TEN FOOT BUFFER ZONE IS REQUIRED BETWEEN TRACT C AND THE PROPERTIES OWNED BY BARRET–FISK AND SEQUIOTA. NO OTHER BUFFERS REQUIRED.

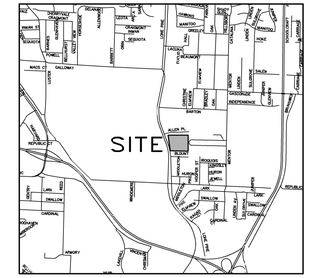
IMPERVIOUS AREA SHALL NOT EXCEED 70% OF DEVELOPMENT.

### DETENTION & WATER QUALITY NOTES:

DETENTION WILL BE BOUGHT OUT AT THE TIME OF DEVELOPMENT.

WATER QUALITY WILL BE PROVIDED VIA A LID DESIGN AND TREATMENT OF THE SEQUIOTA INVESTMENTS PROPERTY IMPERVIOUS AREA IN LIEU OF GALLAOWAY VILLAGE IMPERVIOUS AREA.




VICINITY MAP
NOT TO SCALE

**LEGEND**

- FOUND IRON PIN (3/4" IP UNLESS NOTED)
- SET 5/8" IRON PIN "LSC 2009028050"
- R/W MARKER
- BOUNDARY LINE
- R/W LINE
- EASEMENT LINE
- SETBACK LINE
- (M) MEASURED
- (P) PLAT
- (D) DEED
- (R) RECORD
- LIGHT POLE
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- SAN — SANITARY SEWER LINE
- UTILITY POLE
- ELECTRIC METER
- OHE — OVERHEAD ELECTRIC
- UGE — UNDERGROUND ELECTRIC
- GUY WIRE
- TELEPHONE/COMMUNICATION MANHOLE
- TELEPHONE PEDESTAL
- CABLE TV RISER
- CATV — CABLE TV LINE
- PHONE — PHONE/COMMUNICATION LINE
- F/O — FIBER OPTIC LINE
- WV — WATER VALVE
- WM — WATER METER
- W — WATER LINE
- WH — FIRE HYDRANT
- GV — GAS VALVE
- GM — GAS METER
- GAS — GAS LINE
- X — FENCE LINE (AS NOTED)
- ROAD SIGN (STOP, SPEED LIMIT, ETC)

ABBREVIATIONS:

| | |
|---|---|
| XFMR | TRANSFORMER |
| ICV | IRRIGATION CONTROL VALVE |
| CI | STORMWATER CURB INLET |

MISSOURI ONE CALL SYSTEM, INC.
1-800-344-7483
STOP-CALL BEFORE YOU DIG!


LEE Engineering & Associates, L.L.C.
1200 E. Woodhurst, Suite D200
Springfield, MO 65804
417-886-9100 (phone)
417-886-9336 (fax)
Missouri State Certificate of Authority
Engineering #2005015504
Land Surveying #2009028050
dlee@leeengineering.biz
"Engineering with Integrity"


PD 351 EXHIBIT 2
GALLOWAY VILLAGE

4018 S. LONE PINE AVE.
SPRINGFIELD, GREENE COUNTY, MISSOURI

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# Chapter 10 Water Quality

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## 1.0 Introduction

Photo 1. Jordan Creek in Springfield, MO.

The potential adverse effects of urban runoff on the physical, chemical, and biological characteristics of receiving waters have been widely documented (NRC, 2008; WEF/ASCE, 1992, 1998; Debo and Reese, 2002; Horner, et al., 1994; Schueler and Holland, 2000). As urbanization occurs, the removal of vegetation, compaction of soils, and addition of impervious surfaces significantly increases the volume of stormwater runoff. Industrial, commercial, and residential sources of pollution also become prevalent with urbanization. Urban runoff picks up pollutants from lawns, streets, parking lots, and industrial and commercial operations. Traditional storm water management focused on moving water away from people, structures, and transportation systems as quickly and efficiently as feasible. This was accomplished by creating conveyance networks of roof drains, street inlets, pipes, and concrete channels, which concentrated runoff discharges to receiving waters. Some of the consequences of this traditional approach on receiving waters include:

- Increased pollutant concentrations and loads, which impact water quality for recreation, drinking water supply, aquatic life protection, and other beneficial uses;
- Stream channel widening and instability, increasing risk of damage to adjacent property and structures;
- Habitat degradation and ecosystem disruption associated with streambed and bank erosion, changes in stream flow, and reduction of both aquatic and terrestrial physical habitats.

Because of the adverse consequences of this traditional approach, storm water management has evolved over the past several decades to focus on minimizing runoff and managing it near the source to address hydrologic and water quality effects of smaller, more frequently occurring events while also providing detention storage to attenuate peak runoff rates from larger events. Smaller, more frequently occurring events carry the bulk of the storm water pollutant load to receiving waters and have the most significant effects on stream stability and geomorphology. Site planning that minimizes disturbance and impervious cover, and preserves soils, vegetation, steep slopes, and natural drainageways is an integral first step in this modern approach of minimizing runoff and managing it near the source. Following site planning, stormwater control measures (SCMs)[1] are designed to manage runoff near the source through infiltration, evapotranspiration, treatment, and harvesting for use (irrigation, toilet-flushing, etc.). Representative practices include rain gardens,

[1] A note on terminology: SCM refers to both non-structural measures (such as preservation of natural areas) and structural controls to manage the quantity and quality of stormwater runoff from development, including SCMs that provide runoff reduction and water quality treatment as well as detention to control peak flows. SCM is used with this meaning in City Code Chapter 96. Nationally, SCM has begun to replace the term Best Management Practice (BMP) when referring to permanent, post-construction practices that provide runoff reduction and water quality treatment. BMP is still commonly used to refer to erosion and sediment controls and other construction site practices to manage runoff of pollutants during construction.

pervious pavement, and vegetated swales, often referred to as Green Infrastructure (GI). This stormwater management approach of preserving natural site hydrology and managing runoff close to its source through the use of GI is called Low Impact Development (LID). It can reduce the volume of storm water runoff that must be managed by the flood control detention and conveyance components of the stormwater drainage system.

This chapter provides design criteria, principles, and standards to protect the health, safety, and welfare of the public through stormwater management that reduces the harmful effects of urban runoff on area waterways and enhances the livability of the community. This chapter focuses on the following objectives:

- Compliance with federal and state requirements under the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) program. The City of Springfield (City) is regulated under this program through its MS4 permit which mandates the City to have criteria and requirements in place to reduce the discharge of pollutants to the MS4 to the Maximum Extent Practicable (MEP) by addressing the post-construction water quality impacts of stormwater runoff from new development and redevelopment.
- Design criteria to most effectively protect water quality by focusing on small, frequently occurring storm events and encouraging a treatment train approach to provide multiple treatment processes and runoff reduction.
- Site planning and design that minimizes and disconnects impervious surfaces and considers preservation of vegetation, soils, natural topography, natural channels, and karst features.
- Design standards for green infrastructure that provides multiple environmental, social, and economic benefits.

In developing this chapter, the following design manuals from other communities were referenced and adapted based on local conditions and experience. Designers may find these resources useful.

- Urban Drainage and Flood Control District (Denver, Colorado) Urban Storm Drainage Criteria Manual Volume 3
- Metropolitan St. Louis Sewer District BMP Toolbox
- American Public Works Association/Mid-America Regional Council (Kansas City, Missouri) Manual of Best Management Practices for Stormwater Quality
- Metro Government of Nashville & Davidson County, Tennessee Stormwater Management Manual
- Minnesota Stormwater Manual

## 2.0 Water Quality Design Criteria

The water quality design criteria herein apply to new development and redevelopment projects within the city limits of Springfield that disturb 1 acre or greater, including projects less than 1 acre that are part of a larger common plan of development or sale that will disturb 1 or more acres over

the life of the project[2]. Redevelopment means projects that alter the "footprint" of an existing site or building in such a way that there is a disturbance of land. On redevelopment, existing impervious area that is not removed and reconstructed is exempt from the water quality design criteria. For example, overlay of an existing parking lot is exempt but complete removal and reconstruction of an existing parking lot is not exempt. The applicability of the water quality design criteria is based on the City's MS4 permit post-construction program requirements.

New development and redevelopment sites that disturb less than 1 acre and are not part of a larger common plan of development or sale that will disturb 1 or more acres over the life of the project are not required to meet the water quality design criteria herein. However, these small sites are encouraged to implement site design and SCMs that provide some level of water quality treatment and runoff reduction. Often, this can be done through simple site design approaches that minimize directly connected impervious area, such as directing downspouts to grass areas and utilizing flush curbs or curb cuts to allow parking lot runoff to flow into adjacent vegetated areas. Small sites may have detention or landscape requirements that could be designed as dual purpose water quality SCMs, such as parking lot landscape islands designed as rain gardens.

## 2.1 Water Quality Volume

Storm water systems designed for flood control are typically designed for large, infrequent storm events. In contrast, storm water controls to protect water quality are designed for small, frequent storm events. In Springfield, approximately 90 percent of all rainfall events are 1 inch or less. Studies indicate that most pollutants are washed off in the "first flush," of these small, frequent storms. Therefore, the Water Quality Volume (WQV) is based on the runoff from a 1 inch rainfall. The WQV must be captured using properly designed, approved SCMs that reduce the discharge of pollutants through treatment or runoff reduction.

Two methods can be used to calculate the WQV - the Short Cut Method and the Small Storm Hydrology Method. According to Claytor and Schueler (1996), these methods are more accurate than other methods for calculating runoff volumes from small storms on urban sites. Use of these methods is also consistent with other Missouri communities. The designer may choose to calculate the WQV using either method. **See Section 3.0 for credits that can be applied when calculating the WQV.**

<u>Short Cut Method</u> - The Short Cut Method (Claytor and Schueler, 1996) is based on the relationship of percent impervious cover and runoff volume. Percent impervious cover should be based on measurement of impervious cover for the site. Where measurement of impervious cover for the site is impractical, the impervious cover should be estimated based on maximum impervious area

[2] The U.S. Environmental Protection Agency provides the following explanation of "larger common plan of development or sale" on their website. "A 'larger common plan of development or sale' is a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan. For example, if a developer buys a 20-acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the future, this would be considered a larger common plan of development or sale. If the land is parceled off or sold, and construction occurs on plots that are less than one acre by separate, independent builders, this activity still would be subject to stormwater permitting requirements if the smaller plots were included on the original site plan…"

per lot allowed by zoning, percent impervious cover of right-of-ways, and other site design factors. The Short Cut Method uses the following equation to calculate the WQV.

$$WQV\ (ft^3) = (P/12)(Rv)(A*43{,}560)$$

Where

P = rainfall depth = 1 inch
Rv = volumetric runoff coefficient = 0.05 + 0.009I
I = percent impervious cover (in percent, e.g. 80% = 80)
A = total site area in acres

Small Storm Hydrology Method - The Small Storm Hydrology Method (Claytor and Schueler, 1996) computes an Rv based on the specific characteristics of the pervious and impervious surfaces of the drainage area. Rv's to be used for each cover type are provided in Table 2. The Small Storm Hydrology Method uses the following equation to calculate the WQV.

$$WQV\ (ft^3) = (P/12)(\text{ weighted Rv})(A*43{,}560)$$

Where

P = rainfall depth = 1 inch
Weighted Rv = $[(Rv_1*A_1)+(Rv_2*A_2)+...(Rv_i*A_i)]/A$
$Rv_i$ = volumetric runoff coefficient for cover type *i*
$A_i$ = area of cover type *i* in acres
A = total site area in acres

**Table 1. Volumetric runoff coefficients for urban runoff from directly connected impervious areas for a 1 inch rainfall (Claytor and Schueler, 1996; Hirschman, et al., 2008)**

| Flat roofs and large unpaved parking lots | Pitched roofs and large impervious areas (large parking lots) | Small impervious areas and narrow streets | Urban pervious areas | | Forest cover | | |
|---|---|---|---|---|---|---|---|
| | | | Hydrologic Soil Group B | Hydrologic Soil Groups C & D | Hydrologic Soil Group B | Hydrologic Soil Group C | Hydrologic Soil Group D |
| 0.84 | 0.97 | 0.7 | 0.11 | 0.21 | 0.03 | 0.04 | 0.05 |

## 2.2 Designing for Runoff Reduction and Targeted Pollutants

Development significantly increases the volume of runoff compared to pre-development conditions, contributing to increased pollutant loads and hydrologic stream impacts including erosion and aquatic habitat degradation. To address these impacts, consideration should be given to runoff reduction during site design and SCM selection and design. This can be accomplished through site planning and design techniques such as tree preservation and planting, natural area conservation, and minimizing grading and impervious surfaces, all of which contribute to runoff reduction. SCM selection and design can incorporate moderate to high performing runoff reduction SCMs and/or

use a treatment train approach of more conventional SCMs such as vegetated filter strips, grass channels, and extended detention in series. The runoff reduction and pollutant removal performance of SCMs in series is greater than their use as stand-alone practices. Table 2 gives typical runoff reduction percentages for SCMs. Volume reduction also has economic benefits, including potential reductions in storage requirements for minor and major events, reduced extent and sizing of conveyance infrastructure, and cost reductions associated with addressing channel stability issues. See Sections 5.5 and 5.6 for additional information on runoff volume reduction and the treatment train approach.

SCMs vary in their pollutant removal efficiencies for various pollutants. The majority of Springfield drains to the James River which is categorized as impaired by the Missouri Department of Natural Resources due to excess nutrients that cause algae blooms and reduced water clarity, affecting recreation and other beneficial uses. SCMs for developments in the James River watershed shall be selected and designed to reduce the discharge of nutrients as well as sediment, which is often a carrier of nutrients. The north side of Springfield drains to the Little Sac River which is impaired due to bacteria. SCMs for developments in the Little Sac watershed shall be selected and designed to reduce the discharge of bacteria. In addition to these watershed-specific pollutants, SCM selection and design should also target pollutants specific to the development such as metals associated with industrial facilities. Table 3 gives the typical effectiveness of SCMs for targeted pollutants. See Section 5.3 for additional information about pollutant removal processes.

**Table 2. Typical Runoff Reduction Percentages for SCMs (Adapted from Hirschman, et al., 2008)**

| SCM | Runoff Reduction |
|---|---|
| Vegetated Filter Strip | |
| Natural Area | 50-75% |
| Lawn/landscaping (with compost amended soil) | 50% |
| Grass Channel (meeting minimum residence time) | 20% |
| Permeable/Pervious Pavement | |
| Full Infiltration (no underdrain) | 75% |
| Partial Infiltration (perched underdrain) | 45% |
| No Infiltration (impermeable liner) | 0% |
| Bioretention (Rain Garden) | |
| Full Infiltration (no underdrain) | 80% |
| Partial Infiltration (perched underdrain) | 50% |
| No Infiltration (impermeable liner) | 0% |
| Extended Detention Basin | 15% |
| Retention Pond | 0% |
| Constructed Wetland Pond | 0% |
| Green Roof | 45-60% |
| Underground/Proprietary SCMs | Based on site specific design |
| Rainwater Harvesting | 40%; May be higher based on site specific design |
| Natural Area Conservation | % based on calculated WQV credit (see Section 3.1.1) |
| Natural Area Restoration | % based on calculated WQV credit (see Section 3.1.2) |
| Tree Preservation | % based on calculated WQV credit (see Section 3.1.3) |
| Tree Planting | % based on calculated WQV credit (See Section 3.1.3) |

**Table 3. Typical Effectiveness of SCMs for Targeted Pollutants (Source: UDFCD, 2010)**

| SCM | Sediment/Solids | Nutrients | Total Metals | Bacteria |
|---|---|---|---|---|
| Vegetated Filter Strip | Good | Moderate | Good | Poor |
| Grass Channel | Good | Moderate | Good | Poor |
| Permeable/Pervious Pavement | Very Good[1] | Good | Good | Unknown |
| Bioretention (Rain Garden) and Bioswale | Very Good | Moderate | Good | Moderate |
| Extended Detention Basin | Good | Moderate | Moderate | Poor |
| Retention Pond | Very Good | Moderate | Moderate | Moderate |
| Constructed Wetland Pond | Unknown | Unknown | Unknown | |
| Green Roof[2] | Unknown | Unknown | Unknown | Unknown |
| Underground/Proprietary SCMs | Variable | Variable | Variable | Variable |

[1]Not recommended for drainage areas with high sediment yield (unless pretreatment is provided. [2]Water quality data for green roofs are not yet robust enough to provide meaningful conclusions about pollutant removal. By reducing volume, green roofs have the de facto capability to reduce pollutant loads; however, on a concentration basis, more data is needed to better define effectiveness.

## 2.3 Water Quality Design Criteria in Floodplains

When developing in or near a floodplain, the bottom of the water quality SCM must be a minimum of 1 foot above the 1-year flood elevation.

# 3.0 Site Planning and Design Credits

In order to encourage LID site planning and design approaches that preserve and restore natural areas and trees, disconnect impervious surfaces, and utilize vegetated channels rather than pipes or concrete channels for conveyance, the following credits can be used to reduce or meet the WQV.

### 3.1.1 Natural Area Conservation Credit

A WQV credit can be given for conserving natural areas on a development site, thereby retaining pre-development hydrologic and water quality characteristics. Natural areas include woods or other undisturbed open space that does not have managed turf, including floodplains and stream buffers. Previously disturbed areas are subject to staff review to determine if they qualify as a natural area in their current condition or if restoration would be needed to receive credit under Section 3.1.2. Under the credit, the conserved natural area can be subtracted from total site area when computing the WQV. The Rv is still calculated based on the percent impervious cover for the entire site (Short Cut Method) or based on a weighted Rv that includes the natural area (Small Storm Hydrology Method). An added incentive is that the hydrologic soil group for the conserved area will not have to be adjusted up one level (e.g. from C to D) for calculation of detention volume since the area is not being disturbed. To receive the natural area conservation credit, the following criteria shall be met:

- The natural area shall not be disturbed during or after project construction (e.g. cleared or graded) except for temporary impacts associated with incidental utility work with proper tree protection in place, and forest management activities such as selective cutting to improve forest health.

- The natural area shall be protected by having the limits of disturbance clearly shown on all construction drawings and staked and protected in the field except as provided for above.
- The natural area shall be delineated and included in the approved long-term operation and maintenance plan and agreement required for all SCMs and filed with the Greene County Recorder of Deeds.

Example: A 5 acre site with 3.25 acres of impervious cover (65% impervious composed of pitched roof and large impervious areas), 0.75 acres of urban pervious area (C soil), and 1 acre of conserved forest cover (C soil). The designer may calculate the WQV using either the Short Cut Method or the Small Storm Hydrology Method. For example purposes, both are shown. The WQV is the lesser of the two volumes. In this example, the Short Cut Method produces the lesser volume.

Short Cut Method **(without credit):**
WQV = (1/12)(Rv)(A*43,560) where
Rv = 0.05+0.009(65) = 0.64
A = 5 acres
WQV = (1/12)(0.64)(5*43,560) = 11,616 $ft^3$

Small Storm Hydrology Method **(without credit):**
WQV = (1/12)(Rv)(A*43,560) where
Rv = [(0.97*3.25)+(0.21*0.75)+(0.04*1)]/5 = 0.67
A = 5 acres
WQV = (1/12)(0.67)(5*43,560) = 12,161 $ft^3$

Short Cut Method **(with credit):**
WQV = (1/12)(Rv)(A*43,560) where
Rv = 0.05+0.009(65) = 0.64
A = 5 acres - 1 acre conserved area = 4 acres
WQV = (1/12)(0.64)(4*43,560) = 9,292 $ft^3$

Small Storm Hydrology Method **(with credit):**
WQV = (1/12)(Rv)(A*43,560) where
Rv = [(0.97*3.25)+(0.21*0.75)+(0.04*1)]/5 = 0.67
A = 5 acres - 1 acre conserved area = 4 acres
WQV = (1/12)(0.67)(4*43,560) = 9,728 $ft^3$

### 3.1.2 Natural Area Restoration Credit

A WQV credit can be given for restoring a minimum contiguous area of 5,000 square feet of the development site as native prairie or urban forest. An area acceptable for restoration can be an area that is currently turf grass, has undergone past disturbance, or a previously developed area. Under the credit, the restored area can be subtracted from total site area when computing the WQV. The Rv is still calculated based on the percent impervious cover for the entire site (Short Cut Method) or based on a weighted Rv that includes the restored area as forest cover (Small Storm Hydrology Method). See the example in Section 3.1.1. An added incentive is that the hydrologic soil group for the restored area will not have to be adjusted up one level (e.g. from C to D) for

calculation of detention volume since the area will be considered undisturbed once restored. To receive the natural area restoration credit, the following criteria shall be met:

- The area shall be restored according to a plan prepared by a qualified landscape architect, licensed forester, or licensed arborist.
- The natural area shall be delineated and included in the approved long-term operation and maintenance plan and agreement required for all SCMs and filed with the Greene County Recorder of Deeds.

### 3.1.3 Tree Preservation and Planting Credits

Trees reduce runoff through interception, evapotranspiration, and increased infiltration. In recognition of the stormwater benefits of trees, the following volume reduction credits can be applied to the WQ. These credits are based on District of Columbia (2013).

- A volume of 20 $ft^3$ can be deducted from the WQV for each preserved tree. To receive the credit, preserved trees shall be identified by a licensed forester or arborist as healthy trees that are structurally sound with a minimum current size of 6 inches measured at 4.5 feet above ground level and with an average mature spread of at least 35 feet that can be adequately protected during construction to ensure long-term survival. The natural area conservation credit in Section 3.1.1 or the tree preservation credit can be taken for tree preservation in a given area, but not both.
- A volume of 10 $ft^3$ can be deducted from the WQV for each planted tree, including trees planted in SCMs such as rain gardens and the bottom of detention basins. No credit will be given for trees required to be planted to meet City Code Sec. 36-482 *Landscaping and Bufferyards* unless the required landscape area where the tree is located is designed as an SCM (e.g. a parking lot landscape island designed as a rain garden or a bufferyard designed as a downspout disconnection or a grass channel). The intent of the credit is to incentivize tree planting beyond zoning requirements and to incentivize the dual use of required landscape areas as SCMs. To receive the credit, planted trees shall have a minimum caliper size of 1.5 inches and an average mature spread of at least 35 feet, or if planted in an SCM in a required landscape area, the planted trees shall meet the criteria in City Code Sec. 36-482. The natural area restoration credit in Section 3.1.2 or the tree planting credit can be taken for tree planting in a given area, but not both.

### 3.1.4 Vegetated Filter Strip and Grass Channel Credits

SCMs can generally be categorized as conveyance-based versus storage based. Conveyance-based SCMs, which aren't designed based on a storage volume, include vegetated filter strips and grass channels. These simple approaches are an important part of an LID approach to site design and can be used to disconnect and convey runoff from roof downspouts, parking lots, and other impervious surfaces. This section specifies how conveyance-based SCMs can contribute toward meeting the WQV requirement. A vegetated filter strip meeting the full design criteria in Section 8.0 is considered to meet the WQV requirement. Vegetated filter strips can be used as stand-alone SCMs or in series with other SCMs when part of a larger site drainage area. When used in series with other SCMs, the WQV for the area draining to the vegetated filter strip can be subtracted from the

total WQV for the larger site drainage area. Partial credit can also be applied to the WQV for vegetated filter strips that do not meet the full length requirement and are used in series with other SCMs. The vegetated filter strip must be a minimum of 20 feet in length to receive partial credit. The intent of this partial credit is to encourage treatment train approaches that disconnect impervious surfaces. WQV credit is given based on the percentage of the required length provided. For example, the WQV can be reduced by 50% for the drainage area to a vegetated filter strip that is 50% of the required length (minimum 20 foot length). Grass channels are not considered a stand-alone SCM that meets the WQV requirement but can be used in series with other SCMs to reduce the WQV by 20% for the contributing drainage area when designed to meet the criteria in Section 9.0, including minimum residence time.

## 4.0 Water Quality Design Principles

This section contains fundamental design principles that should be followed when designing a site.

**Principle 1: Consider stormwater early.** Stormwater site planning and design should be considered early in the concept phase of a development. Site planning is a step that has typically received little attention from a stormwater design perspective. *Low Impact Development Design Strategies: An Integrated Design Approach* (Prince George's County, Maryland, 1999) is recommended as a comprehensive guide for site planning. When considered early, strategies to meet stormwater requirements through low-cost practices that minimize runoff (Principle 2) are most easily achieved and SCM design issues are minimized.

**Principle 2: Minimize runoff**. The impacts of hydromodification and the total quantity of pollutants transported to receiving waters can be reduced most effectively by minimizing the total runoff volume and the volume of directly connected runoff. This can be achieved by minimizing total and directly connected impervious area, preservation or restoration of trees, natural vegetation and soils, and use of SCMs that provide runoff reduction benefits. Impervious surfaces can be minimized through thoughtful layout that minimizes building footprints and unnecessary street/driveway lengths and parking lot area while still meeting codes. No disturbance zones can be specified in areas where clearing and grading is not necessary for infrastructure or buildings.

**Principle 3: Maximize holding and settling time.** The most effective SCMs reduce both the runoff peak and volume. By reducing the rate of outflow and increasing the time of detention storage, settling of pollutants and infiltration/evapotranspiration of runoff are maximized.

**Principle 4: Maximize contact with vegetation**. Contact with vegetation should be maximized to allow for treatment processes, evapotranspiration, and reduced flow velocities for settling of pollutants.

**Principle 5: Utilize SCMs in series**. Performance monitoring of SCMs throughout the country has shown that the combined effect of several SCMs in series (sometimes called a “treatment train”) can be more effective in reducing the level of pollutants than just providing a single SCM at the point of discharge. To the extent practicable, SCMs should be used in series. For example, a combination of

downspout disconnection, vegetated filter strips, grass channels, and extended detention could be used to reduce and treat the WQV.

**Principle 6: Incorporate flood control, water quality, and landscape objectives in designs, where practical**. Incorporating both flood control and water quality enhancement into a single storm water management facility (such as an extended detention basin or pervious pavement with subsurface storage) can work well on some sites (see Section 5.9 for more details). Water quality and landscape requirements can also be combined into a single, dual-purpose facility such as parking lot islands designed as rain gardens that meet landscaping requirements and water quality requirements. Combining several objectives maximizes the cost-effectiveness of storm water management facilities.

**Principle 7: Use open channels for conveyance.** Natural channels should be preserved when feasible, and stabilized if needed according to procedures in Chapter 8. Open, vegetated channels for site conveyance are preferred rather than enclosed or concrete lined channels and can be used to reduce or meet water quality requirements when properly designed. Stream buffer requirements must be met as specified in Chapter 8.

**Principle 8: Protect karst features.** Sinkholes, springs, caves, and other karst features require special protection to minimize groundwater contamination and instability. Buffer requirements must be met as specified in Chapter 11. Site design and SCM selection should focus on small-scale, distributed practices and sheet flow to avoid concentrating large volumes of runoff which can result in collapses in karst areas.

**Principle 9: Design for industrial/high risk runoff and pollutant types.** Site specific SCMs should be incorporated into sites with activities or materials that have the potential to discharge significant pollutant loads. Such sites are generally regulated under NPDES industrial stormwater permits and the location and type of potential pollutant sources should be considered during site design and selection of SCMs to aid in NPDES permit compliance. Site and building design should consider specific needs such as materials storage or operations that may require source controls and/or containment or treatment SCMs. Non-NPDES regulated sites may also have specific pollutant types of hot spots such as fueling stations that should be considered when selecting and designing SCMs. Infiltration SCMs such as pervious pavement or bioretention may not be appropriate for sites with higher concentrations of hydrocarbons, metals, or other toxics unless an impermeable liner is provided to design the SCM for filtration only.

## 5.0 SCM Selection and Design Considerations

The following are general considerations when selecting and designing SCMs. Additional considerations are included in each SCM section.

### 5.1 Physical Site Characteristics

Physical characteristics of a site should drive the site design and SCM selection, including topography, vegetation, soils, contributing drainage area, groundwater, baseflows, and karst. A fundamental concept of LID is preservation and protection of site features including wetlands,

drainageways, soils that are conducive to infiltration, tree canopy, etc., that provide water quality and other benefits. LID stormwater treatment systems are also designed to take advantage of these natural resources. For example, if a portion of a site is known to have soils with high permeability, this area may be well-suited for rain gardens or permeable pavement. The following are physical site characteristics that should be considered in SCM selection and design:

### 5.1.1 Soils

Soils with good permeability, most typically associated with Hydrologic Soil Groups (HSGs) A and B provide opportunities for infiltration of runoff and are well-suited for infiltration-based SCMs such as rain gardens, pervious pavement, and bioswales, often without the need for an underdrain system. Even when soil permeability is low, these types of SCMs may be feasible if soils are amended to increase permeability or if an underdrain system is used. In some cases, however, soils restrict the use of infiltration-based SCMs. When soils with moderate to high swell potential are present, infiltration should be avoided to minimize damage to adjacent structures due to water-induced swelling. In some cases, infiltration-based designs can still be used if an impermeable liner and underdrain system are included in the design; however, when the risk of damage to adjacent infrastructure is high, infiltration-based SCMs may not be appropriate. In all cases, consult with a geotechnical engineer when designing infiltration SCMs near structures. Consultation with a geotechnical engineer is necessary for evaluating the suitability of soils for different SCM types and establishing minimum distances between infiltration SCMs and structures.

### 5.1.2 Vegetation

Preservation of trees and natural vegetation are non-structural SCMs that should be considered during the concept phase of site layout and can reduce the WQV as well as be utilized as vegetated filter strips to meet the WQV requirement. Natural area restoration or reforestation is also an approved SCM that should be considered, especially for larger green space areas.

### 5.1.3 Topography

Steep slopes may prohibit the use of SCMs such as vegetated filter strips that require sheet flow. Bioswales and rain gardens can be designed for slopes by incorporating check dams. Minimizing disturbance of steep slopes should be considered in site design and can reduce grading and infrastructure costs as well as problems associated with managing flow and erosion.

### 5.1.4 Watershed Size

The contributing drainage area is an important consideration both on the site level and at the regional level. On the site level, there is a practical minimum size for certain SCMs, largely related to the ability to drain the WQV over the required drain time. For example, it is technically possible to size the WQV for an extended detention basin for a half-acre site; however, designing a functional outlet to release the WQV over a 24-hour drain time is practically impossible due to the very small orifices that would be required. For this size watershed, a rain garden would be more appropriate. At the other end of the spectrum, there must be a limit on the maximum drainage area for a regional facility to assure adequate treatment of rainfall events that may produce runoff from only a portion of the area draining to the SCM. If the overall drainage area is too large, events that produce runoff from only a portion of the contributing area will pass through the SCM outlet (sized for the full drainage area) without adequate residence time in the SCM.

### 5.1.5 Groundwater

Shallow groundwater on a site presents challenges for SCMs that rely on infiltration and for SCMs that are intended to be dry between storm events. Shallow groundwater may limit the ability to infiltrate runoff or result in unwanted groundwater storage in areas intended for storage of the WQV (e.g., porous sub-base of a permeable pavement system or in the bottom of an otherwise dry facility such as an extended detention basin). Conversely, for some types of SCMs such as constructed wetland basins, groundwater can be beneficial by providing saturation of the root zone and/or a source of baseflow. Groundwater quality protection is an issue that should be considered for infiltration-based SCMs. Infiltration SCMs may not be appropriate for land uses that involve storage or use of materials that have the potential to contaminate groundwater underlying a site (i.e., "hot spot" runoff from fueling stations, materials storage areas, etc.). If groundwater or soil contamination exists on a site and it will not be remediated or removed as a part of construction, it may be necessary to avoid infiltration-based SCMs or use an impermeable liner to prevent infiltration into contaminated areas.

### 5.1.6 Base Flows

Base flows are necessary for the success of some SCMs such as constructed wetland ponds and retention ponds. Without baseflows, these SCMs will become dry and unable to support wetland vegetation. For these SCMs, a hydrologic budget should be evaluated.

### 5.1.7 Karst

Disconnection of impervious surfaces with conveyance-based SCMs and small, distributed storage-based SCMs are preferred in karst areas to minimize the risk of collapses due to concentration of large volumes of water. The incidence of collapses is higher in detention basins than in other areas.

## 5.2 Space Constraints

Space constraints are frequently cited as feasibility issues for SCMs, especially for high-density development and redevelopment sites. In some cases, constraints due to space limitations arise because adequate space for SCMs is not considered early enough in the planning process. This is most common when a site plan for roads, structures, etc., is developed and SCMs are squeezed into the remaining spaces. The most effective and integrated SCM designs begin by determining areas of a site that are best suited for SCMs (e.g., natural low areas, areas with well-drained soils) and then designing the layout of roads, buildings, and other site features around the existing drainage and water quality resources of the site. Allocating a small amount of land to water quality infrastructure during early planning stages will result in better integration of water quality facilities with other site features. Often, green spaces can be dual purpose for meeting zoning green space/landscaping requirements and stormwater management.

## 5.3 Targeted Pollutants and SCM Processes

SCMs have the ability to remove pollutants from runoff through a variety of physical, chemical and biological processes. The processes associated with a SCM dictate which pollutants the SCM will be effective at controlling. Pollutant load reduction is also affected by hydrologic processes. In addition to pollutant removal capabilities, many SCMs offer channel stability benefits in the form of reduced runoff volume and/or reduced peak flow rates for frequently occurring events. The

International Stormwater BMP Database (www.bmpdatabase.org) provides SCM performance information that is updated periodically. Brief descriptions of several key processes are provided below and listed for each SCM in Table 4.

### 5.3.1 Hydrologic Processes

- **Flow Attenuation**: SCMs that capture and slowly release the WQV help to reduce peak discharges. In addition to slowing runoff, volume reduction may also be provided to varying extents in SCMs providing the WQV.
- **Infiltration:** SCMs that infiltrate runoff reduce both runoff peak and volume. The extent to which runoff volumes are reduced depends on a variety of factors such as whether the SCM is equipped with an underdrain and the characteristics and long-term condition of the infiltrating media. Examples of infiltrating SCMs include rain gardens and pervious pavements. Water quality treatment processes associated with infiltration can include filtration and sorption.
- **Evapotranspiration**: Runoff volumes can be reduced through the combined effects of evaporation and transpiration in vegetated SCMs. Plants extract water from soils in the root zone and transpire it to the atmosphere. Evapotranspiration is the hydrologic process provided by vegetated SCMs, whereas biological uptake may help to reduce pollutants in runoff.

### 5.3.2 Pollutant Removal/Treatment Processes

- **Sedimentation:** Gravitational separation of particulates from urban runoff, or sedimentation, is a key treatment process of SCMs that capture and slowly release runoff. Smaller particles under 60 microns in size (fine silts and clays) (Stahre and Urbonas, 1990) can account for approximately 80% of the metals attached or adsorbed along with other contaminants in stormwater and can require long periods of time to settle out of suspension. Extended detention allows smaller particles to agglomerate into larger ones (Randall et al, 1982), and for some of the dissolved and liquid state pollutants to adsorb to suspended particles, thus removing a larger proportion of them through sedimentation. Sedimentation is the primary pollutant removal mechanism for many treatment SCMs including extended detention basins, retention ponds, and constructed wetland basins.
- **Straining**: Straining is physical removal or retention of particulates from runoff as it passes through a SCM. For example, grass channels and vegetated filter strips provide straining of sediment and coarse solids in runoff. Straining can be characterized as coarse filtration.
- **Filtration**: Filtration removes particles as water flows through media such as bioretention soil mix. A wide variety of physical, chemical, and biological mechanisms may occur along with filtration, depending on the filter media. Filtration is a primary treatment process provided by infiltration SCMs. Particulates are removed at the ground surface and upper soil horizon by filtration, while soluble constituents can be absorbed into the soil, at least in part, as the runoff infiltrates into the ground. Site-specific soil characteristics, such as permeability, cation exchange potential, and depth to groundwater or bedrock are

important characteristics to consider for filtration (and infiltration) SCMs. Examples of filtering SCMs include rain gardens and pervious pavements with a sand filter layer.

- **Adsorption/Absorption**: In the context of SCMs, sorption processes describe the interaction of waterborne constituents with surrounding materials (e.g., soil, water). Absorption is the incorporation of a substance in one state into another of a different state (e.g., liquids being absorbed by a solid). Adsorption is the physical adherence or bonding of ions and molecules onto the surface of another molecule. Many factors such as pH, temperature and ionic state affect the chemical equilibrium in SCMs and the extent to which these processes provide pollutant removal. Sorption processes often play primary roles in SCMs such as constructed wetland basins, retention ponds, and rain gardens. Opportunities may exist to optimize performance of SCMs through the use of engineered media or chemical addition to enhance sorption processes.
- **Biological Uptake:** Biological uptake and storage processes include the assimilation of organic and inorganic constituents by plants and microbes. Plants and microbes require soluble and dissolved constituents such as nutrients and minerals for growth. These constituents are ingested or taken up from the water column or growing medium (soil) and concentrated through bacterial action, phytoplankton growth, and other biochemical processes. In some instances, plants can be harvested to remove the constituents permanently. In addition, certain biological activities can reduce toxicity of some pollutants and/or possible adverse effects on higher aquatic species. Unfortunately, not much is understood yet about how biological uptake or activity interacts with stormwater during the relatively brief periods it is in contact with the biological media in most SCMs, with the possible exception of retention ponds between storm events (Hartigan, 1989). Rain gardens, constructed wetlands, and retention ponds are all examples of SCMs that provide biological uptake.

**Table 4. Primary, Secondary, and Incidental Treatment Processes Provided by Various SCMs (Adapted from UDFCD, 2010)**

| SCM | Hydrologic Processes | | | Treatment Processes | | | | |
|---|---|---|---|---|---|---|---|---|
| | Peak | Volume | | Physical | | | Chemical | Biological |
| | Flow Attenuation | Infiltration | Evapo-transpiration | Sedimentation | Filtration | Straining | Adsorption/ Absorption | Biological Uptake |
| Grass Channel | I | S | I | S | S | P | S | S |
| Vegetated Buffer | I | S | I | S | S | P | S | S |
| Green Roof | P | S | P | N/A | P | N/A | I | P |
| Permeable/ Pervious Pavement | P | P | N/A | S | P | N/A | N/A | N/A |
| Bioretention (rain garden) | P | P[1] | S | P | P | S | S[2] | P |
| Extended Detention Basin | P | I | I | P | N/A | S | S | I |
| Retention Pond | P | I | P | P | S | S | P | P |

P=Primary; S=Secondary, I=Incidental; N/A=Not Applicable

[1]Depending on presence and design of an underdrain.

[2]Depending on soil media.

## 5.4 Pretreatment

Forebays or other pretreatment is recommended for SCMs including extended detention and rain gardens. The purpose of forebays is to settle out coarse sediment prior to reaching the main body of the facility. It is extremely important that sediment loading be controlled for SCMs that rely on infiltration, including pervious pavement systems and rain gardens. Pretreatment can ensure long-term functionality and reduce maintenance of SCMs.

## 5.5 Volume Reduction

As specified in Section 2.3, site design and SCM selection and design should consider runoff volume reduction. Infiltration-based SCMs can be designed with or without underdrains, depending on soil permeability and other site conditions. The most substantial volume reductions are generally associated with SCMs that have permeable sub-soils and allow infiltration to deeper soil strata and eventually groundwater. For SCMs that have underdrains, there is still potential for volume reduction although to a lesser degree. As runoff infiltrates through SCM soils to the underdrain, moisture is retained by soils. The moisture eventually evaporates, or is taken up by vegetation, resulting in volume reduction. Runoff that drains from these soils via gravity to the underdrain system behaves like interflow from a hydrologic perspective with a delayed response that reduces peak rates. Although the runoff collected in the underdrain system is ultimately discharged to the surface, on the time scale of a storm event, there are volume reduction benefits.

Although effects of evapotranspiration are inconsequential on the time scale of a storm event, on an annual basis, volume reduction due to evapotranspiration in vegetated SCMs such as bioretention can be an important component of the hydrologic budget. Between events, evapotranspiration lowers soil moisture content, providing additional storage capacity for subsequent events. Volume reduction provided by a particular SCM type will be influenced by site-specific conditions and SCM design features. Table 2 provides typical runoff reduction percentages for SCMs. National research is ongoing with regard to estimating volume reduction provided by various SCM types.

## 5.6 Treatment Train

The term "treatment train" refers to multiple SCMs in series (e.g., a disconnected roof downspout draining to a grass channel draining to an extended detention basin.) Engineering research over the past decade has demonstrated that treatment trains are one of the most effective methods for management of stormwater quality (WERF 2005). Advantages of treatment trains include:

- **Multiple processes for pollutant removal**: There is no "silver bullet" for a SCM that will address all pollutants of concern as a stand-alone practice. Treatment trains that link together complementary processes expand the range of pollutants that can be treated with a water quality system and increase the overall efficiency of the system for pollutant removal.
- **Redundancy**: Given the natural variability of the volume, rate and quality of stormwater runoff and the variability in SCM performance, using multiple practices in a treatment train can provide more consistent treatment of runoff than a single practice and provide redundancy in the event that one component of a treatment train is not functioning as intended.

- **Maintenance**: SCMs that remove trash, debris, coarse sediments and other gross solids are a common first stage of a treatment train. From a maintenance perspective, this is advantageous since this first stage creates a well-defined, relatively small area that can be cleaned out routinely. Down-gradient components of the treatment train can be maintained less frequently and will benefit from reduced potential for clogging and accumulation of trash and debris.

## 5.7 Onsite and Regional (Public Improvement) SCMs

SCMs can be onsite, meaning they are located on the lot they are serving or they can be regional, meaning they serve multiple lots. Regional SCMs are also referred to as public improvements. They can be an efficient means of meeting water quality requirements in a common facility that is often maintained by a property owners association. However, a single regional facility may not provide significant runoff volume reduction and does not provide the benefits of a treatment train approach. To achieve these benefits, a regional extended detention basin might be combined with downspout disconnection. Residential subdivisions usually already incorporate disconnection of roof runoff by directing downspouts to lawns. Disconnection of downspouts is an option for commercial buildings as well. Other options include vegetated filter strips for sheet flow from parking lots, grass channels or bioswales to convey runoff to the extended detention basin, and other SCMs such as pervious pavement and rain gardens on the individual lots. This treatment train approach can reduce the WQV and detention volume needed in the regional extended detention basin, while providing volume reduction and a range of water quality treatment processes that will minimize hydromodification and provide better water quality than a stand-alone extended detention basin.

## 5.8 Integration with Flood Control

In addition to water quality, most projects will require detention for flood control, whether onsite, or in a regional facility that serves multiple lots. It can be efficient to combine water quality and flood control facilities. Examples include extended detention basins and pervious pavement designed to provide the WQV and flood control storage. SCMs can also reduce required detention volume through lower curve numbers and decreased time of concentration.

## 5.9 Online SCMs and Offsite Drainage

Online refers to locating a SCM such that runoff from upstream of the development flows through it. Generally, on-line SCMs to capture the WQV are strongly discouraged, especially in a natural channel. It is preferable for natural channels to be preserved and SCMs to be located off-line. Online SCMs may require federal and state permits under Section 404 of the Clean Water Act if located in a jurisdictional waterway. Online WQV facilities may be acceptable if the offsite watershed has less impervious area than that of the onsite watershed. There may be situations where SCMs may be located in an area that receives some offsite drainage. This may be acceptable if the offsite drainage is minimal and will not affect the integrity and functionality of the SCM. In these cases, the SCM does not need to be sized for the WQV for the offsite drainage but special design considerations may be needed to ensure the SCM can handle the offsite drainage while still providing the intended water quality treatment or volume reduction for the onsite drainage.

## 5.10 Land Use, Compatibility with Surroundings, and Safety

SCMs can add interest and diversity to a site, serving multiple purposes in addition to providing water quality functions. Gardens, plazas, rooftops, and even parking lots can become amenities and provide visual interest while performing stormwater quality functions and reinforcing urban design goals for the neighborhood and community. The integration of SCMs and associated landforms, walls, landscape, and materials can reflect the standards and patterns of a neighborhood and help to create lively, safe, and pedestrian-oriented districts. The quality and appearance of SCMs should reflect the surrounding land use type, the immediate context, and the proximity of the site to important civic spaces. Aesthetics will be a more critical factor in highly visible urban commercial and office areas than at a heavy industrial site. The standard of design and construction should maintain and enhance property values without compromising function (WWE et al. 2004).

Public access to SCMs should be considered from a safety perspective. The highest priority of engineers and public officials is to protect public health, safety, and welfare. SCMs must be designed and maintained in a manner that does not pose health or safety hazards to the public. As an example, steeply sloped and/or walled ponds should be avoided. Where this is not possible, emergency egress, lighting and other safety considerations should be incorporated. Facilities should be designed to minimize mosquito breeding, which can be a nuisance and a public health concern (e.g., West Nile virus). The potential for nuisances, odors and prolonged soggy conditions should be evaluated for SCMs, especially in areas with high pedestrian traffic or visibility.

## 5.11 Maintenance

Maintenance is an important consideration in SCM selection and should be considered early in the planning and design phase. Even when SCMs are thoughtfully designed and properly installed, they can become eyesores, breed mosquitoes, and cease to function if not properly maintained. SCMs can be more effectively maintained when they are designed to allow easy access for inspection and maintenance and take into consideration factors such as property ownership, type of maintenance, visibility, and vehicle and equipment access. An important consideration for a rain garden with plantings is whether the property owner can commit to maintaining it as a landscape feature that requires weeding, watering, and replacement of mulch just like other site landscaping. Selection of pervious pavement should consider whether services are available for periodic vacuum sweeping.

# 6.0 Plant Selection

Landscaped SCMs are a good choice where landscaping is already required by the zoning ordinance, such as interior and perimeter parking lot landscaping and bufferyard landscaping. Such areas can be designed as rain gardens, vegetated filter strips, grass channels, or bioswales. Turf grass with mulched trees and shrubs is an option that is generally easiest to maintain for most property owners because they will already be mowing other areas. Fully landscaped SCMs with plantings and mulch requires a higher level of commitment to maintain, including weeding and re-mulching. Often times, non-SCM landscape beds gets maintained very well but fully landscaped SCMs get neglected. Fully landscaped SCMs should be designed with a plant palette and mulch that blends in with other landscape beds so that they get maintained equally well. Trees and shrubs are good options for ease of maintenance. When incorporating grasses and perennials, a simple plant palette

of a few easily recognizable species will be easier to maintain. A good resource for plant information is the *Landscape Guide for Stormwater Best Management Practice Design* (Metropolitan St. Louis Sewer District, et. al., 2012). The City of Columbia, Missouri also has a comprehensive list of recommended plant material in their Stormwater Manual. A locally-developed list of tree species for rain gardens is also included in the appendix of this chapter. Trees are highly recommended for SCMs, including rain gardens and the bottom of extended detention basins.

The following are species of shrubs, grasses, and perennials that the City has found to be good choices for landscaped SCMs in terms of aesthetics and maintenance. These are suggestions; other species may be used. The majority of these species are Missouri natives but a few are native to other nearby U.S. regions. A few cultivars are listed as well. Natives are encouraged due to the other ecological benefits they provide. The Missouri Botanical Garden Plant Finder website is a good resource for characteristics and growing conditions of these species. All of these species have been used on local projects. Trees have also been used in many local projects.

**Photo 2. Rain garden with trees, shrubs, grasses, and perennials in the City Government Plaza parking lot.**

**Photo 3. Showy coneflower in a rain garden along Campbell Avenue between Mount Vernon and Elm Streets.**

**Shrubs:**

- Ozark Witch Hazel (Hamamelis vernalis)
- Virginia Sweetspire (Itea virginica)
    - 'Henry's Garnet' - cultivar that is slightly smaller, more vibrant color, and commonly available.
- Shrubby St. johns Wort (Hypericum prolificum)
- Arrowood Viburnum (Viburnum dentatum)
- Buttonbush (Cephalanthus occidentalis)
- Spicebush (Lindera benzoin)
- Strawberry Bush (Euonymous americanus)

**Grasses:**

- Tussock Sedge (Carex stricta)
- Soft Rush (Juncus effusus)

- Prairie Dropseed (for drier areas) (Sporobolus heterolepis)
- Sideoats Grama (for drier areas) (Bouteloua curtipendula)

**Perennials:**

- Foxglove Beardtongue (Penstemon digitalis)
- Showy Coneflower (Rudbeckia fulgida var. sullivanti)
- Blazing Star (Liatris spicata)
    - 'Kobold' - shorter, more compact cultivar and commonly available.
- Southern Blue Flag Iris (Iris virginica)

- Indian Pink (Spigelia marilandica)

**Photo 4. Indian pink, tussock sedge, and foxglove beardtongue in a rain garden along Campbell Avenue between Mount Vernon and Elm Streets.**

## 7.0 Operation and Maintenance Plan and Agreement

A SCM operation and maintenance plan and agreement is required as a condition for stormwater permitting for construction of SCMs. The SCM operation and maintenance plan and agreement must be prepared using the SCM-specific forms provided by the City, and recorded with the Greene County Recorder of Deeds. Long-term operation and maintenance self-inspections and submittal of a self-inspection report is required annually. Self-inspections and reporting shall be conducted and submitted using the SCM-specific inspection forms provided by the City.

# 8.0 Vegetated Filter Strip

## 8.1 Description

Vegetated filter strips are densely vegetated areas that reduce and treat runoff as sheet flow from adjacent impervious and pervious areas. They can be turf grass lawn, landscaping, or conserved/restored natural areas. They require sheet flow to promote filtration/settling of pollutants, infiltration, and evapotranspiration. Lawn or landscaping near buildings can be designed as a vegetated filter strip for roof downspouts. Vegetated filter strips can also be designed for parking lots or other impervious surfaces. Vegetated filter strips differ from grass channels in that they are designed to accommodate sheet flow rather than concentrated or channelized flow. Grass, trees, and shrubs in vegetated filter strips can provide aesthetically pleasing green space, which can be incorporated into a landscaping and bufferyard plan. In addition, their use typically adds little cost to a development when incorporated into the existing green space requirements, and their maintenance should be no different than routine maintenance of onsite landscaping.

**Photo 5. Natural conservation area as vegetated filter strip (SEMCOG, 2015).**

**Photo 6. Turf grass vegetated filter strip.**

## 8.2 Site Selection

Vegetated filter strips can be utilized for a variety of land uses and are typically located adjacent to impervious areas. Because of the amount of space required for filter strips to meet full WQV requirements, additional SCMs are often required. Sites can be designed with a treatment train approach that utilizes vegetated filter strips that provide WQV reduction, in series with storage-based SCMs to provide the remaining WQV. Because the effectiveness of vegetated filter strips depends on having an evenly distributed sheet flow over their surface, the size of the contributing drainage area and the associated volume of runoff must be limited.

## 8.3 Design Considerations

Design of a vegetated filter strip is based primarily on maintaining sheet flow conditions across a uniformly graded area with a gentle slope and a dense grass cover. Whenever concentrated runoff occurs, it should be evenly distributed across the width of the filter strip via a flow spreader. This may be a pervious pavement strip or another type of structure used to achieve uniform sheet-flow

conditions. When a filter strip is used over unstable slopes, soils or vegetation, formation of rills and gullies that disrupt sheet flow will occur. The resultant short-circuiting will invalidate the intended water quality benefits and must be corrected through maintenance. A rectangular strip is the preferred shape and should be free of gullies or rills that concentrate flow.

Vegetated filter strips should be protected from excessive pedestrian or vehicular traffic that can damage the grass cover and affect uniform sheet-flow distribution. This can be accomplished using slotted curb or other types of barriers. The top of the filter strip should be designed and installed 1 to 3 inches below the adjacent pavement so that growth of vegetation and accumulation of sediment at the edge of the strip does not prevent runoff from entering the filter strip. Alternatively, a sloped edge can be used adjacent to vehicular traffic areas (where vehicle safety would not be impacted). A mixture of grass and trees may offer benefits for slope stability and improved aesthetics, as well as increased runoff reduction.

## 8.4 Design Procedure and Criteria

A vegetated filter strip meeting the full design criteria in this section is considered to meet the WQV requirement. Vegetated filter strips can be used as stand-alone SCMs or in series with other SCMs when part of a larger site drainage area. When used in series with other SCMs, the WQV for the area draining to the vegetated filter strip can be subtracted from the total WQV for the larger site drainage area. Partial credit can also be applied to the WQV for vegetated filter strips that do not meet the full length requirement and are used in series with other SCMs. The vegetated filter strip must be a minimum of 20 feet in length to receive partial credit. The intent of this partial credit is to encourage treatment train approaches that disconnect impervious surfaces. WQV credit is given based on the percentage of the required length provided. For example, the WQV can be reduced by 50% for the drainage area to a vegetated filter strip that is 50% of the required length (minimum 20 foot length).

The following steps outline the vegetated filter strip design procedure and criteria. Figure 4 is a schematic of a filter strip and its components.

1. **Design Discharge:** Calculate the 2-year peak flow rate, $Q_{2\text{-year}}$ (cfs), of the area draining to the filter strip as described in Chapter 5, Calculation of Runoff.

2. **Minimum Width:** The Width (W), the distance normal to flow of the filter strip, is typically the same as the contributing basin (see Figure VF-2). An exception to this is where flows become concentrated. Concentrated flows require a level spreader to distribute flows evenly across the width of the filter strip. The minimum design width, $W_G$ (ft), (normal to flow) is calculated as:

$$W_G = \frac{Q_{2-year}}{0.05}$$

3. **Length:** The minimum design Length, $L_G$ (ft), along the sheet flow direction, shall meet the minimum length calculated using the following equations for sheet flow or concentrated flow. Concentrated flow includes roof downspouts, pipe discharges or other situations where flow will concentrate (see #5 below).

$L_G = 0.2L_I$ or 20 feet (for sheet flow control)

$L_G = 0.15(A_t / L_t)$ or 20 feet (for concentrated flow control)

In which:

$L_I$ = Flow path length of sheet flow over the upstream impervious surface (ft)

$A_t$ = Tributary area ($ft^2$)

$L_t$ = Length of the tributary inflow normal to flow spreader (i.e., width of flow spreader) (ft)

4. **Filter Strip Slope:** The vegetated filter strip slope in the direction of flow, S, shall not exceed 4%. Generally, a minimum slope of 2% in turf is adequate to facilitate positive drainage. For slopes less than 2%, consider including an underdrain system to mitigate nuisance drainage.

5. **Flow Characteristics (sheet or concentrated)**: Concentrated flows can occur when the width of the watershed differs from that of the grass buffer. Additionally, when the product of the watershed flow length and the interface slope (the slope of the watershed normal to flow at the grass buffer, see Figure 5) exceeds approximately one, flows may become concentrated. Use the following equations to determine flow characteristics:

   Sheet Flow: FL(SI) ≤ 1

   Concentrated Flow: FL(SI) > 1

   Where:

   FL = watershed flow length (ft)

   SI = interface slope (normal to flow) (ft/ft)

6. **Flow Distribution:** Flows delivered to a vegetated filter strip must be sheet flows. Slotted or flush curbing, pervious pavements, or other devices can be used to spread flows. The filter strip should have relatively consistent slopes to avoid concentrating flows within the filter strip. A level spreader should be used when flows are concentrated. A level spreader can be a slotted drain designed to discharge flow through a slot. The slot openings should be small to encourage frequent flows to overtop the level spreader, but, not so small that it is frequently clogged. A level spreader could also be an infiltration trench filled with gravel, which allows water to infiltrate prior to discharging over a level concrete or rock curb. There are many ways to design and construct a level spreader. They can also be used in series when the length of the filter strip allows flows to re-concentrate. Figure 6 is a schematic of typical level spreader details.

7. **Soil Preparation:** In order to encourage establishment and long-term health of the vegetation and maximize runoff absorption and infiltration, it is essential that soil conditions be properly prepared prior to installation. Following site grading, poor soil conditions often exist. For a constructed filter strip, when possible, stockpile, and reuse on-site topsoil. A minimum of 4 inches of topsoil shall be used. Alternatively, soil can be amended with 2 to 4 inches of compost, tilled to a depth of 6 to 10 inches. Compost shall be derived from the decomposition of

yardwaste as defined by MDNR (2014). Compost derived from animal or poultry manure shall not be acceptable. Compost shall have a C/N ratio <25, indicating a finished compost. Compacted soil should be loosened or tilled. Finish grading to achieve desired elevations and slopes should be performed using tracked equipment to prevent compaction After the topsoil or compost soil amendments are placed, sod or seed the filter strip and cover with suitable erosion control until vegetation is established. Conserved open space used as a buffer should be protected from grading and compaction with fencing or other suitable barriers.

8. **Vegetation:** This is the most critical component for treatment with a vegetated filter strip. Select durable, dense, and drought tolerant grasses. Also, consider the size of watershed, as larger watersheds will experience more frequent flows. The goal is to provide a dense mat of vegetative cover. Vegetated filter strip performance falls off rapidly as the vegetation coverage declines below 80% (Barrett el al., 2004). Trees and shrubs are strongly encouraged due to the additional runoff reduction benefits provided and can be compatible with a perimeter or bufferyard landscape plan.

9. **Outflow Collection:** Provide a means for outflow collection. The filter strip can drain to a grass channel, bioswale, storm drain, or street gutter in accordance with design criteria for those facilities. In some cases, the use of underdrains can maintain better infiltration rates and help dry out the filter strip after storms.

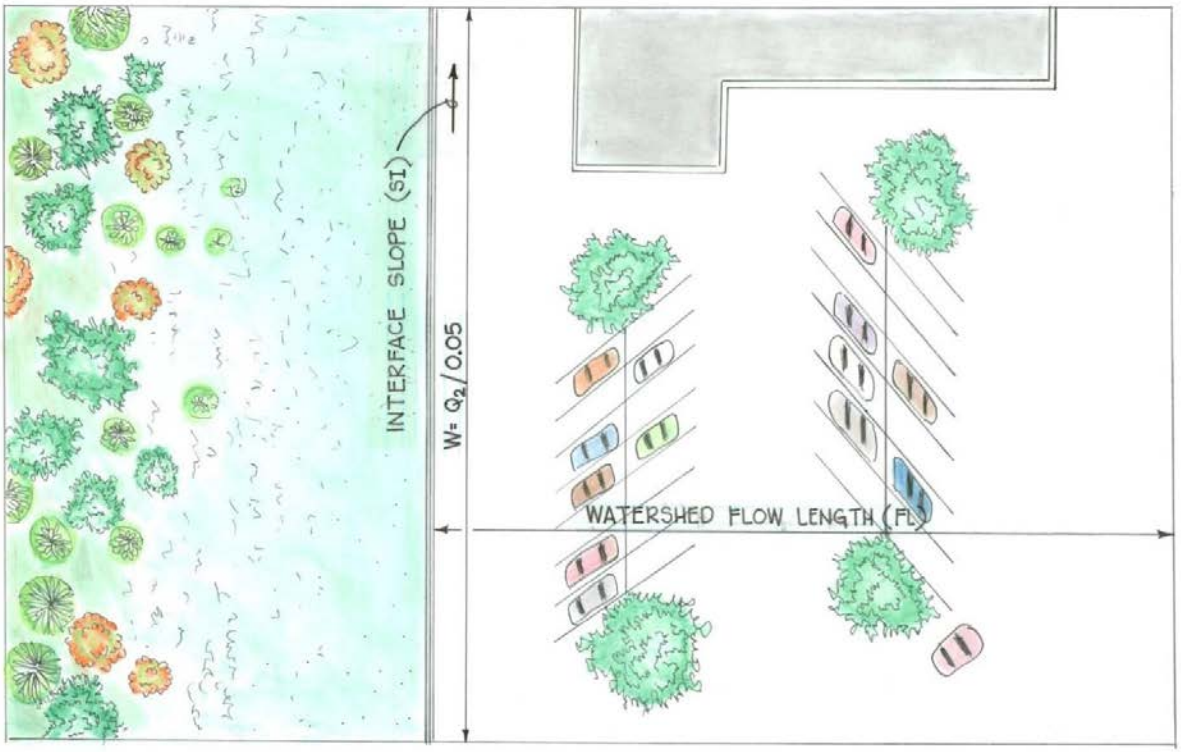


**Figure 1. Vegetated filter strip for a parking lot (Source: UDFCD, 2010. Graphic by Adia Davis).**

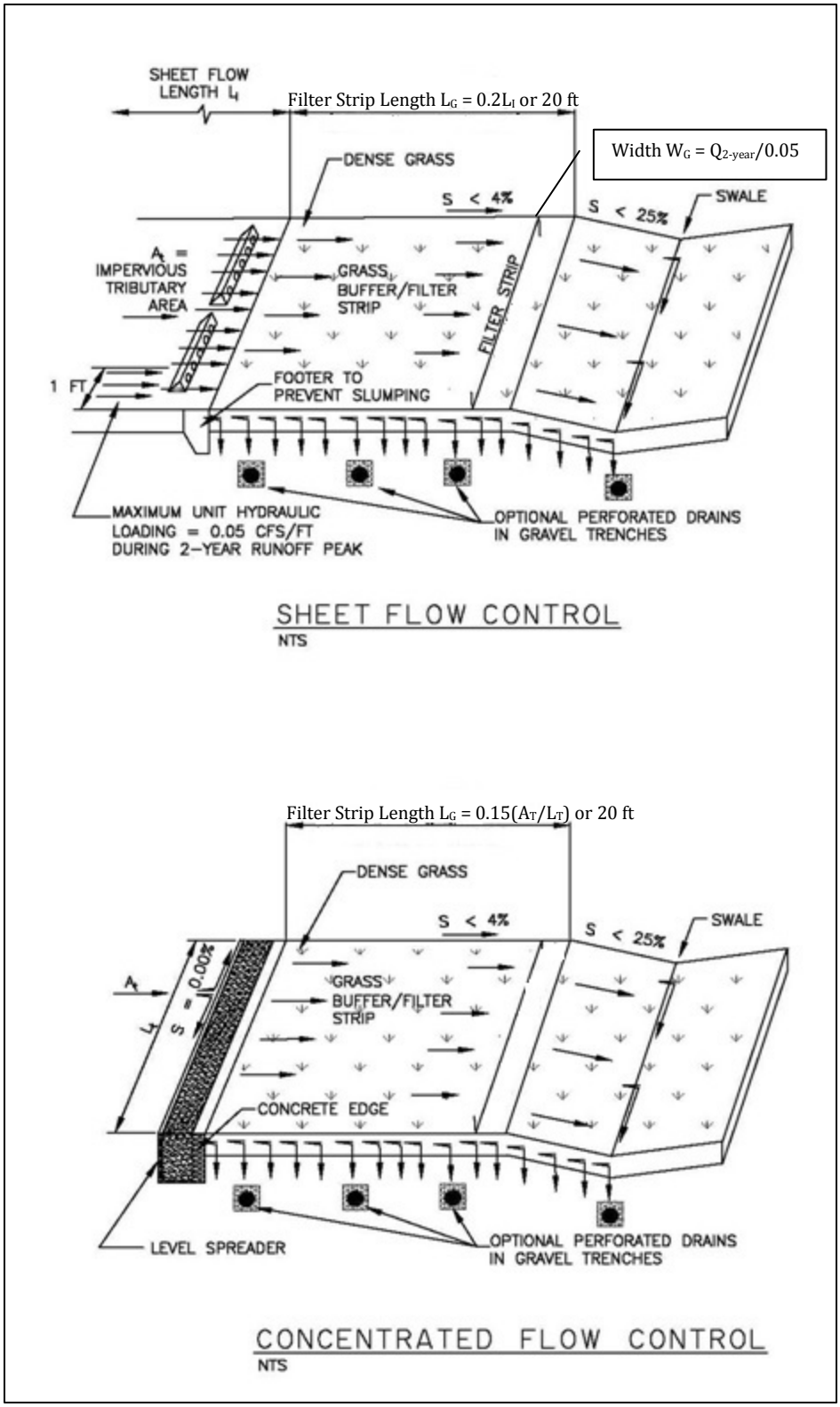


**Figure 2. Typical vegetated filter strips for sheet flow and concentrated flow.**

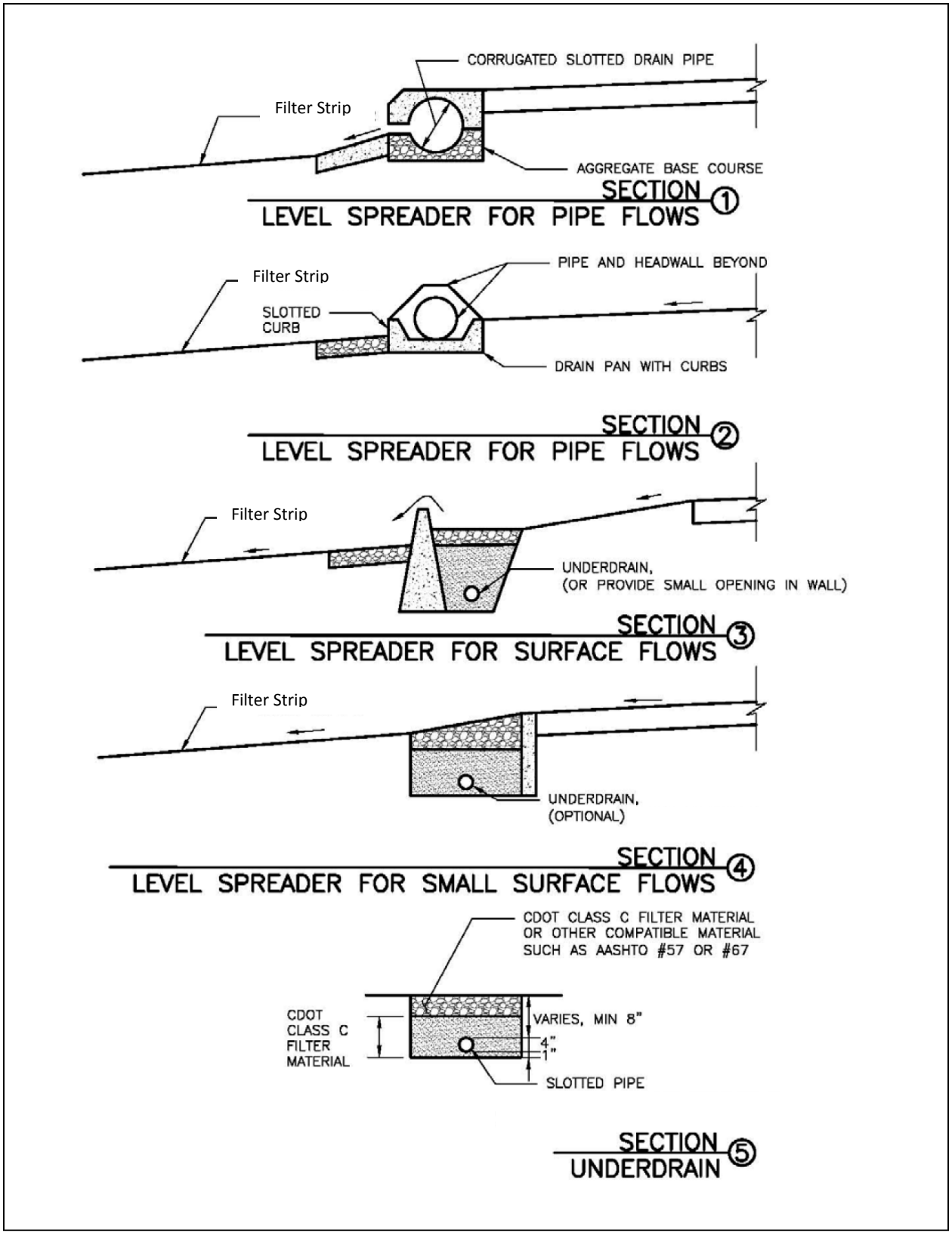


**Figure 3. Typical level spreaders (Source: UDFCD, 2010).**

## 8.5 Construction Considerations

Success of a vegetated filter strip depend not only on a good design and long-term maintenance, but also on installing the facility in a manner that enables it to function as designed. Construction considerations include:

- The final grade of the filter strip is critical. Oftentimes, following soil amendment and placement of sod, the final grade is too high to accept sheet flow. The buffer should be inspected prior to placement of seed or sod to ensure appropriate grading.
- Perform soil amending, fine grading, and seeding after tributary areas have been stabilized and utility work crossing the filter strip has been completed.
- When using sod tiles, stagger the ends of the tiles to prevent the formation of channels along the joints. Use a roller on the sod to ensure there are no air pockets between the sod and soil.
- Avoid over-compaction of soils in the filter strip area during construction to preserve infiltration capacities.
- Erosion and sediment control measures on upstream disturbed areas must be maintained to prevent excessive sediment loading to the filter strip.

## 8.6 As-Built Plan and Certification

Upon completion of the vegetated filter strip, prior to final acceptance, an as-built plan and certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following: To Be Determined

# 9.0 Grass Channel

## 9.1 Description

A grass channel is a densely vegetated drainageway with gentle side slopes that collects and slowly conveys runoff. Grass channels have low longitudinal slopes and broad cross-sections that convey flow in a slow and shallow manner, thereby facilitating sedimentation and filtering (straining) while limiting erosion and providing some reduction in runoff volumes for small storms through infiltration and evapotranspiration. Grass channels are an integral part of the LID concept as an alternative to pipes or concrete channels, and are generally less expensive to construct. The grass channel should be vegetated with dense grasses that can reduce flow velocities and protect against erosion during larger storm events.

**Photo 7. Construction of a grass channel along Erie Street.**

**Photo 8. Roadside channel with native plants in the Legacy Trails Subdivision.**

Grass channels are not considered a stand-alone SCM that meets the WQV requirement; however, they can be used to reduce the required WQV by 20% for the contributing drainage area. To receive the 20% credit towards meeting the WQV requirement, the grass channel must meet all design criteria herein including the minimum residence time. The 20% credit is based on the average runoff reduction benefit of a grass channel (Hirschman, et al., 2008; Nashville & Davidson County, 2012); Grass channels that do not meet the minimum residence time are still beneficial as an alternative to pipes or concrete channels.

## 9.2 Site Selection

A grass channel can be located to collect overland flows from areas such as parking lots, buildings, roadways and vegetated filter strips. They can also be used to convey runoff from a pipe discharge. A grass channel is well suited for sites with low to moderate slopes.

## 9.3 Design Considerations

A grass channel is sized to maintain a low velocity during small storms and to collect and convey larger runoff events. A grass channel generally should not be used where site slopes exceed 5

percent. The longitudinal slope of a grass channel should be kept to less than 1 percent in most cases, which often necessitates the use of grade control checks or drop structures. Figure 4 shows trapezoidal and triangular swale configurations. If one or both sides of the grass channel are also to be used as a vegetated filter strip, the design of the vegetated filter strip must follow the requirements in the vegetated filter strip specification.

## 9.4 Design Procedure and Criteria

The following steps outline the grass channel design procedure and criteria. Figure 4 is a schematic of a grass channel and its components.

1. **Design Discharge:** Calculate the 2-year peak flow rate, Q2-year (cfs), to be conveyed in the grass channel as described in Chapter 5, Calculation of Runoff. For public improvements, the grass channel must meet the criteria given in Chapter 8, Open Channels. For all developments with detention, it must be shown that the channel can convey the maximum design flow to the detention basin and that bypass will not occur.

2. **Hydraulic Residence Time:** Increased hydraulic residence time in a grass channel improves runoff reduction and water quality treatment. Maximize the length of the channel when possible. If the length of the channel is limited due to site constraints, the slope can also be decreased or the cross-sectional area increased to increase hydraulic residence time. Grass channels with a minimum hydraulic residence time of 5 minutes can be used to reduce the WQV by 20% for the contributing drainage area. Grass channels that do not meet the minimum residence time are still beneficial as an alternative to pipes or concrete channels.

3. **Geometry:** The geometry of the cross-section should be either trapezoidal or triangular with side slopes not exceeding 4:1 (horizontal: vertical), preferably flatter.

4. **Longitudinal Slope:** The longitudinal slope, So, of the grass channel should be kept to less than 1% in most cases. If the longitudinal slope requirements cannot be satisfied with available terrain, grade-control checks or small drop structures must be incorporated to maintain the required longitudinal slope. (See Chapter 8, Open Channels.)

5. **Velocity and Flow Depth:** To promote sedimentation and water quality treatment, the maximum velocity of the 2-year peak flow shall not exceed 2 feet per second (ft/s) and the maximum flow depth of the same flow shall not exceed 1 foot.

6. **Soil Preparation:** In order to encourage establishment and long-term health of the vegetation and maximize runoff absorption and infiltration, it is essential that soil conditions be properly prepared prior to installation. Following site grading, poor soil conditions often exist. When possible, stockpile, and reuse on-site topsoil. A minimum of 4 inches of topsoil shall be used. Alternatively, soil can be amended with 2 to 4 inches of compost, tilled to a depth of 6 to 10 inches. Compost shall be derived from the decomposition of yardwaste as defined by MDNR (2014). Compost derived from animal or poultry manure shall not be acceptable. Compost shall have a C/N ratio <25, indicating a finished compost. Compacted soil should be loosened or tilled. Finish grading to achieve desired elevations and slopes should be performed using tracked equipment to prevent compaction.

7. **Vegetation:** Select durable, dense, and drought tolerant grasses. Also, consider the size of watershed, as larger watersheds will experience more frequent flows. The goal is to provide a

dense mat of vegetative cover. After the topsoil or compost amendments are placed, sod or seed the grass channel and cover with suitable erosion control until established. Erosion control blanket or turf reinforcement mat may be used.

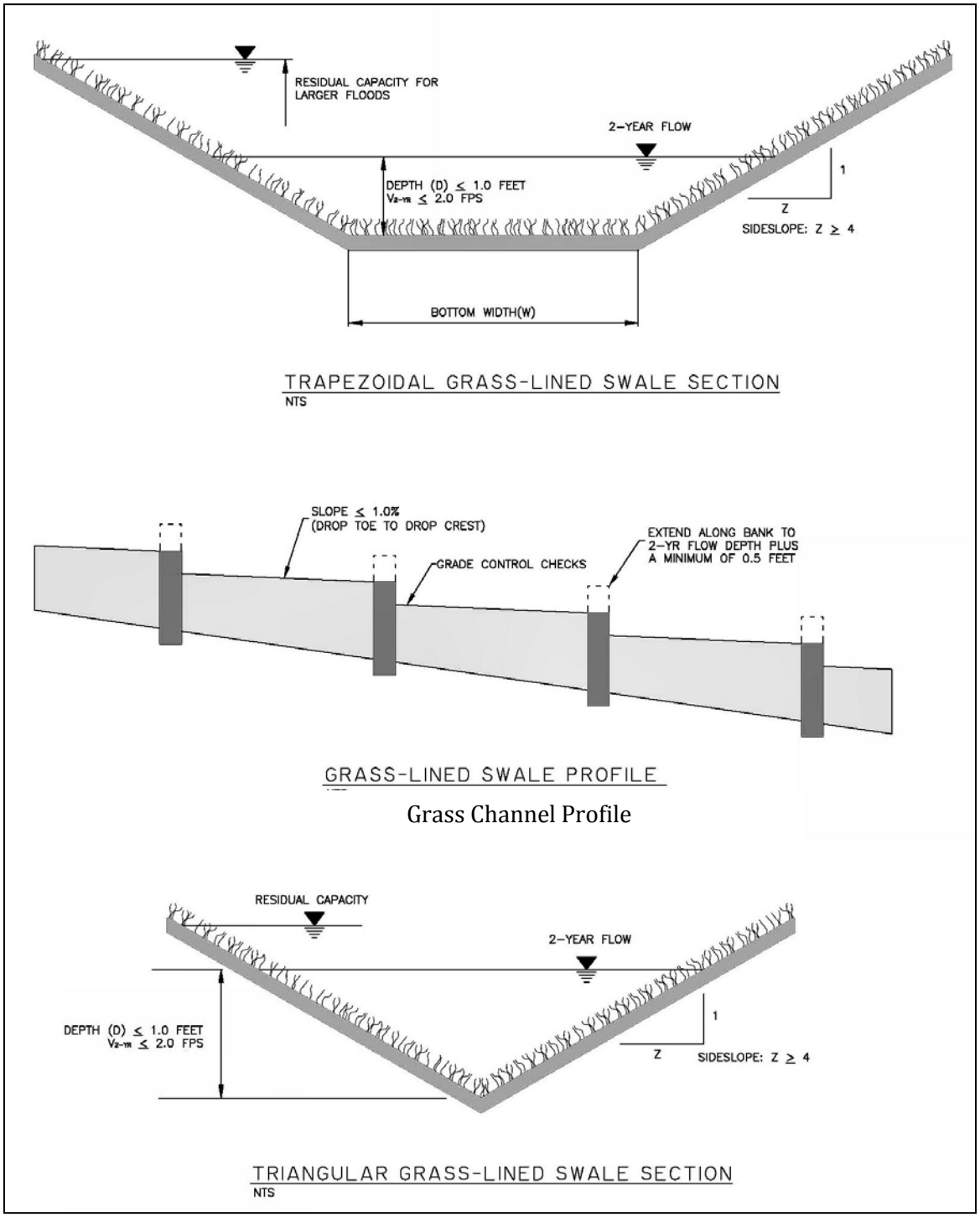


**Figure 4. Typical grass channel sections.**

## 9.5 Construction Considerations

Success of grass channels depends not only on good design and maintenance, but also on construction practices that enable the SCM to function as designed. Construction considerations include:

- Perform fine grading, soil amendment, and seeding only after upstream areas have been stabilized and utility work crossing the channel has been completed.
- Avoid compaction of soils to preserve infiltration capacities.
- Provide irrigation appropriate to the grass type for establishment.
- If weed control is necessary during establishment, mowing to prevent seeding of weeds and selective spot spraying are preferred methods over wide-spread application of chemical weed control herbicides.
- Protect the channel from other construction activities.

## 9.6 As-Built Certification

Upon completion of the grass channel for WQV credit, prior to final acceptance, an as-built plan and certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following: To Be Determined

# 10.0 Permeable/Pervious Pavement (General)

## 10.1 Description

The term permeable or pervious pavement, as used in this manual, is a general term to describe any one of several pavements that allow movement of water into the layers below the pavement surface. Permeable pavement and pervious pavement are often used interchangeably. For simplicity, pervious pavement will be used in this section. Depending on the design, pervious pavements can be used to provide volume reduction, and/or treatment and slow release of the WQV. Use of pervious pavements is a common LID practice used alone or in combination with other SCMs to meet the water quality requirements. Pervious pavement can also be designed with an increased depth of aggregate material in order to provide storage for storm events in excess of the water quality storm event. This requires some additional design considerations which are discussed within this fact sheet. The types of pervious pavement that are considered to have acceptable longevity and are therefore allowed include permeable interlocking concrete pavement (PICP) and pervious concrete. Pervious asphalt, modular block porous pavers and other proprietary pervious pavement systems may be acceptable on a case by case basis and should adhere to manufacturer's specifications and the design considerations and plan notes herein, as applicable.

**Photo 10. Installation of pervious concrete at the City Government Plaza.**

**Photo 9. Permeable interlocking concrete pavers at the City Government Plaza.**

## 10.2 Site Selection

Pervious pavement systems provide an alternative to conventional pavement and are most commonly used in parking lots, pedestrian areas, and lower-traffic vehicle areas. They are not appropriate where sediment-laden runoff could clog the system (e.g., near loose material storage areas, or at sites where vehicles and equipment are likely to track sediment), or where erosive conditions such as steep slopes and/or sparse vegetation drain to the permeable pavement. For sites where land uses or activities can cause infiltrating stormwater to contaminate groundwater, special design requirements are required to ensure no-infiltration from the pavement sections.

When pervious pavement (or other SCMs that allow infiltration) are proposed adjacent to buildings or pavement, protective measures should be implemented to avoid adverse impacts to these structures. Oversaturated subgrade soil underlying a structure can cause the structure to settle or result in moisture-related problems. Wetting of expansive soils or bedrock can cause swelling, resulting in structural movements. A geotechnical engineer should evaluate the potential impact of the pervious pavement on adjacent structures based on an evaluation of the subgrade soil, groundwater, and bedrock conditions at the site. Additional minimum requirements include:

- An underdrain shall be provided whenever possible and shall be designed to divert water away from the structure.
- In locations where potentially expansive soils or bedrock exist, placement of pervious pavement adjacent to structures and conventional pavement should only be considered if the pervious pavement includes an underdrain designed to divert water away from the structure and is lined with an essentially impermeable geomembrane liner designed to restrict seepage.

## 10.3 General Performance Criteria

To be considered an effective SCM, pervious pavement designs shall meet the following:

- Provide storage equal to the required design volume for water quality, flood control detention, or both.
- Capture and treat the drainage area to meet the required drain time of 12-72 hours.
- Pervious pavement systems must be designed to handle the drainage area to ensure acceptable performance and system longevity, by meeting the ratios in Table 5.
- An underdrain shall be provided whenever possible.
- The thickness of the rock storage shall be a minimum of 6 inches, and thicker if needed to meet storage, drain time, and traffic loads.

**Table 5. Pervious Pavement Design Ratios**

| NRCS Hydrologic Soil Group | Maximum Ratio of Directly Connected Impervious Area to Pervious Pavement Area |
|---|---|
| D | 2:1 |
| C | 3:1 |
| B, A | 4:1 |

## 10.4 Soil and Geotechnical Evaluation

Because of local soil conditions, most pervious pavement sites in Springfield need an underdrain. Partial infiltration through the use of perched underdrains or "internal water storage" (i.e. upturned elbow) is encouraged because it improves pollutant removal and runoff reduction. The requirement for an underdrain may be waived on a case by case basis based on soil evaluation and site specific design considerations.

Either a soil evaluation shall be conducted at all proposed sites for pervious pavement with full or partial infiltration, or the design infiltration rates shown in Table 5 shall be used. A safety factor of 2 shall be applied to infiltration rates determined by a soil evaluation (e.g., an infiltration rate of

1”/hr would be 0.5”/hr after applying a safety factor of 2). If choosing to conduct a soil evaluation, a minimum of two soil evaluations are required per 5,000 square feet of pervious pavement. For sites with multiple separate proposed locations for pervious pavement (such as a parking lot with two separate proposed areas of pervious pavement separated by conventional pavement), a soil evaluation should be conducted at each separate location. Soil evaluation shall consist of one of the following:

- A profile pit soil morphology evaluation as described in 19 CSR 20-3.060(2) and (7). This method of soil evaluation can be used at all sites and is recommended for sites having significant groundwater contamination potential, severe geological limitations or severe limitations relating to restrictive layers.
- A percolation test as described in 19 CSR 20-3.060(2) and determination of depth to bedrock or other restrictive layer in areas where it is known that bedrock may exist at depths less than ten feet (10').

Based on the soil evaluation, the subgrade soil may be modified if needed to provide full or partial infiltration. The recharge bed shall be designed by the Engineer of Record.

The depth to bedrock will not only influence excavation costs, but will also influence the infiltration capabilities of the facility. If near the underlying infiltration zone (subgrade) of the pervious pavement, the bedrock will act as an impermeable layer. It is recommended that the bottom of the infiltration component of the pervious pavement be located at least two feet above the bedrock.

When the groundwater table is close to the infiltration zone, this can inhibit the effective infiltration capacity of the facility. Pervious pavement storage should be located at least two feet above the seasonal high level of the water table. It is recommended to determine the seasonal high water table elevation from taxonomy (e.g., soil borings that indicate certain types of mottling or coloration).

**Table 6. Design infiltration rates (Minnesota Pollution Control Agency, 2015)**

| Hydrologic Soil Group | Infiltration rate (inches/hour) | Soil Textures | Corresponding Unified Soil Classification |
|---|---|---|---|
| A | 1.63 | Gravel<br>Sandy gravel<br><br>Silty gravels | GW - well-graded gravels, sandy gravels<br>GP - gap-graded or uniform gravels, sandy gravels<br>GM - silty gravels, silty sandy gravels<br>SW - well-graded gravelly sands |
| | 0.8 | Sand<br>Loamy sand<br>Sandy loam | SP - gap-graded or uniform sands, gravelly sands |
| B | 0.45 | | SM - silty sands, silty gravelly sands |
| | 0.3 | Loam, silt loam | MH - micaceous silts, diatomaceous silts, volcanic ash |
| C | 0.2 | Sandy clay loam | ML - silts, very fine sands, silty or clayey fine sands |
| D | 0.06 | Clay loam<br>Silty clay loam<br>Sandy clay<br>Silty Clay<br>Clay | GC - clayey gravels, clayey sandy gravels<br>SC - clayey sands, clayey gravelly sands<br>CL - low plasticity clays, sandy or silty clays<br>OL - organic silts and clays of low plasticity<br>CH - highly plastic clays and sandy clays<br>OH - organic silts and clays of high plasticity |

Note: Select the design infiltration rate based on the least permeable soil horizon within the first 5 feet below the bottom elevation of the infiltration zone. These infiltration rates represent the long-term infiltration capacity of a practice and are not meant to exhibit the capacity of the soils in the natural state.

## 10.5 General Design Considerations

1. See Sections 12.0 and 13.0 for additional, specific design considerations.
2. Pervious pavement can be excluded from percent impervious area when calculating the WQV using the Short Cut Method and can be considered urban pervious area with HSG C/D soil (Rv = 0.21) when calculating the WQV using the Small Storm Hydrology Method. For calculating detention, pervious pavement can be considered open space in good condition with the actual soil type present on the site.
3. Consideration should be given to the type of traffic loads that the pervious pavement will be required to endure when designing pervious concrete thickness and rock storage thickness. Refer to ACI 330R for parking lots and ACI 325.12R for streets and roads. An engineer with expertise in pavement design should provide input on this aspect early in the design phase.
4. Placing pervious pavement over areas of recent fill or compacted fill is not optimal for infiltration.
5. Consider slopes and velocity of upstream drainage area and length of flow path of permeable pavement to maximize infiltration into permeable pavement and minimize bypass flow over the pervious pavement.
6. When designing grades to ensure drainage to pervious pavement, a minimum of 1% slope is needed and the slope to the pervious pavement should be sufficiently greater than slopes in other directions, taking into account construction and paving accuracy. Sufficient spot elevations should be provided on the plans to ensure grades are constructed as intended.
7. Design gutters to spill onto pervious pavement to prevent runoff from bypassing.
8. Consider where snow is likely to be piled in determining location of pervious pavement. If a mix of pervious and conventional pavement is being used in a parking lot, use conventional pavement where snow is likely to be piled.
9. A geotextile or graded filter should be used between the subbase and subgrade to prevent subgrade soils from entering the subbase voids. If a geotextile is used, a woven fabric

meeting ASTM D4751 and ASTM D4633 is recommended. A geotextile shall be used on the vertical sides of the pervious pavement base to provide separation from adjacent material. An impermeable membrane or barrier may be needed if lateral flow is a concern for adjacent pavement or structures.

10. Consider structural integrity, constructability, and aesthetics when designing the perimeter of pervious pavement. A hard edge such as a curb and gutter or flush concrete band is needed on the perimeter of pervious concrete to prevent crumbling of the edge and on the perimeter of PICP to restrain movement of the pavers. Metal edge may be appropriate for PICP. If pervious pavement is adjacent to asphalt pavement, a concrete band is recommended in between for constructability and aesthetics.
11. The use of pervious pavement on sites whose land use or activity generates higher concentrations of hydrocarbons, trace metals or toxicants than are found in typical stormwater runoff requires the use of an impermeable liner and underdrain. Designers should refer to the Permeable Pavement section of the UDFCD *Urban Storm Drainage Criteria Manual* (2013) when designing the impermeable liner system.
12. A perforated or slotted underdrain system should be provided whenever possible. The horizontal and vertical locations shall be determined by the design engineer, depicted on the drawings, and be in general accordance with the pervious pavement details. Horizontal spacing of underdrains shall be a maximum of 20 feet.
13. Infiltration can be accounted for to meet WQV or detention volume by using an acceptable modeling program or methods. Acceptable models include but are not limited to the Stormwater Management Model (SWMM) and the National Stormwater Calculator.
14. To provide an infiltration bed, the primary underdrain system may be perched or configured as internal water storage (upturned elbow) within the subbase rock. The perched height is dependent on the infiltration characteristics of the underlying subgrade and the desired storage. The underdrain system shall not be perched if the underlying soils are plastic or plastic soils that have been stabilized with lime.
15. Provide an overflow system or additional storage to prevent water in the open graded storage bed from rising into the pervious pavement for the 2-yr, 24-hr storm event when designing for water quality only, or the 100-yr critical storm when designing for detention. Any emergency overflow pipes placed within the subbase should discharge only when the storage volume is exceeded. The horizontal and vertical location of all underdrains and overflow systems shall be determined by the design engineer and shown on the plans. Emergency overflow pipes and underdrains systems shall discharge to a stormwater structure or daylight to a stabilized outfall.
16. Observation wells should be provided in low areas within the pervious pavement system, and shall extend to the bottom of the storage bed. Observation wells should also be provided at the end of underdrains to serve as a cleanout. The wells shall consist of a 4-6 inch slotted or perforated pipe with cast iron frame and cover, as shown on the pervious pavement details. The number of wells required on an installation will vary on a site specific basis, and will be determined by the design engineer.
17. The volume in the voids of the open graded base and storage bed shall be considered the total water storage capacity. A void ratio not greater than 40 percent will be used to

calculate storage volume. No storage volume will be allowed in the pervious concrete, PICP or PICP bedding stone layer.

18. A permanent sign shall be posted warning that care should be taken during snow plowing; and prohibit the following: piling of snow and use of deicing materials on pervious pavement if it can be avoided, resurfacing or sealing, the use of sand abrasives for winter tire traction, and the use of power washers.
19. The design of the finished grade of the pavement surface shall take into consideration the Americans with Disabilities Act (ADA) and local code requirements.
20. Subgrade should be flat. Where topography requires, terracing of the subgrade may be needed, and shall be designed as shown in Figure 5. The volume of water stored behind each terrace will be considered part of the infiltration bed.
21. If using pervious pavement in a floodplain, consideration should be given to increased maintenance that may result from sediment/debris clogging from flood inundation.

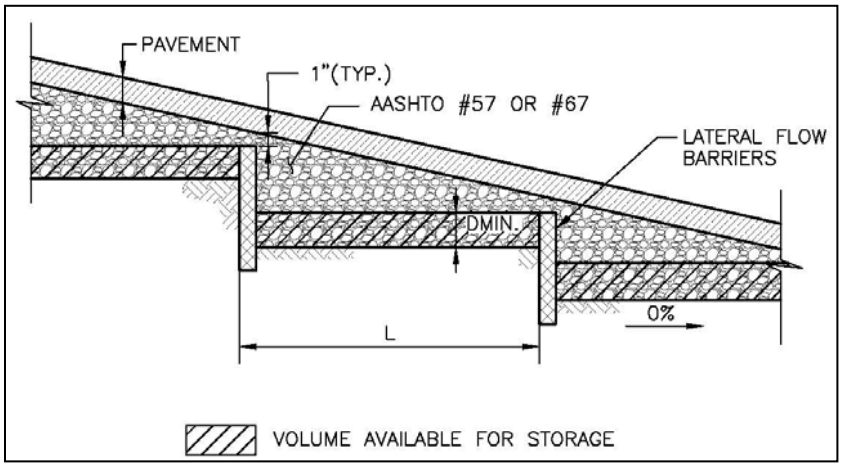


**Figure 5. Terraced subgrade under permeable/pervious pavement (Source: UDFCD, 2013).**

## 10.6 General Design Procedure and Criteria

### 10.6.1 Full Infiltration (No Underdrain)

Use the following steps in the pervious concrete or PICP worksheets:

1. Select design purpose (detention volume, water quality volume, or both).
2. Input pervious pavement and base course properties.
3. Input soil data (hydrologic soil group, and saturated hydraulic conductivity from either in-situ soil evaluation data or from Table 5). For in-situ soil evaluation data, the worksheet applies a safety factor of 2 when calculating the design saturated hydraulic conductivity.
4. Input site data (required volume, directly connected impervious area and pervious pavement area).
5. The worksheet calculates the ratio of DCIA to pervious pavement area and indicates whether the actual design ratio meets the maximum allowable design ratio from Table 5.
6. Input design depth of base course.

7. The worksheet checks that the required volume is met.
8. The worksheet calculates the drain time = design depth ÷ saturated hydraulic conductivity. The drain time shall be 12-72 hours.

### 10.6.2 Partial Infiltration (Perched Underdrain)

Use the following steps in the pervious concrete or PICP worksheets:

1. Select design purpose (detention volume, water quality volume, or both).
2. Input pervious pavement and base course properties.
3. Input soil data (hydrologic soil group, and saturated hydraulic conductivity from either in-situ soil evaluation data or from Table 5). For in-situ soil evaluation data, the worksheet applies a safety factor of 2 when calculating the design saturated hydraulic conductivity.
4. Input site data (required volume, directly connected impervious area and pervious pavement area).
5. The worksheet calculates the ratio of DCIA to pervious pavement area and indicates whether the actual design ratio meets the maximum allowable design ratio from Table 5.
6. Input design depth of base course.
7. The worksheet checks that the required volume is met.
8. Input depth from top of base course to drain pipe invert.
9. Input underdrain data, including pipe diameter and, if applicable, orifice information (orifice diameter, number of orifices per row, row spacing, number of rows).
10. The worksheet calculates the orifice area based on pipe diameter or orifice information, and the drain time above the underdrain.
11. The worksheet calculates the drain time below the underdrain = depth of base course below the underdrain ÷ design saturated hydraulic conductivity of existing subgrade.
12. The worksheet calculates the total drain time = drain time of underdrain + infiltration drain time. Total drain time must be 12-72 hours.

### 10.6.3 No Infiltration (Impermeable Liner)

Use the following steps in the pervious concrete or PICP worksheets:

1. Select design purpose (detention volume, water quality volume, or both).
2. Input pervious pavement and base course properties.
3. Input soil data (hydrologic soil group, and saturated hydraulic conductivity from either in-situ soil evaluation data or from Table 5). For in-situ soil evaluation data, the worksheet applies a safety factor of 2 when calculating the design saturated hydraulic conductivity.
4. Input site data (required volume, directly connected impervious area and pervious pavement area).
5. The worksheet calculates the ratio of DCIA to pervious pavement area and indicates whether the actual design ratio meets the maximum allowable design ratio from Table 5.
6. Input design depth of base course.
7. The worksheet checks that the required volume is met.
8. Input depth from top of base course to drain pipe invert.
9. Input underdrain data, including pipe diameter and, if applicable, orifice information (orifice diameter, number of orifices per row, row spacing, number of rows).

10. The worksheet calculates the orifice area based on pipe diameter or orifice information.
11. The worksheet calculates the drain time of the underdrain. Drain time must be 12-72 hours.

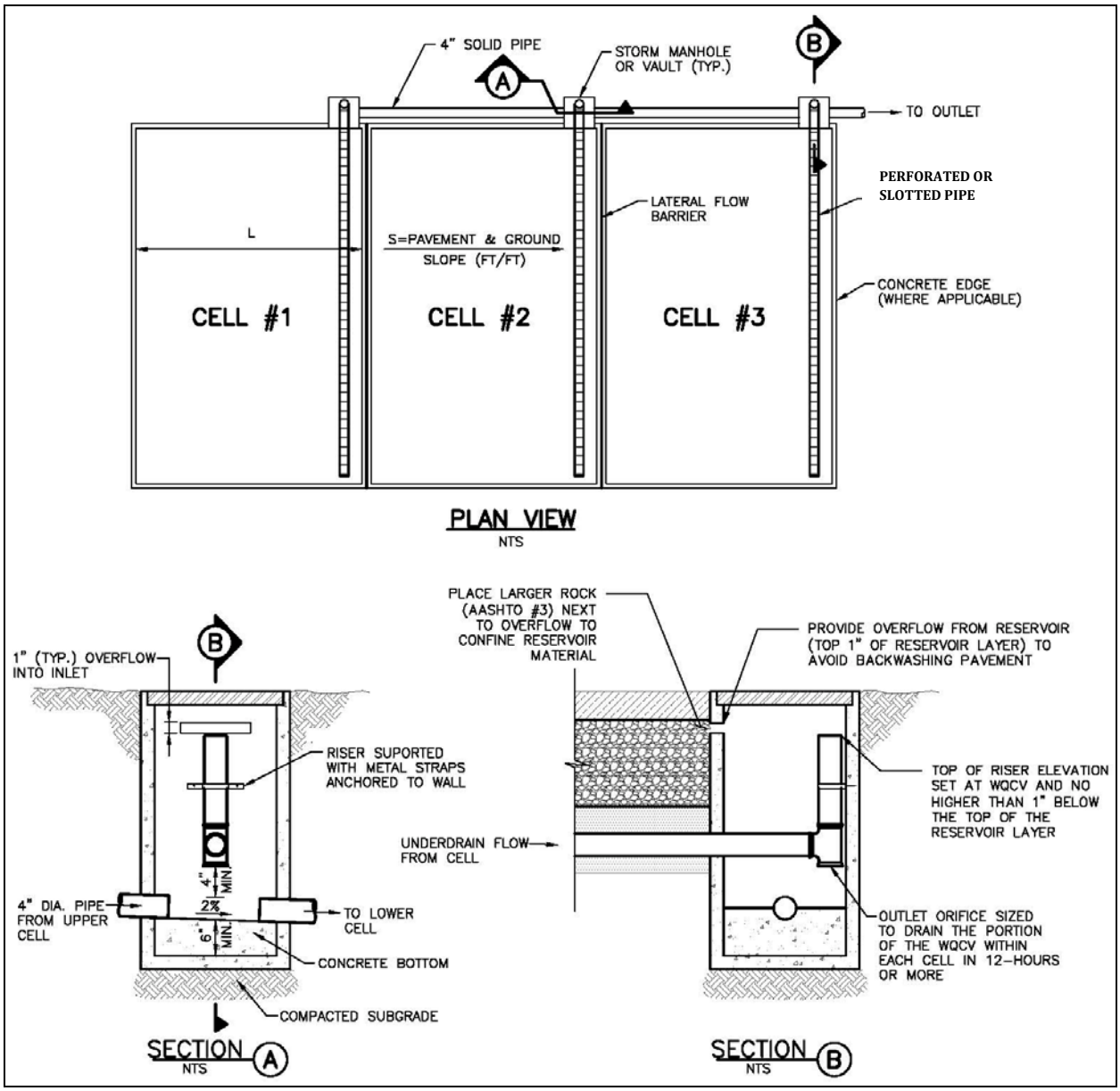


**Figure 6. Underdrain system for partial or no infiltration pervious pavement sections (Source: UDFCD, 2013).**

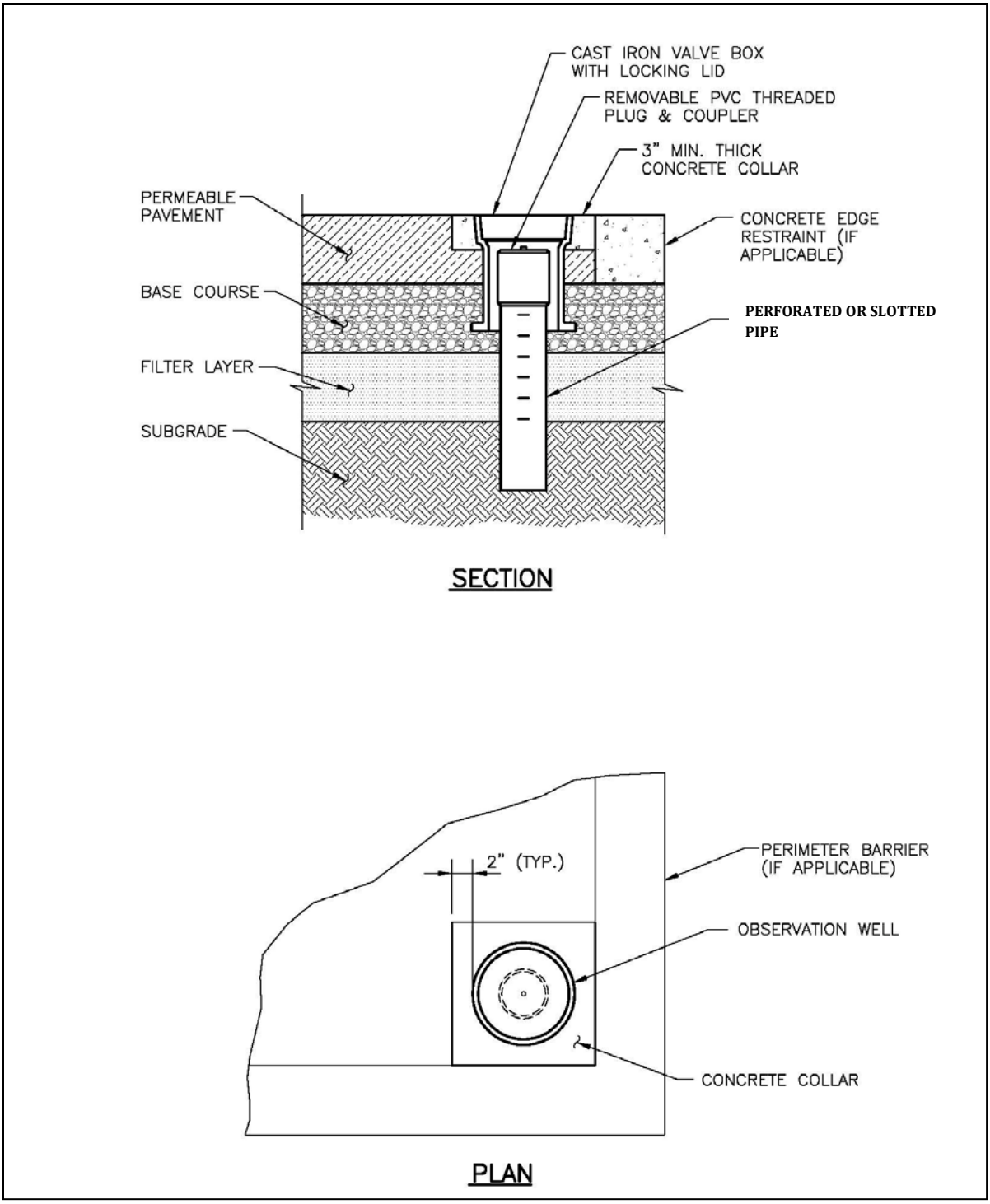


**Figure 7. Observation well for pervious pavement (Source: UDFCD, 2013).**

## 10.7 General Construction Considerations

1. See Sections 12.0 and 13.0 for additional, specific construction considerations.
2. Protect the base aggregate and the pervious pavement from sediment through phasing, runoff diversion, sediment control measures, and keeping the pavement covered as necessary.
3. The subgrade should be stripped of topsoil or other organics and either excavated or filled to the final subgrade level. Unnecessary compaction or over-compaction will reduce the subgrade infiltration rate. However, a soft or loosely compacted subgrade will settle, adversely impacting the performance of the entire pervious pavement system. The following recommendations for subgrade preparation are intended to strike a balance between those competing objectives:
    a. For sites, or portions thereof, requiring excavation to the final subgrade level, compaction of the subgrade may not be needed, provided that loose materials are removed from the excavation, and a firm subgrade is provided for the support of the pavement system. A geotechnical engineer should observe the prepared subgrade. Local soft areas should be excavated and replaced with properly compacted fill. As an alternative to excavating and replacing material, stabilization consisting of geogrid and compacted granular fill material can be used to bridge over the soft area. Fill material should be free draining and have a hydraulic conductivity significantly higher than the subgrade soil. Fill is typically compacted to a level equivalent to 95% Standard Proctor compaction (ASTM D 698). The designer should specify the level of compaction required to support the pavement system.
    b. For sites (or portions thereof), requiring placement of fill above the existing subgrade to reach the final subgrade level, the fill should be properly compacted. Specify the hydraulic conductivity for the material that is to be placed. This should be at least one order of magnitude higher than the native material. If the type or level of compaction of fill material available for construction is different than that considered in design, additional soil evaluation should be performed to substantiate that the design infiltration rate can be met.
    c. Low ground pressure track equipment should be used within the pavement area to limit over-compacting the subgrade. Wheel loads should not be allowed.

## 10.8 General Plan Notes

1. See Sections 12.0 and 13.0 for additional, specific plan notes.
2. A pre-construction meeting is required prior to any work related to preparation or installation of pervious pavement. Contractor shall schedule pre-construction meeting by contacting the City Public Works Construction Inspection Office at 417-864-1958 at least 48 hours in advance.
3. The subgrade shall be excavated using low ground pressure track equipment to minimize over-compaction of the subgrade. Grading and compaction equipment used in the area of the pervious pavement shall be approved by the engineer prior to use.
4. The pervious pavement area shall not be used for construction staging or materials storage.

5. The contractor shall, at all times during and after installation, prevent sediment and debris from any source from entering the pavement base or the pavement. This may require runoff diversion, sediment controls, traffic barriers, or covers such as plastic.
6. Vehicular traffic shall be prohibited on the pervious pavement until the site is stable to prevent mud from being deposited by vehicles.
7. Stone shall be open-graded, clean, washed and meeting applicable ASTM standards.
8. No product or material substitutions are permitted unless previously approved by the City plan review engineer or by the City inspector assigned to the project. All substitutions shall be presented to the City through the engineer responsible for the design of the pervious pavement.
9. Do not clean the paver surface with high-pressure hoses or abrasives. When cleaning is necessary, a vacuum sweeper should be used alone or in combination with cleaning machines that combine a wet spray and vacuum process.

## 10.9 As-Built Certification

Upon completion of the pervious pavement, prior to final acceptance, an as-built plan and certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following:

- The pervious pavement was built in accordance with the details, dimensions, and materials as approved by the City for this project.
- The pervious pavement was installed by a qualified contractor, and has satisfied all applicable quality control and performance tests.
- The pervious pavement installation was witnessed periodically by the certifying engineer or a representative under their direct supervision.
- Infiltration testing has been conducted per the following applicable ASTM standards, and the infiltration rates are submitted as part of the certification:
    - Pervious concrete: ASTM C1701/C1701M Standard Test Method for Infiltration Rate of In Place Pervious Concrete
    - PICP, concrete grid paving units or clay paving brick: ASTM C1781/C1781M Standard Test Method for Surface Infiltration Rate of Permeable Unit Pavement Systems
- Requirement for unit weight test - To Be Determined

## 11.0 Permeable Interlocking Concrete Pavers

PICP is comprised of a layer of concrete pavers separated by joints filled with small stones. Water enters joints between solid concrete pavers and flows through an "open-graded" base, i.e. crushed stone layers with no small or fine particles. The void spaces among the crushed stones store water and infiltrate it back into the soil subgrade or into an underdrain.

### 11.1 PICP Design Considerations

1. See Section 10.5 for general design considerations.
2. The design engineer shall reference the following resources published by the Interlocking Concrete Pavement Institute: (1) Permeable Interlocking Concrete Pavements Manual, and (2) Tech Spec 18: Construction of PICP Systems. The Permeable Design Pro software is recommended to aid in the design; all are available at www.icpi.org.
3. The paving units supplied to construct the PICP shall meet the requirements in ASTM C936 and be designed for use as PICP.
4. Consideration should be given to the type of traffic loads placed upon the PICP. An engineer experienced with pavement design shall provide input on this aspect early in the design phase. The minimum pavement section subject to vehicular traffic shall be (from top to bottom) 3 1/8 inch thick paving units, 2-inch thick bedding stone (typically ASTM No. 8 or 9 stone), 4-inch thick layer of base stone (ASTM No. 57 or similar size), and a layer of subbase stone (ASTM No. 2 or similar size). The thickness of the subbase will vary depending on storage and anticipated traffic loads as described in ICPI guidance literature, but shall be a maximum of 36 inches. However, a minimum 6-inch thick subbase will be required for all applications. Alternate paving unit and stone thicknesses may be proposed for residential uses or very light traffic loads. The paver joints shall be filled with aggregate meeting manufacturer's specs, typically ASTM No. 8.

### 11.2 PICP Design Procedure and Criteria

See Section 11.6 for general design procedure and criteria.

### 11.3 PICP Construction Considerations

See Section 11.7 for general construction considerations. Bedding, base, and subbase rock shall be compacted per manufacturer's specifications.

### 11.4 PICP Plan Notes

See Section 11.8 for general plan notes.

### 11.5 PICP Contractor Qualifications

The PICP installation contractor must have a current Level 1 certificate from the Interlocking Concrete Pavement Institute's concrete paver installer program.

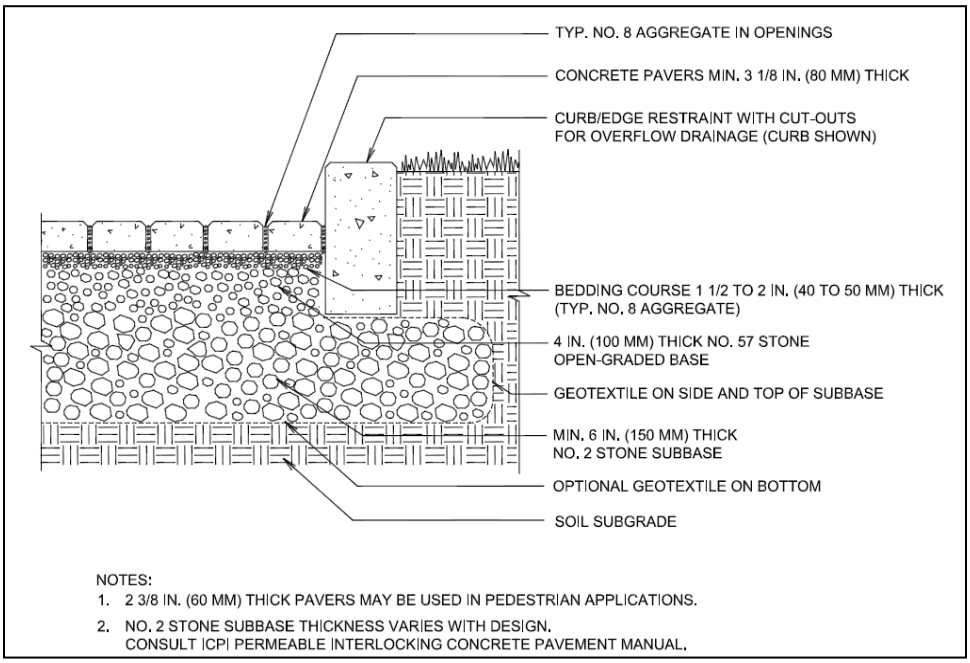


**Figure 8. Typical Drawing of PICP with Full Infiltration (Source: ICPI, 2015).**

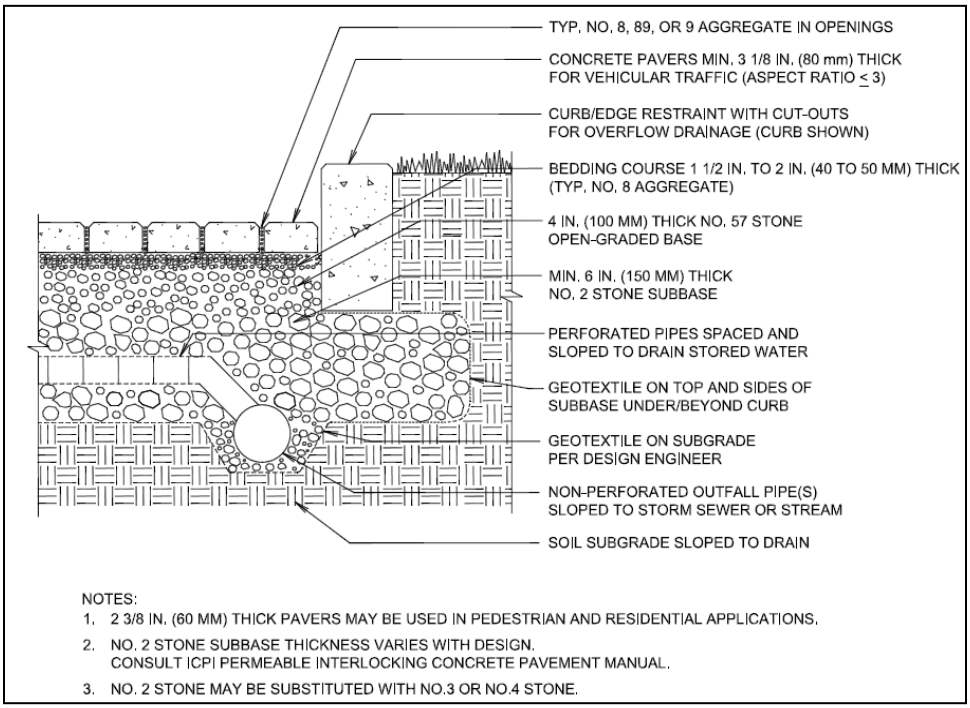


**Figure 9. Typical Drawing of PICP with Partial Infiltration (Source: ICPI, 2015).**

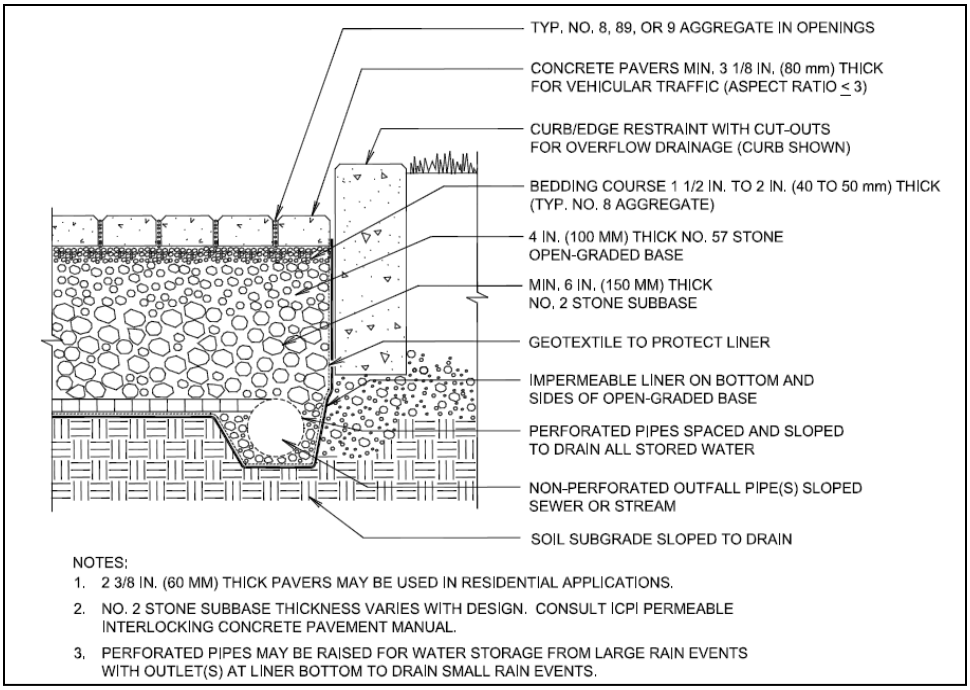


**Figure 10. Typical Drawing of PICP with No Infiltration (Source: ICPI, 2015).**

## 12.0 Pervious Concrete

Pervious concrete is a specific mix with carefully controlled amounts of water and cementitious materials that creates a system of permeable, interconnected voids. It has reduced strength compared to conventional concrete mixtures, but sufficient strength for many applications.

### 12.1 Pervious Concrete Design Considerations

1. See Section 11.5 for general design considerations.
2. The design engineer shall reference ACI 522.1-08, the National Ready Mixed Concrete Association (NRMCA) joint publication EB302.02.
3. A typical pavement section shall be shown on the plans. Designer should reference ACI 522.1-08 and the National Ready Mixed Concrete Association joint publication EB302.02.
4. Typical thicknesses for pervious concrete range from 6-12 inches, depending on the traffic load and other requirements.

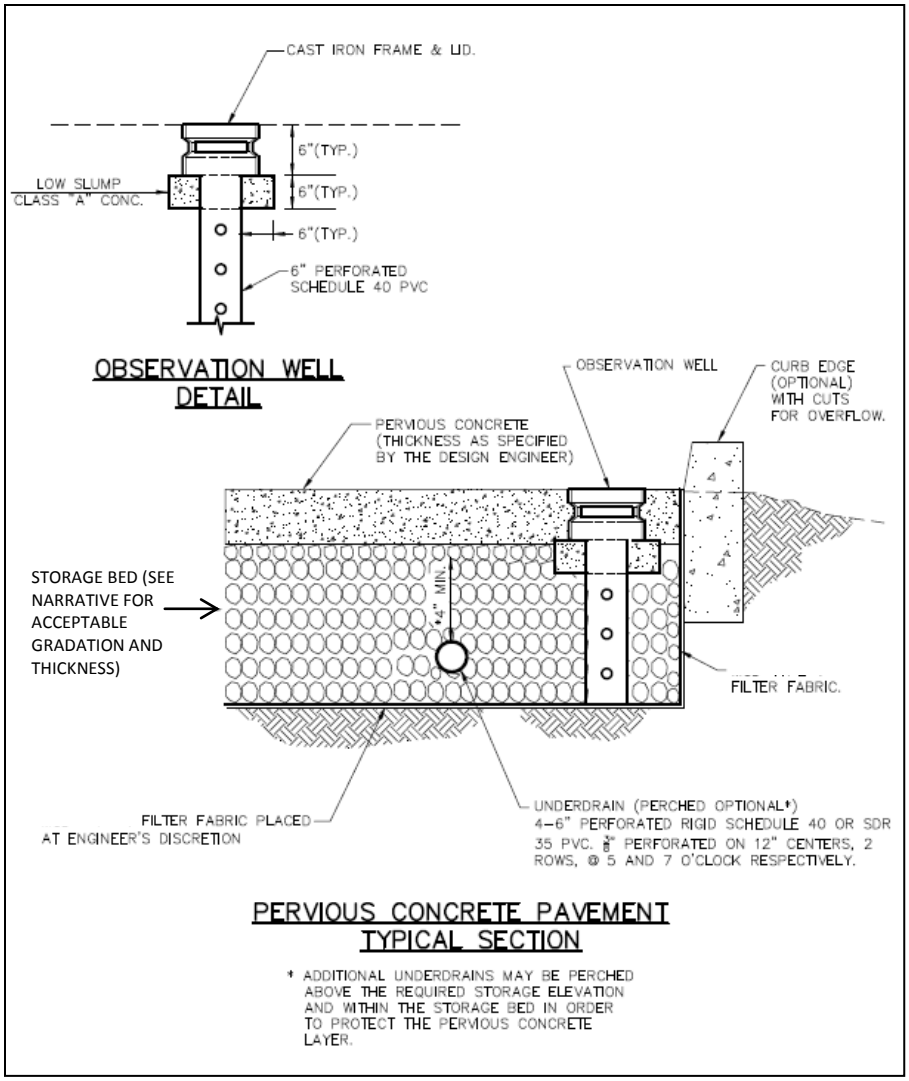


**Figure 11. Typical pervious concrete section (Source: St. Louis MSD, 2014).**

## 12.2 Plan Notes:

The following notes shall be included on plans, details, and specifications for pervious concrete pavement designs proposed for plan approval:

1. See Section 11.8 for general plan notes.
2. All pervious concrete construction shall meet the requirements of ACI 522.1-08, The National Ready Mixed Concrete Association joint publication EB302.02, and Chapter 10 of the City's Stormwater Design Criteria Manual.
3. Test panels may be constructed on-site in an area for demolition after test approval, or in an area that may be left in place and included in the completed work.
4. The subgrade shall be constructed to ensure that the required pavement thickness is obtained in all locations. The contractor shall keep all construction traffic off the subgrade area to the maximum extent possible. Regrade the subgrade as required prior to sub base and product installation.

5. Subbase must be moist (without free standing water) prior to placement to prevent water from being removed from the lower portion of the pavement too soon.
6. Pervious Concrete Mix Notes
    a. Pervious Concrete mixture should be discharged completely within one hour after initial mixing. The use of retarding chemical admixtures or hydration stabilizing admixtures may extend the discharge time to one and a half hours or more.
    b. Each load of concrete shall be visually inspected for consistency and aggregate coating.
7. Prior to placement, the subbase preparation and forms should be double-checked. Any irregularities, rutting, or misalignment should be corrected.
8. Placement should be continuous, and spreading and strike off should be rapid. Consolidation should be completed within 15 minutes of placement.
9. Joints shall be placed as specified, and may be placed at the same location along adjoining pavements. Joints shall be made using a rolling jointing tool. The contractor shall submit a joint detail plan to the Engineer providing as-built certification prior to construction.
10. Curing should be started as soon as practical (within 20 minutes is optimal) after placing, compacting, and jointing.
11. Curing is accomplished by fog misting with water and/or an appropriate cure, followed by 4-6 mil minimum poly sheeting anchored to prevent sheeting from blowing off or allowing air to billow under sheeting. The sheeting should remain for at least seven days.
12. Plastic sheeting shall be secured with lumber, rebar, staking or other methods. Avoid the use of sand or dirt as this will clog the pavement.
13. Once installed, the area shall be quarantined from all traffic until site is stable to prevent mud from being deposited.
14. Do not open the pavement to traffic until it has cured for at least seven days and is accepted by Engineer providing as-built certification.

## 12.3 Concrete Producer Qualifications

The engineer providing as-built certification shall verify that the concrete producer that will supply the pervious concrete has been prequalified by the City and possesses a Pervious Concrete Certification (NRMCA or approved equal).

## 12.4 Material Certification and Quality Control

Inspection and testing services shall be provided by a testing laboratory under the direction of a full-time employee registered as a Professional Engineer in the State of Missouri. They shall have a minimum of five years of professional engineering experience in inspection and testing of concrete construction, and the technician shall at a minimum be ACI Field Testing Technician as well as NRMCA Pervious Concrete Certified or equal.

The inspection and testing services provider, the engineer providing as-built certification, and the contractor shall establish a quality control and testing program to ensure that the pervious concrete pavement is installed in accordance with the City approved plans and project specifications. ACI 522.1-08 Section 1.6 provides a recommended quality control and testing protocol.

## 12.5 Pervious Concrete Contractor Qualifications

Contractors installing pervious concrete shall meet the following qualifications:

1. The contractor's past history shall demonstrate their experience and training in installing pervious concrete pavement. If the contractor has insufficient experience (less than three successful jobs), the contractor shall retain an experienced consultant (such as an engineer rated as an ACI Certified Craftsman) to monitor production, handling, and placement operations.
2. The contractor shall meet at least one of the following:
    a. At least one NRMCA Certified Pervious Concrete Craftsman will be on site overseeing each placement crew during all pervious concrete placement, or
    b. At least three NRMCA Certified Pervious Concrete Installers shall be on site installing the pervious concrete, or
    c. At least 2/3 of the placing crew shall be NRMCA Certified Pervious Concrete Technicians.

## 12.6 Pervious Concrete Mix and Construction Specifications

### 12.6.1 DESCRIPTION

The concrete described herein shall consist of a mixture of Portland cement, fine aggregate, coarse aggregate, an air-entraining agent and water combined in the proportions as set forth in these specifications. Admixtures may be added as specifically permitted. All pervious concrete mix deigns shall meet testing requirements specified in this specification. Unless otherwise specified, follow the most current revision of the General Conditions & Technical Specification for the City of Springfield, Missouri.

### 12.6.2 MATERIALS

#### *12.6.2.1 Cement.*

Cement shall be Portland Cement Type I or Type II conforming to ASTM C-150 Different brands or different types of cement from the same mill or the same brand or type from different mills shall not be mixed or used alternately in the same item of construction unless authorized by the Engineer. The contractor shall not store cement at the site of the work without prior approval of the Engineer. The right is reserved by the City to sample the cement either at the origin of the shipment or after delivery at the site of the work or the ready-mix concrete plant. Provisional acceptance by the City prior to the completion of tests shall in no way act as a waiver of the right to reject cement which has been shipped and unused, if upon completion of the tests, it fails to meet the requirements of the specifications. Submit a copy of the mill report on the cement and supplementary cementitious materials to be used during the course of the project.

#### *12.6.2.2 Fly Ash.*

Fly ash shall conform to ASTM C-618 Class C or Class F.

#### *12.6.2.3 Ground Granulated Blast Furnace Slag (GGBFS).*

Ground Granulated Blast Furnace Slag (GGBFS) shall conform to ASTM C 989 and meet the activity performance in Table 1 Grade 100 or grade 120.

#### *12.6.2.4 Blended Hydraulic Cements.*

Blended Hydraulic Cement Type IP or Type IS shall conform to ASTM C-595.

#### *12.6.2.5 Water.*

Water shall comply with requirements of ASTM C1602, unless specified otherwise.

#### *12.6.2.6 Fine Aggregate.*

Fine aggregate shall be natural sand, or manufactured sand that is free from cemented or conglomerated lumps. Fine aggregate shall conform to the requirements of ASTM Designation C-33.

#### *12.6.2.7 Coarse Aggregate.*

The coarse aggregate shall consist of crushed stone or crushed gravel. Coarse aggregates shall be of uniform quality and conform to the requirements of ASTM Designation C-33 Class Designation 4S.

#### *12.6.2.8 Admixtures.*

Provide admixtures certified by manufacture to be compatible with other admixtures and to contain no more than 0.1 percent water-soluble chloride ions by mass of cementitious material. Chemical admixtures shall comply with ASTM C-494.

##### 12.6.2.8.1 Air entraining

Air entraining admixture shall conform to the requirements of ASTM C 260.

##### 12.6.2.8.2 Water reducing

Water reducing admixtures shall meet the requirements of ASTM C 494 Type A or Type F.

##### 12.6.2.8.3 Hydration stabilizer

X.2.8.3 Hydration stabilizer admixture shall meet the requirements of ASTM C 494 Type B or D. The admixture's primary function should be as a hydration stabilizer.

##### 12.6.2.8.4 Viscosity modifying

Viscosity modifying admixture shall meet the requirements of ASTM C 494 Type S.

#### *12.6.2.9 Fiber Reinforcement.*

Fiber reinforcement shall be used in pervious concrete and shall be either synthetic fiber or a natural fiber.

##### 12.6.2.9.1 Synthetic Fiber.

Fiber shall meet the requirements of ASTM C 1116, Type III, ½ to ¾ inches long.

##### 12.6.2.9.2 Natural Fiber.

Fiber shall meet the requirements of ASTM C 1116, Type IV.

### 12.6.3 PROPORTIONS OF MATERIALS

#### *12.6.3.1 Cement Content.*

Pervious concrete shall contain not less than 600 pounds of cement per cubic yard. Cement content includes weight of supplementary cementitious materials.

##### 12.6.3.1.1 Fly Ash Content.

Pervious concrete may contain fly ash in amounts not to exceed 25% by weight of total cementitious material.

##### 12.6.3.1.2 GGBFS.

Pervious concrete may contain GGBFS in amounts not to exceed 50% by weight of total cementitious material.

#### *12.6.3.2 Water Content.*

The water to cementitious material ratio (w/cm), including free surface moisture on the aggregate, shall be in the range of 0.29 - 0.32.

#### *12.6.3.3 Fine Aggregate.*

Fine aggregate may be Natural Sand or Manufactured Sand.

##### 12.6.3.3.1 Natural Sands.

Pervious concrete may contain natural sands but shall be limited to a maximum of 8% of total aggregate weight.

##### 12.6.3.3.2 Manufactured Sands.

Pervious concrete may contain manufactured sands but shall be limited to a maximum of 6% of total aggregate weight.

#### *12.6.3.4 Course Aggregate.*

Course aggregate shall have a nominal maximum size of 3/8".

#### *12.6.3.5 Admixtures.*

Follow manufacturer's instructions and recommendations.

##### 12.6.3.5.1 Total Void Content.

Mix design shall assume a total void content in place of 15% - 35%. Actual void content is a function of the compaction applied during placement. When using total void content for calculating mix design absolute volume, use the total void and air content of 15% (27ft3 x .15).

##### 12.6.3.5.2 Water Reducing Admixtures.

Water reducing admixture shall be included in mix design. Water reducing admixture shall be Type A or Type F. Adjust as needed.

##### 12.6.3.5.3 Hydration Stabilizer.

Hydration Stabilizer admixture is required in the design and production of pervious concrete. A hydration stabilizer admixture is required in the design and production of pervious concrete. (This

admixture suspends cement hydration and delays initial set by forming a protective barrier around the cementitious particles.)

#### 12.6.3.5.4 Viscosity Modifier.

Viscosity Modifier is required in the design and production of pervious concrete. A viscosity modifier is required in the design and production of pervious concrete.

#### *12.6.3.6 Fiber Reinforcement.*

Fibers shall be a synthetic or natural fiber uniformly dispersed in concrete mix at manufactures rate, but not less than 1 lb/cu.yd.

#### *12.6.3.7 Mix Water.*

Make final adjustment at point of discharge without exceeding design w/cm.

### 12.6.4 PRE-INSTALLATION REQUIREMENTS

#### *12.6.4.1 Submittals.*

Prior or during pre-installation meeting, Contractor shall submit, for review, project specifications, reference publications, drawings, and other contract documents that contain the requirements for concrete materials, proportions, and characteristics. Evidence of satisfactory performance of each material should be provided on request. If a deviation from the specified material is necessary, a full explanation to the Engineer of Record shall be included in the submittal. These documents shall be stamped with approval by the Engineer of Record prior to installation.

#### 12.6.4.1.1 Concrete Materials.

For cement or cementitious materials the source and type of each material proposed for use on the project should be identified and included. Mill test reports, manufacture's certification of compliance, or, both shall be submitted. Proposed concrete mixture proportions shall include all material weights, volumes, density (unit weight), water-to-cement (cementitious) ratio, void content and specific gravity for each material. The concrete mixture proportions expressed in terms of quantity of each component per unit volume of concrete, combined with the freshly mixed concrete properties and the hardened concrete characteristics, shall be included with the submittal. The mass and absolute volume contributed by each material in the mixture should be included in the submittal of the mixture proportions. The quantity of cementitious material added in the powder state should be expressed as pound-mass per cubic yard (lb/yd3).

#### 12.6.4.1.2 Aggregates.

Submit aggregate type, source and individual grading with specific gravity and absorption for each aggregate identified. In accordance with ASTM C-33 and C-330, the combined gradings of the total blended aggregate when combined aggregate concepts are used and should be included for each mixture as described in ACI 301. The fineness modulus of fine aggregate shall be reported. Specific gravity and absorption shall be submitted in accordance with ASTM C-127 and C-128, and dry-rodded unit weight for coarse aggregate per ASTM C-29. In addition, coarse aggregates shall show the size designation (as described in ASTM C-33, or D-448) or the nominal maximum size that is needed. Include service record data indicating absence of deleterious expansion of concrete due to

alkali-aggregate reactivity. All aggregate base material shall require aggregate type, source, individual grading and specific gravity and absorption reported and approved. Provide the void content for aggregate base material used on the project by both the rodding and jigging methods. The quantity of each separately batched size of coarse aggregate and fine aggregate should be expressed as pound-mass per cubic yard.

#### 12.6.4.1.3 Admixtures.

Provide the vendor and type for all admixtures. All admixtures that are proposed for use should be identified in accordance with ASTM C-260, C-494 or another governing standard. These admixtures should be the same type as those used in the trial mixtures from which strength data were obtained. Mill test reports, manufacture's certification of compliance, or, both shall be submitted. If admixtures are to be added at a point other than the concrete batching facilities, the location should be identified. Provide admixture manufactures product data sheet for each product used. Pozzolans that are added in slurry should have their respective solid and water contents expressed as pound-mass per cubic yard. Admixtures dispensed as liquids should be expressed as fluid ounces per cubic yard (fl oz/yd3), the expected dosage range should be stated.

#### 12.6.4.1.4 Water.

The source of mixing water should be identified. Nonpotable water requires evidence of satisfactory use in mortar or concrete in accordance with ASTM C-94, Table 2.

#### 12.6.4.1.5 Fibers, colors pigments, and other additives.

Where the source and type of specific additions are required by the contract, they should be contained in mixtures from with strength data were obtained. Materials identified in the submittal as alternates to products specified by name should include evidence of satisfactory performance and compliance to appropriate material standards. The quantity of any premeasured, prepackaged additives, such as fibers or color pigments, should be expressed in incremental units (sacks, bags, boxes, or tins) and pound-mass per cubic yard.

#### 12.6.4.1.6 Material Certifications.

Provide material certificates signed by manufacture certifying that each material complies with the requirements. From a qualified testing agency, provide, indicate and interpret test results for compliance of the following items; cementitious materials, fiber reinforcement, admixtures, applied finish materials, bonding agent or epoxy adhesive, joint filers.

### *12.6.4.2 Pre-Construction Meeting.*

Owner shall hold a pre-construction meeting one week prior to placement of pervious concrete in which the Contractor, City of Springfield Public Works Inspector, Concrete Supplier, Installers, Owner and anyone else that is involved with the pervious concrete shall attend. This pre-construction meeting shall be used to discuss all aspects of the installation process, site conditions, acceptance or any additional information that is important to the placement and care of pervious concrete. Owner or contractor shall be responsible for notifying the City of Springfield Department of Public Works Inspection Office (417-864-1968) of pre-installation meeting.

### *12.6.4.3 Quality Assurance*

#### 12.6.4.3.1 Contractor Qualifications.

At the time of bid submission, the bidder/contractor shall submit evidence that his company currently has at least 1 in 3 of the crew members in which will be performing the work on the project are certified through the National Ready Mixed Concrete Associate (NRMCA) Pervious Concrete Contractor Certification program or have the ability to become certified through NRMCA prior to installation. The minimum number of certified individuals listed above must be present on each pervious concrete placement, and a certified individual must be in charge of the placement crew and procedures. It is suggested that the contractor is able to supply a minimum 10 member crew for pervious concrete installation. The contractor shall also provide documentation of having performed two successful pervious concrete pavement projects. Information shall include; project name and address, owner name and contact information, and any test result data that was performed (density/unit weight, void content and thickness).

#### 12.6.4.3.2 Manufacturer Qualifications.

Manufacturer of ready-mixed concrete products shall comply with ASTM C 94/C 94M requirements for production facilities and equipment. Manufacturer certified in accordance to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" or shall be NRMCA certified within 90 days from Notice of Award.

#### 12.6.4.3.3 Testing Agency Qualifications.

The Owner shall be responsible for contacting and hiring an independent testing agency to perform the necessary test. The independent testing agency shall be qualified in accordance with ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548. Personnel conducting field test shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01, NRMCA Certified Pervious Concrete Technician or an equivalent certification program. The testing agency shall be able to provide the following test; core samples for density/unit weight, void content and thickness.

### *12.6.4.4 Site Conditions*

#### 12.6.4.4.1 Traffic Control.

Traffic control plan shall be submitted and approved prior to construction activities. Traffic control shall include access for vehicular and pedestrian traffic as required for other construction activities.

#### 12.6.4.4.2 Weather Restrictions.

Pervious concrete pavement shall NOT be installed when the ambient temperature is predicted, by the National Weather Service out of the Springfield-Branson National Airport, to be 40°F or lower during the three days following placement, unless otherwise permitted by the Engineer of Record. If ambient temperature drops below 50°F within the first seven days following placement, concrete shall be covered with an insulated blankets to maintain a temperature of 65°F. Pervious concrete shall not be placed on frozen sub-grade. Pervious concrete shall NOT be installed when the ambient temperature is predicted, by the National Weather Service out of the Springfield-Branson National Airport, to rise above 95°F the day of placement, unless otherwise permitted by the Engineer of Record.

### 12.6.5 CONSTRUCTION METHODS

#### *12.6.5.1 Forms.*

Forms shall be of wood, plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces. Forms shall be maintained so that the finished concrete will be true to line and elevation will conform to the required dimensions. They shall be designed to withstand the pressure of the concrete, the effect of vibration from a vibratory roller, vibratory truss screed, hand tamping, and all other loads incidental to the construction operations, without distortion or displacement. Oiling both inside and outside surfaces will be required to prevent warping, shrinkage or swelling. Forms shall be constructed and designed so that their removal can be effected without injury to the concrete and may be removed without causing raveling to the concrete surface. Dirt, chips, sawdust, nails, and other foreign matter shall be removed before any concrete is deposited. Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces may be used.

#### *12.6.5.2 Sub-Grade Preparation.*

For full or partial infiltration, the subgrade should be uncompacted and scarified. The designer should ensure that the thickness of the base is adequate for structural stability of the pavement based on traffic loads. For no infiltration sections (underdrain not perched), the sub-grade may be compacted by a mechanical vibratory compactor to a minimum density of 95% of the maximum dry density as established by ASTM D 698 or ASHTO T 99. Sub-grade permeability is inversely proportional to compaction so extreme care should be taken to avoid compaction levels that prevent the sub-grade from providing the design infiltration rate. If fill material is required to bring the site to subgrade elevation, it shall be clean and free of deleterious materials. It shall be placed in accordance with the geotechnical engineer's recommendations and/or the engineer of record. Do not place pervious concrete on frozen sub-grade.

#### *12.6.5.3 Sub-Base Preparation.*

A geotextile or graded filter should be used between the subbase and subgrade to prevent subgrade soils from entering the subbase voids. If a geotextile is used, a woven fabric meeting ASTM D4751 and ASTM D4633 is recommended. A geotextile shall be used on the vertical sides of the permeable pavement base to provide separation from adjacent material. An impermeable membrane or barrier may be needed if lateral flow is a concern for adjacent pavement or structures.

Base rock shall be a clean open graded stone whose depth and size shall be designed by the Engineer of Record. The base rock shall be compacted but extreme caution should be taken to avoid compaction levels that prevent the sub-base from providing the permeability assumed in the design. It shall be assumed that sub-base shall have 40% ±5% voids in accordance with ASTM C-29. The sub-base shall be firm, compacted, in a moist condition with no mud or standing water. Remove loose material from compacted sub-base and keep sub-base surface wet immediately prior to placing pervious concrete. Maintain consistent elevation of sub-base and continuously rake out any ruts that may occur. In cold weather conditions, keep sub-base protected and warm. Do not place pervious concrete on frozen sub-base.

#### *12.6.5.4 Concrete Border.*

A concrete border or concrete strip shall be used when placing pervious concrete. This concrete border shall function as a guide to pour and support pervious, and as a guide to hold and maneuver screeds, and to protect the pervious from various debris sources. The concrete border shall be constructed to a minimum width of 6 inches and to the same depth as the pervious concrete, or as designed by the Engineer of Record. Concrete border shall have control joints spaced a max of 5 feet on center, or as specified by the Engineer of Record.

#### *12.6.5.5 Concrete Placement.*

Measure batch and mix, concrete materials and concrete in accordance with ASTM C 94. Provide batch ticket for each batch discharged and used in the work, indicating Project Identification name and number, date, mixture type, mixing time, quantity, and amount of water added. Pervious concrete should be produced, delivered and discharged in accordance with ASTM C 94. Concrete delivery vehicles shall meet the Requirements of ASTM C 94.

During pre-installation meeting, it shall be determined what the mixing and delivery spacing shall be. On the day of installation, adjust mixing and delivery times based on speed of crew and weather conditions. In the event that truck spacing is ten minutes or more, after one truck has been fully discharged, level and cover pervious concrete until next truck is ready for placement. Pervious concrete shall not be left uncovered for more than 20 minutes under any circumstances.

Pervious concrete shall be installed at a maximum width of fifteen (15) feet, unless the contractor can demonstrate competence in constructing wider pavement widths to the satisfaction of the Engineer of Record. It is ideal to place concrete by position the truck down the center of the placement area. Minimize number of chutes and position the truck to discharge at an incline to help with discharge rate. Any ruts that form from concrete truck shall be raked out prior to pervious placement.

##### 12.6.5.5.1 Test Panel.

The test panel shall be used to demonstrate competence in placing pervious concrete and to answer any questions that come with placing pervious concrete. The test panel shall be sized to show that design criteria can be achieved and a satisfactory pavement can be installed.

Test panels will still be subject to standard test methods provided in 6.6.2 Acceptance/Testing and shall meet those requirements. The owner shall approve the pervious concrete visually but the test panel will ultimately be approved by the test results. If the test panel is used in an area to receive pervious pavement and it passes all acceptance test, it may be used as part of the final product.

##### 12.6.5.5.2 Screeding.

Strike-off pervious concrete shall be done with care as to not seal the surface void structure. The equipment to be used shall be limited to the following or as approved by Engineer of Record. Preferred strike-off method include: motorized roller screed, a slipform paver, or spreader machine in the one-step placement method or full width vibratory truss screed in the two-step placement method.

One-step placement method; the pervious concrete is placed, struck off and compacted to the design elevation using a motorized roller screed. The roller screed will accomplish the majority of the compaction and shall have an adequate weight to achieve compaction. While using the roller screed, maintain a consistent head of pervious concrete in front of the screed to fill any gaps. You may add or remove pervious concrete directly in front of screed as necessary for compaction. After roller screeding is complete, a cross roller is used to smooth and for additional compaction. A hand tamper is used to compact all exposed edges and joints.

Two-step placement method; a riser-strip or elevation spacer is attached to the top edge of forms prior to strike-off. This strip or space is set to leave a surface that is ¼" to ¾" higher than the forms. This will allow for excess pervious concrete, the thickness of the strip, to be compacted when cross rolled. The thickness of the strip shall be dictated by the weight and the ability the static roller has to compact the pervious section. After the truss screed has stuck off the excess pervious, the strips or spacers are removed and the static roller is used for final compaction. The static roller shall have sufficient weigh to compact the pervious to the level of the forms.

#### 12.6.5.5.3 Compaction.

A weighted roller or truss screed shall be used to compact and to obtain finished surface grade of the pavement. Caution should be used when compacting pervious concrete, too much compaction can close up the voids and too little compaction can cause raveling. In addition to a weight roller or truss screed a hand roller shall be used to cross roll the pavement. Extra care shall be used to the edges of pervious concrete. A hand tamper shall be used to make sure the weak areas around the edges are compacted. If areas are found to not be at grade, extra pervious may be added but must be tamped into place. Joints, if required shall be installed after compaction is complete.

#### 12.6.5.5.4 Curing and Finishing.

Once all compaction is completed, the pervious shall be prepped for curing. Proper curing will last a minimum of seven (7) days and ideally fourteen (14) days, uninterrupted. In order to achieve proper curing, the pervious concrete will be moist cured and covered in plastic for seven (7) to fourteen (14) days. Curing procedure shall begin immediately but no later than 20 minutes from the time the pervious concrete is discharged from the truck. After the one-step or two-step method is completed, spray the pervious concrete with soybean oil, peanut oil or linseed oil based curing compound. Sprayed-on film-forming curing compound should be avoided for curing pervious concrete pavements. Coat compacted concrete with oil then immediately cover with a minimum 6mil thick polyethylene sheet or approved covering material. The plastic cover shall cover and overlap entire pavement width and be sealed at all edges. The plastic cover shall be tightly secured to prevent wind from uncovering or coming in contact with the surface of the pervious pavement. The polyethylene sheet shall be rolled to help remove any air voids and lock the plastic onto the concrete to help eliminate surface stains and discolorations.

During cold weather placement, 6mil thick polyethylene sheet and insulation blankets shall be used but the insulation blankets shall also be sealed to not allow wind or air to enter between plastic and concrete. During warm weather placement, fogging machines shall be used to help keep moisture and help maintain cool air temperatures. Fogging machines may also be used when wind is in excess of 10 mph or relative humidity represents conditions for high evaporation of moisture. Be

sure to avoid using equipment that will create large droplets of water or using excessive fog as the cement paste may become unstable and can wash off.

#### 12.6.5.5.5 Jointing.

Jointing may also be used during the finishing process. Saw cutting shall not be performed on pervious because the curing sheeting will have to be removed prior to the pervious obtaining enough strength to saw it. A joint roller is an approved jointing method but must be submitted along with jointing plan and jointing layout to be approved by Engineer of Record. The joint roller must meet the following guidelines; joint depth shall be at least ¼" the pavement thickness. The joint roller should be limited to one pass in one direction, placed on opposite end and pulled toward the operator.

### 12.6.6 ACCEPTANCE/INSPECTION

#### *12.6.6.1 Pre-Construction Inspection.*

Inspections by Engineer of record and independent testing agency should determine suitability of the site materials as to the permeability of the soil, material specifications and grade profiles. A survey company may also set grade stakes for the pavement construction.

#### *12.6.6.2 Construction Inspection.*

Contractor shall be responsible for contacting the Inspection Office of the Department of Public Works for the City of Springfield 48 hours in advance of pre-construction meeting. The contractor shall contact construction inspector 24 hours in advance of pervious concrete placement. The construction inspector shall be responsible for providing field testing which may include but not limited to: density (unit weight) test, temperature, pervious concrete consistency, and jointing. The owner is responsible for hiring an independent testing agency to do core samples immediately after the curing period has passed. The cores shall pass density (unit weight) test, thickness, infiltration, and percent voids.

#### *12.6.6.3 Acceptance.*

The pervious concrete section will be accepted based on the field density (unit weight) and the core sample results. Field density shall be within the range of 115 lbs/cuft and 130 lbs/cuft. Core sample results shall meet the following: density shall be within ±5 lbs/cuft of the field determined density. Thickness shall be within 3/8" of designed pavement thickness. Pervious concrete shall have a void content of 15% - 35%. Pervious concrete shall infiltrate at a rate of 200 in/hr - 1800 in/hr.

# 13.0 Bioretention (Rain Garden)

## 13.1 Description

Photo 11. Rain garden on Park Central East and Jefferson.

Bioretention and rain garden are often used interchangeably to refer to an engineered, depressed landscape area designed to filter, uptake, and infiltrate stormwater runoff through the natural processes of plants, microbes, and soil (APWA/MARC, 2012). The term bioretention refers to the ability of the biomass within the rain garden to retain stormwater and remove pollutants (Prince George's County, MD, 2002). In general, bioretention will be used in this chapter to refer to the process and rain garden will be used to refer to the landscape feature itself. Depending on in-situ soil and other design considerations, the rain garden can be designed without an underdrain to allow full infiltration, or with an underdrain to allow partial or no infiltration. During a storm, runoff ponds in the depressed, vegetated surface of the rain garden where a combination of processes occurs that includes evapotranspiration and pollutant uptake by plants and, depending on design, infiltration into the underlying in-situ soil and/or filtration through a porous bioretention soil mix before discharging through an underdrain. Rain gardens are best suited for meeting the water quality volume requirement but may be designed to contribute toward meeting the flood control detention requirement as well if designed properly.

## 13.2 Site Selection

Rain gardens are intended to be small, distributed practices that manage runoff close to the source for drainage areas of typically one impervious acre or less. Therefore, rain gardens are ideally suited for small installations such as parking lot islands and perimeter landscaping, bufferyards, roof downspout areas, and streetscapes. Managing runoff close to the source reduces the amount of runoff that must be managed further downstream with larger infrastructure. Smaller, distributed rain gardens are also preferred to minimize the potential for karst collapses due to concentrated infiltration of water. Dual use of required landscape areas as rain gardens can be an efficient and cost-effective practice. Following establishment, long-term irrigation requirements can often be reduced by designing landscaping as rain gardens. Rain gardens can be an excellent alternative to extended detention basins for small sites, or used as a companion to extended detention basins to provide runoff reduction and treatment train benefits.

Rain gardens are best suited for a stabilized drainage area (impervious surfaces or pervious surfaces with good vegetative cover) and land use with minimal sediment load. Pretreatment is recommended for rain gardens that receive parking lot or street runoff and is vital for land uses with higher than typical sediment loads. More information on pretreatment is provided in Section

13.4. The bottom surface of a rain garden should be flat. Terracing can be used in designing rain gardens on a slope.

When rain gardens (or other SCMs that allow infiltration) are proposed adjacent to buildings or pavement, protective measures should be implemented to avoid adverse impacts to these structures. Oversaturated subgrade soil underlying a structure can cause the structure to settle or result in moisture-related problems. Wetting of expansive soils or bedrock can cause swelling, resulting in structural movements. A geotechnical engineer should evaluate the potential impact of the rain garden on adjacent structures based on an evaluation of the subgrade soil, groundwater, and bedrock conditions at the site. Additional minimum requirements include:

- An underdrain shall be provided whenever possible and shall be designed to divert water away from the structure.
- In locations where potentially expansive soils or bedrock exist, placement of a rain garden adjacent to structures and pavement should only be considered if the rain garden includes an underdrain designed to divert water away from the structure and is lined with an essentially impermeable geomembrane liner designed to restrict seepage.

Site selection and rain garden design should also consider all potential maintenance requirements such as mowing (if applicable) and the future need for replacement of the growing medium. Consider the method and equipment for maintenance tasks and ensure adequate space and access to complete these tasks.

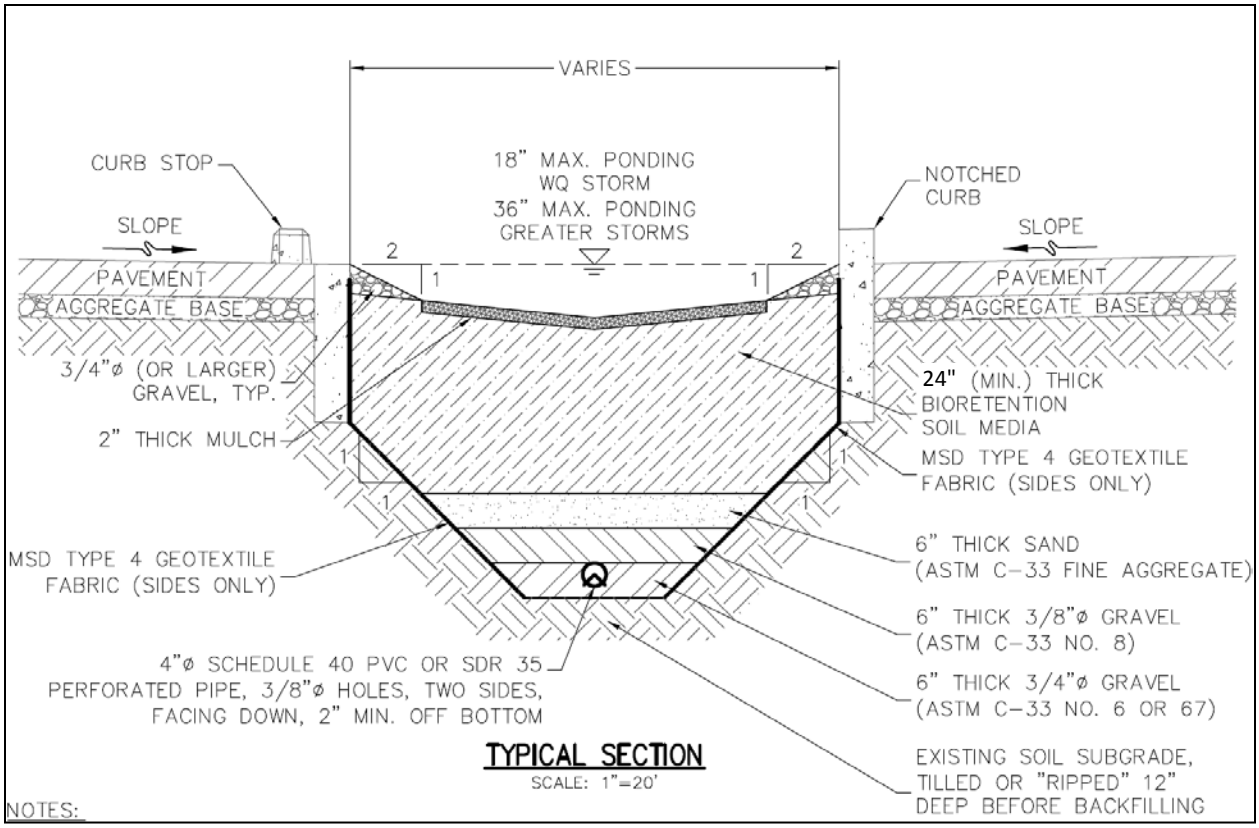


**Figure 12. Rain Garden Typical Section (Source: MSD, 2010).**

## 13.3 Design Criteria and Procedure

### 13.3.1 Soil and Geotechnical Evaluation

Because of local soil conditions, underdrains are often necessary in rain gardens and should be provided if the infiltration rate is slower than 2 times the rate needed to drain the WQV over 12 hours, or where required to divert water away from structures as determined by a professional engineer. Partial infiltration through the use of perched underdrains or "internal water storage" (i.e. upturned elbow) is encouraged because it improves pollutant removal and runoff reduction. The requirement for an underdrain may be waived on a case by case basis based on soil evaluation and site specific design considerations.

Either a soil evaluation shall be conducted at all proposed sites for rain gardens with full or partial infiltration, or the design infiltration rates shown in Table 5 shall be used. A safety factor of 2 shall be applied to infiltration rates determined by a soil evaluation (e.g., an infiltration rate of 1”/hr would be 0.5”/hr after applying a safety factor of 2). Soil evaluation shall consist of one of the following:

- A profile pit soil morphology evaluation as described in 19 CSR 20-3.060(2) and (7). This method of soil evaluation can be used at all sites and is recommended for sites having

significant groundwater contamination potential, severe geological limitations or severe limitations relating to restrictive layers.

- A percolation test as described in 19 CSR 20-3.060(2) and determination of depth to bedrock or other restrictive layer in areas where it is known that bedrock may exist at depths less than ten feet (10').

Based on the soil evaluation, the subgrade soil may be modified if needed to provide full or partial infiltration. The recharge bed shall be designed by the Engineer of Record.

The depth to bedrock will not only influence excavation costs, but will also influence the infiltration capabilities of the facility. If near the underlying infiltration zone (subgrade) of the rain garden, the bedrock will act as an impermeable layer. The City recommends the bottom of the infiltration component of the rain garden be located at least two feet above the bedrock.

When the groundwater table is close to the infiltration zone, this can inhibit the effective infiltration capacity of the facility. Rain garden storage should be located at least two feet above the seasonal high level of the water table. The City recommends determining this seasonal high water table elevation from taxonomy (e.g., soil borings that indicate certain types of mottling or coloration).

**Table 7. Design infiltration rates (Minnesota Pollution Control Agency, 2015)**

| Hydrologic Soil Group | Infiltration rate (inches/hour) | Soil Textures | Corresponding Unified Soil Classification |
|---|---|---|---|
| B | 0.45 | | SM - silty sands, silty gravelly sands |
| | 0.3 | Loam, silt loam | MH - micaceous silts, diatomaceous silts, volcanic ash |
| C | 0.2 | Sandy clay loam | ML - silts, very fine sands, silty or clayey fine sands |
| D | 0.06 | Clay loam<br>Silty clay loam<br>Sandy clay<br>Silty clay<br>Clay | GC - clayey gravels, clayey sandy gravels<br>SC - clayey sands, clayey gravelly sands<br>CL - low plasticity clays, sandy or silty clays<br>OL - organic silts and clays of low plasticity<br>CH - highly plastic clays and sandy clays<br>OH - organic silts and clays of high plasticity |

Note: Select the design infiltration rate based on the least permeable soil horizon within the first 5 feet below the bottom elevation of the infiltration zone. These infiltration rates represent the long-term infiltration capacity of a practice and are not meant to exhibit the capacity of the soils in the natural state.

### 13.3.2 On-line and Off-line Design

Rain gardens can be designed on-line or off-line. On-line rain gardens pass all storms either through the filter bed or the overflow. Rain gardens may be designed as on-line facilities when sized to store the detention volume, or when tributary areas are less than 0.5 acres. On-line rain gardens are required to provide an overflow that safely directs larger storms to other stormwater drainage features. Off-line rain gardens pass the water quality flow rate into the rain garden but bypass higher flows into other stormwater drainage features. This typically is provided using a weir or high-flow/low-flow piping system. Refer to Metropolitan St. Louis Sewer District's Flow Splitting Design Criteria on their BMP Toolbox website. Overflows are recommended for off-line rain gardens. The type of overflow selected should consider potential for re-suspension of trash/pollution, but also the potential for overtopping and availability of a safe overland flow path for large storms.

The design of a rain garden may provide detention for events exceeding the WQV. There are generally two ways to achieve this. The design can provide the flood control volume above the WQV water surface elevation, with flows bypassing the filter usually by overtopping into an inlet designed to restrict the peak flow for a larger event (or events). Alternatively, the design can provide and slowly release the flood control volume in an area downstream of one or more rain gardens. Rain gardens shall be designed so that runoff from storm events greater than the water quality event safely pass through or around the rain garden. If larger events are to pass through the rain garden, the maximum velocity shall be kept below 3 feet per second to avoid erosion of the soil.

### 13.3.3 Basin Storage Volume

Rain gardens are best suited for meeting water quality requirements. The water quality volume for the drainage area of the rain garden shall be calculated according to Section 2.1. Rain gardens can be used to help meet flood control detention requirements as well if designed properly. Orifices, weirs, and other outlet devices are typically required to release flood control volume from a rain garden. The volume of the rain garden is considered to be the ponding volume above the rain garden surface (including above the filter area and side slopes) and the volume within the bioretention soil mix, also referred to as the filter bed, sand, and gravel. A filter bed maximum porosity of 0.35 may be used for a bioretention soil mix that meets the specification in Section 13.4.3. A higher porosity can be proposed for the gravel.

### 13.3.4 Basin Geometry

Rain gardens should be designed as shallow as possible. Increasing the depth unnecessarily can create erosive side slopes, limit plant species and survivability, and complicate maintenance. Shallow rain gardens are also more attractive, an important consideration for public acceptance. The preferred ponding depth is 12 inches and the maximum typically allowed is 18 inches. An inlet or other means of overflow shall be provided at this elevation. When used for flood control detention, the maximum ponding depth may be increased to 36 inches if approved based on appropriate location and design considerations, including public acceptance, aesthetics, and plant survivability.

Vertical walls or side slopes can be used to achieve the required volume. Side slopes should be no steeper than 4:1 (horizontal: vertical). The bottom surface of the rain garden, also referred to here as the filter area, should be flat. Sediment will accumulate over time on the filter area. If the filter area is too small, it may clog prematurely. Increasing the filter area will reduce clogging and decrease the frequency of maintenance. The following equation calculates the minimum filter area.

$A = 2/3*V$ where

$A$ = minimum filter area (flat surface area) in $ft^2$

$V$ = design volume in $ft^3$

The bioretention soil mix can be limited to only the filter area to minimize cost. If in-situ soil is used outside of the filter area, it should be amended as needed for plant health.

### 13.3.5 Bioretention Soil Mix

For partial and no infiltration sections, provide a minimum of 24 inches of bioretention soil mix for pollutant removal and plant health. A greater depth may be needed to accommodate trees. For full infiltration sections, bioretention soil mix is optional as needed to meet design volume and drain time requirements. In-situ soils in full infiltration sections may need to be replaced or amended for plant health. Biorention soil mix or other suitable growing medium or amendments may be used to replace or amend in-situ soils in full infiltration sections.

The bioretention soil mix shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches excluding mulch. For best results, it should be free of noxious weed seeds. The composition of the bioretention soil mix is important in balancing the objectives of pollutant removal, plant growth, infiltration rate, local availability, and affordability. The majority of Springfield drains to the James River which is impaired for excess nutrients that cause algae growth and reduced water clarity. The City's MS4 permit requires addressing this impairment by implementing measures that reduce the discharge of phosphorus and nitrogen to the maximum extent practicable. The bioretention soil mix shall meet the criteria in Tables 6 and 7. These criteria are adapted from APWA/MARC (2012), with an increased percentage of sand and a phosphorus index based on Minnesota Pollution Control Agency (2015) to reduce the discharge of phosphorus from the rain garden. This mix is intended to balance the above objectives. Soil mixes that do not meet the criteria in Tables 6 and 7 may be acceptable on a case by case basis. Documentation that the bioretention soil mix meets the criteria in Tables 6 and 7 shall be submitted prior to placement of the mix in the rain garden.

**Table 8. Bioretention Soil Mix Composition**

| Component | Percent by Volume | Reference |
|---|---|---|
| Sand | 60% | ASTM C33 |
| Planting Soil | 25% | See Section 13.4.3.1 |
| Compost | 15% | See Section 13.4.3.2 |

**Table 9. Bioretention Soil Mix Testing Criteria**

| Test Parameter | Criteria[1] | Test Method |
|---|---|---|
| pH | 6 - 8 | Standard[2] |
| Magnesium | Minimum 32 ppm | Standard[2] |
| Phosphorus Index | 10-30 mg/kg | Mehlich-3 (or equivalent) |
| Potassium ($K_2O$) | Minimum 78 ppm | Standard[2] |
| Soluble Salts | Not to exceed 500 ppm | Standard[2] |

[1]If the criteria for pH, magnesium, or potassium are not met, the bioretention soil mix may be amended by uniform mixing with lime, ammonium sulfate, magnesium sulfate, or potash as needed to meet the criteria. [2]Use standard soil test procedures such as those used by MU Extension Soil and Plant Testing Laboratory.

#### *13.3.5.1 Planting Soil*

The USDA textural classification of the planting soil component of the bioretention soil mix shall be loamy sand or sandy loam. The planting soil shall be the best available on site material or furnished. Additionally, the planting soil shall be tested and meet the criteria in Tables 7 and 8.

**Table 10. Composition of Planting Soil Component of Bioretention Soil Mix**

| Component | Percent by Weight | Test Method |
|---|---|---|
| Sand (2.0-0.050 mm) | 50-85% | AASHTO T88 |
| Silt (0.050-0.002 mm) | 0-50% | AASHTO T88 |
| Clay (less than 0.002 mm) | 2-5% | AASHTO T88 |
| Organic Matter | 3-10% | AASHTO T194 |

**Table 11. Textural Analysis of Planting Soil Component of Bioretention Soil Mix**

| ASTM E11 Sieve Size | Minimum Percent Passing By Weight |
|---|---|
| 2 inch | 100 |
| No. 4 | 90 |
| No. 10 | 80 |

#### *13.3.5.2 Compost*

Compost is a homogenous and friable mixture of partially decomposed organic matter, with or without soil, resulting from composting, which is a managed process of bio-oxidation of a solid heterogeneous organic substrate including a thermophilic phase. Compost shall be derived from the decomposition of yardwaste as defined MDNR (2014). Compost derived from animal or poultry manure shall not be acceptable. Additionally, the compost shall have a C/N ratio < 25, indicating a finished compost.

### 13.3.6 Drain Time and Underdrain System

The required drain time for a rain garden is 12-72 hours. Rain gardens can be designed for full, partial or no infiltration. Full infiltration sections are designed to infiltrate all of the stored water into the subgrade soil. They are appropriate where soil and geotechnical conditions are suitable and meet the required drain time. Partial infiltration sections have an underdrain but do not include an impermeable liner, allowing for some infiltration into the subgrade soil. The underdrain system may be perched or designed for internal water storage (i.e. upturned elbow) to increase the amount of infiltration for improved pollutant removal and runoff reduction. No infiltration sections have an underdrain and impermeable liner that does not allow for any infiltration into the subgrade soil. No infiltration sections (i.e. impermeable liner) are appropriate in the following situations:

- Land use or activities could contaminate groundwater if stormwater is allowed to infiltrate,.
- The rain garden is located over potentially expansive soils or bedrock and is adjacent (within 10 feet) to structures.

When using an underdrain, provide a control orifice sized to drain the design volume in 12-72 hours. Underdrains shall be spaced a maximum of 20 feet on center. Provide cleanouts to enable observation and maintenance of the underdrain. Calculate the diameter of the orifice for a 12-hour drain time using the orifice sizing equation in Section 14 for extended detention basins. Use a minimum orifice size of 3/8 inch to avoid clogging.

The underdrain shall be 4-6" perforated or slotted pipe. Do not put a filter sock on the underdrain. This is not necessary and can clog. The underdrain shall be placed with a minimum 6 inch thick section of 3/4 inch gravel. To separate the underdrain gravel layer from the bioretention soil mix, a

graded filter is preferred instead of a geotextile to reduce the potential for clogging. The graded filter shall consist of a 6 inch thick layer of ASTM-33 sand underlain by a 6 inch thick layer of 3/8 gravel. A geotextile separator fabric may be used on the sides of the rain garden if needed but should not be used between the underdrain gravel layer and the subgrade.

### 13.3.7 No-Infiltration Impermeable Geomembrane Liner

Designers should refer to the Bioretention section of the UDFCD *Urban Storm Drainage Criteria Manual* (2013) when designing an impermeable liner system for bioretention.

### 13.3.8 Pretreatment

Pretreatment should be provided for rain gardens with larger (>0.5 acres) drainage areas to prevent erosion of the filter bed and capture trash and coarse sediment that can shorten the life of the filter bed. Pretreatment is recommended for rain gardens with smaller drainage areas as well. The two most common methods of pretreatment are forebays and sheetflow over vegetated or gravel filter strips. For rain gardens with larger drainage areas (>0.5 acres), it is recommended to size the forebay to store 25% of the water quality volume. The forebay floor should be designed to fully drain to the surface of the rain garden filter bed. For smaller rain gardens, forebays can be designed as small sumps with a concrete or rock bottom. A filter strip is typically used when stormwater enters the rain garden as overland flow. A grass filter strip or combination gravel diaphragm and grass filter strip between the diaphragm and filter bed can be used. Hydrodynamic separators or baffle boxes can also be used as pretreatment, particularly if higher loads of solids and floatables are anticipated. Rain barrels can be used as a method for slowing velocities and providing additional storage for roof runoff upstream of a rain garden.

### 13.3.9 Inlet and Outlet Design

How flow enters and exits the rain garden is a function of the location and overall drainage design for the site. Common inlet designs include curb cuts, curb or grate inlets, trench drains, or small pipe discharges. Flow into the rain garden can also occur as overland flow. The most important aspect of site and inlet design is making sure the runoff from the intended drainage area gets into the rain garden. Runoff bypassing the rain garden is a common problem and can result from inlet design, insufficient slope, tight designs that don't allow for construction and paving tolerances, and inadequate construction staking (Photo 12).

**Photo 12. Inadequate construction staking may have contributed to flows bypassing this rain garden (Source: UDFCD, 2010).**

The following are specific considerations for inlet design:

- Slope of drainage area toward the rain garden shall be a minimum of 1% and shall be sufficiently greater than slopes in other directions to ensure runoff goes into the rain garden and bypass doesn't occur. Adequate spot elevations shall be provided on the plans to ensure the grades of the drainage area are constructed as intended for drainage into the rain garden.
- Grades shall ensure drainage from the pavement into the gutter occurs upstream of the curb cut. Even when grades are correct, placement of asphalt can create a high spot where the asphalt meets the concrete gutter, which can cause runoff to bypass (Photo 13). Plan notes and proactive communication with the pavement contractor are necessary to prevent these types of issues.
- The slope of the gutter toward the curb cut shall be greater than the longitudinal slope of the gutter.
- The curb cut opening shall be wide enough to ensure the design storm runoff does not bypass the curb cut, depending on velocity and slopes. Curb cuts with 2 ft or 4 ft width are common.

**Photo 13. Runoff appears to be bypassing the concrete gutter due to the asphalt elevation increasing where it meets the gutter.**

**Photo 14. The longitudinal slope appears to be greater than the cross slope, causing some runoff to bypass the curb cuts.**

- The gutter shall be designed with a depression or grooves in front of the curb cut opening as needed to ensure runoff does not bypass the opening.
- Provide erosion protection and energy dissipation in the form of rock, or a small concrete sump. The sump may also act as a sediment forebay for pretreatment (see Section 13.4.6).

Careful design is also needed for rain garden outlets. In addition to serving as inlets, curb cuts can also be designed as outlets to release runoff in excess of the design volume. Other common designs for overflow above the design volume include atrium grates and grated inlets. If using a curb inlet outside of the rain garden for bypassing of flows that exceed the design volume, ensure that the design volume of runoff will not short-circuit the rain garden. Rain gardens used in a series, such as on a slope, may be designed to pond and overflow to the next downstream rain garden with a curb cut, weir, level spreader, or outlet structure.

### 13.3.10 Vegetation

Vegetation is vital for the bioretention processes in the rain garden. Plants uptake pollutants, remove water through evapotranspiration, and improve infiltration through root growth and improved soil structure. Attractive vegetation is also vital for public acceptance of rain gardens. Through careful design and plant selection, rain gardens can blend seamlessly with surrounding landscaping or be a distinct, attractive feature that complements the surrounding design. See Section 6.0 for more information on plant selection.

The surface of the rain garden should be mulched to protect against erosion. Wood mulch or rock mulch is acceptable. Wood mulch provides some benefits over rock mulch for pollutant removal and may be more beneficial in regulating temperature and moisture for plant health. It can also be easier to remove accumulated sediment on wood mulch. However, wood mulch decomposes and need to be replaced periodically. Rock mulch generally only needs to be replaced if removed as part of sediment removal. If using wood mulch, it shall be hardwood mulch to minimize floating of the mulch. The use of wood mulch should also be considered when designing the overflow to minimize clogging. If using rock mulch, a 1 inch diameter decorative rock is common with larger rock at inlet points.

If installing irrigation, design and adjust the irrigation system (temporary or permanent) to provide appropriate water for the establishment and maintenance of the vegetation without over-saturating the soil and reducing the capacity of the rain garden for rain events.

### 13.3.11 Design Procedure for Full Infiltration (No Underdrain)

Use the following steps in the bioretention (rain garden) worksheet:

1. Indicate whether the bioretention is being used to meet water quality volume, detention volume, or both.
2. Input site data (DCIA, required design volume, soil type and saturated hydraulic conductivity)
3. The worksheet calculates the minimum surface area.
4. Input actual design surface area.
5. Input filter bed thickness, porosity of filter bed, and surface ponding depth.
6. The worksheet calculates the storage volume above the rain garden and the storage volume within the filter bed, and checks that the required design volume is met.

### 13.3.12 Design Procedure for Partial Infiltration (Perched Underdrain)

Use the following steps in the bioretention worksheet:

1. Indicate whether the bioretention is being used to meet water quality volume, detention volume, or both.
2. Input site data (DCIA, required design volume, soil type and saturated hydraulic conductivity)
3. The worksheet calculates the minimum surface area.
4. Input actual design surface area.
5. Input filter bed thickness, porosity of filter bed, and surface ponding depth.

6. The worksheet calculates the storage volume above the rain garden and the storage volume within the filter bed, and checks that the required design volume is met.
7. Input underdrain data (depth of filter bed below underdrain, distance from maximum ponding elevation to the center of the orifice, underdrain pipe diameter).
8. The worksheet will calculate the orifice diameter for a minimum 12 hour drain time.
9. Input row spacing and number of rows of the perforated pipe.
10. The worksheet calculates the orifice area, drain time of the pipe, the drain time of the subgrade below the pipe, and the total drain time.

#### 13.3.13 No Infiltration (Impermeable Liner)

Use the following steps in the bioretention worksheet:

1. Indicate whether the bioretention is being used to meet water quality volume, detention volume, or both.
2. Input site data (DCIA, required design volume, soil type and saturated hydraulic conductivity)
3. The worksheet calculates the minimum surface area.
4. Input actual design surface area.
5. Input filter bed thickness, porosity of filter bed, and surface ponding depth.
6. The worksheet calculates the storage volume above the rain garden and the storage volume within the filter bed, and checks that the required design volume is met.
7. Input underdrain data (distance from maximum ponding elevation to the center of the orifice, underdrain pipe diameter).
8. The worksheet will calculate the orifice diameter for a minimum 12 hour drain time.
9. Input row spacing and number of rows of the perforated pipe.
10. The worksheet calculates the orifice area and the drain time of the underdrain.

## 13.4 Construction Considerations

Do not allow machinery on bottom surface of rain garden. If machinery must enter rain garden area, use small, tracked equipment to minimize compaction. Do not allow machinery in the rain garden when the bottom surface of the rain garden is wet as this may smear the soil, greatly reducing infiltration. Start digging at one end and work out so machinery does not track on bottom of finished excavation. Excavation must be flat but not smooth. Do not scrape the bottom smooth since this will reduce infiltration.

## 13.5 As-Built Certification

Upon completion of the bioretention, prior to final acceptance, an as-built plan and certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following: To Be Determined.

# 14.0 Extended Dry Detention Basin

## 14.1 Description

An extended dry detention basin (EDB) is a basin designed to provide sedimentation by detaining and slowly releasing stormwater. An EDB is similar to a detention basin used for flood control but is designed with a much smaller outlet that extends the emptying time of the more frequently occurring runoff events to facilitate pollutant removal, primarily through sedimentation. An EDB is called "dry" because it is designed not to have a significant permanent pool of water remaining between storm runoff events. It can be used for regional or on-site treatment or as follow-up treatment in series with other SCMs.

An EDB should typically be designed and maintained to pool water for no more than the design drawdown time of 24 to 48 hours. In cases where there is a sufficient distance between the EDB and the nearest residential land use, it may be desirable to allow pools to form and wetland vegetation to grow. These plants generally provide water quality benefits through pollutant uptake, but they often cause public complaints when located near a residential area. In addition, the bottom will be the depository of all the sediment that settles out in the basin. As a result, the bottom can be muddy and may have an undesirable appearance. To mitigate this problem, the designer may provide a small wetland marsh or ponding area in the basin's bottom, which may be considered as part of the design to promote biological uptake of pollutants.

In addition to reducing peak runoff rates and improving water quality, an EDB can be designed to provide other benefits such as recreation, wildlife habitat and open space. As with other SCMs, public safety issues need to be addressed through proper design. EDBs may also be used during land development to trap sediment from construction activities within the tributary drainage area. The accumulated sediment, however, must be removed after upstream land disturbance ceases and before the basin is placed into final long-term use.

## 14.2 Site Selection

EDBs are best suited for watersheds with at least five impervious acres up to approximately one square mile of watershed. They can be designed for smaller watersheds as long as the outlet structure criteria can be met. Small watersheds can result in orifice sizes that are prone to clogging. Larger watersheds and watersheds with baseflows can complicate the design and reduce the level of treatment provided. EDBs are well suited where flood control detention is incorporated into the same basin.

## 14.3 Design Considerations

- It is imperative to plan land use correctly to account for an EDB. The land required for an EDB is approximately 0.5 to 2.0 percent of the total tributary development area, depending on directly connected impervious areas and other factors.
- Special consideration must be made when placing an EDB in an area of high groundwater, wet weather springs or areas that otherwise have baseflow. Consideration should be given to constructing an extended wet detention basin or a wetland bottom in those cases. If an

EDB is constructed in this case, a low flow channel shall be constructed to maintain positive drainage to allow mowing and maintenance. Sites with persistent flow typically require a special design by a qualified professional for the unique conditions of the site.

- EDBs should be incorporated into the larger flood control basin whenever possible. In all cases, the embankments and spillway shall be designed to safely pass the 100-year flow as described in Chapter 9, Detention for Flood Control.
- When multiple uses such as recreation or habitat creation are incorporated into a detention basin, a multiple-stage design should be used to limit the frequency of inundation of passive recreational areas. Generally, the area within the WQV is not well suited for active recreation facilities such as ballparks, playing fields, and picnic areas. These are best located above the WQV pool level.
- Soil maps should be consulted, and soil borings may be needed to establish design geotechnical parameters, particularly for larger basins or when bedrock or other sensitive karst features are believed present. A regular concern with storage basins in Springfield is "puncturing" limestone during the course of excavation, thereby providing a conduit for stormwater in the shallow groundwater system.
- Access to critical elements of the pond, such as the inlet, outlet, spillway, and sediment collection areas must be provided for maintenance purposes.

## 14.4 Aesthetic Design

When an EDB is designed with aesthetics in mind, it becomes an amenity of much greater value to a landowner. Softened and varied slopes, interspersed fields, planting areas and wetlands can all be part of an EDB. The design should be aesthetic whether it is considered to be an architectural or naturalized basin. Architectural basins incorporate design borrowed or reflective of the surrounding architecture or urban forms. An architectural basin is intended to appear as part of the built environment, rather than hiding the cues that identify it as a stormwater structure. A naturalized basin is designed to appear as though it is a natural part of the landscape. The built environment, in contrast to the natural environment, does not typically contain the randomness of form inherent in nature. Constructed slopes typically remain consistent, as do slope transitions. Even dissipation structures are usually a hard form and have edges seldom seen in nature. If the EDB is to appear as though it is a natural part of the landscape, it is important to minimize shapes that provide visual cues indicating the presence of a drainage structure. The following are suggested methods for designing a naturalized basin.

- Create a flowing form that looks like it was shaped by water.
- Extend one side of the basin higher than the other. This may require a berm.
- Shape the bottom of the basin differently than the top.
- Slope of one side of the basin more mildly than the opposing side.
- Vary slope transitions both at the top of the bank and at the toe.
- Use a soft-surface trickle channel if appropriate and approved.
- When using rock for energy dissipation, the rock should graduate away from the area of hard edge into the surrounding landscape. Other non-functional matching rock should

occur in other areas of the basin to prevent the actual energy dissipation from appearing out of context.

- Design ground cover to reflect the type of water regime expected for their location within the basin.

## 14.5 Design Procedure and Criteria

The following steps outline the design procedure and criteria for an extended dry detention basin. Figure 4 shows a representative layout of an EDB.

1. Calculate the design volume based on the WQV for the drainage area and any reductions or credits based on upstream SCMs.
2. The basin length to width ratio (L:W) should be between 2:1 and 4:1 and the inlets should be as far as possible from the outlet. Maximizing the distance between the inlet and the outlet and shaping the pond with a gradual expansion from the inlet and a gradual contraction toward the outlet will minimize short-circuiting.
3. Basin side slopes should be a maximum of 4H:1V and the use of flatter slopes is encouraged to facilitate maintenance, access, and safety. If steeper side slopes are necessary, 3H:1V is the maximum allowed and must incorporate a flatter upper zone and/or a "safety bench."
4. Determine the preliminary basin geometry necessary to provide the design volume. Select the preferred depth of the basin, then solve for the basin bottom width that will provide adequate storage of the design volume. Assume a trapezoidal pond with the selected L:W ratio, side slopes and basin depth. The EDB design spreadsheet will assist with this calculation. This information is not necessary if detailed stage-area-volume relationships are available for the EDB.
5. Design the outlet structure to release the design WQV over a 24- to 48-hour period. The outlet structure shall consist of a perforated plate with a stainless steel well-screen trash rack. Figure 5 shows details for a perforated plate. The outlet structure shall meet the requirements in Table 6. Use the fewest number of columns possible to maximize the perforation hole diameter. This helps to reduce clogging problems. The EDB design spreadsheet should be used to complete the design.

**Table 12. Requirements for Water Quality Outlet Structures**

| Parameter | Perforated Plate Requirement |
|---|---|
| Minimum Perforation Diameter | 1/2 inch |
| Maximum Perforation Diameter | 2 inches |
| Minimum Number of Holes Per Row | 1 |
| Maximum Number of Holes Per Row | 3 |
| Minimum Row Spacing | 4 inches |
| Maximum Row Spacing | 12 inches |

6. For perforated plates, provide a trash rack of sufficient size to prevent clogging of the primary water quality outlet. Size the rack so as not to interfere with the hydraulic capacity of the outlet. Using the total outlet area (calculated by multiplying the perforation area per row by the number of rows) and the selected perforation diameter, Figure 5 will help to determine the minimum open area required for the trash rack. Use one-half of the total

outlet area to calculate the trash rack's size. This accounts for the variable inundation of the outlet orifices. The EDB design spreadsheet should be used to complete the design.

7. A freeboard of at least 12 inches shall be provided above the 100-year water surface elevation for all EDBs (including facilities that are solely for water quality purposes and allow larger flows to "pass through") and detention areas in accordance with Chapter 9, Detention.
8. A low flow channel should be provided when groundwater or base flow exists in the basin or as required in Chapter 9, Detention.
9. Consideration should be given to the use of native grasses and plants for pond bottoms, berms, and side slopes.
10. Access to the facility shall be provided for maintenance. Grades of the access should not exceed 10 percent, and a stabilized, all-weather driving surface must be provided.
11. Energy dissipation and erosion control should be provided at inlets in accordance with Chapter 9, Detention.
12. A forebay should be considered when the design volume exceeds 20,000 $ft^3$ or a large sediment, trash or debris load is anticipated due to upstream land use. A forebay provides an opportunity for larger particles to settle out in the inlet area, which has a solid surface bottom to facilitate mechanical sediment removal. The forebay volume for the extended dry detention basin should be between 3 and 5 percent of the design volume. Outflow from the forebay to the basin shall be through a gravel filter designed to be stable under maximum design flow conditions. The top of the gravel filter shall be set equal to the stage of the design volume. The floor of the forebay should be concrete and contain a low flow channel to define sediment removal limits.
13. Combining the water quality facility with a flood control facility is acceptable. Design of the flood control volume may assume the extended dry detention basin is dry at the beginning of the storm. Additional information can be found in Chapter 9, Detention.
14. Plan and design the facility with appearance and neighborhood compatibility as design objectives. Consider naturalized basin design (see Section 13.3).

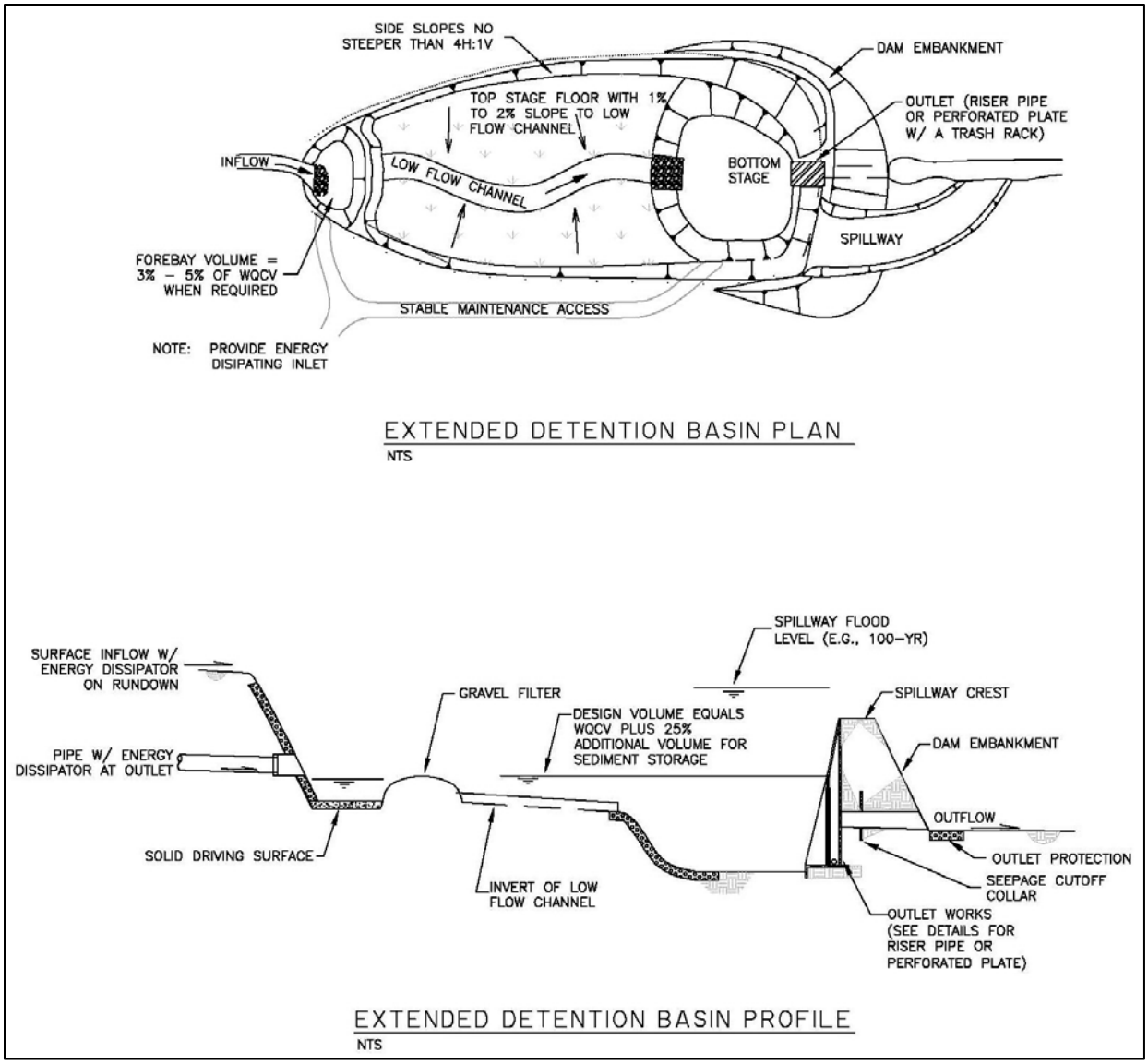


**Figure 13. Extended Detention Basin Plan and Profile**

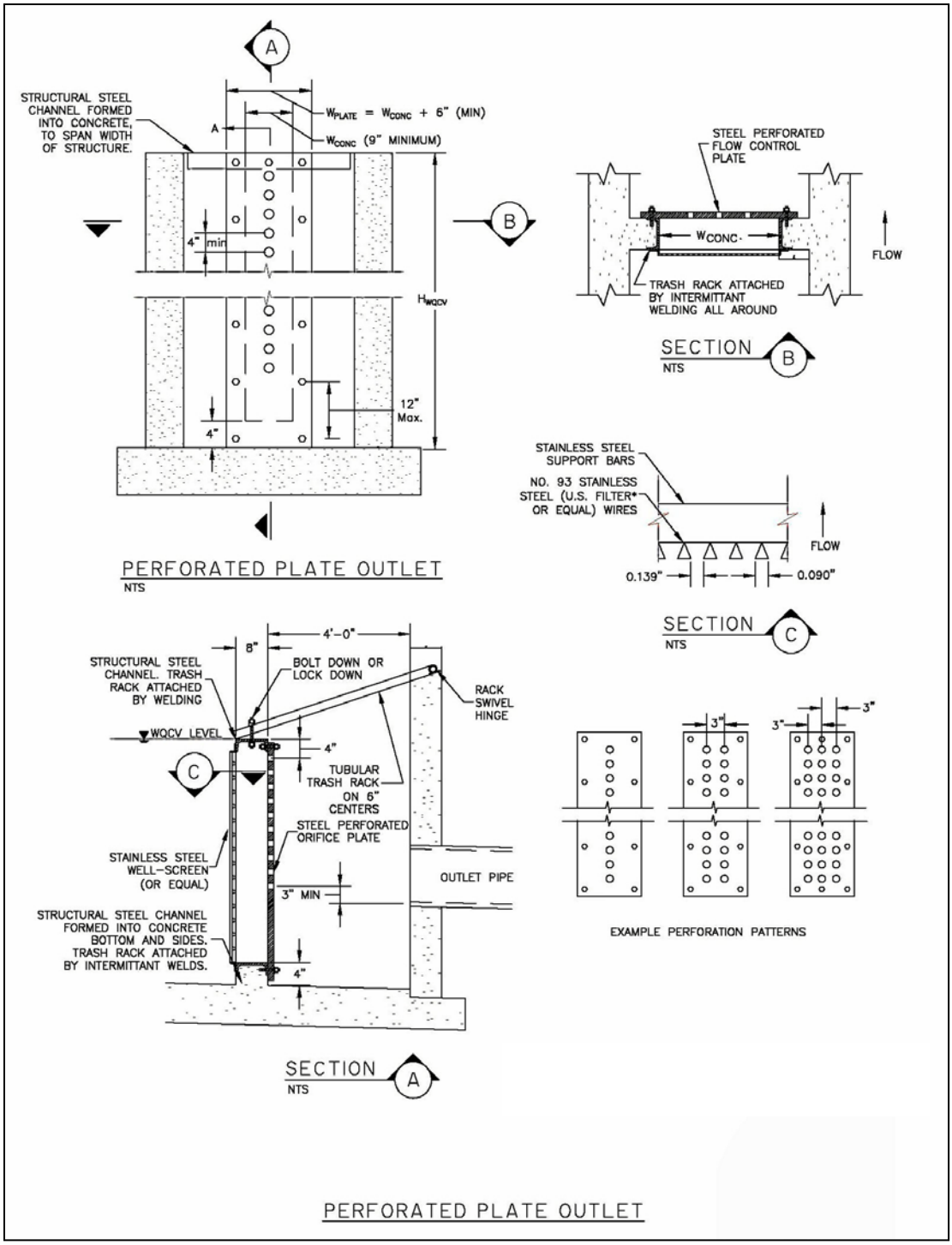


**Figure 14. Details for a Perforated Plate and Trash Rack**

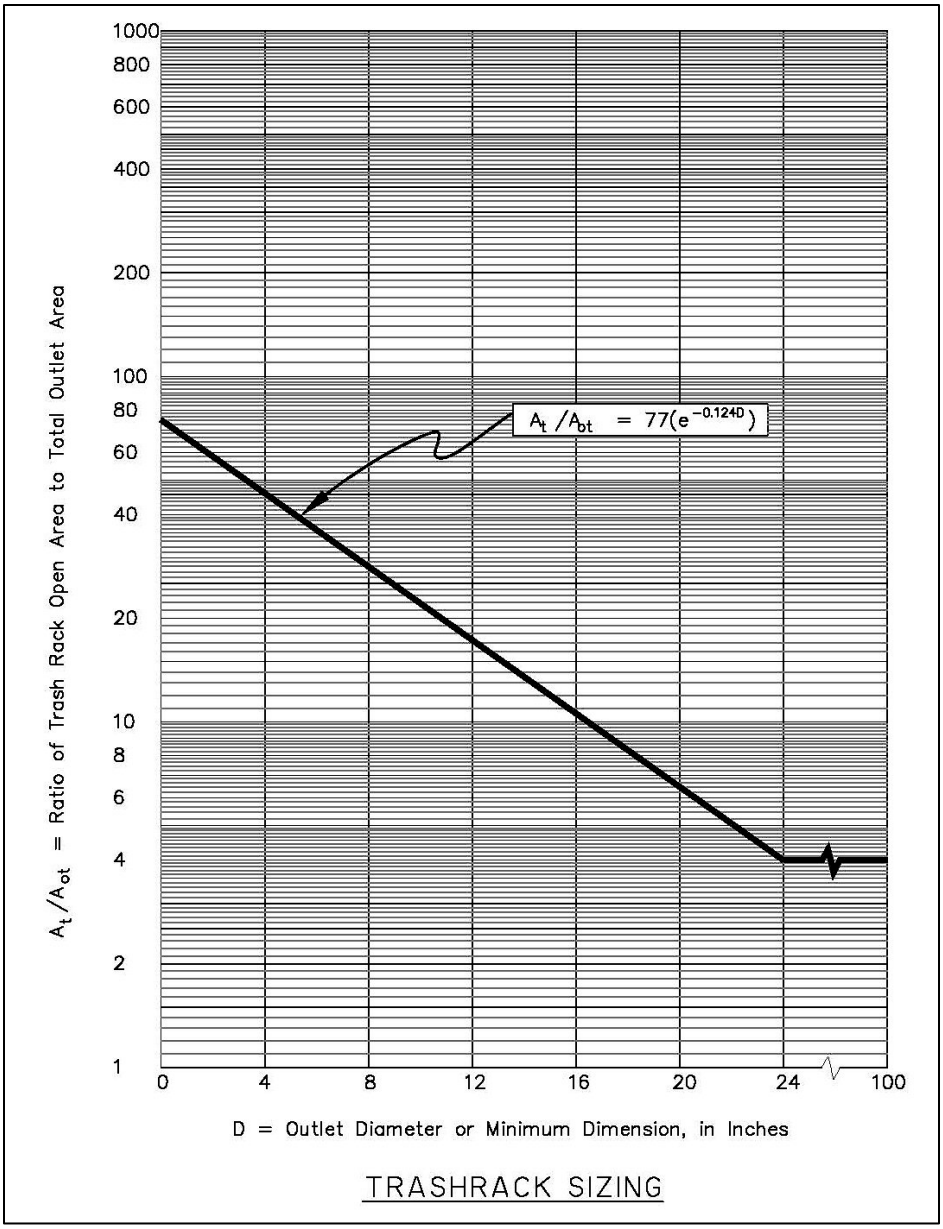


Figure 15. Trash Rack Sizing

## 14.6 Construction Considerations

## 14.7 As-Built Certification

Upon completion of the EDB, prior to final acceptance, an as-built certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following: To Be Determined

# 15.0 Extended Wet Detention Basin (Retention Pond)

## 15.1 Description

Photo 15. Extended wet detention basin.

Similar to an extended dry detention basin, an extended wet detention basin (also sometimes called a retention pond or wet pond) is designed to collect the runoff from smaller, more frequent rainfall events and release the runoff over a longer period of time. The design collects and treats the "first flush" runoff, which typically has a higher concentration of most pollutants found in urban runoff. Like an extended dry detention basin, an extended wet detention basin can be used for regional or on-site treatment or as follow-up treatment in series with other SCMs. Unlike an extended dry detention basin, an extended wet detention basin is designed with a permanent pool, which provides water quality benefits as the influent water mixes with the permanent pool water and most of the sediment deposits remain in the permanent pool zone. An extended wet detention basin provides a similar level (or better due to the permanent pool) of water quality treatment as compared to an extended dry detention basin, but in less time because the outflow occurs above the bottom of the basin and sedimentation continues after the captured surcharge volume is emptied.

An extended wet detention basin should be designed with the WQV above the permanent pool, and the outlet structure should be sized to drain the WQV in approximately 12 to 15 hours. The reduced drain time (when compared to the extended dry basin) is due to the permanent pool. Flood control volume may also be provided above the permanent pool by including modified outlet controls, a 100-year (minimum) overflow spillway and a minimum of 1 foot of freeboard above the 100-year water surface.

Extended wet detention basins can be very effective in removing pollutants and, when properly designed and maintained, can satisfy multiple objectives such as the creation of wildlife habitats; provision of recreational, aesthetic, and open space opportunities; and inclusion into a larger, regional flood control basin. An extended wet detention basin must be carefully designed and maintained to address safety concerns, bank erosion, sediment removal, and upstream and downstream impacts to waterways. In addition, extended wet detention basins have the potential for floating litter, debris, algae growth, nuisance odors, and mosquito problems. Aquatic plant growth can be a factor in clogging outlet works, and the permanent pool can attract waterfowl, which can add to the nutrient and bacteria loads entering and leaving the pond. Refer to Chapter 9, Detention and Chapter 12, Easements and Maintenance for additional design criteria.

## 15.2 Site Selection

Retention ponds require groundwater or a dry-weather base flow if the permanent pool elevation is to be maintained year-round. The designer should consider the overall water budget to ensure that the baseflow will exceed evaporation, evapotranspiration, and seepage losses (unless the pond is lined). High exfiltration rates can initially make it difficult to maintain a permanent pool in a new pond, but the bottom can eventually seal with fine sediment and become relatively impermeable over time. However, it is best to seal the bottom and the sides of a permanent pool if the pool is located on permeable soils and to leave the areas above the permanent pool unsealed to promote infiltration of the stormwater detained in the surcharge WQV. Studies show that retention ponds can cause an increase in temperature from influent to effluent. Retention ponds are discouraged upstream of receiving waters that are sensitive to increases in temperature (e.g., fish spawning or hatchery areas).

Use caution when placing this SCM in a basin where development will not be completed for an extended period, or where the potential for a chemical spill is higher than typical. When these conditions exists, it is critical to provide adequate containment and/or pretreatment of flows. In developing watersheds, frequent maintenance of the forebay may be necessary.

## 15.3 Design Considerations

The total basin volume of an extended wet detention basin facility consists of the permanent pool volume, the WQCV above the permanent pool and, if included, the flood control volume above the WQCV. Care should be taken to assess the complete water budget of the watershed accounting for runoff, baseflow, evaporation, evapotranspiration, seepage, and other losses to assure the permanent pool can be maintained.

Design considerations for an extended wet detention basin in addition to the considerations typically given to an extended dry detention basin include:

- Water balance calculations should be conducted to assure there is adequate flow to maintain a desirable permanent pool and provide adequate flushing through the basin.
- Edge treatments must be considered that will prevent bank erosion.
- To minimize the potential of algae growth, a minimum permanent pool depth of 6 feet must be provided. Other control methods including aeration or upstream SCMs may also be provided.
- Basin lining must be provided to ensure the basin is watertight and a permanent pool will be maintained. Karst features can make this difficult and expensive.
- The embankments must be carefully designed with keys and cutoff collars to prevent seepage and piping that can lead to loss of the permanent pool or dam failure.
- A shorter detention time of 12 to 15 hours may be used due to the inherent sedimentation that occurs in a wet basin.

## 15.4 Aesthetic Design

When an extended wet detention basin is designed with aesthetics in mind, it becomes an amenity of much greater value to a landowner. Softened and varied slopes, interspersed fields, planting

areas and wetlands can all be part of an EDB. The design should be aesthetic whether it is considered to be an architectural or naturalized basin. Architectural basins incorporate design borrowed or reflective of the surrounding architecture or urban forms. An architectural basin is intended to appear as part of the built environment, rather than hiding the cues that identify it as a stormwater structure. A naturalized basin is designed to appear as though it is a natural part of the landscape. The built environment, in contrast to the natural environment, does not typically contain the randomness of form inherent in nature. Constructed slopes typically remain consistent, as do slope transitions. Even dissipation structures are usually a hard form and have edges seldom seen in nature. If the EDB is to appear as though it is a natural part of the landscape, it is important to minimize shapes that provide visual cues indicating the presence of a drainage structure. The following are suggested methods for designing a naturalized basin.

## 15.5 Design Procedure and Criteria

The following steps outline the design procedure and criteria for an extended wet detention basin. Figure 7 shows a representative layout for an extended wet detention basin.

1. For large ponds, if the residence time for the permanent pool volume is 24 hours or greater during a 2-year storm event, the surcharge WQV is not required above the permanent pool. The residence time, $t$ (hr), is calculated by dividing the permanent pool volume, $V_p$ (ft$^3$), by the average inflow rate during a 2-year storm event, $Q_{2yr,\,avg}$ (cfs), as shown in the equation below. The 2-year average inflow rate must be calculated using the appropriate hydrologic analysis method presented in Chapter 5, Calculation of Runoff.

$$t = \frac{V_p}{Q_{2yr-avg} \cdot 3600}$$

2. If the residence time is less than 24 hours, the WQV shall be added above the permanent pool and shall be calculated using the method provided in Section 4.2 of this chapter. The WQV is the surcharge volume above the permanent pool. Generally, an extended wet detention basin should be located away from any offsite drainage crossing the site to ensure proper function. If offsite area is drained through the facility, that area must be included in all volume calculations.
3. The minimum volume required for the permanent pool is a function of the WQV and is calculated using the following equation.

   $V_p$ = 1.2*WQV

   The permanent pool shall have a depth of at least 6 feet (and preferably deeper) to decrease the likelihood of algae growth. An option to improve water quality treatment and minimize bank erosion is to provide a littoral zone 18 inches deep and 10 feet wide for aquatic plant growth along the perimeter of the permanent pool. This also enhances pond safety.

4. The outlet works are to be designed in accordance with requirements set forth in design procedure and criteria for an extended dry detention basin, with the following exceptions:
   a. Design the outlet works to release the WQCV over a 12- to 15-hour period.

   b. Where perforated riser pipes are not encased in gravel, only corrugated metal or ductile iron pipe may be used, and an anti-seep collar must be provided around the outlet.

5. The trash rack is to be designed in accordance with requirements set forth in design procedure and criteria for an extended dry detention basin.
6. The basin length to width ratio should be between 2:1 and 4:1. The minimum allowable ratio is 1:1. Maximizing the distance between the inlet and the outlet will minimize short-circuiting.
7. Basin side slopes above the permanent pool should be no steeper than 4:1, preferably 5:1 or flatter to limit rill erosion and facilitate maintenance and safety.
8. A 4- to 6-inch organic topsoil layer, vegetated with aquatic species, shall be provided on the littoral bench if incorporated.
9. Access to the basin bottom, forebay, and outlet area must be provided for maintenance vehicles. Grades of the access should not exceed 10 percent, and a stabilized, all-weather driving surface must be provided.
10. Provide erosion protection at all inlets to the pond.
11. A forebay should be considered when the design volume exceeds 20,000 $ft^3$ or a large sediment, trash or debris load is anticipated due to upstream land use. Forebays provide an opportunity for larger particles to settle out at a controlled location where sediment and debris can be more easily removed. Install a solid driving surface on the bottom and sides below the permanent water line to facilitate sediment removal. A berm consisting of rock and topsoil mixture should be part of the littoral bench to create the forebay. The forebay volume within the permanent pool volume should be between 5 and 10 percent of the design WQV.

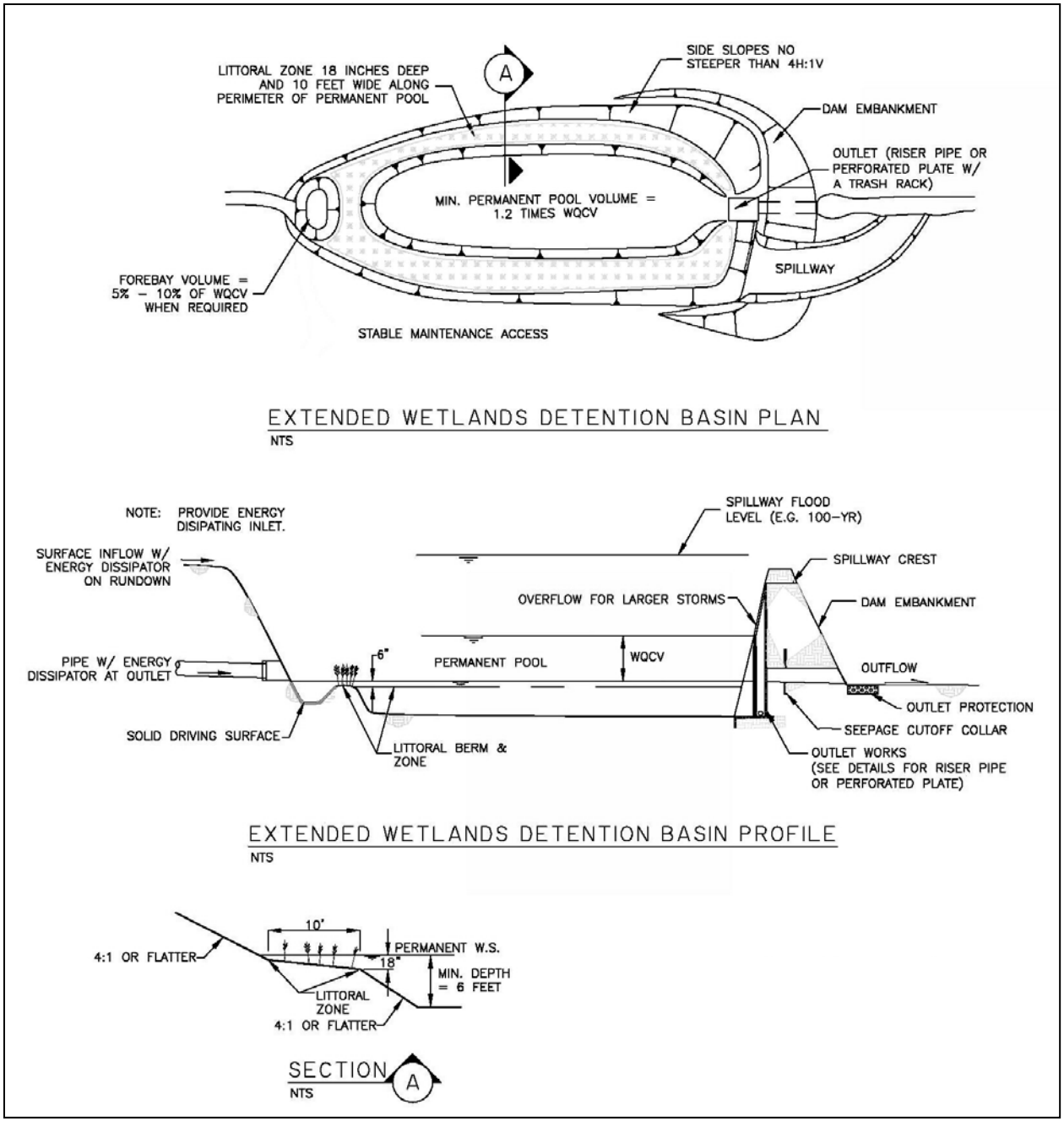


Figure 16. Extended Wet Detention Basin Plan and Profile

## 15.6 As-Built Certification

Upon completion of the extended wet detention basin, prior to final acceptance, an as-built certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following: To Be Determined

# 16.0 Constructed Wetland Pond

## 16.1 Description

A constructed wetland pond is a shallow extended wet detention basin that requires a perennial base flow to maintain microorganism habitat and to permit the growth of rushes, willows, cattails, and reeds to slow runoff and allow time for sedimentation, filtering, and biological uptake. Constructed wetlands differ from "natural" wetlands, as they are artificial and built to treat stormwater. Do not use existing or natural wetlands for stormwater treatment. Stormwater should be treated prior to entering natural or existing wetlands. Sometimes, small wetlands that exist along ephemeral drainageways can be enlarged and incorporated into a constructed wetland system. Such actions, however, require the approval of federal and state regulators.

Regulations intended to protect natural wetlands recognize a separate classification of wetlands constructed for water quality treatment. Such wetlands generally are not allowed to be used to mitigate the loss of natural wetlands but are allowed to be disturbed by maintenance activities. Therefore, the legal and regulatory status of maintaining a wetland constructed for the primary purpose of water quality enhancement is separate from the disturbance of a natural wetland. Nevertheless, any activity that disturbs a constructed wetland should be cleared through the U.S. Army Corps of Engineers as to whether a 404 permit is needed.

## 16.2 Site Selection

A constructed wetland pond requires a positive net influx of water to maintain vegetation and microorganisms. This can be supplied by groundwater or a perennial stream. An ephemeral stream will not provide adequate water to support a constructed wetland pond. It is best used as a follow-up SCM in a treatment train, although it can serve as a stand-alone facility. Constructed wetland ponds can also be designed for flood control in addition to capture and treatment of the WQV. Although constructed wetlands can provide an aesthetic onsite amenity, significant algae blooms can occur. The owner should maintain realistic expectations of aesthetics. Algae blooms may be reduced when SCMs that are effective in removing nutrients are placed upstream.

## 16.3 Design Considerations

When properly designed, a constructed wetland basin can offer several potential advantages, such as natural aesthetic qualities, wildlife habitat, erosion control, and pollutant removal. Additionally, the constructed wetland basin can act as part of a multi-use facility by providing flood control storage above the WQV pool or by providing effective follow-up treatment to onsite and source control SCMs that rely upon settling of larger sediment particles.

The primary drawback of the constructed wetlands basin is the need for a continuous base flow to ensure viable wetland growth. In addition, silt and algae can accumulate and, unless properly designed and built, can be flushed out during larger storms, reducing downstream water quality benefits. Also, in order to maintain healthy wetland growth, the surcharge depth for WQV above the permanent water surface cannot exceed roughly 2 feet.

Development and analysis of a water budget is needed to show the net inflow of water is sufficient to meet all the projected losses (such as evaporation, evapotranspiration, and seepage for each season of operation) and ensure a perennial baseflow. Insufficient inflow can cause the wetland to become saline or die.

Loamy soils are needed in a wetland bottom to permit plants to take root. Exfiltration through a wetland bottom cannot be relied upon because the bottom is either covered by soils of low permeability or because the groundwater is higher than the wetland's bottom. Also, wetland basins require a near zero longitudinal slope, which can be provided using embankments.

During design, consider maintenance access and a means for draining the pond for sediment removal. Along with vegetation management and other routine maintenance, occasional sediment removal will be required when sediment accumulations become too large and affect performance. This may be required whenever sediment accumulation occupies approximately 20 percent of the WQV. Periodic sediment removal is also needed for proper distribution of growth zones and water movement within the wetland.

## 16.4 Design Procedure and Criteria

The following steps outline the design procedure for a constructed wetland basin. Figure WQ-9 illustrates an idealized constructed wetland basin.

1. Calculate the WQV in cubic feet. The WQV is the surcharge volume above the permanent wetland pool.
2. The volume of the permanent wetland pool shall be no less than 75 percent of the WQV.
3. Proper distribution of wetland habitat is needed to establish a diverse plant community. Distribute pond area in accordance with Table 7.
4. The surcharge depth of the WQV above the permanent pool's water surface shall not exceed 2.0 feet.
5. The outlet works shall be designed in accordance with requirements set forth for extended dry detention basins, with the following exceptions:
    a. Design the outlet works to release the WQV in 22 to 28 hours.
    b. Where perforated riser pipes are not encased in gravel, only corrugated metal or ductile iron pipe may be used, and an anti-seep collar must be provided around the outlet pipe.
    c. Outlet design should consider the elevated potential for wetland vegetation growth and clogging around the outlet.
6. The trash rack shall be designed in accordance with requirements set forth for extended detention basins in Section 5.3.3.
7. Determine whether flood storage or other uses will be provided and design accordingly for combined uses.
8. The basin length to width ratio should be between 2:1 and 4:1. The minimum allowable ratio is 1:1. Maximizing the distance between the inlet and the outlet will minimize short-circuiting.

9. Basin side slopes should be no steeper than 4:1, preferably 5:1 or flatter to facilitate maintenance, safety and access.
10. A net influx of water must be available through a perennial base flow and must exceed the losses. A hydrologic balance should be used to estimate the net quantity of base flow available at a site.
11. Provide energy dissipation at all inlets to limit sediment re-suspension.
12. Forebay design considerations and criteria for extended wet detention basins in Section 5.4.3 shall be followed.
13. Cattails, sedges, reeds, and wetland grasses should be planted in the wetland bottom. Qualified professionals must be utilized to develop the planting plan and to plant the wetland plants. Berms and side-slopes should be planted with native or turf-forming grasses. Initial establishment of the wetland requires control of the water depth. After planting wetland species, the permanent wetland pool should be kept at 3 to 4 inches deep at the plant zones to allow growth and to help establish the plants, after which the pool should be raised to its final operating level.
14. Provide vehicle access to the forebay and outlet area for maintenance and removal of bottom sediments. Maximum grades should not exceed 10 percent, and a stabilized, all-weather driving surface must be provided.

**Table 13. Constructed Wetland Pond Design Depths**

| Components | % of Permanent Pool Surface Area | Water Design Depth |
|---|---|---|
| Forebay, outlet and free water surface areas | 30% to 50% | 2 to 4 feet deep |
| Wetland zones with emergent vegetation | 50% to 70% | 6 to 12 inches deep (1/3 to 1/2 of this zone should be 6 inches deep) |

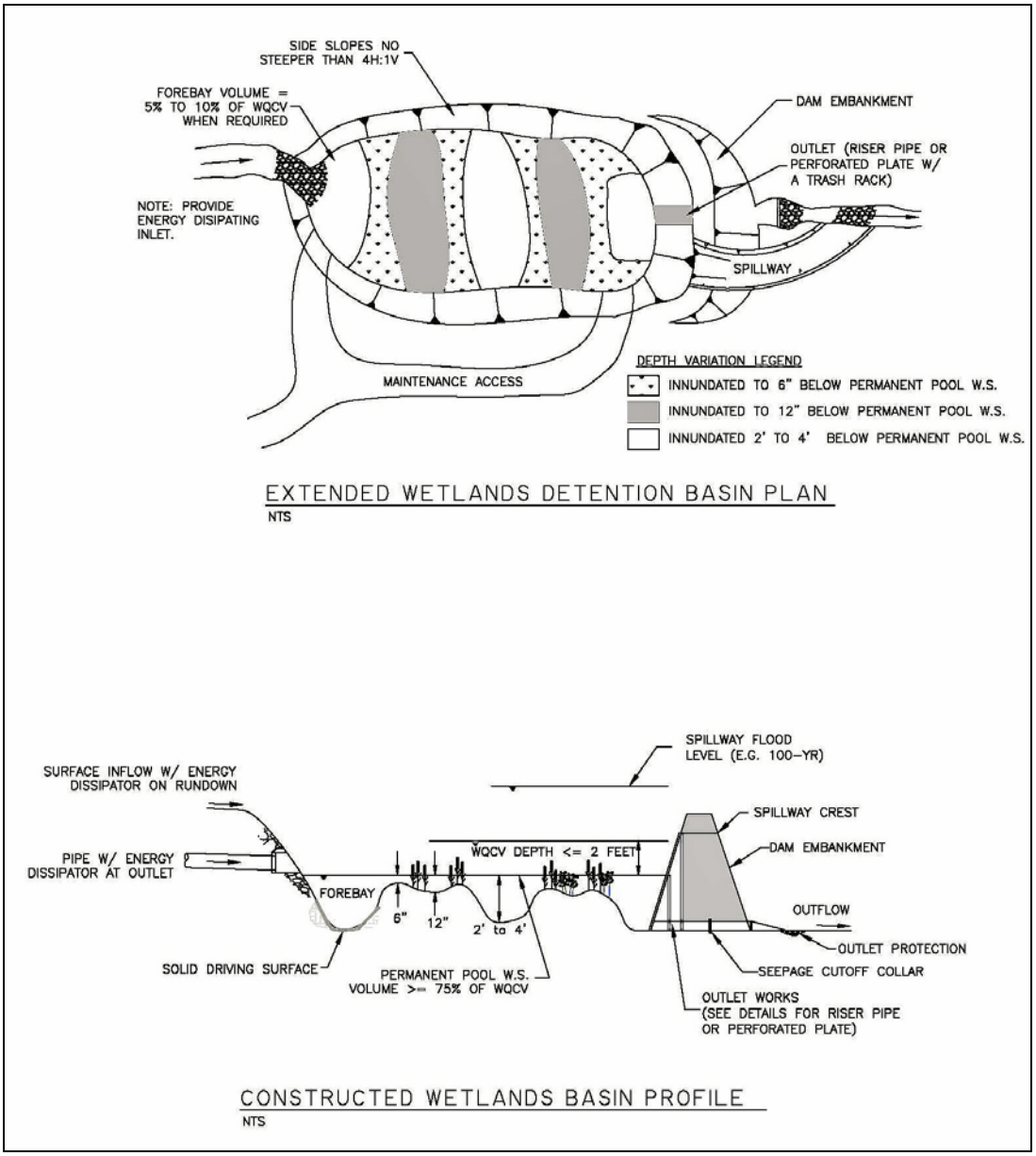


**Figure 17. Constructed Wetland Typical Drawings**

## 16.5 As-Built Certification

Upon completion of the green roof, prior to final acceptance, an as-built certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following: To Be Determined

# 17.0 Green Roof

## 17.1 Description

The term green roof refers to a roof partially or completely covered with vegetation underlain with an engineered growing medium, drainage and filter layers, and waterproofing. It provides stormwater volume reduction and flow attenuation benefits by capturing and temporarily storing rainfall before it is conveyed to the roof drainage system. A portion of the captured rainfall evaporates and is taken up by plants. Green roofs can also provide other benefits including extended roof life, increased insulation and energy savings, urban heat island reduction, and social benefits of increased green space.

There are two types of green roofs: extensive and intensive. Extensive green roofs have a shallow depth of growing medium, typically 3-6 inches thick, and are planted with sedums or other plants suitable for the limited root zone. Intensive green roofs have deeper growing medium, typically 6 inches to 4 feet thick, and a wider variety of plants that may include shrubs and trees. Green roofs can be modular trays that contain the necessary drainage layers, growing medium and plants, or each component can be installed separately. The additional weight loading of intensive green roofs may limit their application. Both types of green roofs are acceptable; however, because extensive green roofs are generally more common, this section predominantly focuses on extensive green roof design only. The design of a green roof involves many disciplines in addition to stormwater engineers, including structural engineers, architects, landscape architects, horticulturalists, and others. This section is intended to provide general green roof stormwater design criteria only. Designers should reference other resources for more comprehensive green roof design information, including but not limited to *Standard Guide for Vegetative (Green) Roof Systems* (ASTM, 2014). In addition to this standard guide, ASTM has issued several standards for specific green roof components. Green roof design should generally adhere to ASTM standards.

**Photo 16. Extensive green roof on employee balcony of Greene County Public Safety Center.**

**Photo 17. Extensive green roof on Greene County Public Safety Center.**

## 17.2 Site Selection

Green roofs can be installed on commercial or residential buildings or structures. They can be particularly well-suited for ultra urban areas where space is limited and where they be accessed for enjoyment by building tenants, customers, or employees.

**Photo 18. Intensive green roof on Green Circle Shopping Center (Source: Green Circle Shopping Center)**

## 17.3 Design Considerations

The growing medium, plant selection, and irrigation needs and methods are critical factors determining the long-term functionality of a green roof. They should be carefully designed to ensure establishment and minimize maintenance needs such as replanting vegetation. The following are additional considerations when designing a green roof (adapted from Metropolitan Nashville - Davidson County, 2012).

- **Roof Structural Capacity.** The roof must be designed to support the green roof system as well as loads associated with rainfall, snow, people, and equipment. Typically, the roof must be designed to support an additional 15 to 30 pounds per square foot for an extensive green roof. A structural engineer, architect or other qualified professional should be involved with all green roof designs to ensure that the building has adequate structural capacity to support the green roof. Structural capacity should conform to ASTM standards.
- **Roof Pitch.** The volume reduction and flow attenuation benefits of a green roof are maximized when the roof is relatively flat (a pitch of 1 to 2%). Some pitch is needed to promote positive drainage and prevent ponding and/or saturation of the growing medium. Green roofs can be installed on roofs with slopes up to 25% if baffles, grids, or strips are used to prevent slippage of the medium.
- **Access.** Adequate access to the roof must be available to deliver construction materials and perform routine inspections and maintenance. If an underdrain system is used, provide cleanouts as needed for inspection and maintenance. Access in the form of non-vegetated walkways should also be provided to allow for weeding and spot repairs of vegetation.
- **Building Codes.** The green roof design should comply with applicable City building codes.
- **Waterproofing.** Ensure that the waterproofing warranty for the roof will not be voided by a green roof application. A leak test is recommended following installation of the impermeable membrane.

## 17.4 Design Procedure and Criteria

The WQV shall be provided within the void space of the drainage layer and the growing medium. The drainage layer should be designed to convey the 10-year storm without backing water up into the growing medium. The void space shall be specified by the designer based on the materials selected. If using a proprietary green roof system, designers should consult with the manufacturer for design information and the design shall adhere to manufacturer's specifications. Designers may also design a non-proprietary green roof system in which case they should consult and follow design resources including but not limited to *Standard Guide for Vegetative (Green) Roof Systems*

(ASTM, 2014). Metropolitan Nashville - Davidson County's (2012) "GIP-12 Green Roof" document also contains good information and was referenced in developing this section.

Green roofs are composed of the following basic components which shall be addressed in the design:

- **Roof deck:** The roof deck provides the foundation for the green roof. Concrete decks are generally preferred but other decking materials can be used if appropriately designed. The potential for decking materials to leach metals or chemicals should be considered when choosing decking material.
- **Waterproofing layer**: A wide range of waterproofing materials can be used to prevent water from entering the building. The waterproofing layer must have an expected life span that meets or exceeds the expected life span of the green roof system.
- **Insulation layer (optional):** Green roofs may include an insulation layer that increases the energy efficiency of the building and/or protects the roof deck.
- **Root barrier (optional)**: Root barriers are sometimes used to protect the waterproof membrane from root penetration.
- **Drainage layer and system**: A layer of aggregate or a proprietary product is installed to remove excess water from the root zone. This drainage layer should convey flow to a roof drainage system. The roof drainage system should be designed to be kept free of debris and plant material. Roof drains immediately adjacent to the growing medium should be separated by a barrier such as perforated metal edging filled with gravel (Photo 5). A drainage barrier should also be used at the roof border with the parapet wall and for any joints where the roof is penetrated, or joins with vertical structures. The outlet can be controlled by an orifice or orifices located at one central location or at each roof drain and will be dictated by the overall drainage design.
- **Filter fabric**: A filter fabric is placed between the drainage layer and the growing medium to prevent migration of the growing medium from clogging the drainage layer.
- **Growing medium**: Growing medium is a key issue with regard to plant health, irrigation needs, and potential stormwater benefits. The recommended growing medium for extensive green roofs is composed of approximately 80-90% lightweight inorganic materials such as expanded slates, shales or clays, pumice, scoria or other similar materials. The remaining media should contain no more than 15% organic matter, normally well-aged compost. The percentage of organic matter should be limited to minimize leaching of nutrients and clogging of the filter fabric. The medium should have a maximum water retention capacity of around 30%.
- **Vegetation**: Succulents, grasses, perennials, and shrubs with relatively shallow root depths are possibilities for green roof plantings depending on whether the design is extensive or intensive. An experienced professional should be consulted for plant selection and design. Designers should order plants at least 6 months in advance to ensure supply or consider having plants contract-grown.
- **Irrigation**: The design should include a plan for irrigation during establishment, which generally takes 12 to 18 months. The design should also include a plan for long-term

supplemental irrigation as needed depending on species selection. Even vegetation with low water requirements may require supplemental irrigation.

**Photo 19. Separation of the roof drain from the growing media and plants using perforated metal edging and rock (Source: UDFCD, 2010).**

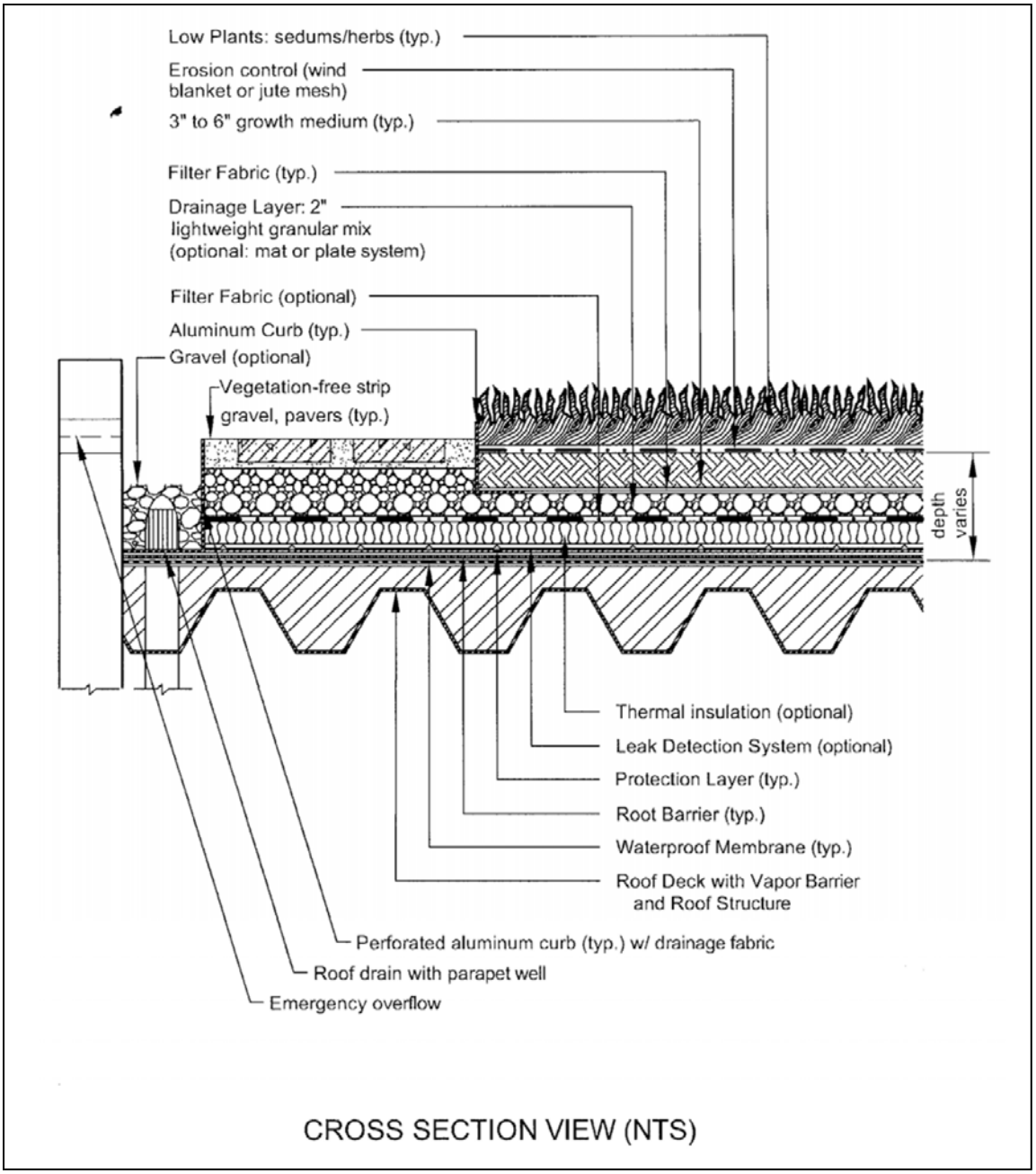


**Figure 18. Extensive Vegetated Roof Typical Section (Source: NVRC, 2007).**

## 17.5 Construction Considerations

The following should be considered during construction and plan notes provided as needed.

- Conduct a flood test to ensure the system is water tight by placing at least 2 inches of water over the membrane for 48 hours to confirm the integrity of the waterproofing system.
- Take care not to damage the waterproofing when adding other system components.

- The growing medium should be mixed prior to delivery to the site. It should be spread evenly over the filter fabric surface and covered until planting to prevent weeds from growing. Sheets of exterior grade plywood can be laid over the medium to accommodate foot and wheelbarrow traffic. Foot and equipment traffic should be limited to reduce compaction of the growing medium.
- The growing medium should be moistened prior to planting and the plants watershed immediately after installation and routinely during establishment.
- The construction contract should contain a warranty that specifies a 75% minimum survival after the first growing season and a minimum effective vegetative ground cover of 75% for flat roofs and 90% for pitched roofs.

## 17.6 As-Built Certification

Upon completion of the green roof, prior to final acceptance, an as-built plan and certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following:

1. Protection of vulnerable areas (abutting vertical walls, roof vent pipes, outlets, air conditions units and perimeter areas) from leakage;
2. Profile view of facility including typical cross-sections with dimensions;
3. Growing medium specification including dry and saturated weight;
4. Filter fabric specification;
5. Drainage layer specification;
6. Waterproof membrane specification, including root barriers;
7. Stormwater piping associated with the site, including pipe materials, sizes, invert elevations at bends and connections; and
8. Planting and irrigation plan.

# 18.0 Rainwater Harvesting

## 18.1 Description

Rainwater harvesting refers to the collection and storage of roof runoff in tanks, cisterns, or barrels for non-potable uses such as irrigation and toilet flushing. Storage tanks or cisterns can be aboveground or below ground. Rainwater harvesting provides stormwater volume reduction and flow attenuation benefits as well as conserving public drinking water supplies.

**Photo 20. Installation of underground cistern at the City Environmental Resource Center.**

## 18.2 Site Selection

Rainwater harvesting can be used for residential, commercial, and industrial applications where the system can be designed for automatic use or owners have adequate buy-in to ensure drawdown and use of the harvested water.

## 18.3 Design and Construction Considerations and Criteria

Rainwater harvesting shall be from roofs only, and for non-potable interior and exterior uses only. Rainwater harvesting systems for non-residential developments shall adhere to Section 707 Rainwater Collection and Distribution Systems of the International Green Construction Code, as adopted into the Plumbing Code in City Code Sec. 36-622(x). Residential rainwater harvesting systems shall adhere to City Code Sec. 36-1302(y). Designers should refer to Metropolitan Nashville - Davidson County's (2012) "GIP-11 Cistern" specification for additional design considerations and criteria. Where conflicts exist, City Code Sec. 36-622(x) and Sec. 36-1302(y) shall govern.

**Photo 21. Installation of underground cistern at the Missouri State University Pinegar Arena.**

## 18.4 As-Built Certification

Upon completion of the rainwater harvesting system, prior to final acceptance, an as-built plan and certification signed and sealed by the Missouri-registered Professional Engineer of Record shall be provided certifying the following:

1. Roof plan of the building that will be used to capture rainwater, showing slope direction and roof material.
2. Display downspout leaders from the rooftops being used to capture rainwater.
3. Display the storm drain pipe layout (pipes between building downspouts and the tank) in plan view, specifying materials, diameters, slopes and lengths, to be included on typical grading and utilities or storm sewer plan sheets.
4. Include a detail or note specifying the minimum size, shape configuration and slope of the gutter(s) that convey rainwater.

**Photo 22. Aboveground cistern at the Watershed Center at Valley Water Mill.**

## 19.0 Proprietary SCMs - To Be Determined

### 19.1 Description

### 19.2 Site Selection

### 19.3 Design Considerations

### 19.4 Design Procedure and Criteria

### 19.5 Construction Considerations

### 19.6 As-Built Certification

### 19.7 Maintenance

## 20.0 References

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Gmail

Barrett Fisk <barrettfisk@gmail.com>

# Fwd: TransactionDesk Document Sent from Trent Jackson

**Trent Jackson** <trent@athomehere.com>
To: Barrett Fisk <barrettfisk@gmail.com>

Fri, Sep 4, 2015 at 11:39 AM

Barrett,

Good morning. I wanted to give this another attempt and clarify a few things, just in case I left something out. I truly think that if you consider all the facts, you'll agree that we're being most reasonable and fair.

1. My client will begin construction on a substantial fence in the near future. It will cost significantly less than acquiring your property and once erected, the want or use for your .6ac will be gone.
2. My client has met your asking price of $75,000, which is at or above current market value for this property. The majority would agree it's above market value, given it's current condition and clear violations of the recent nuisance ordinance. He's additionally offered to let you keep the rental income until he begins construction. Several months. Another attempt at being reasonable.
3. I would advise considering this offer, as it is my belief that your property value, or at very least any marketability will go down once construction begins and there is a giant fence on one side of the property and a trailer park on the other. My client has advised me to tell you that his offer would also either go down or go away.
4. I wanted to make clear that it's our understanding that the only other party that could or would be interested in the property, Sam, does not want your property.
5. I also wanted to make clear that it's our understanding that unless you've seen a contract or a check in your neighbor's hand, you should consider the fact that Sam's offer was withdrawn on the property across the street. Moreover, though that parcel may be necessary to Sam's project, your parcel is NOT necessary for my client's project. Again, he's simply trying to make you a fair offer because it makes a lot of since for him to the Buyer and demand will be less once construction starts, if any for that parcel.

In summary, my client would like to extend one final offer:

- $75,000 (*You've already accepted $69k. We've upped it and added terms favorable to you. We're trying here and your reciprocation would be much appreciated.
- You can keep rental income until tenant vacates and construction begins (Spring 2016)
- I can help you find another property to exchange into if that helps
- He's willing to donate some free graphic art for one of your projects
- Can close very quickly

Thanks again for your time and consideration. Let me know if I can help.

Best,

[Quoted text hidden]

One-rdg. _____
P. Hrngs. _____
Pgs. 8
Filed: 07-19-16

Sponsored by: Hosmer

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016-181 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

APPROVING the plans and bid specifications, and accepting the bid of Crossland Heavy Contractors, Inc. for the Biosolids Treatment Improvements Project (Plan No. 2016PW0027s) at the Southwest Wastewater Treatment Plant, in the amount of $32,389,415.00; authorizing the City Manager, or his designee, to enter into a contract with such bidder; and approving a budget adjustment to amend the Fiscal Year 2016-2017 budget of the Environmental Services Department for the Clean Water Fund in the amount of 10 percent of the construction of this project ($3,200,000.00) to cover contingencies and construction management services for this project.

_____

WHEREAS, Crossland Heavy Contractors, Inc. is the lowest responsive and responsible bidder for the installation of Biosolids Treatment Improvements Project (Plan No. 2016PW0027s) at the Southwest Wastewater Treatment Plant (SWTP); and

WHEREAS, this project is to upgrade the digestion and sludge handling facilities at the SWTP (see “Exhibit A” for Project Principle Components), to meet the forecasted loading through 2031 and in doing so, increasing digestion capacity, gaining more effective stabilization of the biosolids, reducing biosolids related odors, and increasing biogas production; and

WHEREAS, this project will result in utilizing the additional free biogas fuel and once on-line, is projected to produce approximately 45 percent, and potentially up to 66 percent, of the current SWTP electrical needs, representing a major step toward energy efficiency and sustainability for the SWTP.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Council hereby approves the plans and specifications of the Biosolids Treatment Improvements Project (Plan No. 2016PW0027s), (see “Exhibit B” for location map).

Section 2 – The City Manager is authorized on behalf of the City of Springfield, Missouri, to accept the low bid of Crossland Heavy Contractors, Inc. for the Biosolids Treatment Improvements Project (Plan No. 2016PW0027s) at the SWTP, in the amount of $32,389,415.00, for that project as set forth in said bid, except as said sum may be lawfully increased or decreased by the actual quantities of work units involved, and is hereby authorized to enter into a contract with said bidder for such work in accordance with the terms of the bid, the plans, and the specifications and to do all things necessary to carry out the terms of the contract.

Section 3 – The budget of the Environmental Services Department, Clean Water Fund, for Fiscal Year 2016-2017 is hereby amended in the accounts and in the amounts as show on Budget Adjustment No. 0006, a copy of which is attached hereto and incorporated herein by reference as "Exhibit C."

Section 4 – The City Council hereby finds that the budget adjustment made above has been recommended by the City Manager.

Section 5 –The City Manager is directed to cause the appropriate accounting entries to be made in the books and records of the City.

Section 6 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: _____, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO. 2016-181**

FILED: 07-19-16

ORIGINATING DEPARTMENT: Environmental Services

PURPOSE: To approve the plans, bid specifications, and to accept the bid of Crossland Heavy Contractors, Inc. for the Biosolids Treatment Improvements Project (Plan No. 2016PW0027s) at the Southwest Wastewater Treatment Plant (SWTP), (see "Exhibit A," listing the principle components of the project and "Exhibit B," giving a project location map) and to authorize the City Manager, or his designee, to enter into a contract for said improvement. This Council bill will also approve a budget adjustment to amend the Fiscal Year 2016-2017 budget of the Environmental Services Department in the amount of $3,200,000 by appropriating fund balance reserves of the Clean Water Fund.

BACKGROUND:

1. The purpose of this project is to upgrade the digestion and sludge handling facilities at the SWTP to meet the forecasted loading through 2031 and in doing so, convert the existing single-stage anaerobic digestion process to a two-phase (acid/gas), three-stage digestion system resulting in increased digestion capacity, more effective stabilization of the biosolids, reduced biosolids related odors, and increased biogas production.

   In order to best utilize the additional free biogas fuel that the digesters generate, this project also includes the addition of two combined heat and power (CHP) generation systems which can produce up to 2.4 MW of electricity and 7.8 million BTUs per hour. Once on-line, this project is projected to produce about 45 percent of current SWTP electrical needs and can potentially produce up to 66 percent of the electrical needs, representing a major step forward in energy efficiency and sustainability for the City of Springfield and the surrounding area.

   In addition, this project includes rehabilitation of the existing digesters; improvements to the hauled waste unloading facility; diffuser replacements in the existing nitrification tanks; rehabilitation of aeration piping in the oxygenation and nitrification tanks; addition of sludge thickening equipment and upgrade of the associated polymer feed system; and conversion of existing decommissioned motor control center and ozone generator rooms to cafeteria/break room, conference/training room, offices and bathroom facilities.

2. The Biosolids Treatment Improvements project is included in the 2013-2018 Capital Improvements Program as Southwest Wastewater Treatment Plant Digester Improvements.

3. Plans, specifications, and a cost estimate have been prepared by Black & Veatch Corporation for Environmental Services and are on file in the Director's office.

4. The project was advertised in the *Daily Events* on May 17, 2016 through May 23, 2016 and the *Springfield News-Leader* on May 17, 2016 through May 23, 2016.

5. Bids were opened in the Busch Building on July 1st, 2016, at 10:00 a.m. The following bids were received:

| CONTRACTOR | BID AMOUNT |
|---|---|
| Crossland Heavy Contractors, Inc. | $32,389,415.00 |
| River City Construction, L.L.C. | 33,633,000.00 |
| Garney Companies, Inc. | 33,690,000.00 |
| Foley Company | 36,690,000.00 |
| Branco Enterprises, Inc. | 38,250,000.00 |
| | |
| Engineer's Estimate | $37,503,000.00 |

6. An evaluation of the bids was performed in accordance with the bid documents to determine the lowest qualified responsive bidder. This evaluation considered compliance with the specifications, contractor responsibility, qualifications, financial ability, proposed subcontractors, suppliers, and other individuals or entities to perform and furnish the work in accordance with the contract documents.

7. Crossland Heavy Contractors, Inc. submitted the lowest responsive bid, which was 13.6 percent below the Engineer's Estimate. Based on the above evaluation of the bid documents, qualifications, and Black & Veatch's recommendation, Environmental Services recommends awarding this project to Crossland Heavy Contractors, Inc. for $32,389,415.00.

8. This project is funded by the Special Obligation Bonds for Sewer System Improvement Projects authorized by Special Ordinance No. 26567 and passed by City Council on May 11, 2015. The 2015 Special Obligation Bonds are already budgeted. A budget adjustment of approximately 10 percent ($3,200,000) is required to cover contingencies and Construction Management Services for this project. Funds for the budget adjustment will come from fund balance reserves of the sanitary sewer system and is attached to this council bill.

9. This resolution supports the following Field Guide 2030 goal(s): Chapter 6, Growth Management and Land Use; Objective 5b, Maintain high water quality and increase water quantity by securing and improving water resources for future generations; and Objective 5c, Protect our caves and karst ecosystems which contain plants, animals, and natural communities that depend on the surrounding land and water to thrive and survive. Chapter 10, Public Health; Objective 5c, Ensure a clean and sustainable water supply.

REMARKS: Environmental Services recommends passage of this Council bill and budget adjustment.

Submitted by:

Errin Kemper
Assistant Director of Environmental Services

Recommended by:

Stephen Meyer
Director of Environmental Services

Approved by:

Greg Burris
City Manager

# Exhibit A

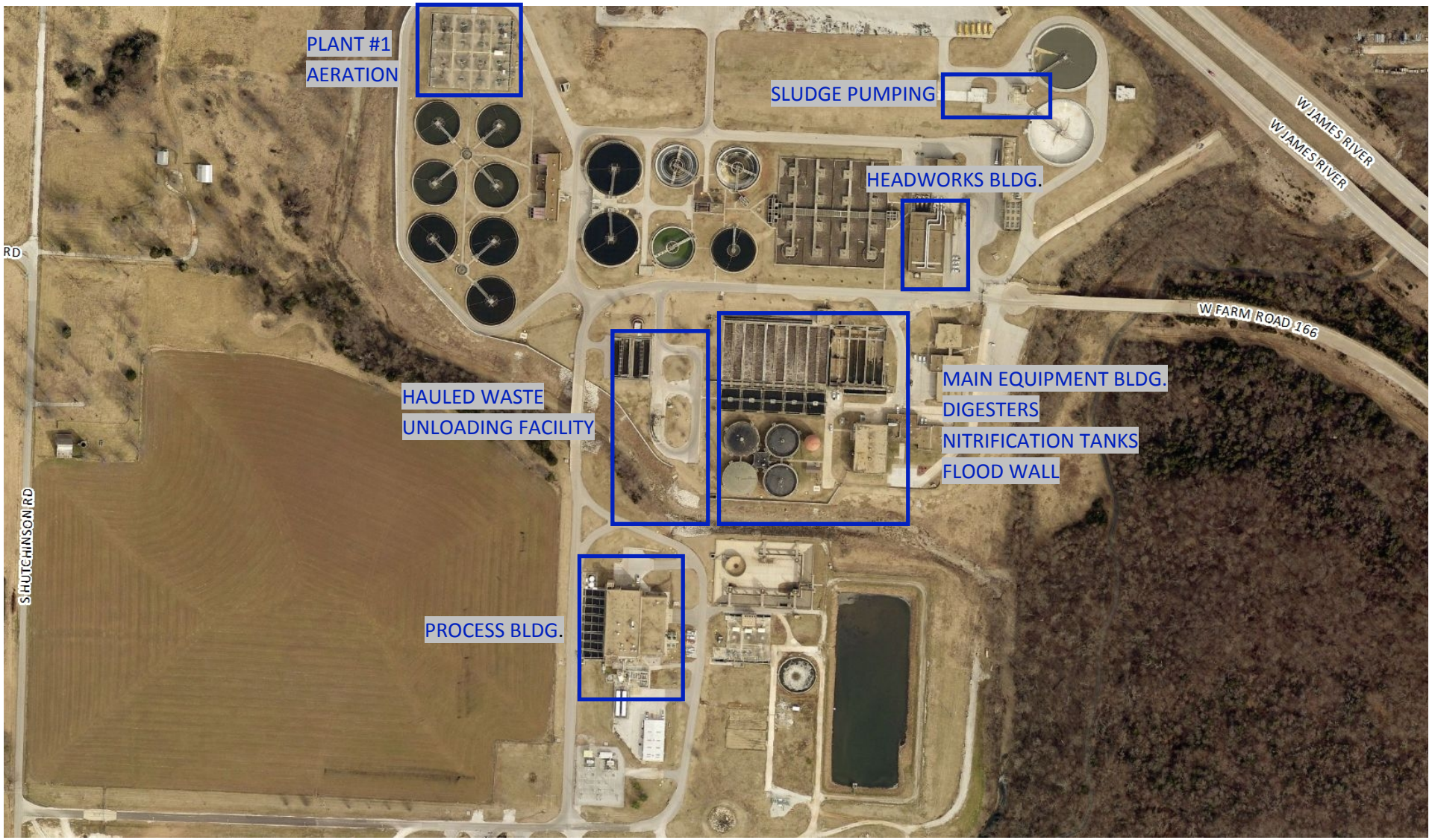
## Biosolids Treatment Improvement Project Principle Components

- A new acid phase digester with a fixed concrete dome (concrete digester tank constructed under prior project).
- A new gas phase digester with a fixed concrete dome (concrete digester tank constructed under prior project).
- Digester mixing and heating equipment for the two new digesters.
- New digester gas booster compressors, drying system, cleaning system including hydrogen sulfide and siloxane removal equipment installed outdoors near the existing digesters.
- Two new dual fuel (digester gas and/or natural gas) engine-generators with heat recovery located in the Main Equipment Building.
- Replacement of the existing engine-driven blower with gearless single-stage electric motor-driven (turbo) blower equipment to supply to process air to the nitrification tanks and channel air for mixing to the nitrification tank influent/effluent channels and oxygenation tank influent/effluent channels.
- Repair and modification to existing digester covers.
- Installation of all new digester gas piping between the existing digesters to the new gas treatment system, existing boilers, new dual fuel engine-generators and the new flare.
- Sludge piping modifications for the conversion to a three-stage system will be located in the lower level of the existing Digester Control Building.
- Modifications to the heating water system supplying sludge and building heating to incorporate heat recovery from the new cogeneration engine-generators.
- Installation of heating water pumps and temperature control valves for the existing sludge heat exchangers serving Digester Nos. 1, 2, 3 and 4.
- A new rotary drum thickener located in the existing Process Building.
- Rehabilitation or replacement of the existing polymer system with a new direct feed type polymer system located in the existing Process Building.
- Modifications to Digester No. 3 including the installation of a new gas membrane cover.
- The addition of a new Waste Unloading Facility (formerly Hauled Waste Unloading Facility).
- Replacement of influent sluice gates (tank nos. 3 and 7; two sluice gates per tank) and influent butterfly valves (tank nos. 1, 5, and 9) at the Nitrification Tanks.
- Replacement of the existing draft tube mixing systems in Digester Nos. 1, 2, and 4 with vertical linear motion mixers.
- Replacement of the nitrification tank diffusers and piping.
- Rehabilitation of the existing aeration piping in the nitrification tanks influent/effluent channels, oxygenation tanks influent/effluent channels, and final tanks influent channels.
- Modifications to the Process Building to convert the existing MCC Room to a cafeteria/breakroom and converting the existing Ozone Generator Room to a conference/training room, offices and bathroom facilities.
- Addition of a lifting point for maintenance of the grip pumps and maintenance cover for the influent screen channel at the Headworks Building.

**Exhibit B**

SOUTHWEST WASTEWATER TREATMENT PLANT

BIOSOLIDS TREATMENT IMPROVEMENTS PROJECT LOCATION




CITY OF Springfield

Plan #: 2016PW0027s

DISCLAIMER: All information included on this map or digital file is provided "as-is" for general information purposes only. The City of Springfield, and all other contributing data suppliers, make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability of the data for any particular use. Furthermore, the City of Springfield, and all other contributing data suppliers, assume no liability whatsoever associated with

CITY OF SPRINGFIELD, MO
BUDGET ADJUSTMENT

Exhibit C

BA Number 0006

Revenues:

| Fund | Dept | Org | Account | P&G | Location | Amount | Description |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| Net Revenue Adjustment | | | | | | - | |

Expenditures:

| Fund | Dept | Org | Account | P&G | Location | Amount | Description |
|---|---|---|---|---|---|---|---|
| 53020 | 08 | 33520 | 509110 | 102034 | 00000 | 3,200,000 | Biosolids Treatment Improvements at the Southwest Wastewater Treatment Plant |
| Net Expenditure Adjustment | | | | | | 3,200,000 | |

Fund Balance Appropriation:

| Fund | | Title | Amount |
|---|---|---|---|
| 53020 | 08 | Clean Water Improvement Fund | (3,200,000) |

Explanation: To appropriate reserves of the Clean Water Fund for partial funding of the Biosolids Treatment Improvements at the Southwest Wastewater Treatment Plant. Other funding is being provided by the 2015 Special Obligation Bonds for Sewer System Improvement Projects and is already budgeted.

Requested By:

Department Head Date

Approved By:

Director of Finance Date

City Manager Date

Authorization:

Council Bill No. _____
Ordinance No. _____
1st Reading _____
2nd Reading _____
Journal Imp No. _____

One-rdg._____
P. Hrngs. _____
Pgs. 4
Filed: 07-19-16

Sponsored by: Hosmer, Fisk, and Fishel

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016- 182 GENERAL ORDINANCE NO. _____

AN ORDINANCE

AMENDING the Springfield City Code, Chapter 2, Administration, Article VI, Finances, Division 2, Purchasing, Section 2-401, known as the Purchasing Manual, by amending Subsection 13-3.104.1.(D) to clarify the local preference provision and by deleting Subsections 13-3.105.2 and 13-3.105.3 to remove a conflicting local preference provision. (Plans and Policies Committee recommends approval.)

_____

BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

NOTE: Language being added is underlined and language being deleted is ~~stricken.~~

Section 1 – The Springfield City Code, Chapter 2, Administration, Article VI, Finances, Division 2, Purchasing, Section 2-401, Subsection 13-3.104.1.(D) is hereby amended as follows:

**13-3.104 REGULATIONS GOVERNING COMPETITIVE BIDDING**

1.(D) The City, whenever possible and practical, shall solicit bids and proposals from potential vendors within the Springfield Metropolitan Statistical ~~a~~Area (SMSA).

(1) Bids or proposals for procurements with federal funds shall comply with federal regulations for procurement, including the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards and shall not be subject to local preference requirements.

(2) **Commodities -** A commodity shall be defined as a non-specialized, non-customized mass produced good. In the event two or more bids or proposals to supply a commodity are equal in all evaluation criteria, including cost, such bids shall be awarded first to the bidder with offices within Springfield city limits, next to bidders within Greene County, next to bidders located in the adjacent counties,

then next to other Missouri bidders. If a tie bid situation still exists after the application of these criteria, then the bid shall be awarded by drawing lots or a flip of a coin. The City may also, unless the terms, conditions and specifications of the Invitation For Bid state to the contrary, elect to divide the contract award between two or more bidders, if it deems such action to be in its best interests, in the exercise of its sole discretion.

(3) **Non-commodities** - for procurements of non-commodities ~~T~~the City should take into account factors such as impact on the local economy, time of delivery, maintenance, other pertinent costs, and recommend firms with offices in the ~~Springfield~~ SMSA when their bids and proposals are substantially equal in cost, specifications, conditions and contractors' qualifications. A bid shall be substantially equal in cost if the differential for total cost is two percent or less. When a request for proposal is evaluated, the score given for the criteria of cost for potential vendors within the SMSA shall be increased by 10 percent of the total points possible for cost.

(4) Nothing in this section shall prohibit the City from evaluating bids and proposals on factors aside from the potential bidder's office location nor from rejecting non-responsive or non-responsible bids.

Section 2 – The Springfield City Code, Chapter 2, Administration, Article VI, Finances, Division 2, Purchasing, Section 2-401, Subsection 13-3.105 is hereby amended as follows:

**13-3.105 MISCELLANEOUS PURCHASING POLICIES**

1. **Small or Disadvantaged Businesses** - The City shall, whenever possible or practical, use small or disadvantaged businesses in the procurement process. Small business is defined as a business which is independently owned and which is not dominant in its field of operation or an affiliate or subsidiary of a business dominant in its field of operation. Disadvantaged business is defined as a small business which is owned or controlled by a majority of persons who have been deprived of the opportunity to develop and maintain a competitive position in the economy because of social disadvantages.

~~2. **Local Procurement** - The City shall, whenever possible and practical, solicit bids from potential vendors within the greater Springfield metropolitan area. After consideration of the effects of time of delivery, maintenance and repair services and other pertinent costs, it is determined that a bid received from a firm located in the greater Springfield area is substantially equal to or better than other bids received, award shall be made to the local firm.~~

~~3. **Tie Bids** - In the event two or more bids are equal in all evaluation criteria, such bids shall be awarded first to the bidder within Springfield city limits, next to bidders within Greene County, next to bidders located in the adjacent counties,~~

~~then next to other Missouri bidders. If a tie bid situation still exists after the application of these criteria, then the bid shall be awarded by drawing lots or a flip of a coin. The City may also, unless the terms, conditions and specifications of the Invitation For Bid state to the contrary, elect to divide the contract award between two or more bidders, if it deems such action to be in its best interests, in the exercise of its sole discretion.~~

~~4~~2. **Energy Efficient Purchasing** - Energy efficient purchasing shall be used by the City in procurement of items when it is in the best interest of the City. Energy efficient purchasing uses the principles of life cycle costing. If life cycle costing is to be used, it should be clearly stated on the Invitation to Bid so that bidders are aware of the evaluation process to be used.

Section 3 – Severability Clause. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have adopted the ordinance and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that any one or more sections, sentences, clauses, or phrases be declared invalid.

Section 4 – Savings Clause. Nothing in this ordinance shall be construed to affect any suit or proceeding now pending in any court or any rights acquired or liability incurred nor any cause or cause of action occurred or existing, under any act or ordinance repealed hereby. Nor shall any right or remedy of any character be lost, impaired, or affected by this ordinance.

Section 5 –This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: Rhonda Lewoade, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO. 2016 - 182**

FILED: 07-19-16

ORIGINATING DEPARTMENT: Law

PURPOSE: To amend the Springfield City Code, Chapter 2, Administration, Article VI, Finances, Division 2, Purchasing, Section 2-401, known as the Purchasing Manual, by amending subsection 13-3.104(D) to clarify the local preference provision and by deleting subsections 13-3.105(2) and (3) to remove a conflicting local preference provision.

BACKGROUND INFORMATION: The Plans and Policies Committee requested that City staff draft an ordinance to revise the local preference provision in the City's Purchasing Manual.

The revision would clarify that local preference cannot be used for procurements with federal funds due to a prohibition against local preference in federal regulations. The existing use of local preference as a tie-breaker when bids or proposals are equal in all evaluation criteria would continue for the procurement of commodities. "Substantially equal in cost" would be defined as a two percent or less difference in total cost for the purpose of evaluating bids of non-commodities, including construction contracts. The cost score for local vendors would be increased by 10 percent of the total points possible for the cost criteria when evaluating a request for proposal. Finally, a conflicting local preference provision in the Purchasing Manual would be deleted.

Submitted by:

Rhonda Lewsader

Rhonda Lewsader,
Assistant City Attorney

Recommended by:

Franklin Dan Romines II

Frank Romines, City Attorney

Approved by:

Collin Quigley

Collin Quigley, Assistant City Manager

One-rdg. _____
P. Hrngs. _____
Pgs. 4
Filed: 08-02-16

Sponsored by: Fisk

COUNCIL BILL NO. 2016- 185 RESOLUTION NO. _____

A RESOLUTION

ACCEPTING a gift of $5,000 to be presented by Guy Mace or his designee, to assist with promotional expenses of the 2016 Birthplace of Route 66 Festival.

_____

WHEREAS, City Charter Section 2.16(9) allows the City to receive by gift personal property for public and municipal uses or purposes; and

WHEREAS, the City of Springfield, Missouri, by and through the Department of Public Information, is to receive a donation from Guy Mace totaling $5,000, to help fund promotion of the 2016 Birthplace of Route 66 Festival in downtown Springfield.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City of Springfield accepts a donation from Guy Mace in the amount of $5,000 for the use of the Department of Public Information in promoting the 2016 Route 66 Festival.

Section 2 – The budget of the Public Information Office Department for Fiscal Year 2016-2017 is hereby amended in the amount as shown on Budget Adjustment No. 0007, a copy of which is attached hereto and incorporated herein by reference as "Exhibit A."

Section 3 – This resolution shall be effective immediately upon adoption.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Resolution _____

Approved as to form: _____, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-185**

FILED: 08-02-16

ORIGINATING DEPARTMENT: Public Information

PURPOSE: Acknowledging the Department of Public Information's acceptance of a donation in the amount of $5,000 to be used towards the cost of promoting the Birthplace of Route 66 Festival and amending the budget for Fiscal Year 2016-2017 in the amount of $5,000.

BACKGROUND INFORMATION: Guy Mace is a local car collector, businessman and philanthropist who recently opened the Route 66 Car Museum on West College Street. He is a supporter and participant in the annual Birthplace of Route 66 Festival. His generous donation will be used to help promote the festival.

REMARKS: A budget adjustment has been included in the council bill.

Submitted by:

Cora Scott, Director of Public Information

Approved by:

Greg Burris, City Manager

CITY OF SPRINGFIELD, MO
BUDGET ADJUSTMENT

Exhibit A

BA Number 0007

Revenues:

| Fund | Dept | Org | Account | P&G | Location | Amount | Description |
|---|---|---|---|---|---|---|---|
| 10110 | 19 | 20010 | 414070 | 000000 | 00000 | 5,000.00 | Donation - Guy Mace |
| Net Revenue Adjustment | | | | | | 5,000.00 | |

Expenditures:

| Fund | Dept | Org | Account | P&G | Location | Amount | Description |
|---|---|---|---|---|---|---|---|
| 10110 | 19 | 20010 | 501260 | 000000 | 00000 | 5,000.00 | Operating Supplies |
| Net Expenditure Adjustment | | | | | | 5,000.00 | |

Fund Balance Appropriation:

| Fund | | Title | Amount |
|---|---|---|---|
| | | | |

Explanation: To appropriate a donation for the Route 66 festival.

Requested By:

8/3/16

Department Head Date

Approved By:

8/3/16

Intirim Director of Finance Date

City Manager Date

Authorization:

Council Bill No. 2016-185

Ordinance No.

1st Reading

2nd Reading

Journal Imp No.

One-rdg. X
P. Hrngs. _____
Pgs. 10
Filed: 08-02-16

Sponsored by: Hosmer

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016- 186 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

AUTHORIZING the City Manager, or his designee, to enter into an agreement with the International Association of Chiefs of Police to provide a training program for the Springfield Police Department, and declaring an emergency pursuant to Charter Section 2.12(1).

_____

WHEREAS, the Springfield Police Department and the International Association of Chiefs of Police (IACP) wish to enter into an agreement for IACP to provide a training course titled, Leadership in Police Organizations (LPO).

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Manager, or his designee, is hereby authorized to enter into an agreement with the International Association of Chiefs of Police, said agreement to be in substantially the form as that document attached hereto and incorporated herein by reference as "Exhibit A."

Section 2 –The City Council hereby finds and declares that an emergency exists in that this ordinance relates to the preservation of the public health, safety, and morals pursuant to Sections 2.12 (1) of the City Charter in that the training further enhances the functions of the police department. Therefore, this ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: Amanda R. Callcut, Assistant City Attorney

Approved for Council action: Guy Burton, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016 - 186**

FILED: 08-02-16

ORIGINATING DEPARTMENT: Police

PURPOSE: To authorize the City Manager, or his designee, to enter into a contract with the International Association of Chiefs of Police to provide training for the Springfield Police Department, and declaring an emergency pursuant to Charter Section 2.12.

BACKGROUND INFORMATION: The International Association of Chiefs of Police (IACP) offers cutting edge training titled, Leadership in Police Organizations (LPO). The IACP offers this as a fifteen day course for thirty-six students. The Springfield Police Department (SPD) has filled twenty-eight seats with SPD staff. The LPO training is modeled after the training concept of dispersed leadership and delivers modern behavioral science concepts and theories tailored to law enforcement. The purpose of the LPO training program is to help police employees understand and apply behavioral science and leadership theories that affect human motivation, satisfaction, and performance in the achievement of organizational goals.

This bill qualifies as a one reading emergency pursuant to Charter Section 2.12(1) because it pertains to the immediate preservation of public peace, property, health, and safety in that it involves the training of the Springfield Police Department.

REMARKS: The cost of this training is $46,368.00. The cost of the LPO training for SPD personnel will be paid for out of POST funds and federal forfeiture funds. The training will be held at the Springfield Police Fire Training Center.

Submitted by:

Paul F. Williams, Chief of Police

Approved by:

Greg Burris, City Manager

Exhibit A

ORIGINAL

# CONTRACTUAL AGREEMENT BETWEEN THE INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE, INC. AND THE SPRINGFIELD POLICE DEPARTMENT

## AGREEMENT

This Agreement is entered into between the Springfield Police Department, with offices at 321 E. Chestnut Expressway, Springfield, Missouri 65802, hereinafter referred to as the "Agency," and the International Association of Chiefs of Police, Incorporated, with offices at 44 Canal Center Plaza, Suite 200, Alexandria, Virginia 22314, hereinafter referred to as the "Association."

# AGREEMENT

This Agreement is entered into between the Springfield Police Department, with offices at 321 E. Chestnut Expressway, Springfield, Missouri 65802 hereinafter referred to as the "Agency," and the International Association of Chiefs of Police, Incorporated, with offices at 44 Canal Center Plaza, Suite 200, Alexandria, Virginia 22314, hereinafter referred to as the "Association."

## WITNESSETH

1. The Agency and the Association, for and in consideration of the mutual covenants hereinafter set forth and the compensation to be paid to the Association as hereinafter specified, agree to the following:

2. Subject and Scope of Training Program. The Association will conduct a total of fifteen (15) days of training and instruction on the subject of leadership to a class composed of Agency law enforcement personnel. The Leadership in Police Organizations℠ (LPO) training will consist of three (3), five (5)-day sessions, with a maximum enrollment of thirty-six (36) students. The course of instruction will be presented on twelve (12) individual days, each day consisting of eight (8) hour instruction blocks, and three (3) individual Fridays, each day consisting of six (6) hour instruction blocks.

3. Dates of Training. The Association will conduct the LPO training August 22 – 26, September 19 – 23, and October 24 – 28, 2016. A one (1)-day LPO orientation will be on conducted on Wednesday, August 10, 2016

4. Facilities and Equipment. The training will be conducted at Springfield Training Academy 2622 West Battlefield Road, Springfield, Missouri 65802, at no cost to the Association. The Agency will provide, at no cost to the Association, the necessary audio-visual and specialized equipment to conduct the proposed training.

5. Finalizing Planning. The Association will provide a list of instructors and a finalized class schedule within thirty (30) days of the day this Agreement is received by the Association, after execution by the Agency. In the event a given instructor is not available for any reason, the Association will substitute an alternative instructor of comparable knowledge, experience, credentials, and competence. The unavailability of a particular instructor shall not be grounds to terminate this Agreement.

6. Number of Participants. The Association will provide instruction and training materials, excluding text books, for a maximum of thirty-six (36) participants. Text books shall be purchased by the Agency, directly from the publisher, at the Agency's expense. The Agency will provide to the Association a complete roster of students and their contact information no later than Friday, August 25, 2016.

7. Evaluation of Training. The Association shall administer a student critique at the conclusion of each training week to be filled out by the students and returned to the Association within five (5) days of the end of each week of training.

8. Program Cancellation and or Rescheduling. Should it become necessary for the Agency to cancel this training for any reason, said cancellation must take place no later than thirty (30) days prior to the scheduled start date of the contract training. Should cancellation become necessary beyond this date, a ten percent (10%) cancellation fee will be assessed to the Agency. If, no later than thirty (30) days prior to the scheduled start date, the Agency requests the Association to reschedule the training, then the Association will make a good faith effort to find alternative dates, but provides no guarantee that rescheduling may be possible. If the class is rescheduled through mutual agreement of the parties, the Agency agrees to pay all costs associated with the rescheduling to include: airfare, hotel rebooking,

cancellation fees, and Association administrative support hours (not to exceed $3,000.00), associated with the rescheduling of instructors and changes to the travel arrangements.

9. Association as an Independent Contractor. In all matters pertaining to this Agreement, the Association shall be acting as an independent contractor, and neither the Association, nor any officer, employee, nor agent of the Association will be deemed an employee of the Agency. The selection of the personnel of the Association, or as designated by the Association in the performance of this Agreement, shall be made by the Association.

10. Non-Discrimination. The Association shall not, in the performance of this Agreement, discriminate against any person because of that person's age, race, color, sex, sexual orientation, national origin, disability, or religion. The Agency agrees to notify the Association of the names of any students who will require accommodations due to a disability. Such notification shall occur no later than fourteen (14) days prior to the start of the training.

11. Time and Manner of Payment. The Agency and the Association agree that the Association shall be paid the sum of $46,368.00. The Agency shall provide to the Association a list of students and invoicing procedures for each student no later than one (1) week prior to the start of training. The Association will invoice each student's agency for their participation. Any payment not made by a student's agency within sixty (60) days of the conclusion of the training course, currently scheduled to conclude, shall be made by the Agency within sixty (60) days of receipt of invoice from the Association. This sum total due includes reimbursement to the Association for instructor's fees, travel, transportation, lodging, training materials, certificates, and administrative staff hours. No costs are included for student travel, transportation, lodging, meals, or text books.

12. Integration. This instrument embodies the whole Agreement of the parties. There are no promises, terms, conditions, or obligations other than those contained herein. This Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties hereto.

13. Severability. It is understood and agreed to by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provisions held to be illegal.

14. Modification. There may be no modification of this Agreement, except in writing, signed by both parties, and executed with the same formalities as this Agreement.

15. Time of Acceptance. The terms of this Agreement are subject to acceptance by the Agency within fifteen (15) working days of the date of execution by the Association. Failure to execute this Agreement by the Agency within said fifteen (15) days will void this Agreement, unless said fifteen (15)-day period is extended by mutual consent of the Agency and Association and made a part of this Agreement. Any extension of said fifteen (15)-day period is effective only if it is in writing, signed by both parties, and executed with the same formalities as this Agreement.

16. Solicitation. For the term of this Agreement and for a period of twelve (12) months after its cancellation, expiration, or termination, the Agency agrees that it will not attempt to solicit, hire, engage, accept services from, or otherwise employ, whether for pay or otherwise, and whether as an employee, independent contractor, or otherwise, the instructor(s) presenting the program that is the subject-matter of this Agreement for the

purposes of presenting programs and/or instruction offered by the Association. If the Agency breaches this clause, and the Association institutes any action to enforce it, then the twelve (12)-month period shall begin from the date the court, or other authority, issues its order enforcing this clause.

17. Signatures. The signatories on behalf of the Association and the Agency are that they represent and act on behalf of their respective parties and that each is acting in reliance upon this representation in the execution of this Agreement.

18. Jurisdiction. This agreement and every question arising hereunder shall be construed or determined according to the laws of the State of Missouri. Should any part of this agreement be litigated, venue shall be proper only in the Circuit Court of Greene County, Missouri.

IN WITNESS WHEREOF, the Agency causes this Agreement to be executed by the proper officers on this _____ day of _____, 2016.

Springfield Police Department

By: _____

IN WITNESS WHEREOF, the Association has caused this Agreement to be executed by the proper officer on this _____ day of _____, 2016.

International Association of Chiefs of Police, Inc.

By: _____
Gwenneth M. Boniface
Deputy Executive Director

One-rdg. _____
P. Hrngs. _____
Pgs. 13
Filed: 08-02-16

Sponsored by: Ferguson

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016- 187 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

APPROVING the plans and specifications for the Homeland Subdivision Pacific Street and Hillcrest Avenue–Colgate Avenue to Thoman Street project, and to accept the bid of Hamilton and Dad Inc., for that project; and authorizing the City Manager, or his designee, to enter into a contract with such bidder.

_____

WHEREAS, Hamilton and Dad Inc., is the lowest responsive and responsible bidder for the Homeland Subdivision Pacific Street and Hillcrest Avenue–Colgate Avenue to Thoman Street project Plan No. 2014PW0061W.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Council hereby approves the plans and specifications of the Homeland Subdivision Pacific Street and Hillcrest Avenue–Colgate Avenue to Thoman Street project Plan No. 2014PW0061W, and accepts the bid of Hamilton and Dad Inc., for that project at the price and sum set forth in said bid, except as said sum may be lawfully increased or decreased by the actual quantities of work units involved. The City Manager, or his designee, is hereby authorized to enter into a contract with said bidder for such work in accordance with the terms of the bid, the plans, and the specifications, said agreement to be in substantially the form as that document attached hereto and incorporated herein by reference as "Exhibit A."

Section 2 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: Amanda R. Callaway, Assistant City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-187**

FILED: 08-02-16

ORIGINATING DEPARTMENT: Public Works

PURPOSE: Approving plans and specifications for the Homeland Subdivision Pacific Street and Hillcrest Avenue – Colgate Avenue to Thoman Street project, and to accept the bid of Hamilton and Dad Inc., for that project (Plan No. 2014PW0061W); and authorizing the City Manager, or his designee, to enter into a contract with such bidder.

BACKGROUND INFORMATION: This project will provide stormwater and sidewalk improvements to Pacific Street and Hillcrest Avenue which includes constructing a 2.5 foot high by 6 foot wide underground concrete box culvert along the north side of Pacific Street from Colgate Avenue to Hillcrest Avenue (see "Exhibit B and Exhibit C"). A 30–inch diameter underground concrete pipe is proposed to be constructed along the east side of Hillcrest Avenue from Pacific Street north to Thoman Street. There will also be several 2 foot x 2 foot grate inlets installed in yards which will capture surface drainage and connect underground to the box culvert and concrete pipe. New sidewalks that are compliant with the Americans with Disability Act (ADA) will be constructed above the concrete box along the north side of Pacific Street and above the concrete pipe along the east side of Hillcrest Avenue. The project will reduce flooding in the neighborhood while also improving public safety for pedestrians.

Bids were solicited for this project by advertising in the Daily Events from June 28, 2016 through July 2, 2016. Bids were opened on June 19, 2016 at 10:30 a.m., with the following bids received:

| Contractor | Bid Amount |
|---|---|
| Hamilton and Dad, Inc. | $508,329.30 |
| Hartman and Company Inc. | $599,265.00 |
| Woody's Express Trucking LLC | $649,930.75 |
| D & E Plumbing and Heating Inc. | $758,270.20 |
| Emery Sapp & Sons Inc. | $843,743.00 |
| L & B Services LLC | $1,446,686.00 |
| | |
| Engineer's Estimate | $658,055.50 |

Based on bid pricing, City Utilities will reimburse the City $114,660.25, resulting in a net cost to the City of $393,669.05. The low bid, if accepted, will be funded from the 1/4-Cent Capital Improvement Sales Tax ($393,669.05) from funds previously budgeted for stormwater improvements.

Supports the following Field Guide 2030 goal(s): Chapter 3, Economic Development; Major Goal 3, Plan for and develop infrastructure needed for sustainable, quality growth; Objective 3a, Prioritize key infrastructure improvements needed to facilitate private

investment. Chapter 6, Growth Management and Land Use; Major Goal 1, Promote better collaboration between regional and local governing bodies; Objective 1a, Promote better collaboration and strategic planning between City of Springfield, Greene County and surrounding municipalities to foster a higher level of partnership and communication with all public entities. Chapter 10, Public Health; Major Goal 5, Develop and ensure safe and healthy environments both indoors and outdoors; Objective 5b, Promote and encourage connectivity between parks, trails, bus routes, residential, and commercial areas.

REMARKS: Public Works recommends acceptance of the bid of Hamilton and Dad, Inc., as the lowest responsible bid and passage of this ordinance.

Submitted by:

_____

Kirk Juranas, Assistant Director of Public Works

Recommended by:

_____

Dan Smith, Director of Public Works

Approved by:

_____

Greg Burris, City Manager

Exhibit A

| ROUTING ORDER | (1) ORIGINATING DEPARTMENT | (2) CONTRACTOR | (3) FINANCE DEPARTMENT |
|---|---|---|---|
| | (4) LAW DEPARTMENT | (5) CITY MANAGER'S OFFICE | (6) CITY CLERK'S OFFICE |
| **EFFECTIVE DATE** | **TERMINATION DATE** | **CONTRACT NUMBER:** | |

| **CITY** | **CONTRACTOR** |
|---|---|
| **CITY OF SPRINGFIELD** | **NAME:** |
| **840 BOONVILLE, P.O. BOX 8368** | **ADDRESS:** |
| **SPRINGFIELD, MO 65802** | |
| **PHONE: (417) 864- FAX: (417) 864-** | **PHONE:** |
| **ATTN:** | **FAX:** |
| **DEPT.: PUBLIC WORKS** | **ATTN:** |

## AGREEMENT

**THIS AGREEMENT**, made and entered into this ____ day of _____, 20____, by the parties identified above.

**WITNESSETH**: That whereas, the Contractor has become the lowest responsible bidder for furnishing the supervision, labor, tools, equipment, materials and supplies and for constructing the following City improvements:

Stormwater Improvements Homeland Subdivision Pacific and Hillcrest - Colgate to Thoman
File No. 2014PW0061W

The City and Contractor agree to the following:

**1. Manner and Time for Completion**. The Contractor will furnish all supervision, labor, tools, equipment, materials and supplies necessary to perform, and to perform said work at Contractor's own expense in accordance with the contract documents and any applicable City ordinances and state and federal laws within 150 calendar days from the date Contractor is ordered to proceed, which order shall be issued by the Director of Public Works within 30 days after the date of this contract.

**2. Prevailing Wages**. All labor utilized in the construction of the aforementioned improvements shall be paid a wage of no less than the "prevailing hourly rate of wages" for work of a similar character in this locality, as established and amended at any time by the Department of Labor and Industrial Relations of the State of Missouri. At any time the contractor is found to not have paid prevailing wages, the contractor shall forfeit as a penalty to the city one hundred dollars for each underpaid worker employed, for each calendar day, or portion thereof such worker is paid less than the said stipulated rates for any work done under this contract.

**3. Insurance Requirements**. Without limiting any of the other obligations or liabilities of the Contractor, the Contractor shall secure and maintain at its own cost and expense, throughout the duration of this Contract and until the work is completed and accepted by the City of Springfield, City Utilities of Springfield, and the Board of Utilities, insurance of such types and in such amounts as may be necessary to protect it and the interests of the City of Springfield, City Utilities of Springfield, and the Board of Utilities, against all hazards or risks of loss as hereunder specified or which may arise out of the performance of the Contract Documents. The form and limits of such insurance, together with the underwriter thereof in each case, are subject to approval by the City of Springfield, City Utilities of Springfield, and the Board of Utilities. Regardless of such approval, it shall be the responsibility of the contractor to maintain adequate insurance coverage at all times during the term of the Contract. Failure of the Contractor to maintain coverage shall not relieve it of any contractual responsibility or obligation or liability in general or under the Contract Documents.

The certificates of insurance, including evidence of the required endorsements hereunder or the policies, shall be filed with the City within ten (10) days after the date of the receipt of Notice of Award of the Contract to the Contractor and prior to the start of work. All insurance policies shall require that the insurance company in question provide thirty (30) days written notice prior to modification or cancellation of such insurance. Such notices shall be mailed, certified mail, return receipt requested, to:

City of Springfield - Public Works, P.O. Box 8368, Springfield, MO 65801-8368; and

City Utilities of Springfield, P.O. Box 551, Springfield, MO 65801

Such policies shall name the City as an additional insured, with limits of liability not less than the sovereign immunity limits for Missouri public entities calculated by the Missouri Department of Insurance as of January 1 each calendar year and published annually in the Missouri Register pursuant to Section 537.610, RSMo.
(See, http://insurance.mo.gov/industry/sovimmunity.php)

As of January 1, 2015, the minimum coverage for the insurance referred to herein shall be as set out below:

**a. Workers' Compensation….**Statutory coverage per RSMo 287.010 et seq
**Employer's Liability…….** $1,000,000.00

**b. Commercial General Liability Insurance**, including coverage for Premises, Operations, Products and Completed Operations, Contractual Liability, Broad Form Property Damage, Independent Contractors, Explosion, Collapse, and Underground Property Damage and endorsed for blasting if blasting required. Such coverage shall apply to bodily injury and property damage on an "Occurrence Form Basis" with limits of at least Two Million Seven Hundred Thirty-Four Thousand Five Hundred Sixty-Seven and no/100 Dollars ($2,734,567.00) for all claims arising out of a single accident or occurrence and at least Four Hundred Ten Thousand One Hundred Eighty-Five and no/100 Dollars ($410,185.00) with respect to injuries and/or death of any one person in a single occurrence and an amount not less than at least $1,000,000 for all claims to property arising out of a single occurrence and at least $100,000 to any one owner with respect to damages to property. Contractor agrees that the proceeds of such insurance policy shall first be used to pay any award, damages, costs, and/or attorneys' fees incurred by or assessed against City, its employees, officers and agents, before payment of any award, damages, costs or attorneys fees of Contractor, its employees, officers or agents. Contractor agrees to cause its insurer to name City as an additional insured on such insurance policy, including the City as an additional insured for coverage under its products-completed operations hazard, and said policy shall be primary and noncontributory. Aggregate Limit must apply on a Per Project basis, and the endorsement must accompany the certificate of insurance. A Waiver of Subrogation endorsement must be provided by contractor in favor of the City**.**

**c. Automobile Liability Insurance** covering bodily injury and property damage for owned, non-owned and hired vehicles, with limits of at least Two Million Seven Hundred Thirty-Four Thousand Five Hundred Sixty-Seven and no/100 Dollars ($2,734,567.00) for all claims arising out of a single accident or occurrence and at least Four Hundred Ten Thousand One Hundred Eighty-Five and no/100 Dollars ($410,185.00) with respect to injuries and/or death of any one person in a single accident or occurrence.

**d. Subcontracts**. In case any or all of this work is sublet, the Contractor shall require the subcontractor to procure and maintain all insurance required in subparagraphs (a), (b) and (c) hereof and in like amounts. Contractor shall require any and all subcontractors with whom it enters into a contract to perform work on this project to protect the City of Springfield, City Utilities of Springfield, Missouri, and the Board of Utilities through insurance against applicable hazards or risks and shall, upon request of the City, provide evidence of such insurance.

**e. Notice**. The Contractor and/or subcontractor shall furnish the City prior to beginning the work, the policy as specified in subparagraph (d), and satisfactory proof of carriage of all the insurance required by this contract, with the provision that policies shall not be canceled, modified or non-renewed without thirty (30) days written notice to the City of Springfield.

**f. Legislative or Judicial Changes.** In the event the scope or extent of the City's tort liability as a governmental entity as described in Section 537.600 through 537.650 RSMo is broadened or increased during the term of this agreement by legislative or judicial action, the City may require Contractor, upon 10 days written notice, to execute a contract addendum whereby the Contractor agrees to provide, at a price not exceeding Contractor's actual increased premium cost, additional liability insurance coverage as the City may require to protect the City from increased tort liability exposure as the result of such legislative or judicial

action. Any such additional insurance coverage shall be evidenced by an appropriate certificate of insurance and shall take effect within the time set forth in the addendum.

**4. Performance, Labor, and Materials Payment Bond:** The Contractor shall furnish a Performance Bond and a Labor and Materials Payment Bond with surety approved by the City and on the forms approved by the City, each bond shall be in the amount of $_____ (full amount of contract) conditioned upon the full and faithful performance of all major terms and conditions of this contract and payment of all labor and material suppliers. It is further mutually agreed between the parties hereto that if at any time after the execution of this agreement and the surety bond(s) hereto attached for its faithful performance and payment of labor and material suppliers, the City shall deem the surety or sureties upon such bond(s) to be unsatisfactory, or if, for any reason, such bond(s) ceases to be adequate to cover the performance of the work, the Contractor shall, at its expense, within five (5) days after the receipt of notice from the City to do so, furnish an additional bond or bonds, in such form and amount, and with such surety or sureties as shall be satisfactory to the City. In such event no further payment to the Contractor shall be deemed to be due under this contract until such new or additional security for the faithful performance of the work and the payment of labor and material suppliers shall be furnished in a manner and form satisfactory to the City. The corporate surety on any performance or payment bond must be licensed by the State of Missouri and if the required bond exceeds $25,000.00 must be listed in United States Treasury Circular 570.

**5. Contractor's responsibility for subcontractors**. The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for the acts and omissions of persons it directly employs. Contractor shall cause appropriate provisions to be inserted in all subcontracts relating to this work, to bind all subcontractors to Contractor by all the terms herein set forth, and insofar as applicable to the work of subcontractors and to give Contractor the same power regarding termination of any subcontract as the City may exercise over Contractor under any provisions of this contract. Nothing contained in this contract shall create any contractual relation between the subcontractor and the City or between any subcontractors.

**6. General Independent Contractor Clause**. This agreement does not create an employee/employer relationship between the parties. It is the parties' intention that the Contractor will be an independent contractor and not the City's employee for all purposes, including, but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, Missouri Revenue and Taxation laws, Missouri Workers' Compensation and Unemployment Insurance laws. The Contractor will retain sole and absolute discretion in the judgment of the manner and means of carrying out the Contractor's activities and responsibilities hereunder. The Contractor agrees that it is a separate and independent enterprise from the public employer, that it has a full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. This agreement shall not be construed as creating any joint employment relationship between the Contractor and the City, and the City will not be liable for any obligation incurred by the Contractor, including but not limited to unpaid minimum wages and/or overtime premiums.

**7. Liquidated Damages**. Time of completion of work by the Contractor is of the essence. Should Contractor, or in the case of default, the surety, fail to substantially complete the work within the time specified in the contract, or within such extra time as may be allowed, Contractor (or surety) shall be liable to the City in the amount of $500 per day for each and every calendar day that the contract remains uncompleted after the time allowed for substantial completion, as liquidated damages, and not as a penalty, it being stipulated that actual damages to the City and the public arising from Contractor’s failure to timely complete the work would be difficult, if not impossible, to ascertain. The amount assessed as liquidated damages may be withheld from any moneys otherwise due to Contractor from the City. The project is not considered complete until final acceptance by the City. After substantial completion, liquidated damages for failure to complete the remaining work shall be in the amount specified in the General Conditions, unless an amount is provided in the Job Special Provision, in which case, the Job Special Provision amount will apply.

**8. Termination for Cause**. The City reserves the right to terminate this contract by giving at least five (5) days prior written notice to the Contractor, without prejudice to any other rights or remedies of the City should the Contractor be adjudged a bankrupt, or if Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed for Contractor or for any of its property, or if Contractor should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or proper material, or if Contractor should refuse or fail to make prompt payment to any person supplying labor or materials for the work under the contract, or persistently disregard instructions of the City or fail to observe or perform any provisions of the contract.

**9. City's Right to Proceed**. In the event this contract is terminated pursuant to Paragraph 8, then the City may take over the work and prosecute the same to completion, by contract or otherwise, and Contractor and its sureties shall be liable to the City for any costs over the amount of this contract thereby occasioned by the City. In any such case, the City may take possession of, and utilize in completing the work, such materials, appliances and structures as may be on the work site and are necessary for completion of the work. The foregoing provisions are in addition to, and not in limitation of, the rights of the City under any other provisions of the contract, city ordinances, and state and federal laws.

**10. Termination for Convenience of City**. The City shall have the right at anytime by written notice to Contractor to terminate and cancel this contract, without cause, for the convenience of the City, and Contractor shall immediately stop work. In such event City shall not be liable to Contractor except for payment for actual work performed prior to such notice in an amount proportionate to the completed contract price and for the actual costs of preparations made by Contractor for the performance of the cancelled portions of the contract, including a reasonable allowance of profit applicable to the actual work performed and such preparations. Anticipatory profits and consequential damages shall not be recoverable by Contractor.

**11. Guards and Lights**. The Contractor agrees that during the performance of said work, adequate barricades, guards and warning signs, lights or devices consistent with the requirements contained in the Manual on Uniform Traffic Control Devices shall be provided by Contractor during construction.

**12. Liability and Indemnity**.

**a.** In no event shall the City be liable to the Contractor for special, indirect, or consequential damages, except those caused by the City's gross negligence or willful or wanton misconduct arising out of or in any way connected with a breach of this contract. The maximum liability of the City shall be limited to the amount of money to be paid or received by the City under this contract.

**b.** The Contractor shall defend, indemnify and save harmless the City, its elected or appointed officials, agents and employees from and against any and all liability, suits, damages, costs (including attorney fees), losses, outlays and expenses from claims in any manner caused by, or allegedly caused by, or arising out of, or connected with, this contract, or the work or any subcontract thereunder (the Contractor hereby assuming full responsibility for relations with subcontractors), including, but not limited to, claims for personal injuries, death, property damage, or for damages from the award of this contract to Contractor, notwithstanding any possible negligence, whether sole or concurrent, on the part of the City, its officials, agents and employees.

**c.** The Contractor shall indemnify and hold the City harmless from all wages or overtime compensation due any employees in rendering services pursuant to this agreement or any subcontract, including payment of reasonable attorneys' fees and costs in the defense of any claim made under the Fair Labor Standards Act, the Missouri Prevailing Wage Law or any other federal or state law.

**d.** The indemnification obligations of Contractor hereunder shall not be limited by any limitations as to the amount or type of damages, compensation or benefits payable by or for the Contractor, under any federal or state law, to any person asserting the claim against City, its elected or appointed officials, agents and employees, for which indemnification is sought.

**e.** The indemnification obligations herein shall not negate, abridge or reduce in any way any additional indemnification rights of the City, its elected or appointed officials, agents and employees, which are otherwise available under statute, or in law or equity.

**f.** Contractor affirms that it has had the opportunity to recover the costs of the liability insurance required in this agreement in its contract price. Contractor's obligation under this agreement to defend, indemnify, and hold harmless any person from that person's own negligence or wrongdoing is limited to the coverage and limits of the applicable insurance required of the Contractor under this agreement.

**g**. The Contractor shall indemnify and hold the City harmless for any penalties, fines, fees or costs, including costs of defense, which are charged or assessed by any Federal, state or local agency including, but not limited to, Environmental Protection Agency or Department of Natural Resources.

**13. Payment for Labor and Materials**. The Contractor agrees and binds itself to pay for all labor done, and for all the materials used in the construction of the work to be completed pursuant to this contract.

**14. Payment**. The City will pay the Contractor in accordance with the rate set forth in the contract documents on file in the Public Works Department and by this reference made a part hereof, which shall constitute full and complete compensation for the Contractor's work provided hereunder. It is expressly understood that in no event will the total compensation and reimbursement to be paid to the Contractor under the terms of this contract exceed the sum of **XXXX Dollars and No Cents ($X,XXX.00)** unless specifically and mutually agreed to in writing by both the City and the Contractor. No partial payment to the Contractor shall operate as approval of acceptance of work done or materials furnished hereunder. Such compensation will be paid in progress payments (less five (5) percent retainage), as established by the City, subject to receipt of a requisition for payment and a statement of work provided by the Contractor and agreement by both the City and the Contractor that the Contractor has fully performed the work to be paid for in such progress payments in conformance with the contract.

**15. Contract Documents**. The contract documents shall consist of the following:

- **a.** This Contract
- **b.** All Change Orders
- **c.** Bid Plans and Specifications
- **d.** City of Springfield Standard General Conditions and Technical Specifications for Public Works Construction (07-01-13 Revised Edition)
- **e.** Special Conditions & Provisions
- **f.** Proposal
- **g.** Statement of Bidder's Qualifications
- **h.** Acknowledgment
- **i.** Performance Bond
- **h.** Payment and Material Bond
- **k.** Instructions to Bidders
- **l.** Non-collusion Affidavit
- **m.** Notice to Proceed

This contract, together with the other documents enumerated in this paragraph, forms the contract between the parties. These documents are as fully a part of the contract as if attached hereto or repeated herein.

**16. Subsurface Conditions**. Contractor agrees that information contained in the published reports and public actions of the Missouri Division of Geology and Land Survey shall be conclusive and binding upon the Contractor as to what subsurface conditions at the job site are reasonably anticipated or reasonably foreseeable.

**17. Conflict of Interest**. In accepting this contract, Contractor certifies that no member or officer of its firm or corporation is an officer or employee of the City of Springfield, Missouri, or any of its boards or agencies, and further that no officer or employee of the City has any financial interest, direct or indirect, in this contract. All applicable federal regulations and provisions of RSMo Section 105.450 et seq. shall not be violated.

**18. Assignment.** The Contractor shall not assign any interest in this contract, and shall not transfer any interest in the same (whether by assignment or novation), without prior written consent of the City thereto, provided, however, that claims for money due or to become due to the Contractor from the City under this Contract may be assigned to a bank, trust company, or other financial institution without such approval. Notice of such assignment or transfer shall be furnished in writing promptly to the City and the bond surety. Any such assignment is expressly subject to all rights and remedies of the City under this agreement, including the right to change or delete activities from the Contract or to terminate the same as provided herein, and no such assignment shall require the City to give any notice to any such assignee of any actions which the City may take under this agreement.

**19. Nondiscrimination**. The Contractor agrees in the performance of this contract not to discriminate on the ground or because of race, creed, color, national origin or ancestry, sex, religion, handicap, age, status as a protected veteran or status as a qualified individual with a disability, or political opinion or affiliation, against any employee of Contractor or applicant for employment and shall include a similar provision in all subcontracts let or awarded hereunder. The parties hereby incorporate the

requirements of 41 C.F.R. §§ 60-1.4(a)(7), 29 C.F.R. Part 471, Appendix A to Subpart A, 41 C.F.R. § 60-300.5(a) and 41 C.F.R. § 60-741.5(a), if applicable.

**a. This contractor and subcontractor shall abide by the requirements of 41 C.F.R. § 60-300.5(a). This regulation prohibits discriminations against qualified protected veterans, and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified protected veterans.**

**b. This contractor and subcontractor shall abide by the requirements of 41 C.F.R. § 60-741.5(a). This regulation prohibits discrimination against qualified individuals on the basis of disability, and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified individuals with disabilities.**

**20. Nonresident/Foreign Contractors**. The Contractor shall procure and maintain during the life of this contract:

**a.** If the Contractor is a foreign corporation, a certificate of authority to transact business in the State of Missouri from the Secretary of State, unless exempt pursuant to the provisions of Section 351.570 RSMo.

**b.** A certificate from the Missouri Director of Revenue evidencing compliance with the transient employer financial assurance law, unless exempt pursuant to the provisions of Section 285.230 RSMo.

**21. Notices**. All notices required or permitted hereinunder and required to be in writing may be given by FAX or by first class mail addressed to City and Contractor at the addresses shown above. The date of delivery of any notice given by mail shall be the date falling on the second full day after the day of its mailing. The date of delivery of notice by FAX transmission shall be deemed to be the date transmission occurs, except where the transmission is not completed by 5:00 p.m. on a regular business day at the terminal of the receiving party, in which case the date of delivery shall be deemed to fall on the next regular business day for the receiving party.

**22. Occupational License**: The Contractor shall obtain and maintain an occupational license with the City of Springfield, Missouri, if required by city code and any required state or federal license. The cost for this occupational license shall be borne by the Contractor. No contract will be executed by the City until this occupational license has been obtained and that the Contractor is current on any City taxes is verified.

**23. Safety Training.** Pursuant to Missouri Revised Statute Section 292.675, Contractors and subcontractors who sign a contract to work on public works projects must provide a 10-hour OSHA construction safety program, or similar program approved by the Department of Labor and Industrial Relations, to be completed by their on-site employees within sixty (60) days of beginning work on the construction project. The Contractor shall provide an acceptable notarized affidavit stating that Contractor has verified the completion of a 10-hour construction safety program with respect to the employees working in connection with the contracted services. Contractors and subcontractors in violation of this provision will forfeit to the public body $2,500 plus $100 a day for each employee who is employed without training. Public bodies and contractors may withhold assess penalties from the payment due to those contractors and subcontractors. The penalties shall not begin to accrue until the time periods in the statute have elapsed (60 days after notice to proceed and 20 days to produce documentation for employee found in violation).

**24. Affidavit for Contracts Over $5,000.00**. That pursuant to Missouri Revised Statute Sections 285.525 through 285.550, if this contract exceeds the amount of $5,000.00 and Contractor is associated with a business entity, Contractor shall provide an acceptable notarized affidavit stating that the associated business entity is enrolled in and participates in a federal work authorization program with respect to the employees working in connection with the contracted services, and that said business entity does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. Additionally, Contractor must provide documentation for said business entity evidencing current enrollment in a federal work authorization program.

**25. Compliance with Laws.** Contractor agrees to comply with all applicable federal, state and local laws or rules and regulations applicable to the provision of services and products hereunder. Contractor affirmatively states that payment of all local, state, and federal taxes and assessments owed by Contractor is current.

**26. Entire Agreement**. This agreement contains the entire agreement of the parties. No modification, amendment, or waiver of any of the provisions of this agreement shall be effective unless in writing specifically referring hereto, and signed by both parties.

**27. Jurisdiction**. This agreement and every question arising hereunder shall be construed or determined according to the laws of the State of Missouri. Should any part of this agreement be adjudicated, venue shall be proper only in the Circuit Court of Greene County, Missouri.

**IN WITNESS WHEREOF,** the parties hereto have set their hands and seals on the day and year herein stated.

**RECOMMENDED BY:**

_____
Dan Smith, Director of Public Works

**CERTIFICATE OF DIRECTOR OF FINANCE**

I certify that the expenditure contemplated by this document is within the purpose of the appropriation to which it is to be charged and that there is an unencumbered balance of appropriated and available funds to pay therefor.

_____
Mary Mannix-Decker, Director of Finance

**APPROVED AS TO FORM**

_____
Amanda Callaway, Assistant City Attorney

**CONTRACTOR**:

By: _____

Printed Name: _____

Title: _____

**CITY OF SPRINGFIELD, MISSOURI**

By: _____
Collin Quigley, Assistant City Manager

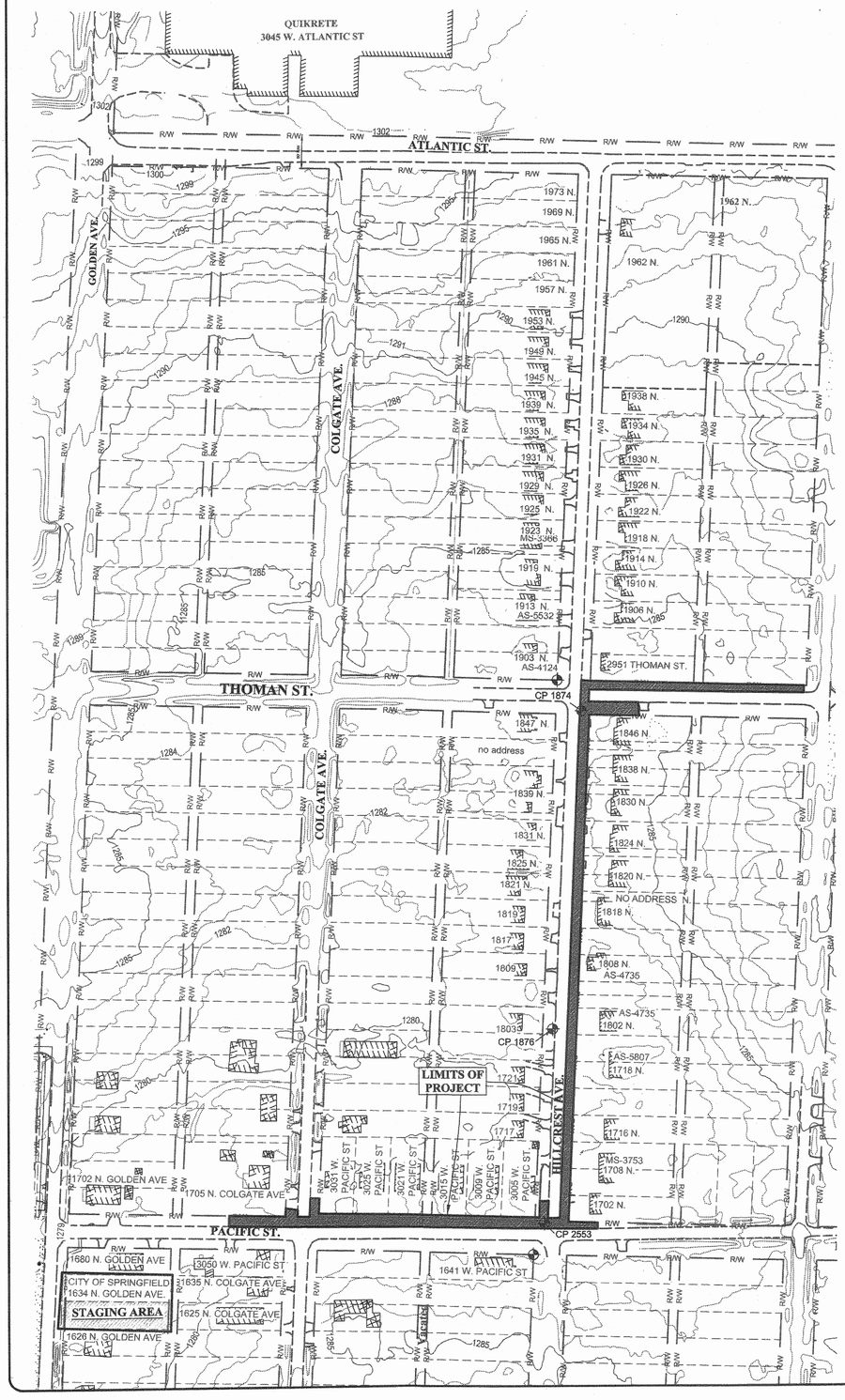
**Exhibit B**

# STORMWATER IMPROVEMENTS

# HOMELAND SUBDIVISION

## Pacific and Hillcrest - Colgate to Thoman St.

### CITY OF SPRINGFIELD, GREENE COUNTY, MISSOURI




0' 100' 200'

SCALE 1"= 100'

**BASIS OF BEARINGS**
GRID NORTH AS ESTABLISHED BY THE MISSOURI COORDINATE SYSTEM OF 1983, CENTRAL ZONE.

**BENCHMARKS**

BASED ON THE 1988 BENCH MARK DATUM
DNR MONUMENT #GR-42
DNR STANDARD MONUMENT AT WEST MOUNT VERNON ST. IN FRONT OF THE CHRIST UNITED METHODIST CHURCH.
ELEV. 1235.98

DNR MONUMENT #GR-43
DNR STANDARD MONUMENT AT BUSINESS LOOP 44 AND FARM ROAD 115
ELEV. 1289.15

**CONTROL POINTS**

EXISTING IRON PIN - 124D
SOUTHWEST CORNER OF THE INTERSECTION OF PACIFIC ST. AND COLGATE AVE.
ELEV. 1280.29

EXISTING IRON PIN
NORTHWEST CORNER OF THE INTERSECTION OF HILLCREST AVE. AND THOMAN ST.
ELEV. 1283.13

**ADDITION CONTROL POINTS**

CP 1874
SOUTHEAST OF THE INTERSECTION OF HILLCREST AVE. AND THOMAN ST.
ELEV. 1283.59

CP 1876
POINT IN FRONT OF 1803 N. HILLCREST AVE.
ELEV. 1280.64

CP 2553
NORTHWEST OF THE INTERSECTION OF HILLCREST AVE. AND PACIFIC ST.
ELEV. 1281.79

**PROJECT CONTACTS:**

PROJECT REPRESENTATIVE:
CITY OF SPRINGFIELD
DEPARTMENT OF PUBLIC WORKS
840 BOONVILLE
SPRINGFIELD, MO 65801

CHRIS DUNNAWAY, P.E.
cdunnaway@springfieldmo.gov
(417) 864-1876

CITY SANITARY SEWER
BRIAN OLLER
(417) 864-1152

TELEPHONE:
AT&T
600 E. ST. LOUIS, RM. 630
SPRINGFIELD, MO 65801

JOE CRIM
JC600A@ATT.COM
(417) 836-2651

CENTURYLINK
BOBBY KENNEDY
(417) 860-4526

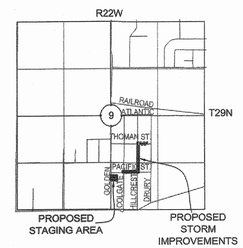
GAS & WATER:
CITY UTILITIES
P.O. BOX 551
SPRINGFIELD, MO 65801

ALLEN CAPPS
Allen.Capps@cityutilities.net
(417) 831-8729

ELECTRIC:
CITY UTILITIES
P.O. BOX 551
SPRINGFIELD, MO 65801

PARKER FOWLER
Parker.Fowler@cityutilities.net
(417) 831-8995

CABLE:
MEDIACOM
1533 S. ENTERPRISE
SPRINGFIELD, MO 65804
GREG HARRELL
(417) 875-5500




**LOCATION MAP**
SCALE = 1" = 2000'

CITY of SPRINGFIELD

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST REVISION OF THE "CITY OF SPRINGFIELD, MISSOURI: GENERAL CONDITIONS, TECHNICAL SPECIFICATIONS FOR PUBLIC IMPROVEMENTS."
2. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
3. THE DUTY OF THE ENGINEER OR OWNER TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON, OR NEAR THE PROJECT SITE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL NECESSARY PERMITS ARE IN PLACE PRIOR TO COMMENCING WORK.
5. EXISTING UNDERGROUND INSTALLATIONS SUCH AS WATER MAINS, GAS MAINS, SEWERS, TELEPHONE LINES, POWER LINES, AND BURIED STRUCTURES IN THE VICINITY OF THE WORK TO BE DONE HEREUNDER ARE INDICATED ON THE DRAWINGS ONLY TO THE EXTENT SUCH INFORMATION HAS BEEN MADE AVAILABLE TO OR DISCOVERED BY THE ENGINEER IN PREPARING THE DRAWINGS. THERE IS NO GUARANTEE AS TO THE ACCURACY AND COMPLETENESS THEREOF IS EXPRESSLY DISCLAIMED.
6. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING HORIZONTAL AND VERTICAL LINES, SERVICE CONNECTIONS, AND GRADES OF EXISTING UTILITIES IN ADVANCE OF EXCAVATING OR TRENCHING PRIOR TO THE CONSTRUCTION OF IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF A DISCREPANCY BETWEEN THE CONTRACT DRAWING AND ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL USE HIS OWN INFORMATION AND NOT RELY UPON ANY INFORMATION SHOWN ON THE DRAWINGS CONCERNING EXISTING UNDERGROUND INSTALLATIONS.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CORRECT ANY DAMAGE TO UNDERGROUND UTILITIES OR OTHER FACILITIES, WHICH IS CAUSED BY HIS OR HER OPERATIONS. FOR UTILITY LOCATIONS CALL: "MISSOURI ONE-CALL SYSTEM" AT 1-800-334-7483. ANY DELAY, ADDITIONAL WORK, OR EXTRA COST TO THE CONTRACTOR CAUSED BY, OR RESULTING FROM, DAMAGE TO EXISTING UNDERGROUND INSTALLATIONS SHALL NOT CONSTITUTE A CLAIM FOR EXTRA WORK.
8. ALL TRENCHES WHICH LIE UNDER PROPOSED PAVEMENT OR LIE WITHIN TWO FEET OF THE BACK OF CURB SHALL BE BACKFILLED TO PAVEMENT SUB GRADE WITH COMPACTED GRANULAR MATERIAL.
9. FOR TESTING PROCEDURES REFER TO GENERAL CONDITIONS AND TECHNICAL SPECIFICATIONS FOR THE CITY OF SPRINGFIELD, PUBLIC WORKS.
10. TRUNCATED DOMES SHALL BE USED ON ALL ADA SIDEWALK RAMPS. ALL SIDEWALKS SHALL BE FIVE-FOOT SIDEWALKS MINIMUM.
11. MANHOLE COVERS, VALVE BOXES, AND OTHER UTILITY APPURTENANCES SHALL NOT ENCROACH ON SIDEWALKS, CURBS. WHERE CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR INSTRUCTIONS PRIOR TO PROCEEDING.
12. EROSION CONTROL MEASURES SHALL BE FUNCTIONING BEFORE ANY OTHER WORK MAY BEGIN. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PERIOD BY THE CONTRACTOR.
13. THE CONTRACTOR SHALL KEEP THE PROJECT NEAT AND ORDERLY AT ALL TIMES WHILE CONSTRUCTION IS IN PROGRESS. ACCESS STREETS TO THE DEVELOPMENT SHALL BE KEPT CLEAN OF MUD, DEBRIS, PAPER, AND WASTE MATERIAL AT ALL TIMES.
14. CONSTRUCTION ACCESS TO THE SITE SHALL BE LIMITED TO THE APPROVED TEMPORARY CONSTRUCTION ENTRANCE(S) SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN (SECP).
15. ALL DISTURBED AREAS ARE TO BE RESEEDED IN ACCORDANCE WITH CURRENT REQUIREMENTS OF THE CITY OF SPRINGFIELD, PUBLIC WORKS. ALL DISTURBED AREAS SHALL BE STABILIZED IN ACCORDANCE WITH THE APPROVED SEDIMENT AND EROSION CONTROL PLAN (SECP).
16. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR OF ANY NEW SINKHOLES DISCOVERED DURING CONSTRUCTION.
17. APPLICABLE PERMITS MUST BE OBTAINED FROM THE CITY, COUNTY, AND STATE PRIOR TO EXCAVATION WITHIN ANY RIGHT-OF-WAY AND PRIOR TO ANY CONSTRUCTION.
18. IF ANY WORK OR ACCESS TO ANY ADJOINING PROPERTY IS DONE, IT IS THE FULL RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PROPER RELEASE FROM THE ADJOINING PROPERTY OWNER AND ASSUME ALL LIABILITY FOR ACTION TAKEN DURING ALL CONSTRUCTION. THE CONTRACTOR SHALL GET WRITTEN PERMISSION FROM THE ADJOINING PROPERTY OWNER.
19. THE CONTRACTOR SHALL CALL THE PUBLIC WORKS CONSTRUCTION OFFICE (417)864-1436 AT LEAST 48 HOURS IN ADVANCE OF COMMENCING CONSTRUCTION. FAILURE TO DO SO MAY CAUSE REJECTION OF ANY OR ALL WORK.
20. ONLY APPROVED CONSTRUCTION DRAWINGS BEARING THE ENGINEER'S SEAL AND APPROVAL SEAL THE DEPARTMENT OF PUBLIC WORKS SHALL BE USED FOR CONSTRUCTION.
21. THE CONTRACTOR SHALL HAVE A SET OF PLANS FILED WITH THE CITY OF SPRINGFIELD ON SITE. THE CONTRACTOR SHALL HAVE ON THE PROJECT AT ALL TIMES, AS HIS AGENT, A COMPETENT SUPERINTENDENT CAPABLE OF READING, THOROUGHLY UNDERSTANDING THE PLANS AND SPECIFICATIONS, THOROUGHLY EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED, AND WHO SHALL RECEIVE INSTRUCTIONS FROM THE ENGINEER OR THEIR AUTHORIZED REPRESENTATIVE.

**STANDARD LEGEND**

- EXISTING IRON PIN
- IRON PIN SET LS 1918
- (M) MEASURED
- (R) RECORD
- WV WATER VALVE
- WM WATER METER
- FH FIRE HYDRANT
- PP POWER POLE
- GUY WIRE
- TELEPHONE RISER
- LAMP POST
- TREE
- TREE STUMP
- (TBR) TO BE REMOVED
- (DND) DO NOT DISTURB
- SIGN
- GAS VALVE
- SANITARY SEWER MANHOLE
- TELEPHONE BOX / PEDESTAL
- ELECTRIC BOX / PEDESTAL
- 12" PIPE — NEW STORM SEWER / CULVERT
- 12" PIPE — EX. STORM SEWER / CULVERT
- GAS — GAS LINE
- OHE — OVERHEAD ELECTRIC
- TEL — TELEPHONE LINE
- FO — FIBEROPTIC CABLE
- UE — UNDERGROUND ELECTRIC
- SAN — SANITARY SEWER LINE
- WAT — WATER LINE
- X — CHAIN LINK FENCE
- WOOD FENCE
- R/W — RIGHT OF WAY LINE
- EASEMENT
- TREELINE
- EX. BUILDING
- RAILROAD TRACKS
- GRAVEL
- CENTERLINE
- EX. ASPHALT PAVING
- EX. ASPHALT PAVING - REMOVE
- EX. INTERMEDIATE CONTOUR
- 1295 — EX. INDEX CONTOUR
- PROP. INTERMEDIATE CONTOUR
- 1295 — PROP. INDEX CONTOUR
- TBR = TO BE REMOVED
- DND = DO NOT DISTURB

SEE TREE PROTECTION PLAN

**SHEET INDEX**


| | |
|---|---|
| 1 | STORMWATER IMPROVEMENT PLAN COVER SHEET |
| 2 | RIGHT-OF-WAY AND EASEMENT PLAN |
| 3 | TRAFFIC CONTROL PLAN - PACIFIC & HILLCREST SHOULDER WORK |
| 4 | TRAFFIC CONTROL PLAN - HILLCREST & THOMAN SHOULDER WORK |
| 5 | TRAFFIC CONTROL PLAN - ROAD CLOSURE DETAILS |
| 6 | DRAINAGE MAP |
| 7 | EROSION CONTROL PLAN |
| 8 | TREE PROTECTION PLAN |
| STORMWATER PLAN & PROFILES | |
| 9 | PACIFIC ST. STA. 0+00 TO 4+25 |
| 10 | PACIFIC ST. STA. 4+25 TO END |
| 11 | HILLCREST AVE. STA. 0+00 TO 5+50 |
| 12 | HILLCREST AVE. STA. 5+50 TO END |
| 13 | THOMAN ST. STA. 0+00 TO END |
| SIDEWALK PLAN & PROFILES | |
| 14 | PACIFIC ST. STA. 4+00 TO END |
| 15 | HILLCREST AVE. STA. 0+00 TO 5+50 |
| 16 | HILLCREST AVE. STA. 5+50 TO END |
| DETAILS | |
| 17 | STORMWATER, PAVEMENT & SIDEWALK DETAILS |
| 18 | MISC. DETAILS |
| CROSS SECTIONS | |
| 19-22 | PACIFIC STREET |
| 23-28 | HILLCREST AVE. |


| Rev | Date | Description | DwnBy | App |
|---|---|---|---|---|
| | | | | |

6/14/16


535 W. Battlefield St.
Springfield, MO 65807
(417) 887-4300
FAX (417) 887-3940
http://www.heiweb.com
HEI@heiweb.com
Heithaus Engineering & Assoc., Inc.
MO COA #2010021970 (E), #2010018087 (LS)


**ABBREVIATIONS**

| | |
|---|---|
| PVC | POLYVINYL CHLORIDE PIPE |
| CMP | CORRUGATED METAL PIPE |
| RCP | REINFORCED CONCRETE PIPE |
| RCB | REINFORCED CONCRETE BOX |
| EX. | EXISTING |
| PROP. | PROPOSED |
| R/W | RIGHT-0F-WAY |
| CL | CENTERLINE |
| EOP | EDGE OF PAVING |
| EOG | EDGE OF GRAVEL |
| PL | PROPERTY LINE |
| PVC | POINT OF VERTICAL CURVE |
| PVT | POINT OF VERTICAL TANGENCY |
| PVI | POINT OF VERTICAL INTERSECTION |
| STA. | STATION |
| LT. | LEFT OF CENTERLINE |
| RT. | RIGHT OF CENTERLINE |

MISSOURI ONE CALL SYSTEM, INC.
1-800-344-7483
STOP-CALL BEFORE YOU DIG!

**FILED**
IN THE OFFICE OF THE DIRECTOR OF PUBLIC WORKS
6/23/2016
DATE
SIGNED

DEPARTMENT OF PUBLIC WORKS

**HOMELAND SUBDIVISION**
**Pacific and Hillcrest - Colgate to Thoman St.**
CITY OF SPRINGFIELD, GREENE COUNTY, MISSOURI
STORMWATER IMPROVEMENT PLAN COVER SHEET

**DEPARTMENT OF PUBLIC WORKS**
**SPRINGFIELD, MISSOURI**

**STORMWATER IMPROVEMENTS**
**HOMELAND SUBDIVISION**
**Pacific and Hillcrest - Colgate to Thoman St.**

APPROVED BY _____ DATE 6/23/16
**DIRECTOR OF PUBLIC WORKS**

| | | | |
|---|---|---|---|
| DATE 6/16/2016 | DESIGN TAD | SCALES | SHEET 1 |
| JOB NO. 210042 | DRAWN ANB | HOR. 1"=100' | OF 28 SHEETS |
| DWG. 210042HII2 | CHECKED TAD | VERT. N/A | FILE NO. 2014PW0061W |

# Exhibit C

CITY OF Springfield

0 50 100 200 300 400 Feet



DISCLAIMER: All information included on this map or digital file is provided "as-is" for general information purposes only. The City of Springfield, and all other contributing data suppliers, make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability of the data for any particular use. Furthermore, the City of Springfield, and all other contributing data suppliers, assume no liability whatsoever associated with the use or misuse of the data.

One-rdg. _____
P. Hrngs. _____
Pgs. 12
Filed: 08-02-16

Sponsored by: Ferguson

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016- 188 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

APPROVING the plans and specifications for Kimbrough Avenue and Cherry Street Signal Replacement Project, and to accept the bid of Ewing Signal Construction, LLC in the amount of $276,347.05 for the project; and authorizing the City Manager, or his designee, to enter into a contract with such bidder.

_____

WHEREAS, signal work and intersection improvements have been deemed necessary at the intersection of Kimbrough Avenue and Cherry Street (see “Exhibit A”); and

WHEREAS, Ewing Signal Construction, LLC, is the lowest responsive and responsible bidder for the Kimbrough Avenue and Cherry Street Signal Replacement Project, Plan No. 2015PW0073T.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Council hereby approves the plans and specifications of the Kimbrough Avenue and Cherry Street Signal Replacement Project Plan No. 2015PW0073T, and accepts the bid of Ewing Signal Construction, LLC for that project at the price and sum set forth in said bid, except as said sum may be lawfully increased or decreased by the actual quantities of work units involved. The City Manager, or his designee, is hereby authorized to enter into a contract, which is substantially similar to the contract attached hereto and noted as “Exhibit B,” with said bidder for such work in accordance with the terms of the bid, the plans, and the specifications.

Section 2 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: _____, City Attorney

Approved for Council action: _____, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-188**

FILED: 08-02-16

ORIGINATING DEPARTMENT: Public Works

PURPOSE: Approving the plans and specifications for Kimbrough Avenue and Cherry Street Signal Replacement Project, Plan No. 2015PW0073T, accepting the bid of $276,347.05 for that project, and authorizing the City Manager, or his designee, to enter into a contract with such bidder.

BACKGROUND INFORMATION: The project consists of replacing the existing signal equipment, improving drainage, reconstructing crosswalks at the intersection to meet ADA standards and resurfacing the intersection.

Bids were solicited for this project by advertising in the *News-Leader* from July 24, 2016 through July 28, 2016. Bids were opened on August 2, 2016 at 10:30 a.m., with the following bids received:

| Contractor | Bid Amount |
|---|---|
| Ewing Signal Construction, LLC | $276,347.05 |
| Hunter Chase & Associates, Inc. | $317,774.85 |
| | |
| Engineer's Estimate | $306,659.50 |

The low bid, if accepted, will be funded from the 1/4-Cent Capital Improvement Sales Tax Traffic Signal/Traffic Calming Program, and the funds are already budgeted. The City's net cost for this contract is $276,347.05.

Supports the following Field Guide 2030 goal(s): Chapter 12, Transportation; Major Goal 2; Operations and Maintenance – The City of Springfield should continue to maintain streets, sidewalks, trails, and the airport, using the most effective strategies to maximize the efficient operation of the existing systems, keeping in mind safety, accessibility, sustainability, and collaboration; Objective 2a, Keep streets and sidewalks and trails in good condition with an emphasis on arterial streets.

REMARKS: Public Works recommends acceptance of the bid from Ewing Signal Construction, LLC as the lowest responsible bid and passage of this ordinance.

Submitted by:

Martin Gugel, Assistant Director of Public Works

Recommended by:

Dan Smith, Director of Public Works

Approved by:

Greg Burris, City Manager

**Exhibit A**

**Signal Replacement**
**Kimbrough Avenue and Cherry Street**

**Location Map**

City of Springfield, Missouri

DISCLAIMER: All information included on this map or digital file is provided "as-is" for general information purposes only. The City of Springfield, and all other contributing data suppliers, make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability of the data for any particular use. Furthermore, the City of Springfield, and all other contributing data suppliers, assume no liability whatsoever associated with the use or misuse of the data.

Exhibit B

| ROUTING ORDER | (1) ORIGINATING DEPARTMENT | (2) CONTRACTOR | (3) FINANCE DEPARTMENT |
|---|---|---|---|
| | (4) LAW DEPARTMENT | (5) CITY MANAGER'S OFFICE | (6) CITY CLERK'S OFFICE |
| **EFFECTIVE DATE** | **TERMINATION DATE** | **CONTRACT NUMBER:** | |

| **CITY** | **CONTRACTOR** |
|---|---|
| **CITY OF SPRINGFIELD** | **NAME:** **EWING SIGNAL CONSTRUCTION, LLC** |
| **840 BOONVILLE, P.O. BOX 8368** | **ADDRESS:** **1730 N GREGORY DRIVE** |
| **SPRINGFIELD, MO 65802** | **NIXA, MO 65714** |
| **PHONE:** **(417) 864-1167** **FAX:** **(417) 864-1176** | |
| **ATTN:** **TOM DANCEY, P.E., PTOE** | **PHONE:** **(417) 724-9405** |
| **DEPT.:** **PUBLIC WORKS – TRANSPORTATION MGMT.** | **FAX:** **(417) 724-9929** |
| | **ATTN:** **DAVE EWING** |

## AGREEMENT

**THIS AGREEMENT**, made and entered into this ____ day of _____, 20____, by the parties identified above.

**WITNESSETH**: That whereas, the Contractor has become the lowest responsible bidder for furnishing the supervision, labor, tools, equipment, materials and supplies and for constructing the following City improvements:

Kimbrough Avenue and Cherry Street, Signal Replacement, (2015PW0073T)

The City and Contractor agree to the following:

**1. Manner and Time for Completion**. The Contractor will furnish all supervision, labor, tools, equipment, materials and supplies necessary to perform, and to perform said work at Contractor's own expense in accordance with the contract documents and any applicable City ordinances and state and federal laws within **80** calendar days from the date Contractor is ordered to proceed, which order shall be issued by the Director of Public Works within 30 days after the date of this contract.

**2. Prevailing Wages**. All labor utilized in the construction of the aforementioned improvements shall be paid a wage of no less than the "prevailing hourly rate of wages" for work of a similar character in this locality, as established and amended at any time by the Department of Labor and Industrial Relations of the State of Missouri. At any time the contractor is found to not have paid prevailing wages, the contractor shall forfeit as a penalty to the city one hundred dollars for each underpaid worker employed, for each calendar day, or portion thereof such worker is paid less than the said stipulated rates for any work done under this contract.

**3. Insurance Requirements**. Without limiting any of the other obligations or liabilities of the Contractor, the Contractor shall secure and maintain at its own cost and expense, throughout the duration of this Contract and until the work is completed and accepted by the City of Springfield, insurance of such types and in such amounts as may be necessary to protect it and the interests of the City of Springfield against all hazards or risks of loss as hereunder specified or which may arise out of the performance of the Contract Documents. The form and limits of such insurance, together with the underwriter thereof in each case, are subject to approval by the City of Springfield. Regardless of such approval, it shall be the responsibility of the contractor to maintain adequate insurance coverage at all times during the term of the Contract. Failure of the Contractor to maintain coverage shall not relieve it of any contractual responsibility or obligation or liability in general or under the Contract Documents.

The certificates of insurance, including evidence of the required endorsements hereunder or the policies, shall be filed with the City within ten (10) days after the date of the receipt of Notice of Award of the Contract to the Contractor and prior to the start of work.

All insurance policies shall require that the insurance company in question provide thirty (30) days written notice prior to modification or cancellation of such insurance. Such notices shall be mailed, certified mail, return receipt requested, to:

City of Springfield - Public Works, P.O. Box 8368, Springfield, MO 65801-8368

Such policies shall name the City as an additional insured, with limits of liability not less than the sovereign immunity limits for Missouri public entities calculated by the Missouri Department of Insurance as of January 1 each calendar year and published annually in the Missouri Register pursuant to Section 537.610, RSMo.
(See, http://insurance.mo.gov/industry/sovimmunity.php)

As of January 1, 2015, the minimum coverage for the insurance referred to herein shall be as set out below:

**a. Workers' Compensation….**Statutory coverage per RSMo 287.010 et seq
**Employer's Liability…….** $1,000,000.00

**b. Commercial General Liability Insurance**, including coverage for Premises, Operations, Products and Completed Operations, Contractual Liability, Broad Form Property Damage, Independent Contractors, Explosion, Collapse, and Underground Property Damage and endorsed for blasting if blasting required. Such coverage shall apply to bodily injury and property damage on an "Occurrence Form Basis" with limits of at least Two Million Seven Hundred Thirty-Four Thousand Five Hundred Sixty-Seven and no/100 Dollars ($2,734,567.00) for all claims arising out of a single accident or occurrence and at least Four Hundred Ten Thousand One Hundred Eighty-Five and no/100 Dollars ($410,185.00) with respect to injuries and/or death of any one person in a single occurrence and an amount not less than at least $1,000,000 for all claims to property arising out of a single occurrence and at least $100,000 to any one owner with respect to damages to property. Contractor agrees that the proceeds of such insurance policy shall first be used to pay any award, damages, costs, and/or attorneys' fees incurred by or assessed against City, its employees, officers and agents, before payment of any award, damages, costs or attorneys fees of Contractor, its employees, officers or agents. Contractor agrees to cause its insurer to name City as an additional insured on such insurance policy, including the City as an additional insured for coverage under its products-completed operations hazard, and said policy shall be primary and noncontributory. Aggregate Limit must apply on a Per Project basis, and the endorsement must accompany the certificate of insurance. A Waiver of Subrogation endorsement must be provided by contractor in favor of the City**.**

**c. Automobile Liability Insurance** covering bodily injury and property damage for owned, non-owned and hired vehicles, with limits of at least Two Million Seven Hundred Thirty-Four Thousand Five Hundred Sixty-Seven and no/100 Dollars ($2,734,567.00) for all claims arising out of a single accident or occurrence and at least Four Hundred Ten Thousand One Hundred Eighty-Five and no/100 Dollars ($410,185.00) with respect to injuries and/or death of any one person in a single accident or occurrence.

**d. Builders Risk Insurance** for contracts involving unoccupied structures. The Contractor shall secure All Risk Builder's Risk Insurance. Unless specifically authorized by the City, the amount of such insurance shall not be less than the total contract price. The policy shall name as insured the Contractor and the City of Springfield.

**e. Subcontracts**. In case any or all of this work is sublet, the Contractor shall require the subcontractor to procure and maintain all insurance required in subparagraphs (a), (b) and (c) hereof and in like amounts. Contractor shall require any and all subcontractors with whom it enters into a contract to perform work on this project to protect the City of Springfield through insurance against applicable hazards or risks and shall, upon request of the City, provide evidence of such insurance.

**f. Notice**. The Contractor and/or subcontractor shall furnish the City prior to beginning the work, the policy as specified in subparagraph (d), and satisfactory proof of carriage of all the insurance required by this contract, with the provision that policies shall not be canceled, modified or non-renewed without thirty (30) days written notice to the City of Springfield.

**g. Legislative or Judicial Changes.** In the event the scope or extent of the City's tort liability as a governmental entity as described in Section 537.600 through 537.650 RSMo is broadened or increased during the term of this agreement by legislative or judicial action, the City may require Contractor, upon 10 days written notice, to execute a contract addendum whereby the Contractor agrees to provide, at a price not exceeding Contractor's actual increased premium cost, additional liability insurance coverage as the City may require to protect the City from increased tort liability exposure as the result of such legislative or judicial

action. Any such additional insurance coverage shall be evidenced by an appropriate certificate of insurance and shall take effect within the time set forth in the addendum.

**4. Performance, Labor, and Materials Payment Bond:** The Contractor shall furnish a Performance Bond and a Labor and Materials Payment Bond with surety approved by the City and on the forms approved by the City, each bond shall be in the amount of $276,347.05 (full amount of contract) conditioned upon the full and faithful performance of all major terms and conditions of this contract and payment of all labor and material suppliers. It is further mutually agreed between the parties hereto that if at any time after the execution of this agreement and the surety bond(s) hereto attached for its faithful performance and payment of labor and material suppliers, the City shall deem the surety or sureties upon such bond(s) to be unsatisfactory, or if, for any reason, such bond(s) ceases to be adequate to cover the performance of the work, the Contractor shall, at its expense, within five (5) days after the receipt of notice from the City to do so, furnish an additional bond or bonds, in such form and amount, and with such surety or sureties as shall be satisfactory to the City. In such event no further payment to the Contractor shall be deemed to be due under this contract until such new or additional security for the faithful performance of the work and the payment of labor and material suppliers shall be furnished in a manner and form satisfactory to the City. The corporate surety on any performance or payment bond must be licensed by the State of Missouri and if the required bond exceeds $25,000.00 must be listed in United States Treasury Circular 570.

**5. Contractor's responsibility for subcontractors**. The Contractor shall be as fully responsible to the City for the acts and omissions of its subcontractors, and of persons either directly or indirectly employed by them, as Contractor is for the acts and omissions of persons it directly employs. Contractor shall cause appropriate provisions to be inserted in all subcontracts relating to this work, to bind all subcontractors to Contractor by all the terms herein set forth, and insofar as applicable to the work of subcontractors and to give Contractor the same power regarding termination of any subcontract as the City may exercise over Contractor under any provisions of this contract. Nothing contained in this contract shall create any contractual relation between the subcontractor and the City or between any subcontractors.

**6. General Independent Contractor Clause**. This agreement does not create an employee/employer relationship between the parties. It is the parties' intention that the Contractor will be an independent contractor and not the City's employee for all purposes, including, but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, Missouri Revenue and Taxation laws, Missouri Workers' Compensation and Unemployment Insurance laws. The Contractor will retain sole and absolute discretion in the judgment of the manner and means of carrying out the Contractor's activities and responsibilities hereunder. The Contractor agrees that it is a separate and independent enterprise from the public employer, that it has a full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. This agreement shall not be construed as creating any joint employment relationship between the Contractor and the City, and the City will not be liable for any obligation incurred by the Contractor, including but not limited to unpaid minimum wages and/or overtime premiums.

**7. Liquidated Damages**. Time of completion of work by the Contractor is of the essence. Should Contractor, or in the case of default, the surety, fail to substantially complete the work within the time specified in the contract, or within such extra time as may be allowed, Contractor (or surety) shall be liable to the City in the amount of **$1,000.00** per day for each and every calendar day that the contract remains uncompleted after the time allowed for substantial completion, as liquidated damages, and not as a penalty, it being stipulated that actual damages to the City and the public arising from Contractor's failure to timely complete the work would be difficult, if not impossible, to ascertain. The amount assessed as liquidated damages may be withheld from any moneys otherwise due to Contractor from the City. The project is not considered complete until final acceptance by the City. After substantial completion, liquidated damages for failure to complete the remaining work shall be in the amount specified in the General Conditions, unless an amount is provided in the Job Special Provision, in which case, the Job Special Provision amount will apply.

**8. Termination for Cause**. The City reserves the right to terminate this contract by giving at least five (5) days prior written notice to the Contractor, without prejudice to any other rights or remedies of the City should the Contractor be adjudged a bankrupt, or if Contractor should make a general assignment for the benefit of its creditors, or if a receiver should be appointed for Contractor or for any of its property, or if Contractor should persistently or repeatedly refuse or fail to supply enough properly skilled workmen or proper material, or if Contractor should refuse or fail to make prompt payment to any person supplying labor or materials for the work under the contract, or persistently disregard instructions of the City or fail to observe or perform any provisions of the contract.

**9. City's Right to Proceed**. In the event this contract is terminated pursuant to Paragraph 8, then the City may take over the work and prosecute the same to completion, by contract or otherwise, and Contractor and its sureties shall be liable to the City for any costs over the amount of this contract thereby occasioned by the City. In any such case, the City may take possession of, and utilize in completing the work, such materials, appliances and structures as may be on the work site and are necessary for completion of the work. The foregoing provisions are in addition to, and not in limitation of, the rights of the City under any other provisions of the contract, city ordinances, and state and federal laws.

**10. Termination for Convenience of City**. The City shall have the right at any time by written notice to Contractor to terminate and cancel this contract, without cause, for the convenience of the City, and Contractor shall immediately stop work. In such event City shall not be liable to Contractor except for payment for actual work performed prior to such notice in an amount proportionate to the completed contract price and for the actual costs of preparations made by Contractor for the performance of the cancelled portions of the contract, including a reasonable allowance of profit applicable to the actual work performed and such preparations. Anticipatory profits and consequential damages shall not be recoverable by Contractor.

**11. Guards and Lights**. The Contractor agrees that during the performance of said work, adequate barricades, guards and warning signs, lights or devices consistent with the requirements contained in the Manual on Uniform Traffic Control Devices shall be provided by Contractor during construction.

**12. Liability and Indemnity**.

**a.** In no event shall the City be liable to the Contractor for special, indirect, or consequential damages, except those caused by the City's gross negligence or willful or wanton misconduct arising out of or in any way connected with a breach of this contract. The maximum liability of the City shall be limited to the amount of money to be paid or received by the City under this contract.

**b.** The Contractor shall defend, indemnify and save harmless the City, its elected or appointed officials, agents and employees from and against any and all liability, suits, damages, costs (including attorney fees), losses, outlays and expenses from claims in any manner caused by, or allegedly caused by, or arising out of, or connected with, this contract, or the work or any subcontract thereunder (the Contractor hereby assuming full responsibility for relations with subcontractors), including, but not limited to, claims for personal injuries, death, property damage, or for damages from the award of this contract to Contractor, notwithstanding any possible negligence, whether sole or concurrent, on the part of the City, its officials, agents and employees.

**c.** The Contractor shall indemnify and hold the City harmless from all wages or overtime compensation due any employees in rendering services pursuant to this agreement or any subcontract, including payment of reasonable attorneys' fees and costs in the defense of any claim made under the Fair Labor Standards Act, the Missouri Prevailing Wage Law or any other federal or state law.

**d.** The indemnification obligations of Contractor hereunder shall not be limited by any limitations as to the amount or type of damages, compensation or benefits payable by or for the Contractor, under any federal or state law, to any person asserting the claim against City, its elected or appointed officials, agents and employees, for which indemnification is sought.

**e.** The indemnification obligations herein shall not negate, abridge or reduce in any way any additional indemnification rights of the City, its elected or appointed officials, agents and employees, which are otherwise available under statute, or in law or equity.

**f.** Contractor affirms that it has had the opportunity to recover the costs of the liability insurance required in this agreement in its contract price. Contractor's obligation under this agreement to defend, indemnify, and hold harmless any person from that person's own negligence or wrongdoing is limited to the coverage and limits of the applicable insurance required of the Contractor under this agreement.

**g**. The Contractor shall indemnify and hold the City harmless for any penalties, fines, fees or costs, including costs of defense, which are charged or assessed by any Federal, state or local agency including, but not limited to, Environmental Protection Agency or Department of Natural Resources.

**13. Payment for Labor and Materials**. The Contractor agrees and binds itself to pay for all labor done, and for all the materials used in the construction of the work to be completed pursuant to this contract.

**14. Payment**. The City will pay the Contractor in accordance with the rate set forth in the contract documents on file in the Public Works Department and by this reference made a part hereof, which shall constitute full and complete compensation for the Contractor's work provided hereunder. It is expressly understood that in no event will the total compensation and reimbursement to be paid to the Contractor under the terms of this contract exceed the sum of **two hundred seventy six thousand three hundred forty seven Dollars and five Cents ($276,347.05)** unless specifically and mutually agreed to in writing by both the City and the Contractor. No partial payment to the Contractor shall operate as approval of acceptance of work done or materials furnished hereunder. Such compensation will be paid in progress payments (less five (5) percent retainage), as established by the City, subject to receipt of a requisition for payment and a statement of work provided by the Contractor and agreement by both the City and the Contractor that the Contractor has fully performed the work to be paid for in such progress payments in conformance with the contract.

**15. Contract Documents**. The contract documents shall consist of the following:

- **a.** This Contract
- **b.** All Change Orders
- **c.** Bid Plans and Specifications
- **d.** City of Springfield Standard General Conditions and Technical Specifications for Public Works Construction (07-01-13 Revised Edition)
- **e.** Special Conditions & Provisions
- **f.** Proposal
- **g.** Statement of Bidder's Qualifications
- **h.** Acknowledgment
- **i.** Performance Bond
- **h.** Payment and Material Bond
- **k.** Instructions to Bidders
- **l.** Non-collusion Affidavit
- **m.** Notice to Proceed

This contract, together with the other documents enumerated in this paragraph, forms the contract between the parties. These documents are as fully a part of the contract as if attached hereto or repeated herein.

**16. Subsurface Conditions**. Contractor agrees that information contained in the published reports and public actions of the Missouri Division of Geology and Land Survey shall be conclusive and binding upon the Contractor as to what subsurface conditions at the job site are reasonably anticipated or reasonably foreseeable.

**17. Conflict of Interest**. In accepting this contract, Contractor certifies that no member or officer of its firm or corporation is an officer or employee of the City of Springfield, Missouri, or any of its boards or agencies, and further that no officer or employee of the City has any financial interest, direct or indirect, in this contract. All applicable federal regulations and provisions of RSMo. Section 105.450 et seq. shall not be violated.

**18. Assignment.** The Contractor shall not assign any interest in this contract, and shall not transfer any interest in the same (whether by assignment or novation), without prior written consent of the City thereto, provided, however, that claims for money due or to become due to the Contractor from the City under this Contract may be assigned to a bank, trust company, or other financial institution without such approval. Notice of such assignment or transfer shall be furnished in writing promptly to the City and the bond surety. Any such assignment is expressly subject to all rights and remedies of the City under this agreement, including the right to change or delete activities from the Contract or to terminate the same as provided herein, and no such assignment shall require the City to give any notice to any such assignee of any actions which the City may take under this agreement.

**19. Nondiscrimination**. The Contractor agrees in the performance of this contract not to discriminate on the ground or because of race, creed, color, national origin or ancestry, sex, religion, handicap, age, status as a protected veteran or status as a qualified individual with a disability, or political opinion or affiliation, against any employee of Contractor or applicant for employment and shall include a similar provision in all subcontracts let or awarded hereunder. The parties hereby incorporate the

requirements of 41 C.F.R. §§ 60-1.4(a)(7), 29 C.F.R. Part 471, Appendix A to Subpart A, 41 C.F.R. § 60-300.5(a) and 41 C.F.R. § 60-741.5(a), if applicable.

**a. This contractor and subcontractor shall abide by the requirements of 41 C.F.R. § 60-300.5(a). This regulation prohibits discriminations against qualified protected veterans, and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified protected veterans.**

**b. This contractor and subcontractor shall abide by the requirements of 41 C.F.R. § 60-741.5(a). This regulation prohibits discrimination against qualified individuals on the basis of disability, and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified individuals with disabilities.**

**20. Nonresident/Foreign Contractors**. The Contractor shall procure and maintain during the life of this contract:

**a.** If the Contractor is a foreign corporation, a certificate of authority to transact business in the State of Missouri from the Secretary of State, unless exempt pursuant to the provisions of Section 351.570 RSMo.

**b.** A certificate from the Missouri Director of Revenue evidencing compliance with the transient employer financial assurance law, unless exempt pursuant to the provisions of Section 285.230 RSMo.

**21. Notices**. All notices required or permitted hereinunder and required to be in writing may be given by FAX or by first class mail addressed to City and Contractor at the addresses shown above. The date of delivery of any notice given by mail shall be the date falling on the second full day after the day of its mailing. The date of delivery of notice by FAX transmission shall be deemed to be the date transmission occurs, except where the transmission is not completed by 5:00 p.m. on a regular business day at the terminal of the receiving party, in which case the date of delivery shall be deemed to fall on the next regular business day for the receiving party.

**22. Occupational License**: The Contractor shall obtain and maintain an occupational license with the City of Springfield, Missouri, if required by city code and any required state or federal license. The cost for this occupational license shall be borne by the Contractor. No contract will be executed by the City until this occupational license has been obtained and that the Contractor is current on any City taxes is verified.

**23. Safety Training.** Pursuant to Missouri Revised Statute Section 292.675, Contractors and subcontractors who sign a contract to work on public works projects must provide a 10-hour OSHA construction safety program, or similar program approved by the Department of Labor and Industrial Relations, to be completed by their on-site employees within sixty (60) days of beginning work on the construction project. The Contractor shall provide an acceptable notarized affidavit stating that Contractor has verified the completion of a 10-hour construction safety program with respect to the employees working in connection with the contracted services. Contractors and subcontractors in violation of this provision will forfeit to the public body $2,500 plus $100 a day for each employee who is employed without training. Public bodies and contractors may withhold assess penalties from the payment due to those contractors and subcontractors. The penalties shall not begin to accrue until the time periods in the statute have elapsed (60 days after notice to proceed and 20 days to produce documentation for employee found in violation).

**24. Affidavit for Contracts Over $5,000.00**. That pursuant to Missouri Revised Statute Sections 285.525 through 285.550, if this contract exceeds the amount of $5,000.00 and Contractor is associated with a business entity, Contractor shall provide an acceptable notarized affidavit stating that the associated business entity is enrolled in and participates in a federal work authorization program with respect to the employees working in connection with the contracted services, and that said business entity does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. Additionally, Contractor must provide documentation for said business entity evidencing current enrollment in a federal work authorization program.

**25. Compliance with Laws.** Contractor agrees to comply with all applicable federal, state and local laws or rules and regulations applicable to the provision of services and products hereunder. Contractor affirmatively states that payment of all local, state, and federal taxes and assessments owed by Contractor is current.

**26. Entire Agreement**. This agreement contains the entire agreement of the parties. No modification, amendment, or waiver of any of the provisions of this agreement shall be effective unless in writing specifically referring hereto, and signed by both parties.

**27. Jurisdiction**. This agreement and every question arising hereunder shall be construed or determined according to the laws of the State of Missouri. Should any part of this agreement be adjudicated, venue shall be proper only in the Circuit Court of Greene County, Missouri.

**IN WITNESS WHEREOF,** the parties hereto have set their hands and seals on the day and year herein stated.

**REVIEWED BY:**

_____
Martin Gugel, Assistant Director of Public Works

**RECOMMENDED BY:**

_____
Dan Smith, Director of Public Works

**CERTIFICATE OF DIRECTOR OF FINANCE**

I certify that the expenditure contemplated by this document is within the purpose of the appropriation to which it is to be charged and that there is an unencumbered balance of appropriated and available funds to pay therefor.

_____
David Holtmann, Interim Director of Finance

**APPROVED AS TO FORM**

_____
Amanda Callaway, Assistant City Attorney

**CONTRACTOR**:

By: _____

Printed Name: _____

Title: _____

**CITY OF SPRINGFIELD, MISSOURI**

By: _____
Collin Quigley, Assistant City Manager

One-rdg. _____
P. Hrngs. _____
Pgs. 13
Filed: 08-02-16

Sponsored by: Hosmer

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016- 189 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

AUTHORIZING the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and KSPR, for the purpose of sharing video from the closed-circuit television traffic monitoring cameras owned and operated by Missouri Department of Transportation and the City of Springfield.

---

WHEREAS, the City and Missouri Highways and Transportation Commission (MHTC) desire to enter into an agreement to share video from the closed-circuit television (CCTV) traffic monitoring cameras; and

WHEREAS, this agreement allows this media agency to access the CCTV traffic monitoring cameras so that they can provide the community with a traffic report.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Manager, or his designee, is hereby authorized to enter into an agreement with the MHTC and KSPR, said agreement to be in substantially the form as that document attached hereto and incorporated herein by reference as "Exhibit A."

Section 2 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: Amanda R. Callaway, Assistant City Attorney

Approved for Council action: Greg Burris, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-189**

FILED: 08-02-16

ORIGINATING DEPARTMENT: Public Works

PURPOSE: Authorizing the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and KSPR (hereinafter, "Media Company"), for the sharing of video from the closed-circuit television (CCTV) traffic monitoring cameras owned and operated by Missouri Department of Transportation (MoDOT) and the City of Springfield throughout the regional roadway network.

BACKGROUND INFORMATION: This agreement defines the terms under which the City and MoDOT will provide a web-based user account to the Media Company. The user account will allow access to the traffic monitoring video feed through the Transportation Management Center's video distribution software.

The agreement restricts the use of the video feed solely for the purpose of providing travel information to the public and specifically prohibits the Media Company from selling or charging a fee for the video; systematically recording the video for purposes other than traffic reports; misrepresenting the timing and source of the video; misrepresenting the availability of video to others; placing streaming video on websites; and/or showing video of any accident victims or close-ups of emergency response activities. Furthermore, the agreement requires that the OzarksTraffic logo remain visible on all video provided to the Media Company, and that the Media Company verbally acknowledge the source of the video each time it is used on air as "OzarksTraffic cameras" or as "OzarksTraffic cameras brought to you by (or courtesy of) MoDOT and City of Springfield".

This ordinance supports the following Field Guide 2030 goal(s): Chapter 12, Transportation; Major Goal 4, Multi-Modal, Interconnected System The City of Springfield should work within the region to develop, implement, and maintain a multi-modal transportation system that supports jobs, housing, education, accessibility, recreation, clean air, water conservation, and sustainability; Objective 4f, Provide accurate, up-to-date, real-time, user-friendly, and understandable transportation system information which is available to everyone, including first-time visitors and residents, which encompasses all forms of travel. Develop standards for making transportation maps available on the internet, including the use of MapQuest, Google, Yahoo, and other alternative formats, which can be easily updated and made accessible to all users, including the mobility impaired.

REMARKS: This agreement is an example of the City and MoDOT working together with local media to improve regional traveler information. There is no financial commitment for any of the parties to the agreement. Video access provided to KSPR is non-exclusive, and the City and MoDOT reserve the right to allow access to other media companies through similar agreements. Public Works recommends approval of this Council bill.

Submitted by:

Martin Gugel, Assistant Director of Public Works

Recommended by:

Dan Smith, Director of Public Works

Approved by:

Greg Burris, City Manager

Exhibit 1

CCO Form: TR45
Approved: 02/08 (BDG)
Revised: 09/15 (TLP)
Modified:

**OZARKSTRAFFIC AGREEMENT BETWEEN MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION, THE CITY OF SPRINGFIELD, MISSOURI, AND KSPR.**

THIS AGREEMENT is entered into by the Missouri Highways and Transportation Commission (hereinafter, "MHTC"), the City of Springfield, Missouri (hereinafter, "City"), Missouri Highways and Transportation Commission and City of Springfield, (hereinafter, collectively referred to as "OzarksTraffic"), and KSPR (hereinafter, "Company"). Collectively referred to as the "Parties."

WITNESSETH:

WHEREAS, MHTC and City have undertaken an Intelligent Transportation Systems (ITS) program called OzarksTraffic which receives Closed Caption Television (hereinafter, "CCTV") on the respective state and city owned highways from devices installed on the area roadways and other means; and

WHEREAS, the Company has requested access to OzarksTraffic CCTV; and

WHEREAS, OzarksTraffic is willing to accommodate the Company's request for CCTV pursuant to the terms of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises, covenants, and representations contained in this Agreement, the parties agree as follows:

(1) DEFINITIONS:

(A) OzarksTraffic shall mean the ITS System and the Traffic Management Center (TMC) in Springfield, Missouri

(B) CCTV shall mean the closed circuit television streaming images from the OzarksTraffic TMC.

(2) PURPOSE: The Company agrees that OzarksTraffic CCTV shall be accessed in accordance with this Agreement and shall be used by the Company solely for the purposes of providing travel information, including related weather and emergency events, to the public. This Agreement only applies to media access to the OzarksTraffic greater Springfield area traffic management system at the TMC located at 1107 West Chestnut Expressway, Springfield, Missouri, 65802. Regardless of the access allowed by OzarksTraffic, the Company may need to acquire permission from other county or local municipality agencies to access the CCTV provided to OzarksTraffic from other county or local municipality agencies.

(3) CCTV TO BE ACCESSED:

(A) OzarksTraffic agrees to allow web-based access to the CCTV from the OzarksTraffic TMC via a user account under the general conditions described in Exhibit 1, which is attached hereto and incorporated herein by reference. OzarksTraffic, without notice, may interrupt or preempt the CCTV at any time. The Company's access to the CCTV system is non-exclusive and OzarksTraffic may allow other media companies or organizations access to the system. In addition, OzarksTraffic cannot guarantee that CCTV will always be available. OzarksTraffic shall have control of all camera views that are available from the OzarksTraffic TMC and does not guarantee that any particular camera view will be available at any given time.

(B) The Company agrees to immediately terminate the CCTV feed at their end when the live CCTV is showing close-up views of accident victims or of emergency response activities.

(4) DUTIES OF COMPANY: The Company assumes the following responsibilities under this Agreement:

(A) The Company shall be responsible for the purchase and maintenance of its own equipment needed to access the CCTV and OzarksTraffic TMC.

(B) The Company shall assume full responsibility to safeguard the video and/ or video feed from unauthorized use or reproduction, and shall assume full responsibility in the event the video or video feed is used for purposes other than for providing travel information to the public. The Company agrees that at any time it becomes aware of unauthorized use, copying, disclosure of the CCTV, or any use of the CCTV other than in accordance with OzarksTraffic policy, including use by the Company or any other party, it shall immediately notify OzarksTraffic at 417-864-1160, send written notice to the person listed in (9)(B) of this Agreement, and fully cooperate with OzarksTraffic to protect its proprietary rights. Company shall agree that breach or threatened breach of its obligation to protect the CCTV may cause immediate and irreparable harm, entitling OzarksTraffic to seek injunctive relief or immediate termination of access to the CCTV. Company's compliance with this paragraph shall not be construed in any way as a waiver of OzarksTraffic's rights to recover damages or obtain other relief against Company for harm to OzarksTraffic's CCTV or for any other breach of its contractual rights.

(C) The Company understands and agrees that if it, or its employees, contractors, or agents violate any terms of this Agreement, OzarksTraffic may take all necessary steps to remedy the violation including, but not limited to, terminating the Company's access to and use of the CCTV.

(D) The Company agrees not to:

(1) Sell or charge any fees for the use of the CCTV received from OzarksTraffic, except for the purpose of providing entire taped news broadcasts.

(2) Duplicate or reproduce the CCTV in any manner for any cost or fee, except for the purpose of providing entire taped news broadcasts.

(3) Systematically record CCTV for purposes other than traffic reports.

(4) Misrepresent the timing and source of the CCTV.

(5) Misrepresent the availability of CCTV to others.

(6) Place streaming CCTV images on websites.

(7) Show CCTV of any accident victims or close-ups of emergency response activities.

(E) The Company agrees that the rebroadcast of CCTV from OzarksTraffic will be primarily for providing traveler information only. The Company agrees to immediately stop the rebroadcast of taped images from OzarksTraffic upon any written or verbal request from OzarksTraffic. The Company agrees that OzarksTraffic has the right to immediately terminate the Company's access to CCTV from OzarksTraffic.

(F) The Company agrees to provide at no charge to OzarksTraffic the items listed in Exhibit 2, which is attached hereto and incorporated herein by reference.

(G) OzarksTraffic LOGO: The Company agrees the OzarksTraffic logo embedded on the video shall always be imposed on all CCTV video obtained from OzarksTraffic. The OzarksTraffic logo shall not be removed or obscured. The Company shall not use any CCTV (either "live" or taped) accessed from the OzarksTraffic system **without** the OzarksTraffic logo fully visible in the CCTV video stream.

(H) OzarksTraffic VERBAL TAG LINE: The Company agrees to use the OzarksTraffic verbal tag line, referenced in Exhibit 3, in all references to the OzarksTraffic CCTV video images used during "live" or taped broadcasts.

(5) INSTALLATION OF EQUIPMENT AT OzarksTraffic TMC: Installation of equipment by the Company to access OzarksTraffic CCTV is not necessary at the time of execution of this agreement. Should installation of equipment by the Company to access OzarksTraffic CCTV become necessary at a later date, the terms of installation will be solely at OzarksTraffic's discretion and will be set forth in a written addendum to this agreement.

(6) NO WARRANTY: OzarksTraffic makes no warranties, either expressed or implied, regarding the quality, quantity, or availability of the CCTV accessed under the terms of this Agreement. CCTV may be interrupted, be of poor quality, or otherwise be rendered unavailable. OzarksTraffic shall not be liable for warranties of fitness for any purpose, or for indirect, special or consequential damages such as loss of profits or inability to use the CCTV.

(7) INDEMNIFICATION: The Company does hereby agree to indemnify, hold harmless against, and defend OzarksTraffic, including its agents, employees and assigns or assignees, from any claims, costs, expenses, damages, and liabilities arising from or pertaining to the use and/or possession of the CCTV by the Company, its agents, employees, assigns or assignees, contractors, subcontractors or independent contractors.

(8) AMENDMENTS: Any change in this Agreement, whether by modification or supplementation, must be accomplished by a formal contract amendment signed and approved by the duly authorized representatives of the Parties.

(9) NOTICES: Any notice or other communication required or permitted to be given hereunder shall be in writing and shall be deemed given three (3) days after delivery by United States mail, regular mail postage prepaid, or upon receipt by personal or facsimile delivery, addressed as follows:

(A) KSPR
999 W. Sunshine
Springfield, MO 65802

Telephone No.: 417-268-3124
Facsimile No.: 417-831-9358
Email Address: blovelle@kspr.com
or: news@kspr.com

(B) OzarksTraffic
1107 West Chestnut Expressway
Springfield MO 65802
Telephone No.: 417-864-1160

or to such other place as the parties may designate in accordance with this Agreement. To be valid, facsimile delivery shall be followed by delivery of the original document, or a clear and legible copy thereof, within three (3) business days of the date of facsimile transmission of that document.

(10) ASSIGNMENT: The Company shall not assign, transfer or delegate any interest in this Agreement without the prior written consent of OzarksTraffic.

(11) LAWS TO GOVERN: For any action brought against the City and/or the employee(s) of the City, the laws of Missouri will govern and the Agreement shall be construed according to the laws of the State of Missouri. For any action brought against the State of Missouri, MHTC, its commissioners, Missouri Department of Transportation, and any employee(s), counsel, or agent of the Missouri Department of Transportation, in either the State of Missouri or any other jurisdiction, the laws of Missouri will govern and the Agreement shall be construed according to the laws of the State of Missouri.

(12) CANCELLATION: MHTC or the City may cancel this Agreement at any time for a material breach of contractual obligations by providing the Company with written notice of cancellation. In addition, OzarksTraffic, in its sole discretion, may cancel this Agreement at any time and for any reason whatsoever, including for the convenience of OzarksTraffic. Upon filing for any bankruptcy or insolvency proceeding by or against the Company, whether voluntarily, or upon the appointment of a receiver, trustee, or assignee, for the benefit of creditors, OzarksTraffic reserves the right and sole discretion to cancel this Agreement. If OzarksTraffic exercises its right to cancel this Agreement, cancellation shall become effective upon the date specified in the notice of cancellation sent to the Company. In the event of a cancellation, Company shall be relieved of its obligations under Exhibit 2 below.

(13) SOVEREIGN IMMUNITY: Nothing herein shall be construed as a waiver of MHTC's sovereign immunity or rights under the Eleventh Amendment of the Constitution of the United States. Nothing herein shall be construed as a waiver of the City's sovereign immunity of rights.

(14) SOLE BENEFICIARY: This Agreement is made for the sole benefit of the parties and nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the Parties.

(15) SECTION HEADINGS: All section headings contained in this Agreement are for the convenience of reference only and are not intended to define or limit the scope of any provision of this Agreement.

(16) DISPUTES: Any disputes that arise under this Agreement shall be decided by OzarksTraffic or its representatives.

(17) SEVERABILITY: If any clause or provision of this Agreement is found to be void or unenforceable by a court or agency of proper jurisdiction, then the remaining provisions not void or unenforceable shall remain in full force and effect.

(18) AUTHORITY TO EXECUTE: The signers of this Agreement warrant that they are acting officially and properly on behalf of their respective institutions and have been duly authorized, directed and empowered to execute this Agreement.

(19) DURATION:

(A) Unless otherwise cancelled, this Agreement shall be in effect for two (2) years from the date of execution of this Agreement. This Agreement may be renewed for two additional 2-year periods. Unless notice is otherwise given by either party at least 30 days prior to the termination date, the terms of this Agreement shall automatically renew for the applicable additional term (either the first renewal period or the second renewal period). If the Agreement automatically renews, OzarksTraffic may revise Exhibits 1, 2 and 3 to reflect changes in OzarksTraffic policy or technology. If OzarksTraffic revises Exhibits 1, 2 and 3, OzarksTraffic will send copies of the revised exhibits to the Company and the revised exhibits shall be included as part of this Agreement. If the Company is unwilling to abide by the terms of the revised exhibits, this Agreement will automatically terminate.

(B) Upon expiration of this Agreement, the Company shall promptly disconnect and remove all of its CCTV accessing equipment and any other equipment which may be located on OzarksTraffic, City or MHTC property and return OzarksTraffic, City and MHTC property to the condition it was in prior to the placement of Company's equipment on OzarksTraffic, City and MHTC property. If Company fails to remove the equipment, OzarksTraffic may remove the equipment at the Company's cost.

(C) The Company agrees that OzarksTraffic reserves the right to terminate the Company's access to OzarksTraffic CCTV if it violates any terms of this Agreement and this agreement will be immediately terminated.

(20) CHANGE IN LAW: This Agreement is entered into subject to changes in federal law, state law and OzarksTraffic policy.

(21) NO INTEREST: By allowing the Company access to its CCTV, OzarksTraffic is not granting any property interest to or in the OzarksTraffic's CCTV or the OzarksTraffic TMC to the Company. OzarksTraffic, in its sole discretion, may discontinue its CCTV feed at any time and for any reason whatsoever, including for the convenience of OzarksTraffic. OzarksTraffic shall not be obligated to maintain said CCTV feed solely for the benefit of the Company.

IN WITNESS WHEREOF, the parties have entered into this Agreement on the date last written below.

Executed by the Company this 29th day of June, 2016.

Executed by the MHTC this _____ day of _____, 20__.

Executed by City this _____ day of _____, 20__.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

By_____

Title_____

_____

Secretary to the Commission

Title_____

Approved as to Form:

_____

Commission Counsel

Company

By Budget O. Lovelle

Title KSPR News Director

CITY OF SPRINGFIELD, MO

By _____

Title _____

Approved as to Form:

_____

Staff Attorney

## ACKNOWLEDGMENT BY COMPANY

STATE OF_____)
) ss
COUNTY OF_____)

On this _____ day of _____, 20__, before me appeared _____ personally known to me, who being by me duly sworn, did say that he/she is the _____ of _____and that the foregoing instrument was signed and sealed on behalf of said company by authority of its Board of Directors, and that he/she acknowledged said instrument to be the free act and deed of said company and that it was executed for the consideration stated therein and no other.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the county and state aforesaid the day and year written above.

_____
Notary Public

My Commission Expires: _____

# Exhibit 1

General Terms

1. The Company shall be provided access to the OzarksTraffic Video Server for selection of digital CCTV video streams via the OzarksTraffic website.
2. Any FCC licensing requirements and or costs to transport to Company's facilities shall be the sole responsibility of the Company.
3. OzarksTraffic cannot guarantee uninterrupted access to the CCTV.

# Exhibit 2

As a partner in this program, Company agrees to provide the following service for OzarksTraffic at no charge:

1. Company will use verbal tag line for the duration of this contract, provided by OzarksTraffic each time an OzarksTraffic CCTV is broadcast. See Exhibit 3 for specific tag lines.

2. OzarksTraffic will provide a brand logo the Company must incorporate it as part of the CCTV feed. The logo will appear in a prominent position of the OzarksTraffic feed. The logo cannot be altered, masked or covered in any way. This agreement does not obligate the Company to broadcast the CCTV and does not prohibit other sponsorship logos from being displayed during the traffic reports.

3. Company will broadcast a minimum of one (1), thirty (:30) second Public Service Announcement (PSAs) per week for the total duration of the contract. OzarksTraffic will provide Company a copy of the pre-recorded announcements for broadcast. PSAs will consist of highway and traffic safety related messages. Company shall broadcast all PSAs during the hours of 5:30 AM - 7:30 PM, Monday through Friday. Proof of performance of all PSAs will be required at the end of each month and shall include date and air time. Company shall provide OzarksTraffic with one copy of an air-check in DVD or digital format quarterly and grant OzarksTraffic copyright for re-broadcast. Company shall offer OzarksTraffic, discounted advertising rates on all future OzarksTraffic initiatives to be negotiated at the time of OzarksTraffic advertising solicitations. This agreement will not replace any other established obligation for PSAs.

4. Company agrees to provide technical assistance from Company's engineering staff for addressing OzarksTraffic technical issues regarding Company's connectivity to the OzarksTraffic system.

5. Company shall provide a hypertext link using the OzarksTraffic logo on Company web site to the OzarksTraffic homepage, whenever an OzarksTraffic snapshot is displayed.

6. Company shall provide a written annual report to OzarksTraffic for each of its broadcast stations utilizing OzarksTraffic images. The report should include a description of population reach and other demographic information relevant to traffic reports, sponsorships, and traffic reports for OzarksTraffic monitoring of traveler information services.

7. If Company broadcasts radio traffic reports, Company will use verbal tag line provided by OzarksTraffic each time OzarksTraffic is used to gain broadcast information. In addition, Company shall broadcast a minimum of one (1), thirty (30) second Public Service Announcements (PSAs) per radio station, per week, to run Best Time Available for contract duration. Content will be determined by OzarksTraffic or its designated agent. In addition, Company shall provide one (1) OzarksTraffic traffic report sponsorship per day per radio station for contract duration. Proof of performance of all PSAs and sponsorships will be required at the end of each month.

# Exhibit 3

1. Company will use verbal tag lines provided by OzarksTraffic, each time an OzarksTraffic CCTV image is broadcast for the duration of the contract. The Company and its spokespersons shall **not** take ownership of OzarksTraffic CCTVs referring to them as "our" OzarksTraffic cameras. It must be clearly stated the CCTV feeds are provided by OzarksTraffic, MHTC and City in one of the following ways:

    a. OzarksTraffic cameras brought to you by MoDOT and City of Springfield or
    b. OzarksTraffic cameras courtesy of MoDOT and City of Springfield or
    c. OzarksTraffic cameras

One-rdg. _____
P. Hrngs. _____
Pgs. 14
Filed: 08-02-16

Sponsored by: McClure

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016- 190 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

AUTHORIZING the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and Nexstar Broadcasting Group, Inc., for the purpose of sharing video from the closed-circuit television traffic monitoring cameras owned and operated by Missouri Department of Transportation and the City of Springfield.

_____

WHEREAS, the City and Missouri Highways and Transportation Commission (MHTC) desire to enter into an agreement to share video from the closed-circuit television (CCTV) traffic monitoring cameras; and

WHEREAS, this agreement allows this media agency to access the CCTV traffic monitoring cameras so that they can provide the community with a traffic report.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Manager, or his designee, is hereby authorized to enter into an agreement with the MHTC and Nexstar Broadcasting Group, Inc. said agreement to be in substantially the form as that document attached hereto and incorporated herein by reference as "Exhibit A."

Section 2 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: Amanda R. Callaway, Assistant City Attorney

Approved for Council action: Guy Burns, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-190**

FILED: 08-02-16

ORIGINATING DEPARTMENT: Public Works

PURPOSE: Authorizing the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and Nexstar Broadcasting Group, Inc. (hereinafter, "Media Company"), owner of KOLR and KOZL television stations, for the sharing of video from the closed-circuit television (CCTV) traffic monitoring cameras owned and operated by Missouri Department of Transportation (MoDOT) and the City of Springfield throughout the regional roadway network.

BACKGROUND INFORMATION: This agreement defines the terms under which the City and MoDOT will provide a web-based user account to the Media Company. The user account will allow access to the traffic monitoring video feed through the Transportation Management Center's video distribution software.

The agreement restricts the use of the video feed solely for the purpose of providing travel information to the public and specifically prohibits the Media Company from selling or charging a fee for the video; systematically recording the video for purposes other than traffic reports; misrepresenting the timing and source of the video; misrepresenting the availability of video to others; placing streaming video on websites; and/or showing video of any accident victims or close-ups of emergency response activities. Furthermore, the agreement requires that the OzarksTraffic logo remain visible on all video provided to the Media Company, and that the Media Company verbally acknowledge the source of the video each time it is used on air as "OzarksTraffic cameras" or as "OzarksTraffic cameras brought to you by (or courtesy of) MoDOT and City of Springfield".

This ordinance supports the following Field Guide 2030 goal(s): Chapter 12, Transportation; Major Goal 4, Multi-Modal, Interconnected System The City of Springfield should work within the region to develop, implement, and maintain a multi-modal transportation system that supports jobs, housing, education, accessibility, recreation, clean air, water conservation, and sustainability; Objective 4f, Provide accurate, up-to-date, real-time, user-friendly, and understandable transportation system information which is available to everyone, including first-time visitors and residents, which encompasses all forms of travel. Develop standards for making transportation maps available on the internet, including the use of MapQuest, Google, Yahoo, and other alternative formats, which can be easily updated and made accessible to all users, including the mobility impaired.

REMARKS: This agreement is an example of the City and MoDOT working together with local media to improve regional traveler information. There is no financial commitment for any of the parties to the agreement. Video access provided to Nexstar Broadcasting Group, Inc. is non-exclusive, and the City and MoDOT reserve the right to allow access to other media companies through similar agreements. Public Works recommends approval of this Council bill.

Submitted by:

Martin Gugel, Assistant Director of Public Works

Recommended by:

Dan Smith, Director of Public Works

Approved by:

Greg Burris, City Manager

**Exhibit 1**

CCO Form: TR45
Approved: 02/08 (BDG)
Revised: 09/15 (TLP)
Modified:

# OZARKSTRAFFIC AGREEMENT BETWEEN MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION, THE CITY OF SPRINGFIELD, MISSOURI, AND NEXSTAR BROADCASTING GROUP, INC.

THIS AGREEMENT is entered into by the Missouri Highways and Transportation Commission (hereinafter, "MHTC"), the City of Springfield, Missouri (hereinafter, "City"), Missouri Highways and Transportation Commission and City of Springfield, (hereinafter, collectively referred to as "OzarksTraffic"), and NEXSTAR Broadcasting Group, Inc. (hereinafter, "Company "). Collectively referred to as the "Parties."

WITNESSETH:

WHEREAS, MHTC and City have undertaken an Intelligent Transportation Systems (ITS) program called OzarksTraffic which receives Closed Caption Television (hereinafter, "CCTV") on the respective state and city owned highways from devices installed on the area roadways and other means; and

WHEREAS, the Company has requested access to OzarksTraffic CCTV; and

WHEREAS, OzarksTraffic is willing to accommodate the Company's request for CCTV pursuant to the terms of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises, covenants, and representations contained in this Agreement, the parties agree as follows:

(1) <u>DEFINITIONS:</u>

(A) OzarksTraffic shall mean the ITS System and the Traffic Management Center (TMC) in Springfield, Missouri

(B) CCTV shall mean the closed circuit television streaming images from the OzarksTraffic TMC.

(2) <u>PURPOSE</u>: The Company agrees that OzarksTraffic CCTV shall be accessed in accordance with this Agreement and shall be used by the Company solely for the purposes of providing travel information, including related weather and emergency events, to the public. This Agreement only applies to media access to the OzarksTraffic greater Springfield area traffic management system at the TMC located at 1107 West Chestnut Expressway, Springfield, Missouri, 65802. Regardless of the access allowed by OzarksTraffic, the Company may need to acquire permission from other county or local municipality agencies to access the CCTV provided to OzarksTraffic from other county or local municipality agencies.

(3) CCTV TO BE ACCESSED:

(A) OzarksTraffic agrees to allow web-based access to the CCTV from the OzarksTraffic TMC via a user account under the general conditions described in Exhibit 1, which is attached hereto and incorporated herein by reference. OzarksTraffic, without notice, may interrupt or preempt the CCTV at any time. The Company's access to the CCTV system is non-exclusive and OzarksTraffic may allow other media companies or organizations access to the system. In addition, OzarksTraffic cannot guarantee that CCTV will always be available. OzarksTraffic shall have control of all camera views that are available from the OzarksTraffic TMC and does not guarantee that any particular camera view will be available at any given time.

(B) The Company agrees to immediately terminate the CCTV feed at their end when the live CCTV is showing close-up views of accident victims or of emergency response activities.

(4) DUTIES OF COMPANY: The Company assumes the following responsibilities under this Agreement:

(A) The Company shall be responsible for the purchase and maintenance of its own equipment needed to access the CCTV and OzarksTraffic TMC.

(B) The Company shall assume full responsibility to safeguard the video and/ or video feed from unauthorized use or reproduction, and shall assume full responsibility in the event the video or video feed is used for purposes other than for providing travel information to the public. The Company agrees that at any time it becomes aware of unauthorized use, copying, disclosure of the CCTV, or any use of the CCTV other than in accordance with OzarksTraffic policy, including use by the Company or any other party, it shall immediately notify OzarksTraffic at 417-864-1160, send written notice to the person listed in (9)(B) of this Agreement, and fully cooperate with OzarksTraffic to protect its proprietary rights. Company shall agree that breach or threatened breach of its obligation to protect the CCTV may cause immediate and irreparable harm, entitling OzarksTraffic to seek injunctive relief or immediate termination of access to the CCTV. Company's compliance with this paragraph shall not be construed in any way as a waiver of OzarksTraffic's rights to recover damages or obtain other relief against Company for harm to OzarksTraffic's CCTV or for any other breach of its contractual rights.

(C) The Company understands and agrees that if it, or its employees, contractors, or agents violate any terms of this Agreement, OzarksTraffic may take all necessary steps to remedy the violation including, but not limited to, terminating the Company's access to and use of the CCTV.

(D) The Company agrees not to:

(1) Sell or charge any fees for the use of the CCTV received from OzarksTraffic, except for the purpose of providing entire taped news broadcasts.

(2) Duplicate or reproduce the CCTV in any manner for any cost or fee, except for the purpose of providing entire taped news broadcasts.

(3) Systematically record CCTV for purposes other than traffic reports.

(4) Misrepresent the timing and source of the CCTV.

(5) Misrepresent the availability of CCTV to others.

(6) Place streaming CCTV images on websites.

(7) Show CCTV of any accident victims or close-ups of emergency response activities.

(E) The Company agrees that the rebroadcast of CCTV from OzarksTraffic will be primarily for providing traveler information only. The Company agrees to immediately stop the rebroadcast of taped images from OzarksTraffic upon any written or verbal request from OzarksTraffic. The Company agrees that OzarksTraffic has the right to immediately terminate the Company's access to CCTV from OzarksTraffic.

(F) The Company agrees to provide at no charge to OzarksTraffic the items listed in Exhibit 2, which is attached hereto and incorporated herein by reference.

(G) OzarksTraffic LOGO: The Company agrees the OzarksTraffic logo embedded on the video shall always be imposed on all CCTV video obtained from OzarksTraffic. The OzarksTraffic logo shall not be removed or obscured. The Company shall not use any CCTV (either "live" or taped) accessed from the OzarksTraffic system **without** the OzarksTraffic logo fully visible in the CCTV video stream.

(H) OzarksTraffic VERBAL TAG LINE: The Company agrees to use the OzarksTraffic verbal tag line, referenced in Exhibit 3, in all references to the OzarksTraffic CCTV video images used during "live" or taped broadcasts.

(5) INSTALLATION OF EQUIPMENT AT OzarksTraffic TMC: Installation of equipment by the Company to access OzarksTraffic CCTV is not necessary at the time of execution of this agreement. Should installation of equipment by the Company to access OzarksTraffic CCTV become necessary at a later date, the terms of installation will be solely at OzarksTraffic's discretion and will be set forth in a written addendum to this agreement.

(6) NO WARRANTY: OzarksTraffic makes no warranties, either expressed or implied, regarding the quality, quantity, or availability of the CCTV accessed under the terms of this Agreement. CCTV may be interrupted, be of poor quality, or otherwise be rendered unavailable. OzarksTraffic shall not be liable for warranties of fitness for any purpose, or for indirect, special or consequential damages such as loss of profits or inability to use the CCTV.

(7) INDEMNIFICATION: The Company does hereby agree to indemnify, hold harmless against, and defend OzarksTraffic, including its agents, employees and assigns or assignees, from any claims, costs, expenses, damages, and liabilities arising from or pertaining to the use and/or possession of the CCTV by the Company, its agents, employees, assigns or assignees, contractors, subcontractors or independent contractors.

(8) AMENDMENTS: Any change in this Agreement, whether by modification or supplementation, must be accomplished by a formal contract amendment signed and approved by the duly authorized representatives of the Parties.

(9) NOTICES: Any notice or other communication required or permitted to be given hereunder shall be in writing and shall be deemed given three (3) days after delivery by United States mail, regular mail postage prepaid, or upon receipt by personal or facsimile delivery, addressed as follows:

(A) KOZL-N
2650 E. Division
Springfield, MO 65803
Telephone No.: 417-862-2727
Facsimile No.: 417-866-6397
Email Address: lhenning@nextstar.tv

(B) OzarksTraffic
1107 West Chestnut Expressway
Springfield MO 65802
Telephone No.: 417-864-1160

or to such other place as the parties may designate in accordance with this Agreement. To be valid, facsimile delivery shall be followed by delivery of the original document, or a clear and legible copy thereof, within three (3) business days of the date of facsimile transmission of that document.

(10) ASSIGNMENT: The Company shall not assign, transfer or delegate any interest in this Agreement without the prior written consent of OzarksTraffic.

(11) LAWS TO GOVERN: For any action brought against the City and/or the employee(s) of the City, the laws of Missouri will govern and the Agreement shall be construed according to the laws of the State of Missouri. For any action brought against the State of Missouri, MHTC, its commissioners, Missouri Department of Transportation, and any employee(s), counsel, or agent of the Missouri Department of Transportation, in either the State of Missouri or any other jurisdiction, the laws of Missouri will govern and the Agreement shall be construed according to the laws of the State of Missouri.

(12) CANCELLATION: MHTC or the City may cancel this Agreement at any time for a material breach of contractual obligations by providing the Company with written notice of cancellation. In addition, OzarksTraffic, in its sole discretion, may cancel this Agreement at any time and for any reason whatsoever, including for the convenience of OzarksTraffic. Upon filing for any bankruptcy or insolvency proceeding by or against the Company, whether voluntarily, or upon the appointment of a receiver, trustee, or assignee, for the benefit of creditors, OzarksTraffic reserves the right and sole discretion to cancel this Agreement. If OzarksTraffic exercises its right to cancel this Agreement, cancellation shall become effective upon the date specified in the notice of cancellation sent to the Company. In the event of a cancellation, Company shall be relieved of its obligations under Exhibit 2 below.

(13) SOVEREIGN IMMUNITY: Nothing herein shall be construed as a waiver of MHTC's sovereign immunity or rights under the Eleventh Amendment of the Constitution of the United States. Nothing herein shall be construed as a waiver of the City's sovereign immunity of rights.

(14) SOLE BENEFICIARY: This Agreement is made for the sole benefit of the parties and nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the Parties.

(15) SECTION HEADINGS: All section headings contained in this Agreement are for the convenience of reference only and are not intended to define or limit the scope of any provision of this Agreement.

(16) DISPUTES: Any disputes that arise under this Agreement shall be decided by OzarksTraffic or its representatives.

(17) SEVERABILITY: If any clause or provision of this Agreement is found to be void or unenforceable by a court or agency of proper jurisdiction, then the remaining provisions not void or unenforceable shall remain in full force and effect.

(18) AUTHORITY TO EXECUTE: The signers of this Agreement warrant that they are acting officially and properly on behalf of their respective institutions and have been duly authorized, directed and empowered to execute this Agreement.

(19) DURATION:

(A) Unless otherwise cancelled, this Agreement shall be in effect for two (2) years from the date of execution of this Agreement. This Agreement may be renewed for two additional 2-year periods. Unless notice is otherwise given by either party at least 30 days prior to the termination date, the terms of this Agreement shall automatically renew for the applicable additional term (either the first renewal period or the second renewal period). If the Agreement automatically renews, OzarksTraffic may revise Exhibits 1, 2 and 3 to reflect changes in OzarksTraffic policy or technology. If OzarksTraffic revises Exhibits 1, 2 and 3, OzarksTraffic will send copies of the revised exhibits to the Company and the revised exhibits shall be included as part of this Agreement. If the Company is unwilling to abide by the terms of the revised exhibits, this Agreement will automatically terminate.

(B) Upon expiration of this Agreement, the Company shall promptly disconnect and remove all of its CCTV accessing equipment and any other equipment which may be located on OzarksTraffic, City or MHTC property and return OzarksTraffic, City and MHTC property to the condition it was in prior to the placement of Company's equipment on OzarksTraffic, City and MHTC property. If Company fails to remove the equipment, OzarksTraffic may remove the equipment at the Company's cost.

(C) The Company agrees that OzarksTraffic reserves the right to terminate the Company's access to OzarksTraffic CCTV if it violates any terms of this Agreement and this agreement will be immediately terminated.

(20) CHANGE IN LAW: This Agreement is entered into subject to changes in federal law, state law and OzarksTraffic policy.

(21) NO INTEREST: By allowing the Company access to its CCTV, OzarksTraffic is not granting any property interest to or in the OzarksTraffic's CCTV or the OzarksTraffic TMC to the Company. OzarksTraffic, in its sole discretion, may discontinue its CCTV feed at any time and for any reason whatsoever, including for the convenience of OzarksTraffic. OzarksTraffic shall not be obligated to maintain said CCTV feed solely for the benefit of the Company.

IN WITNESS WHEREOF, the parties have entered into this Agreement on the date last written below.

Executed by the Company this 8th day of July, 2016

Executed by the MHTC this _____ day of _____, 20__.

Executed by City this _____ day of _____, 20__.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

By_____

Title_____

_____

Secretary to the Commission

Title_____

Approved as to Form:

_____

Commission Counsel

Company

By_____

Title VP & GENERAL MANAGER

CITY OF SPRINGFIELD, MO

By _____

Title _____

Approved as to Form:

_____

Staff Attorney

## ACKNOWLEDGMENT BY COMPANY

STATE OF Missouri )
) ss
COUNTY OF Greene )

On this 8 day of July, 20__, before me appeared Leo Henning personally known to me, who being by me duly sworn, did say that he/she is the VP-GM of Nexstar and that the foregoing instrument was signed and sealed on behalf of said company by authority of its Board of Directors, and that he/she acknowledged said instrument to be the free act and deed of said company and that it was executed for the consideration stated therein and no other.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the county and state aforesaid the day and year written above.

Danielle Collins
Notary Public

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI

DANIELLE COLLINS
My Commission Expires
September 3, 2018
Christian County
Comm #14624826

My Commission Expires: September 3, 2018

# Exhibit 1

General Terms

1. The Company shall be provided access to the OzarksTraffic Video Server for selection of digital CCTV video streams via the OzarksTraffic website.
2. Any FCC licensing requirements and or costs to transport to Company's facilities shall be the sole responsibility of the Company.
3. OzarksTraffic cannot guarantee uninterrupted access to the CCTV.

# Exhibit 2

As a partner in this program, Company agrees to provide the following service for OzarksTraffic at no charge:

1. Company will use verbal tag line for the duration of this contract, provided by OzarksTraffic each time an OzarksTraffic CCTV is broadcast. See Exhibit 3 for specific tag lines.

2. OzarksTraffic will provide a brand logo the Company must incorporate it as part of the CCTV feed. The logo will appear in a prominent position of the OzarksTraffic feed. The logo cannot be altered, masked or covered in any way. This agreement does not obligate the Company to broadcast the CCTV and does not prohibit other sponsorship logos from being displayed during the traffic reports.

3. Company will broadcast a minimum of one (1), thirty (:30) second Public Service Announcement (PSAs) per week for the total duration of the contract. OzarksTraffic will provide Company a copy of the pre-recorded announcements for broadcast. PSAs will consist of highway and traffic safety related messages. Company shall broadcast all PSAs during the hours of 5:30 AM - 7:30 PM, Monday through Friday. Proof of performance of all PSAs will be required at the end of each month and shall include date and air time. Company shall provide OzarksTraffic with one copy of an air-check in DVD or digital format quarterly and grant OzarksTraffic copyright for re-broadcast. Company shall offer OzarksTraffic, discounted advertising rates on all future OzarksTraffic initiatives to be negotiated at the time of OzarksTraffic advertising solicitations. This agreement will not replace any other established obligation for PSAs.

4. Company agrees to provide technical assistance from Company's engineering staff for addressing OzarksTraffic technical issues regarding Company's connectivity to the OzarksTraffic system.

5. Company shall provide a hypertext link using the OzarksTraffic logo on Company web site to the OzarksTraffic homepage, whenever an OzarksTraffic snapshot is displayed.

6. Company shall provide a written annual report to OzarksTraffic for each of its broadcast stations utilizing OzarksTraffic images. The report should include a description of population reach and other demographic information relevant to traffic reports, sponsorships, and traffic reports for OzarksTraffic monitoring of traveler information services.

7. If Company broadcasts radio traffic reports, Company will use verbal tag line provided by OzarksTraffic each time OzarksTraffic is used to gain broadcast information. In addition, Company shall broadcast a minimum of one (1), thirty (30) second Public Service Announcements (PSAs) per radio station, per week, to run Best Time Available for contract duration. Content will be determined by OzarksTraffic or its designated agent. In addition, Company shall provide one (1) OzarksTraffic traffic report sponsorship per day per radio station for contract duration. Proof of performance of all PSAs and sponsorships will be required at the end of each month.

# Exhibit 3

1. Company will use verbal tag lines provided by OzarksTraffic, each time an OzarksTraffic CCTV image is broadcast for the duration of the contract. The Company and its spokespersons shall **not** take ownership of OzarksTraffic CCTVs referring to them as "our" OzarksTraffic cameras. It must be clearly stated the CCTV feeds are provided by OzarksTraffic, MHTC and City in one of the following ways:

    a. OzarksTraffic cameras brought to you by MoDOT and City of Springfield or
    b. OzarksTraffic cameras courtesy of MoDOT and City of Springfield or
    c. OzarksTraffic cameras

One-rdg. _____
P. Hrngs. _____
Pgs. 13
Filed: 08-02-16

Sponsored by: Fishel

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016-191 SPECIAL ORDINANCE NO. _____

AN ORDINANCE

AUTHORIZING the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and KYTV/KYCW, for the purpose of sharing video from the closed-circuit television traffic monitoring cameras owned and operated by Missouri Department of Transportation and the City of Springfield.

---

WHEREAS, the City and Missouri Highways and Transportation Commission (MHTC) desire to enter into an agreement to share video from the closed-circuit television (CCTV) traffic monitoring cameras; and

WHEREAS, this agreement allows this media agency to access the CCTV traffic monitoring cameras so that they can provide the community with a traffic report.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Manager, or his designee, is hereby authorized to enter into an agreement with the MHTC and KYTV/KYCW, said agreement to be in substantially the form as that document attached hereto and incorporated herein by reference as "Exhibit A."

Section 2 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest: _____, City Clerk

Filed as Ordinance: _____

Approved as to form: Amanda R. Callaway, Assistant City Attorney

Approved for Council action: Greg Burris, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-191**

FILED: 08-02-16

ORIGINATING DEPARTMENT: Public Works

PURPOSE: Authorizing the City Manager, or his designee, to enter into an agreement with Missouri Highways and Transportation Commission and KYTV/KYCW (hereinafter, "Media Company") for the sharing of video from the closed-circuit television (CCTV) traffic monitoring cameras owned and operated by Missouri Department of Transportation (MoDOT) and the City of Springfield throughout the regional roadway network.

BACKGROUND INFORMATION: This agreement defines the terms under which the City and MoDOT will provide a web-based user account to the Media Company. The user account will allow access to the traffic monitoring video feed through the Transportation Management Center's video distribution software.

The agreement restricts the use of the video feed solely for the purpose of providing travel information to the public and specifically prohibits the Media Company from selling or charging a fee for the video; systematically recording the video for purposes other than traffic reports; misrepresenting the timing and source of the video; misrepresenting the availability of video to others; placing streaming video on websites; and/or showing video of any accident victims or close-ups of emergency response activities. Furthermore, the agreement requires that the OzarksTraffic logo remain visible on all video provided to the Media Company, and that the Media Company verbally acknowledge the source of the video each time it is used on air as "OzarksTraffic cameras" or as "OzarksTraffic cameras brought to you by (or courtesy of) MoDOT and City of Springfield".

This ordinance supports the following Field Guide 2030 goal(s): Chapter 12, Transportation; Major Goal 4, Multi-Modal, Interconnected System The City of Springfield should work within the region to develop, implement, and maintain a multi-modal transportation system that supports jobs, housing, education, accessibility, recreation, clean air, water conservation, and sustainability; Objective 4f, Provide accurate, up-to-date, real-time, user-friendly, and understandable transportation system information which is available to everyone, including first-time visitors and residents, which encompasses all forms of travel. Develop standards for making transportation maps available on the internet, including the use of MapQuest, Google, Yahoo, and other alternative formats, which can be easily updated and made accessible to all users, including the mobility impaired.

REMARKS: This agreement is an example of the City and MoDOT working together with local media to improve regional traveler information. There is no financial commitment for any of the parties to the agreement. Video access provided to KYTV/KYCW is non-exclusive, and the City and MoDOT reserve the right to allow access to other media companies through similar agreements. Public Works recommends approval of this Council bill.

Submitted by:

Martin Gugel, Assistant Director of Public Works

Recommended by:

Dan Smith, Director of Public Works

Approved by:

Greg Burris, City Manager

Exhibit 1

CCO Form: TR45
Approved: 02/08 (BDG)
Revised: 09/15 (TLP)
Modified:

**OZARKSTRAFFIC AGREEMENT BETWEEN MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION, THE CITY OF SPRINGFIELD, MISSOURI, AND KYTV/KYCW.**

THIS AGREEMENT is entered into by the Missouri Highways and Transportation Commission (hereinafter, "MHTC"), the City of Springfield, Missouri (hereinafter, "City"), Missouri Highways and Transportation Commission and City of Springfield, (hereinafter, collectively referred to as "OzarksTraffic"), and KYTV/KYCW (hereinafter, "Company"). Collectively referred to as the "Parties."

WITNESSETH:

WHEREAS, MHTC and City have undertaken an Intelligent Transportation Systems (ITS) program called OzarksTraffic which receives Closed Caption Television (hereinafter, "CCTV") on the respective state and city owned highways from devices installed on the area roadways and other means; and

WHEREAS, the Company has requested access to OzarksTraffic CCTV; and

WHEREAS, OzarksTraffic is willing to accommodate the Company's request for CCTV pursuant to the terms of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises, covenants, and representations contained in this Agreement, the parties agree as follows:

(1) DEFINITIONS:

(A) OzarksTraffic shall mean the ITS System and the Traffic Management Center (TMC) in Springfield, Missouri

(B) CCTV shall mean the closed circuit television streaming images from the OzarksTraffic TMC.

(2) PURPOSE: The Company agrees that OzarksTraffic CCTV shall be accessed in accordance with this Agreement and shall be used by the Company solely for the purposes of providing travel information, including related weather and emergency events, to the public. This Agreement only applies to media access to the OzarksTraffic greater Springfield area traffic management system at the TMC located at 1107 West Chestnut Expressway, Springfield, Missouri, 65802. Regardless of the access allowed by OzarksTraffic, the Company may need to acquire permission from other county or local municipality agencies to access the CCTV provided to OzarksTraffic from other county or local municipality agencies.

(3) CCTV TO BE ACCESSED:

(A) OzarksTraffic agrees to allow web-based access to the CCTV from the OzarksTraffic TMC via a user account under the general conditions described in Exhibit 1, which is attached hereto and incorporated herein by reference. OzarksTraffic, without notice, may interrupt or preempt the CCTV at any time. The Company's access to the CCTV system is non-exclusive and OzarksTraffic may allow other media companies or organizations access to the system. In addition, OzarksTraffic cannot guarantee that CCTV will always be available. OzarksTraffic shall have control of all camera views that are available from the OzarksTraffic TMC and does not guarantee that any particular camera view will be available at any given time.

(B) The Company agrees to immediately terminate the CCTV feed at their end when the live CCTV is showing close-up views of accident victims or of emergency response activities.

(4) DUTIES OF COMPANY: The Company assumes the following responsibilities under this Agreement:

(A) The Company shall be responsible for the purchase and maintenance of its own equipment needed to access the CCTV and OzarksTraffic TMC.

(B) The Company shall assume full responsibility to safeguard the video and/ or video feed from unauthorized use or reproduction, and shall assume full responsibility in the event the video or video feed is used for purposes other than for providing travel information to the public. The Company agrees that at any time it becomes aware of unauthorized use, copying, disclosure of the CCTV, or any use of the CCTV other than in accordance with OzarksTraffic policy, including use by the Company or any other party, it shall immediately notify OzarksTraffic at 417-864-1160, send written notice to the person listed in (9)(B) of this Agreement, and fully cooperate with OzarksTraffic to protect its proprietary rights. Company shall agree that breach or threatened breach of its obligation to protect the CCTV may cause immediate and irreparable harm, entitling OzarksTraffic to seek injunctive relief or immediate termination of access to the CCTV. Company's compliance with this paragraph shall not be construed in any way as a waiver of OzarksTraffic's rights to recover damages or obtain other relief against Company for harm to OzarksTraffic's CCTV or for any other breach of its contractual rights.

(C) The Company understands and agrees that if it, or its employees, contractors, or agents violate any terms of this Agreement, OzarksTraffic may take all necessary steps to remedy the violation including, but not limited to, terminating the Company's access to and use of the CCTV.

(D) The Company agrees not to:

(1) Sell or charge any fees for the use of the CCTV received from OzarksTraffic, except for the purpose of providing entire taped news broadcasts.

(2) Duplicate or reproduce the CCTV in any manner for any cost or fee, except for the purpose of providing entire taped news broadcasts.

(3) Systematically record CCTV for purposes other than traffic reports.

(4) Misrepresent the timing and source of the CCTV.

(5) Misrepresent the availability of CCTV to others.

(6) Place streaming CCTV images on websites.

(7) Show CCTV of any accident victims or close-ups of emergency response activities.

(E) The Company agrees that the rebroadcast of CCTV from OzarksTraffic will be primarily for providing traveler information only. The Company agrees to immediately stop the rebroadcast of taped images from OzarksTraffic upon any written or verbal request from OzarksTraffic. The Company agrees that OzarksTraffic has the right to immediately terminate the Company's access to CCTV from OzarksTraffic.

(F) The Company agrees to provide at no charge to OzarksTraffic the items listed in Exhibit 2, which is attached hereto and incorporated herein by reference.

(G) OzarksTraffic LOGO: The Company agrees the OzarksTraffic logo embedded on the video shall always be imposed on all CCTV video obtained from OzarksTraffic. The OzarksTraffic logo shall not be removed or obscured. The Company shall not use any CCTV (either "live" or taped) accessed from the OzarksTraffic system **without** the OzarksTraffic logo fully visible in the CCTV video stream.

(H) OzarksTraffic VERBAL TAG LINE: The Company agrees to use the OzarksTraffic verbal tag line, referenced in Exhibit 3, in all references to the OzarksTraffic CCTV video images used during "live" or taped broadcasts.

(5) INSTALLATION OF EQUIPMENT AT OzarksTraffic TMC: Installation of equipment by the Company to access OzarksTraffic CCTV is not necessary at the time of execution of this agreement. Should installation of equipment by the Company to access OzarksTraffic CCTV become necessary at a later date, the terms of installation will be solely at OzarksTraffic's discretion and will be set forth in a written addendum to this agreement.

(6) NO WARRANTY: OzarksTraffic makes no warranties, either expressed or implied, regarding the quality, quantity, or availability of the CCTV accessed under the terms of this Agreement. CCTV may be interrupted, be of poor quality, or otherwise be rendered unavailable. OzarksTraffic shall not be liable for warranties of fitness for any purpose, or for indirect, special or consequential damages such as loss of profits or inability to use the CCTV.

(7) INDEMNIFICATION: The Company does hereby agree to indemnify, hold harmless against, and defend OzarksTraffic, including its agents, employees and assigns or assignees, from any claims, costs, expenses, damages, and liabilities arising from or pertaining to the use and/or possession of the CCTV by the Company, its agents, employees, assigns or assignees, contractors, subcontractors or independent contractors.

(8) AMENDMENTS: Any change in this Agreement, whether by modification or supplementation, must be accomplished by a formal contract amendment signed and approved by the duly authorized representatives of the Parties.

(9) NOTICES: Any notice or other communication required or permitted to be given hereunder shall be in writing and shall be deemed given three (3) days after delivery by United States mail, regular mail postage prepaid, or upon receipt by personal or facsimile delivery, addressed as follows: KYTV/KYCW

(A) 999 W. Sunshine
Springfield, MO 65807

Telephone No.: 417-268-3299
Facsimile No.: 417-268-3364
Email Address: news@KY3.com

(B) OzarksTraffic
1107 West Chestnut Expressway
Springfield MO 65802
Telephone No.: 417-864-1160

or to such other place as the parties may designate in accordance with this Agreement. To be valid, facsimile delivery shall be followed by delivery of the original document, or a clear and legible copy thereof, within three (3) business days of the date of facsimile transmission of that document.

(10) ASSIGNMENT: The Company shall not assign, transfer or delegate any interest in this Agreement without the prior written consent of OzarksTraffic.

(11) LAWS TO GOVERN: For any action brought against the City and/or the employee(s) of the City, the laws of Missouri will govern and the Agreement shall be construed according to the laws of the State of Missouri. For any action brought against the State of Missouri, MHTC, its commissioners, Missouri Department of Transportation, and any employee(s), counsel, or agent of the Missouri Department of Transportation, in either the State of Missouri or any other jurisdiction, the laws of Missouri will govern and the Agreement shall be construed according to the laws of the State of Missouri.

(12) CANCELLATION: MHTC or the City may cancel this Agreement at any time for a material breach of contractual obligations by providing the Company with written notice of cancellation. In addition, OzarksTraffic, in its sole discretion, may cancel this Agreement at any time and for any reason whatsoever, including for the convenience of OzarksTraffic. Upon filing for any bankruptcy or insolvency proceeding by or against the Company, whether voluntarily, or upon the appointment of a receiver, trustee, or assignee, for the benefit of creditors, OzarksTraffic reserves the right and sole discretion to cancel this Agreement. If OzarksTraffic exercises its right to cancel this Agreement, cancellation shall become effective upon the date specified in the notice of cancellation sent to the Company. In the event of a cancellation, Company shall be relieved of its obligations under Exhibit 2 below.

(13) SOVEREIGN IMMUNITY: Nothing herein shall be construed as a waiver of MHTC's sovereign immunity or rights under the Eleventh Amendment of the Constitution of the United States. Nothing herein shall be construed as a waiver of the City's sovereign immunity of rights.

(14) SOLE BENEFICIARY: This Agreement is made for the sole benefit of the parties and nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the Parties.

(15) SECTION HEADINGS: All section headings contained in this Agreement are for the convenience of reference only and are not intended to define or limit the scope of any provision of this Agreement.

(16) DISPUTES: Any disputes that arise under this Agreement shall be decided by OzarksTraffic or its representatives.

(17) SEVERABILITY: If any clause or provision of this Agreement is found to be void or unenforceable by a court or agency of proper jurisdiction, then the remaining provisions not void or unenforceable shall remain in full force and effect.

(18) AUTHORITY TO EXECUTE: The signers of this Agreement warrant that they are acting officially and properly on behalf of their respective institutions and have been duly authorized, directed and empowered to execute this Agreement.

(19) DURATION:

(A) Unless otherwise cancelled, this Agreement shall be in effect for two (2) years from the date of execution of this Agreement. This Agreement may be renewed for two additional 2-year periods. Unless notice is otherwise given by either party at least 30 days prior to the termination date, the terms of this Agreement shall automatically renew for the applicable additional term (either the first renewal period or the second renewal period). If the Agreement automatically renews, OzarksTraffic may revise Exhibits 1, 2 and 3 to reflect changes in OzarksTraffic policy or technology. If OzarksTraffic revises Exhibits 1, 2 and 3, OzarksTraffic will send copies of the revised exhibits to the Company and the revised exhibits shall be included as part of this Agreement. If the Company is unwilling to abide by the terms of the revised exhibits, this Agreement will automatically terminate.

(B) Upon expiration of this Agreement, the Company shall promptly disconnect and remove all of its CCTV accessing equipment and any other equipment which may be located on OzarksTraffic, City or MHTC property and return OzarksTraffic, City and MHTC property to the condition it was in prior to the placement of Company's equipment on OzarksTraffic, City and MHTC property. If Company fails to remove the equipment, OzarksTraffic may remove the equipment at the Company's cost.

(C) The Company agrees that OzarksTraffic reserves the right to terminate the Company's access to OzarksTraffic CCTV if it violates any terms of this Agreement and this agreement will be immediately terminated.

(20) CHANGE IN LAW: This Agreement is entered into subject to changes in federal law, state law and OzarksTraffic policy.

(21) NO INTEREST: By allowing the Company access to its CCTV, OzarksTraffic is not granting any property interest to or in the OzarksTraffic's CCTV or the OzarksTraffic TMC to the Company. OzarksTraffic, in its sole discretion, may discontinue its CCTV feed at any time and for any reason whatsoever, including for the convenience of OzarksTraffic. OzarksTraffic shall not be obligated to maintain said CCTV feed solely for the benefit of the Company.

IN WITNESS WHEREOF, the parties have entered into this Agreement on the date last written below.

Executed by the Company this 29 day of June, 2016.

Executed by the MHTC this _____ day of _____, 20__.

Executed by City this _____ day of _____, 20__.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

By_____

Title_____

_____

Secretary to the Commission

Title_____

Approved as to Form:

_____

Commission Counsel

Company

By Scott B

Title KYTV/KYCW News Director

CITY OF SPRINGFIELD, MO

By _____

Title _____

Approved as to Form:

_____

Staff Attorney

## ACKNOWLEDGMENT BY COMPANY

STATE OF_____)
) ss
COUNTY OF_____)

On this _____ day of _____, 20__, before me appeared _____ personally known to me, who being by me duly sworn, did say that he/she is the _____ of _____and that the foregoing instrument was signed and sealed on behalf of said company by authority of its Board of Directors, and that he/she acknowledged said instrument to be the free act and deed of said company and that it was executed for the consideration stated therein and no other.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the county and state aforesaid the day and year written above.

_____
Notary Public

My Commission Expires: _____

# Exhibit 1

General Terms

1. The Company shall be provided access to the OzarksTraffic Video Server for selection of digital CCTV video streams via the OzarksTraffic website.
2. Any FCC licensing requirements and or costs to transport to Company's facilities shall be the sole responsibility of the Company.
3. OzarksTraffic cannot guarantee uninterrupted access to the CCTV.

# Exhibit 2

As a partner in this program, Company agrees to provide the following service for OzarksTraffic at no charge:

1. Company will use verbal tag line for the duration of this contract, provided by OzarksTraffic each time an OzarksTraffic CCTV is broadcast. See Exhibit 3 for specific tag lines.

2. OzarksTraffic will provide a brand logo the Company must incorporate it as part of the CCTV feed. The logo will appear in a prominent position of the OzarksTraffic feed. The logo cannot be altered, masked or covered in any way. This agreement does not obligate the Company to broadcast the CCTV and does not prohibit other sponsorship logos from being displayed during the traffic reports.

3. Company will broadcast a minimum of one (1), thirty (:30) second Public Service Announcement (PSAs) per week for the total duration of the contract. OzarksTraffic will provide Company a copy of the pre-recorded announcements for broadcast. PSAs will consist of highway and traffic safety related messages. Company shall broadcast all PSAs during the hours of 5:30 AM - 7:30 PM, Monday through Friday. Proof of performance of all PSAs will be required at the end of each month and shall include date and air time. Company shall provide OzarksTraffic with one copy of an air-check in DVD or digital format quarterly and grant OzarksTraffic copyright for re-broadcast. Company shall offer OzarksTraffic, discounted advertising rates on all future OzarksTraffic initiatives to be negotiated at the time of OzarksTraffic advertising solicitations. This agreement will not replace any other established obligation for PSAs.

4. Company agrees to provide technical assistance from Company's engineering staff for addressing OzarksTraffic technical issues regarding Company's connectivity to the OzarksTraffic system.

5. Company shall provide a hypertext link using the OzarksTraffic logo on Company web site to the OzarksTraffic homepage, whenever an OzarksTraffic snapshot is displayed.

6. Company shall provide a written annual report to OzarksTraffic for each of its broadcast stations utilizing OzarksTraffic images. The report should include a description of population reach and other demographic information relevant to traffic reports, sponsorships, and traffic reports for OzarksTraffic monitoring of traveler information services.

7. If Company broadcasts radio traffic reports, Company will use verbal tag line provided by OzarksTraffic each time OzarksTraffic is used to gain broadcast information. In addition, Company shall broadcast a minimum of one (1), thirty (30) second Public Service Announcements (PSAs) per radio station, per week, to run Best Time Available for contract duration. Content will be determined by OzarksTraffic or its designated agent. In addition, Company shall provide one (1) OzarksTraffic traffic report sponsorship per day per radio station for contract duration. Proof of performance of all PSAs and sponsorships will be required at the end of each month.

# Exhibit 3

1. Company will use verbal tag lines provided by OzarksTraffic, each time an OzarksTraffic CCTV image is broadcast for the duration of the contract. The Company and its spokespersons shall **not** take ownership of OzarksTraffic CCTVs referring to them as "our" OzarksTraffic cameras. It must be clearly stated the CCTV feeds are provided by OzarksTraffic, MHTC and City in one of the following ways:

    a. OzarksTraffic cameras brought to you by MoDOT and City of Springfield or
    b. OzarksTraffic cameras courtesy of MoDOT and City of Springfield or
    c. OzarksTraffic cameras

One-rdg._____
P. Hrngs. _____
Pgs. 12
Filed: 07-19-16

Sponsored by: Fulnecky

First Reading: _____ Second Reading: _____

COUNCIL BILL NO. 2016-183 SPECIAL ORDINANCE NO._____

AN ORDINANCE

AUTHORIZING the City Manager, or his designee, to enter into an agreement with the Board of Governors of Missouri State University for the purpose of continuing to provide enhanced law enforcement services within and around the Missouri State University campus.

_____

WHEREAS, the City and Missouri State University (MSU) wish to continue working together to provide a safe community in and around the MSU campus by renewing the contract for the police substation on MSU campus.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF SPRINGFIELD, MISSOURI, as follows, that:

Section 1 – The City Manager, or his designee, is hereby authorized to enter into an agreement with the Board of Governors of MSU for the purpose of continuing to provide enhanced law enforcement services, said agreement to be substantially in the form and content as that document attached hereto and incorporated herein by reference as “Attachment 1.”

Section 2 – This ordinance shall be in full force and effect from and after passage.

Passed at meeting: _____

_____
Mayor

Attest:_____, City Clerk

Filed as Ordinance: _____

Approved as to form: Franklin Dom Bonnin, II, City Attorney

Approved for Council action: Guy Burns, City Manager

**EXPLANATION TO COUNCIL BILL NO: 2016-183**

FILED: 07-19-16

ORIGINATING DEPARTMENT: Police

PURPOSE: To authorize the City Manager, or his designee, to enter into an agreement with the Board of Governors of Missouri State University (MSU) for the purpose of continuing to provide enhanced law enforcement services within and around the MSU campus.

BACKGROUND INFORMATION: The need exists to staff a police substation on the campus of MSU on a continuous basis to promote public safety and prevent crime, as well as to foster the coordination of services to enhance the quality of life in and around the expanding MSU campus. The Springfield Police Department (SPD) and MSU have worked together for over 20 years in this unique partnership.

Additionally, amendments to Section 173.2050 RSMo require the governing board of each public institution of higher education to engage in discussions with law enforcement agencies with jurisdiction over the premises of the institution, to develop and enter into a memorandum of understanding concerning the policies and protocols regarding sexual assault, domestic violence, dating violence, and stalking involving a student that comport with the best practices and current professional practices. To comply with this state law amendment that is anticipated to be effective August 28, 2016, the parties agreed to modify the existing agreement by adding "Exhibit D of Attachment 1.

REMARKS:
This agreement provides an opportunity for the SPD to continue its efforts with MSU to work together to provide a safe community in and around the university campus. During the term of this contract, through June 30, 2017, the total amount received from MSU is not anticipated to exceed Seven Hundred Nineteen Thousand, Nine hundred Twenty-Five Dollars and 46/100 ($719,925.46).

Submitted by:

Paul Williams, Chief of Police

Greg Burris, City Manager

**Attachment 1**

| ROUTING ORDER | (1) ORIGINATING DEPARTMENT | (2) MISSOURI STATE UNIVERSITY | (3) FINANCE DEPARTMENT |
|---|---|---|---|
| | (4) LAW DEPARTMENT | (5) CITY MANAGER'S OFFICE | (6) CITY CLERK'S OFFICE |
| EFFECTIVE DATE JULY 1, 2016 | TERMINATION DATE JUNE 30, 2017 | CONTRACT NUMBER: | |

( ) NEW CONTRACT ( X ) RENEWAL OF CONTRACT NO. _____20

| CITY | BOARD OF GOVERNORS OF MISSOURI STATE UNIVERSITY |
|---|---|
| CITY OF SPRINGFIELD | BOARD OF GOVERNORS |
| 840 BOONVILLE, PO BOX 8368 | MISSOURI STATE UNIVERSITY |
| SPRINGFIELD, MO 65802 | 901 SOUTH NATIONAL |
| PHONE (417) 836-7612 FAX (417) 836-4663 | SPRINGFIELD, MO 65897 |
| ATTN: SGT. TONY VIENAGE | PHONE (417) 836-4590 FAX (417) 836-7669 |
| DEPT: MISSOURI STATE UNIV. POLICE SUBSTATION | ATTN: PRESIDENT |

## INTERGOVERNMENTAL AGREEMENT REGARDING LAW ENFORCEMENT SERVICES

**THIS AGREEMENT**, made and entered into this _____ day of _____, 2015, by the parties identified above.

**WHEREAS**, the City of Springfield, Missouri ("City"), a municipal corporation organized and operating under the Constitution and Laws of the State of Missouri and the Springfield City Charter, and the Board of Governors ("Board") of Missouri State University, a university organized and operating under the Constitution and Laws of the State of Missouri, are mutually desirous of revising, renewing, and extending the period of the preexisting intergovernmental agreement for providing police services within and around the immediate campus area of Missouri State University ("MSU"); and

**WHEREAS**, the City and the Board are resolved that an agreement providing for enhanced law enforcement services within and around the campus of Missouri State University will be of mutual benefit to the parties to this agreement.

**NOW, THEREFORE**, IN CONSIDERATION OF THE TERMS AND CONDITIONS HEREIN STATED, THE CITY AND THE BOARD HEREBY ENTER INTO THE FOLLOWING AGREEMENT REGARDING LAW ENFORCEMENT SERVICES TO BE PROVIDED WITHIN AND AROUND THE CAMPUS OF MISSOURI STATE UNIVERSITY:

A. STAFFING OF THE POLICE SUBSTATION

1. The Board agrees to provide, at its expense, a facility deemed suitable by the City for a police substation, to be located on the MSU campus as defined in Section B.1. of this agreement.

2. The City agrees to staff the police substation located on the MSU campus as promised herein. The Springfield Police Department expressly reserves and retains the right to direct and supervise all police personnel assigned to the police substation at all times this agreement is in effect. If requested, the Board agrees to provide approximately 60 hours per week of clerical assistance for the substation operation. The City will provide personnel and equipment for the purpose of staffing the police substation in accordance with the following schedule:

a. The City agrees to staff the MSU substation with ten (10) full-time police officers, unless officers are reassigned pursuant to Paragraph 5 below. The minimum staffing of the MSU substation shall not fall below eight (8) full-time police officers. Those ten (10) police officers shall consist of: eight (8) police officers, one (1) police sergeant, and one (1) police corporal. In the event that the staffing is reduced to eight (8) full-time police officers, the officers shall consist of: seven (7) police officers, one (1) police sergeant or acting sergeant. It is the intention of the City to provide 24-hour a day police services to the campus community.

b. The division of costs for the ten (10) police officers provided to MSU under the terms of this agreement shall be that MSU fund 80% and the City fund 20% of the combined total of the salaries of the ten full-time officers assigned

to the substation. The term “salaries” as used in this paragraph shall include: the officers’ base salary and benefits. Should the parties agree in writing to increase the staffing of the substation to more than ten (10) officers, MSU shall be responsible for the entire salary of any additional officer assigned to the substation. If the staffing shall fall below ten (10) police officers pursuant to Paragraph 5 below for a period in excess of fourteen (14) days, MSU shall only be responsible for 80% of the total salaries of the remaining officers. (See Exhibit B attached hereto and incorporated herein by reference.)

c. Officers of the MSU substation who participate in special safety and enforcement projects agreed to between MSU safety and security staff and the Police MSU Substation Supervisor within and around the campus of MSU will be compensated at the guaranteed rate of time and one-half (money or compensatory time) for the actual time during which the officer is engaged in the performance of the special project. The cost of such compensation shall be reimbursed by the Board. Assignment of officers to such MSU special safety or enforcement projects is at the discretion of the Police MSU Substation Supervisor.

d. FISCAL YEARS SUBSEQUENT TO FY 13-14

(1) The parties may reassess the staffing needs for the police substation on an annual basis, or more frequently if either party deems it necessary to do so.

(2) The parties agree that the staffing levels designated in paragraph A.2.a will be continued for so long as this agreement is in effect, provided the staffing levels are not adjusted or revised in accordance with the terms and conditions of this agreement.

B. LAW ENFORCEMENT SERVICES TO BE PROVIDED BY THE CITY

1. The parties agree and understand that the primary purpose of the police substation is to bring the police and the campus community together in a unified effort to: (1) enhance public safety, (2) prevent crime, and (3) to make this, as a neighborhood, a better place to live. The parties therefore commit to exercise their best efforts to cooperate and communicate regarding matters of obvious concern. Recognizing the University may have helpful information, both parties are committed to open communication and, as appropriate, exchange of information. Nothing in this paragraph should be construed to require the divulgence of confidential or privileged information. The objective will be to create positive interaction and to establish a partnership between police and the campus community as defined in this section in the process of problem identification and problem resolution. MSU authorizes City of Springfield to enforce City of Springfield ordinances as well as state law on the campus.

a. The MSU campus is identified and delineated in the map, Exhibit A, attached and incorporated herein by reference. The MSU main campus is generally described as that area bounded by National Avenue on the east; Loren Street on the south; Kimbrough Street on the west; and Walnut Street on the north (including Kentwood Hall properties between Walnut and St. Louis). In addition, it is agreed that SPD officers assigned to the MSU Police Substation will routinely patrol and provide police services to all other satellite facilities owned or leased by MSU within two miles of the boundaries of the campus area as herein defined.

b. In addition to the defined area just described, the term "in and around the MSU campus area" shall include the perimeter streets, and shall also include all recognized Greek fraternity and sorority houses, without regard to their location, whether inside or outside the defined area.

2. Springfield police officers assigned to the police substation will work flexible shifts in accordance with the calls for service and crime-problem identification demands, based upon a 40 hour work week for each officer assigned.

3. The Springfield Police Department will assign an extra officer to the substation when requested, on designated Friday and Saturday nights, such as at the beginning and end of the school year, as determined by the substation supervisor.

4. Springfield police officers assigned to the police substation will provide a visible police presence to the MSU campus area.

5. The parties expressly agree and stipulate that, notwithstanding any other provision of this agreement to the contrary, the Springfield Police Department reserves and retains the right to temporarily reassign police officers assigned

to the police substation to other duties in the following situations:

a. Emergency situations. In cases of emergency, or extraordinary needs for service in other locations the Springfield Police Department reserves and retains the right to utilize those officers assigned to the MSU substation as needed, for the duration of the emergency.

b. Temporary reassignment. Temporary reassignment shall mean reassignment of any of the ten (10) police officer positions to another location other than the MSU substation on a full-time basis. In the event of reassignment, the City expressly agrees to restore the staffing of the police substation to the levels set out in Section A of this agreement as soon as possible in light of existing circumstances.

6. The parties agree and understand that police officers assigned to the police substation will on occasion be absent from their duties as a result of illness, vacation leave, personal leave, funeral leave, compensatory time, training time, court appearances, military leave, and other similar causes of absence. In such cases the existing workload will be assumed by other members of the police substation staff. In the event an absence of any officer assigned to the police substation exceeds fourteen (14) days, the City will review the staffing needs of the police substation and will assign such additional personnel as may be necessary to the effective functioning of the unit depending upon availability of personnel.

7. The parties agree and understand that assignment to the MSU Substation will not penalize assigned employees and will not in any way threaten employment rights, promotional opportunities, training opportunities, or fringe benefits.

8. The Chief of the Springfield Police Department and the MSU President, or their designees, shall be responsible for developing all necessary procedures for the coordination of services between the two agencies.

9. The substation will maintain records which are available to the President (or his designee) to include but not limited to:

a. Substation payroll records.

b. Time sheet and detailed billing information sufficient for invoice reconciliation.

c. Work schedule of substation officers.

d. Calls For Service data within the designated substation area as defined by this contract.

e. Appropriate crime statistic information sufficient for Federal CLERY reporting.

f. Provide information consistent with legal restrictions from police reports.

g. Equipment purchase orders.

h. Data by city service center.

C. <u>RESPONSIBILITIES OF THE BOARD OF GOVERNORS</u>

1. The Board agrees to provide and maintain a facility deemed suitable by the Springfield Police Department for a police substation, to be located in the MSU campus area as defined in Section B.1. of this agreement. The Board agrees to bear sole responsibility for the cost of operating and maintaining such facility for so long as this agreement is in effect.

2. The Board agrees to pay for services provided by the City in a total amount not to exceed Seven Hundred Nineteen Thousand, Nine Hundred Twenty-Five Dollars and Forty Six Cents ($719,925.46) based on the cost projections set forth in Exhibit B and C attached hereto and incorporated herein by reference.

3. The Board agrees to pay the cost of the overtime, uniform allowance, equipment depreciation, and training costs of all full-time officers assigned to the substation based on the cost projections set forth in the attached Exhibits B and C, attached hereto and incorporated herein by reference.

4. The City will bill the Board on a monthly basis for law enforcement services provided pursuant to this agreement. The Board shall remit to the city, money owed to the City under the terms of this agreement, on or before thirty (30) days after the date of the invoice, unless there is a dispute regarding the amount of the invoice in which case the parties agree to meet and discuss in good faith the invoice amount.

D. OTHER TERMS AND CONDITIONS

1. Conflicts. No salaried officer or employee of the City, and no member of the City Council or the Board shall have a financial interest, direct or indirect, in this contract. A violation of this provision renders the contract void.

2. Liability. The City hereby agrees to assume responsibility for the liabilities imposed by law on its employees, agencies, and institutions, including but not limited to all actions of its police officers undertaken on the MSU campus. The Board hereby agrees to assume responsibility for the liabilities imposed by law on its employees, agencies, and institutions. Nothing herein shall be construed to waive any sovereign, official or governmental immunity applicable to either party, its board or council members, officers or employees.

3. Notices. All notices required or permitted herein under and required to be in writing may be given by first class mail addressed to the Springfield City Manager, 840 Boonville, Springfield, Missouri 65802, and to the Board of Governors, Missouri State University, 901 South National, Springfield, Missouri 65897. The date of delivery of any notice shall be the date falling on the second full day after the date of its mailing.

4. Jurisdiction. This agreement and every question arising thereunder shall be construed and determined according to the laws of the State of Missouri. Should any part of this agreement be adjudicated, venue shall be proper only in the Circuit Court of Greene County, Missouri.

5. Termination of Agreement. Either party shall have the right to terminate this agreement upon giving written notice of intent to terminate to the other party at least 30 days prior to the date of termination.

6. Failure of Appropriations and Cancellation of Agreement. The parties mutually agree and understand that continuation of this agreement is subject to annual budget appropriations. Should the Springfield City Council or the Board fail to appropriate funds to continue staffing of the police substation, this agreement may be terminated by either party as of the last date upon which appropriated funds are available to either or both parties for continuation of staffing under the agreement.

7. Nondiscrimination. The parties agree not to discriminate on the basis of age, sex, religion, disability, race, national origin, ancestry, veteran status, sexual orientation, gender identity, or color, in employment, accommodation or provision of services in carrying out the terms and provisions of this agreement.

8. Term of the Agreement. Subject to all of the foregoing terms and conditions, the term of this Agreement shall be from July 1, 2016 through June 30, 2017. Thereafter, the parties may annually renew the Agreement for successive periods under such terms and conditions as may be agreed to at that time. Each addendum or renewal of the Agreement shall be in written form, executed by the Springfield City Manager and the President for MSU, on such terms and conditions as may be agreed to by the City Manager and the President for MSU. Should the term of this contract end without a renewal being timely enacted, parties shall continue to follow these contract terms on a month-to-month basis until such time a new contract can be executed or one of the parties terminates the contract pursuant to Paragraph D.5 above.

9. Compliance with all laws. The parties agree to abide and follow all federal, state, and local laws in performing the duties set forth in this contract including, without limitation, Mo. Rev. Stat § 173.2050, which requires the parties to establish and follow certain policies and protocols regarding sexual assault, domestic violence, dating violence, and stalking involving Students and other members of MSU's campus community. Said policies and protocols are shown in Exhibit D, which is attached hereto and incorporated herein by reference.

**IN WITNESS WHEREOF,** the parties hereto have set their hands and seals on the day and year herein stated.

**APPROVED AS TO FORM**

By:_____
Attorney for Board of Governors

**The Board of Governors of Missouri State University**

By: _____
President of the University

**APPROVED AS TO FORM**

By:_____
Assistant City Attorney

**The City of Springfield, Missouri**

By: _____
City Manager

**CERTIFICATE OF DIRECTOR OF FINANCE**

I certify that the expenditure contemplated by this document is within the purpose of the appropriation to which it is to be charged and that there is an unencumbered balance of appropriated and available funds to pay therefor.

_____
Director of Finance

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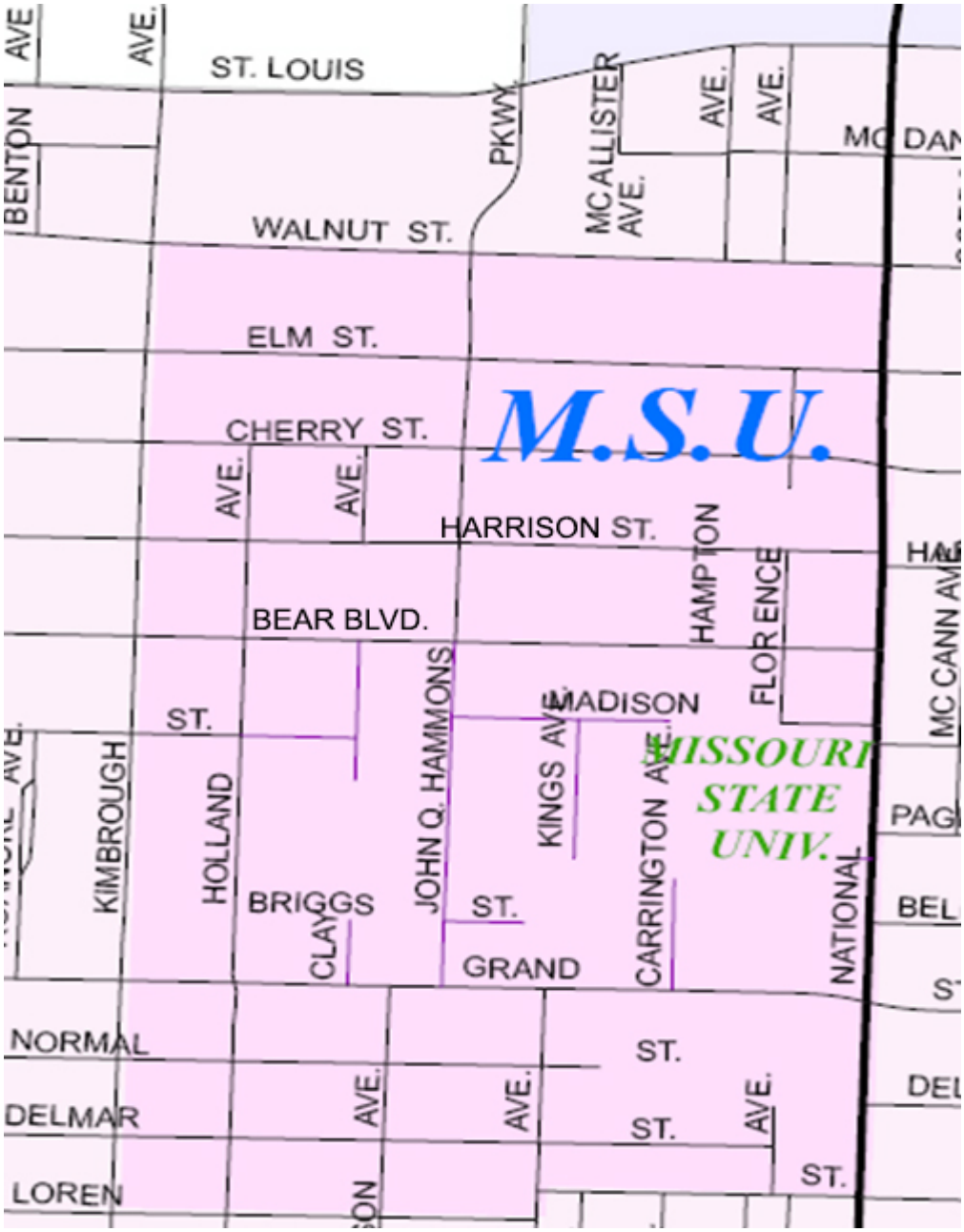
**Exhibit A**
**MSU CAMPUS MAP**



# Exhibit B
## Cost of MSU Substation Account
## FY 16-17

| | | Totals |
|---|---|---|
| SALARIES / BENEFITS* | | |
| Sergeant (1), Corporal (1), and Officers (8) | | |
| MSU Cost – 80% of Total Cost | | $625,844.24 |
| OVERTIME | | 41,368.00 |
| | **Subtotal:** | **$667,212.24** |
| OVERHEAD: | | |
| UNIFORM ALLOWANCE (10 Officers) | | $14,500.00 |
| TRAINING COST | | $4,400.00 |
| TRANSPORTATION COST** | | $33,813.22 |
| | **Subtotal:** | **$52,713.22** |
| | **Total Contract Amount** | **$719,925.46** |

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* Salary information is calculated at actual officer's salaries and top step for vacant positions and includes longevity pay, education incentive, pension contribution, Medicare, workers' comp, etc.
Salaries and Benefits above is 80% of $782,305.30

** (See Exhibit C)

# Exhibit C
## MSU Substation Transportation Cost
## FY 16-17

| | 2009 | 2011 | 2013 |
|---|---|---|---|
| | Crown Vic | Tahoe | Ford Explorer |
| Purchase cost w/equipment* | $37,426.00 | $41,562.00 | $39,274.00 |
| 7 Year Depreciation | $5,346.57 | $5,937.43 | $5,610.57 |

| | |
|---|---|
| Annual Depreciation for all three (3) vehicles | $16,894.57 |
| Fuel Cost ** | $ 6,871.69 |
| Maintenance and Repair Cost ** | $ 3,086.96 |
| **Vehicle Subtotal** | **$26,853.22** |

**Bicycles**

**Ten (10) Patrol Bicycles in Fleet**

| | |
|---|---|
| Purchase Cost | $2,088.00 |
| 3 Year Depreciation | $ 696.00 |

| | |
|---|---|
| Annual Depreciation for ten (10) bicycles | $6,960.00 |
| Bicycle Subtotal | $6,960.00 |

**Total Annual Transportation Cost** **$33,813.22**

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* Cost of the vehicle with standard law enforcement, including mobile data terminal and emergency equipment. All equipment will be maintained in good working order.

**Figure based on actual and averages for FY15 (July 2014-June 2015). Figures from Fleet Administrator.

# Exhibit D
## Policies and Protocols Regarding
## Sexual Assault, Domestic Violence, Dating Violence, and Stalking

Consistent with the provisions of Title IX of the Education Amendments of 1972, 20 U.S.C.A. § 1681, *et seq.* ("Title IX"), and the Violence Against Women Act ("VAWA"), MSU will investigate all reports of sexual assault, domestic violence, dating violence and stalking that are brought to MSU's attention, regardless as to where the conduct is alleged to occur, which involve member(s) of the MSU campus community. (Note: Such reports will be investigated by MSU regardless as to where the conduct is alleged to have occurred, in that MSU is obligated to determine whether the alleged conduct occurred in the context of an educational program or activity, or has continuing effects on the MSU campus or in an off-campus educational program or activity.)

Consistent with the requirements of Title IX and VAWA, and the directives of the Department of Education's Office for Civil Rights "("OCR"), MSU will honor the wishes of a complainant/victim as to whether to notify the Springfield Police Department of an incident of alleged sexual assault, domestic violence, dating violence and or stalking. The reporting of any such offense will be the choice and the responsibility of the complainant/victim. Notwithstanding the foregoing, nothing in this Exhibit D shall be construed so as to preclude the Springfield Police Department from investigating any and all allegations of criminal activity – including allegations of sexual assault, domestic violence, dating violence, or stalking – that are reported to the Springfield Police Department or otherwise come to the attention of the Springfield Police Department.

Subject to its obligations under the Family Educational Rights and Privacy Act of 1974, 20 U.S.C. § 1232g; 34 CFR § 99 *et seq.* ("FERPA"), MSU will cooperate with the Springfield Police Department, in terms of any law enforcement investigation of sexual assault, domestic violence, dating violence and or stalking involving members of the MSU campus community, if authorized by the complainant/victim or pursuant to a lawfully issued search warrant, subpoena, or court order. The Springfield Police Department agrees to use best efforts to communicate with MSU regarding investigations or reports of sexual assault, domestic violence, dating violence and or stalking involving members of MSU's campus community, provided that such communication, in the reasonable estimation of the Springfield Police Department or the Greene County Prosecuting Attorney, will not jeopardize the integrity of an investigation, or subsequent prosecution, of sexual assault, domestic violence, dating violence and or stalking.

Depending on the facts and circumstances of an individual case, one or both parties may have jurisdiction to investigation incident of sexual assault, domestic violence, dating violence and or stalking involving members of the MSU campus community. The term jurisdiction, as used herein, means that MSU shall have jurisdiction to conduct investigations consistent with its Title IX/VAWA obligations and its educational interests, whereas SPD shall have jurisdiction to conduct investigations from a law enforcement/criminal perspective. Both parties understand and agree that such investigations are independent and may happen simultaneously, and agree to provide one another with as much courtesy and communication as may be possible, given the facts and circumstances of the individual case.

The parties acknowledge and agree that this Exhibit D is intended fully conform to the requirements of Mo. Rev. Stats. § 173.2050. The parties further acknowledge that, pursuant to Mo. Rev. Stat. § 173.2050.3, the Missouri Department of Public Safety has been charged with promulgating rules and regulations by August 28, 2016, to facilitate the implementation of the requirements of Mo. Rev. Stat. § 173.2050. Thus, the parties agree to evaluate any and all such promulgating rules and regulations, and to work together in good faith to modify their collaborative practices and, as necessary, this Exhibit D, to ensure continued legal compliance.