

**AGENDA
PLANNING COMMISSION
CITY OF ROELAND PARK, KANSAS
ROELAND PARK
COUNCIL CHAMBERS
APRIL 18, 2017 6:00 PM**

I. Roll Call

1. Minutes - Feb. 21, 2017 Meeting

II. Public Hearing

1. Application for Rezone and Preliminary Development Plan/Preliminary Plat

III. Action Items

1. Special Event Permit Regulation Changes - Remanded from Council

IV. Discussion Items

V. Other Matters Before the Planning Commission

VI. Adjournment

Item Number: Approval of Minutes- -1.
Committee 4/18/2017
Meeting Date:



City of Roeland Park
Action Item Summary

Date:
Submitted By:
Committee/Department:
Title: **Minutes - Feb. 21, 2017 Meeting**
Item Type:

Recommendation:

Details:

Financial Impact

Amount of Request:	
Budgeted Item?	Budgeted Amount:
Line Item Code/Description:	

Additional Information

How does item relate to Strategic Plan?

How does item benefit Community for all Ages?

ATTACHMENTS:

Description



Minutes - 2-21-17

Type

Exhibit

PLANNING COMMISSION MINUTES
CITY OF ROELAND PARK, KANSAS
ROELAND PARK CITY HALL
4600 WEST 51ST STREET, ROELAND PARK, KS 66205
FEBRUARY 21, 2017 6:00 P.M.

The Roeland Park Planning Commission met on February 21, 2017, in City Hall, 4600 West 51st Street.

Ms. Jones-Lacy started the meeting due to a lack of chair.

Present: Kyle Rogler, Bill Ahrens, Darren Nielsen, Mark Kohles and Paula Gleason

Absent: Maddie Kamphaus and Mike Hickey

Staff: Jennifer Jones-Lacy, Assistant City Administrator, John Jacobson, Building Official and Steve Mauer, City Attorney

1. **Minutes:**

A. November 22nd Meeting

MOTION: COMMISSIONER AHRENS MOVED AND COMMISSIONER NIELSEN SECONDED TO APPROVE THE NOVEMBER 22, 2016 PLANNING COMMISSION MINUTES. (MOTION PASSED 5-0)

2. **Business Items**

A. Elect a new Chair and Vice Chair

The Commissioners had some discussion on who should be the Planning Commission Chair and vice Chair.

MOTION: COMMISSIONER GLEASON MOVED AND COMMISSIONER KOHLES SECONDED TO APPOINT COMMISSIONER NIELSEN AS THE PLANNING COMMISSION CHAIR. (MOTION PASSED 5-0)

MOTION: COMMISSIONER KOHLES MOVED AND COMMISSIONER NIELSEN SECONDED TO APPOINT COMMISSIONER GLEASON AS THE PLANNING COMMISSION VICE CHAIR. (MOTION PASSED 5-0)

3. **Action Item**

A. Request for a rule exception per section 16-1423 regarding conveyance of land at 5145, 5149 and 5151 Buena Vista

Mr. Jacobson explained the purpose of the conveyance and explained that one homeowner purchased two lots and another purchased a third lot with the plan to demolish the three existing homes. The lot lines will be redrawn so that the property owners with two lots can

sell a portion of that property to the other home owner creating two lots instead of three. Mr. Jacobson explained that this can be done through the rule exception clause in the City code (16-1423) that states a property line adjustment can occur to facilitate conveyance of land between two adjacent platted lots if there is no need to relocate utilities and it doesn't create nonconforming lots.

Mr. Tom Clemons, the surveyor for the project spoke on behalf of the applicant. He stated that Toby and Joanna Rush plan to sell a portion of one lot to John and Kimberlee Christensen. He said it's a pretty straightforward project.

MOTION: COMMISSIONER KOHLES MOVED AND COMMISSIONER AHRENS SECONDED TO APPROVE THE REQUEST FOR A RULE EXCEPTION AND ALLOW FOR THE CONVEYANCE.
(MOTION PASSED 5-0)

Commissioner Ahrens said that in most other cities he has worked with, they do a lot split instead of a rule exception. He asked Mr. Mauer if the rule exception was the best method in this case. Mr. Mauer said that the City's way is certainly cleaner and more straight forward so he typically advocates for the most direct and easy method possible.

4. **Additional Business**

A. Update on 47th Street Development

Ms. Jones-Lacy explained that she had been in contact with one of the owners of the property Jeff Stehney who also owns Joe's KC, who stated that his partner Tyler Oliver has been meeting with potential partners on putting a restaurant at the corner of 47th and Mission in Roeland Park. Mr. Stehney indicated he had a couple meetings with a burger chain. Ms. Jones-Lacy said they do not have any Letters of Intent or any firm prospects as of yet. She said Mr. Stehney also indicated that he is working on his own plans for the corner but that he is having trouble making it work financially. He said they have bids for contractors to excavate the property and return it to grass. He also indicated that the owner of Taco Republic may approach the City regarding his use of the lot for parking. Ms. Jones-Lacy stated that anyone can ask for anything they want from the City but it is up the Planning Commission to recommend to Council and for Council to decide what they are willing to do.

Commissioner Nielsen asked what would happen once parking is no longer allowed on the site. Ms. Jones-Lacy stated that it would be a code enforcement issue at that point.

Commissioner Gleason asked if we would ticket the property owner or the owners of the vehicles. City Attorney Mauer said it would be an issue for the property owner and it would be his responsibility to ensure that it was clear that parking would no longer be permitted on the site.

Mr. Ahrens provided an overview the 47th and Mission Overlay Committee application for a parking lot in Kansas City, Kansas that was intended for Joe's KC staff parking. He said that Mr. Stehney was at the last meeting and indicated that the lot two lots north of Taco Republic was going to purchase by Joe's KC and used for parking but after understanding the

setback and landscaping requirements of the Unified Government, decided the lot wasn't large enough.

Commissioner Rogler asked if there were any plans or discussions at the Overlay Committee about having a spot of shared parking in the area. Ms. Jones-Lacy said that is an element of the Overlay District plan but that nobody has taken initiative to specifically create a lot for shared parking.

B. Ethics Ordinance Signatures

Ms. Jones-Lacy explained that the ethics ordinance is something we routinely have all appointed and elected board members sign on an annual basis and that the full ordinance was provided in the Planning Commission packet.

Mr. Nielsen asked if the Commission could get minutes sooner. Ms. Jones-Lacy stated she would send them as soon as they were available.

1. **Adjournment**

MOTION: COMMISSIONER ROGLER MOVED AND COMMISSIONER GLEASON SECONDED TO ADJOURN. (MOTION PASSED 5-0)

Item Number: Public Hearing- II.-1.
Committee 4/18/2017
Meeting Date:



City of Roeland Park

Action Item Summary

Date: 4/18/2017
Submitted By: Jennifer Jones-Lacy, Asst. City Administrator/Finance Director
Committee/Department: Administration
Title: **Application for Rezone and Preliminary Development Plan/Preliminary Plat**
Item Type: Report

Recommendation:

To make and approve the following motions:

- **Approve rezoning at 4800 Roe Parkway to CP-2 allowing for a hotel, an adventure/ropes course and a sit-down bar and restaurant.**
- **Approve the Preliminary Development Plan for "The Rocks" at 4800 Roe Parkway as submitted.**

Details:

The City is looking to rezone and submit a preliminary development plan (PDP) for 4800 Roe Parkway. City Engineers SKW worked with the City to develop the PDP and rezoning request. City Administrator Keith Moody will speak on behalf of the City (i.e. developer) while myself and Building Official John Jacobson will provide the staff's perspective.

Prior to meeting with the Planning Commission, the applicant was vetted by the Redevelopment Committee which met on April 5th. The only comment made by the Committee was a recommendation to include an internal sidewalk in the plan to show an internal pedestrian flow from one site to another. SKW has included that connection on the PDP.

Rezoning Request to CP-2 from SFR

The property is the location of the City's Public Works facility and the former site of the municipal pool and is zoned Single Family Residential. Staff has evaluated and determined Planned General Business (CP-2) to be the most appropriate zoning for this property. The comprehensive plan

specifically identifies CP-1 or MXD. However, in section 5.3 of the comp plan it states the goals of the project are to

1. Promote the development of single or multi-story buildings
2. Promote quality redevelopment with various mix of residential, office and/or retail
3. Create a landmark to promote a positive image of Roeland Park.

Additional site goals mentioned are to create a regional landmark with an anchor tenant, a mix of lodging and restaurants. We believe the City's redevelopment plans to install a hotel, the adventure course and restaurant space would fulfill the goals of the comp plan. CP-2 specifically identifies hotels and recreational-type activities as uses within the zoning designation. As such, staff believes this would be the appropriate zoning designation, while still satisfying the comprehensive plan parameters.

The applications for rezoning attached as *Exhibit #1* and includes the legal description and narrative statement.

Preliminary Development Plan

Dan McGhee, City Engineer with SKW developed and submitted the PDP which includes all elements required of the PDP with the exception of the landscaping and screening proposal which will accompany the final development plans. It is too early at this point to determine the nature and location of these features. The PDP also notes that the City intends to develop The Rocks in phases with Phase 1 consisting of Lot 3, Phase 2 consisting of lots 1 and 2 and Roe Blvd Improvements and Phase 3 including Lot 4 and Roe Pkwy as needed. The PDP is *Exhibit #2*.

Also attached is the traffic analysis memo from Cheryl Bornheimer, Traffic Engineer with SKW. The memo explains current and proposed traffic counts, queue lengths at various peak times of the day and turning movement information. The memo is *Exhibit #3*.

The Preliminary stormwater summary conducted by Dan McGhee of SKW is attached as *Exhibit #4*. The PDP also notes that the developer of each lot will be responsible for providing stormwater management facilities on each individual lot unless a regional stormwater management system is desired by the developer(s) and approved by the City.

Exhibit #5 are the letters from utility companies assuring you that they can service this location with water, sewer, gas and electric service. Water service is available along Roe Parkway and additional improvements for fire protection and hydrants will need to be determined at the final development stage. In addition, Johnson County Waste Water is currently reviewing a sewer main relocation request for this project.

Action by the Planning Commission

The action requested is to determine whether to recommend passage of an ordinance to grant the CP-2 zoning to the property. Per Sec. 16-321 – Consideration of Rezoning and Special Use Permits – which requires the procedures set forth in Sec. 16-316 – Consideration of Zoning Text Amendments – a majority of the members of the Planning Commission present and voting at the hearing shall be required to recommend approval, approval with conditions, or denial of the zoning text amendment to the Governing Body. The Planning Commission's recommendation shall include a statement of the reasons for the recommendation.

A list of items to be reviewed by the Planning Commission is listed under "additional information".

Staff comments are in italics.

Financial Impact

Amount of Request:	
Budgeted Item?	Budgeted Amount:
Line Item Code/Description:	

Additional Information

Per Sec. 16-324 – Consideration of Preliminary Development Plans – the preliminary development plan shall be considered and approved as part of the rezoning application. The Planning Commission shall consider the factors stated in Sec. 16-321(e) (provided below), to the extent they are pertinent to the particular application, and any other factors which may be relevant to a particular application.

(1) The character of the neighborhood. - *The development takes place next to the Planned Industrial district and adjacent to multi-family and commercial properties. There are also a few single family homes just outside of 200 ft from the property. We believe CP-2 would be an appropriate use for this location. A hotel, an adventure course and restaurant and bar would fit nicely by providing residence with additional entertainment options. We don't anticipate any excess noise from the developments at late hours.*

(2) The zoning and uses of nearby properties, and the extent to which the proposed use would be in harmony with the zoning and uses. - *The proposed zoning for this site is appropriate considering surrounding properties for the same reasons mentioned in item 1.*

(3) The suitability of the property for the uses to which it has been restricted under the applicable zoning district regulations. - *Staff believe CP-2 is the most appropriate zoning for the proposed uses. Hotels are specifically listed as a CP-2 use. Adventure courses are not specifically identified however, entertainment or recreational uses are listed which would encompass the proposed ropes course.*

(4) The length of time the property has remained vacant as zoned. - *The lower portion of the site has been vacant since the municipal pool closed in 1993. The upper portion currently houses the Public Works building which will relocate as part of this project.*

(5) The extent to which approval of the application would detrimentally affect nearby properties. - *The plan is preliminary. If substantial changes take place, a new preliminary and final development plan must be submitted. Approval of this plan is not final. Even so, staff feel the proposal will provide a boost for nearby properties via increase in property values and business.*

(6) The extent to which the proposed use would substantially harm the value of nearby properties. - *Staff does not believe the development would harm property values.*

(7) The extent to which the proposed use would adversely affect the capacity or safety of that

portion of the road network influenced by the use, or present parking problems in the vicinity of the property. - *This is addressed in the Traffic Memo submitted by SKW.*

(8) The extent to which utilities and services, including but not limited to, sewers, water service, police and fire protection, and parks and recreation facilities are available and adequate to serve the proposed use. - *All utilities have provided a statement that service is available to the site. Also, connection roads will provide substantial support for police, fire and ambulance crews to access all sites.*

(9) The extent to which the proposed use would create excessive storm water runoff, air pollution, water pollution, noise pollution or other environmental harm. -*Please see the Stormwater memo provided by SKW.*

(10) The extent to which there is a need for the use in the community. - *The City's residents have requested a sit-down restaurant for Roeland Park for years. To date, a bar/restaurant does not exist within our city limits. In addition, there are no hotels available. The proposed development would address a substantial need for our residents and provide a boost to tax revenue through hotel/motel taxes and sales taxes generated from the uses.*

(11) The economic impact of the proposed use on the community. - *We anticipate a hotel restaurant/bar and adventure course would bring a host of new visitors to Roeland Park. The conservative estimated property tax impact for the City is approximately \$73,300 annually. The estimated hotel/motel tax is expected to be about \$100,000 annually and about \$30,000 annually in sales tax for a total annual economic impact to the City of \$203,300 plus any additional revenue earned by neighboring businesses.*

(12) The ability of the applicant to satisfy any requirements applicable to the specific use imposed pursuant to this chapter. *The City will ensure all requirements are met as dictated by our City code.*

(13) The gain, if any, to the public health, safety and welfare due to denial of the application as compared to the hardship imposed upon the landowner, if any, as a result of denial of the application. - *The lower portion of the land has been vacant for 24 years. This vacancy has not provided any benefit for the City or its residents. Doing infill development on this site has a tremendous impact to derive significant explicit and implicit benefits. As a potential landmark destination, it can help residents build additional pride in their community and put Roeland Park on the map.*

(14) The conformance of the proposed use to the comprehensive plan and other adopted planning policies. - *Staff believe this use is appropriate for the site based on the Comp Plan's goal to make the old pool site a regional landmark.*

(15) The recommendation of professional staff. - *Staff recommend approval.*

The Planning Commission shall consider the following additional factors::

(1) The capacity of the site to accommodate the building(s), parking and drives, with appropriate open space and safe and easy ingress and egress; *The site has considerable*

constraints on potential building footprints due to topography and site geology. In staff's opinion this design reflects optimal building layout and parking functionality.

(2) The degree of harmony between the architectural quality of the proposed building(s) and the surrounding neighborhood - *To be considered during the Final Development Plan Only;*

(3) The appropriateness of the minimum dimensions, areas of lots and yards and setbacks contained in the applicable zoning district regulations; *The layout is compatible with regulatory design criteria.*

(4) The consistency of the plan with good land planning and site engineering design principles; and *As was stated above, given the challenges of the site this rendering of the development plan best accommodates both required regulatory issues and design constraints.*

(5) Compliance with all other applicable provisions of Chapter XVI – Zoning and Subdivision Regulations.

The submittal complies with the spirit and intent of the regulations.

How does item relate to Strategic Plan?

How does item benefit Community for all Ages?

ATTACHMENTS:

Description	Type
❑ Exhibit #1 - Applications	Exhibit
❑ Exhibit #2 - PDP	Exhibit
❑ Exhibit #3 - Traffic Memo	Exhibit
❑ Exhibit #4 - Stormwater Memo	Exhibit
❑ Exhibit #5 - Public Utility Service	Exhibit

Fee: _____
Rec'd By _____
Date Paid _____

**APPLICATION FOR
DEVELOPMENT PLAN APPROVAL**
City of Roeland Park, Kansas
PLEASE PRINT

Case No.: _____
Planning Commission
Date _____

Requested Action:

- | | Fee |
|--|------------|
| ☐ Preliminary Development Plan | \$400.00 |
| ☐ Revised Preliminary Development Plan | \$400.00 |
| ☐ Final Development Plan | \$650.00 |
| ☐ Revised Final Development Plan | \$650.00 |
| ☐ Landscaping Plan | \$125.00 |
| ☐ Site Plan (non-residential development in residential district) | \$150.00 |

Name of Development: The Rocks on Roe

Location: 4800 Roe Parkway

Range 25E Township 12S Section: _____ Quadrant: _____

Existing Zoning: Single Family Residential

Present use of Property: Public

Is Property subject to rezoning? ☒ Yes ☐ No

Is Property subject to Special Use Permit? Yes ☒ No

Applicant: City of Roeland Park

Address: 4600 W. 51st Street

Phone: 913-722-2600

City: Roeland Park

State: KS

Zip: 66205

Property Owner: City of Roeland Park

Address: 4600 W. 51st Street

Phone: 913-722-2600

City: Roeland Park

State: KS

Zip: 66205

Engineer/Surveyor/Architect: SKW - Howard Lubliner

Address: 11250 Corporate Avenue

Phone: (913) 307-2550

City: Lenexa

State: KS

Zip: 66219

Applicant signature _____

Date 4/4/17

To be completed by the City:

Fee Paid \$ N/A

Date _____

Received by: _____

Proof of ownership and/or authorization of agent affidavit(s) submitted. Date: _____

☐ Rezoning Case No. _____

☐ Special Use Permit No. _____

☐ Previous Plan Approval: _____

☐ City Engineer review and comment submitted

Technical studies required? ☐ Yes ☐ No If yes, what type and when submitted? _____

Assurances of adequate public facilities received. ☐ Yes ☐ No If yes, date received _____

Supporting materials required: _____

Date Submitted: _____

Date application deemed complete: _____

Surrounding property owners notified: _____

Date of publication: _____

Sign Posted _____

Date notices sent: _____

Public Hearing date: _____

Planning Commission recommendation: _____

Date: _____

City Council Action: _____

Date: _____

PRELIMINARY DEVELOPMENT PLANS CHECKLIST [CODE 16-323]

Date Submitted _____

Name of Project The Rocks on Roe

Case # _____

Description/Type of Project: Rezone and plat to establish a CP-2 Zoning for Zip KC (ropes course)

I, Keith Moody (Contact Person's Name - Printed), hereby certify the attached and completed application contains the information as specified in accordance with the Roeland Park City Code. I understand the submission of incomplete or inaccurate information may result in a delay in processing and action on this application.

Signature of Contact Person _____

Date 4/4/17

NOTE: Some plans, because of their scale and complexity may require additional information not indicated on this checklist. You are encouraged to work closely with the Staff in advance of your actual application submittal. Please submit **ONLY THOSE DRAWINGS** necessary to provide information required by this checklist. Submission of construction drawings or other nonessential drawings may delay the review process. Please check appropriate boxes (I = Included or N/I = Not Included) as the form is completed.

☐ I ☐ N/I

1. Application form
2. Eight copies of the preliminary site development plan that must include the following information:

☐ I ☐ N/I**GENERAL INFORMATION**

- a. North arrow;
- b. Scale;
- c. Date of plan preparation;
- d. Name and address of landowner.

☐ I ☐ N/I**SITE DEVELOPMENT**

- a. Location and dimension of buildings and other structures;
- b. Location and dimensions of parking areas;
- c. Location and dimensions of drives and walks;
- d. Location and dimension of public streets and all easements;
- e. General extent and character of proposed landscaping and screening;
- f. Proposed drainage patterns.
- g. Adjacent development (property within 200 feet) including lot lines, building footprints, access points and parking areas;
- h. Existing topography with contours at 5-foot intervals, and delineating any land areas within the 100-year flood plain;
- i. Location and size of any drainage structures, such as culverts, paved or earthen ditches or storm water sewers and inlets;
- j. Preliminary sketch drawings of elevations and floor plans depicting the general style, size and exterior construction materials of the buildings.

☐ I ☐ N/I**ADDITIONAL INFORMATION**

- a. Schedule indicating total floor area and land area;
- b. Parking Schedule showing the number of space provided and required for all existing buildings, and all spaces required for proposed buildings;
- c. Name and address of architect, landscape architect, planner, engineer, surveyor, or other person involved in the preparation of the plan.

3. All required studies pursuant to section 16-304.

☐ I ☐ N/I**TECHNICAL STUDIES**

- a. Traffic Study;
- b. Parking Study;
- c. Lighting Study;
- d. Drainage Study;
- e. Geo-technical Study;
- f. Other (specify) _____

4. Assurances of adequate public facilities as required by section 16-305.

5. Assurances of proof of ownership and/or authorization of agent as required by section 16-302.

FINAL DEVELOPMENT PLANS CHECKLIST [CODE 16-327]

Date Submitted _____

Name of Project The Rocks on Roe Case # _____

Description/Type of Project: _____

I, Keith Moody, (Contact Person's Name - Printed), hereby certify the attached and completed application contains the information as specified in accordance with the Roeland Park City Code, I understand the submission of incomplete or inaccurate information may result in a delay in processing and action on this application.

Signature of Contact Person _____

Date 4/4/17

NOTE: Some plans, because of their scale and complexity may require additional information not indicated on this checklist. You are encouraged to work closely with the Staff in advance of your actual application submittal. Please submit **ONLY THOSE DRAWINGS** necessary to provide information required by this checklist. Submission of construction drawing's or other nonessential drawings may delay the review process. Please check appropriate boxes (I = Included or N/I = Not Included) as the form is completed.

☐ I ☐ N/I

1. Application form.
2. Eight copies of the preliminary site development plan to be drawn to a standard engineer's scale. The actual scale used will depend on the development and shall be subject to the approval of the city engineer. The plans must include the following information:

☐ I ☐ N/I **GENERAL INFORMATION**

- a. North arrow;
- b. Scale;
- c. Date of plan preparation;
- d. Name and address of landowner;
- e. A small key map indicating the location of the property within the City.

☐ I ☐ N/I **SITE DEVELOPMENT**

- a. All existing and proposed adjacent public street right-of-way with centerline location;
- b. All existing and proposed adjacent public street and public drive locations, widths, curb cuts and radii;
- c. Location, width and limits of all existing and proposed sidewalks;
- d. Location, size and radii of all existing and proposed median breaks and turning lanes;
- e. Distance between all buildings. between buildings and property lines and between all parking areas and property lines;
- f. Location of all required building and parking setbacks;
- g. Location, dimensions, number of stories and area in square feet of all proposed buildings;
- h. Area of land on site plan in square feet or acres.

☐ I ☐ N/I **PARKING**

- a. Location and dimensions of all driveways;
- b. Location and dimensions of all parking lots;
- c. Location and dimensions of all parking stalls and aisles;
- d. Location and dimensions of all loading and service areas and docks;
- e. Location, height, candle power and type of outside lighting fixtures for parking lots.

☐ I ☐ N/I **LANDSCAPE AND SCREENING**

- a. Location, size and materials to be used for all screening, including screening of outside trash enclosure areas.

☐ I ☐ N/I **GRADING AND DRAINAGE DESIGN PLAN**

- a. Finished grades or contours for the entire site at 2 foot contour intervals;
- b. Limits, location, size and material to be used in all proposed retaining walls;

☐ I ☐ N/I **ADDITIONAL INFORMATION**

- a. Location, height, candle power and type of outside lighting fixtures for buildings;
- b. Location, size, type of material and message of all proposed monument or detached signs;
- c. Pertinent peripheral information to include adjacent developments, alignment and location of public and private driveways and streets, medians, public and semi-public easements

☐ I ☐ N/I

One copy of the proposed site plan and one copy of the proposed building elevations shall be reduced onto 8-1/2

1. inch by 11 inch bond paper.
2. Assurances of adequate public facilities as required by section 16-305.
3. Proof of filing of the statement required by section 16-325 (a).
4. Deeds of dedication for all rights-of-way or easements required as a result of preliminary development plan approval if conveyance thereof is not to be made by plat or by the filing of the final development plan pursuant to Section 16-329.
5. A copy of all covenants and restrictions applicable to the development, if required by the terms of the preliminary development plan.
6. Evidence of the establishment of the agency for the ownership and maintenance of any common open space and all assurances of the financial and administrative ability of such agency required pursuant to approval of the preliminary development plan, if required by the terms of the approved preliminary development plan.
7. Evidence of satisfaction of any stipulations of the preliminary development plan approval which were conditions precedent to consideration of the final development plan.

Fee: _____
 Rec'd By _____
 Date Paid _____

APPLICATION FOR REZONING
City of Roeland Park, Kansas
 PLEASE PRINT

Case No.: _____
 Planning Commission
 Date _____

Applicant/Agent's Name(s) Keith Moody Phone: 913-722-2600

Mailing Address 4600 W. 51st Street Roeland Park KS 66205
Street City State Zip

Property Owner's Name(s) City of Roeland Park Phone: 913-722-2600

Mailing Address 4600 W. 51st Street Roeland Park KS 66205
Street City State Zip

Requested Rezoning From: SFR Present Zoning District **to** CP-2 Proposed Zoning District

Location of property 4800 Roe

Subdivision: N/A **Lot:** _____ **Block:** _____

Legal description Attached

(Attached legal description must be typed).

Current Land Use Public **Proposed Land Use:** General Commercial

Reasons for requesting zoning Vacant land will be leased or sold for commercial purposes for hotel, restaurants and ropes course.

KELLEY BOHON
Notary Public-State of Kansas
 My Appt. Expires 4/16/17

Applicant signature [Signature] **Date** 4/4/17

Note: For rezoning procedure, see application form for Development Plan Approval.

[Signature]
Johnson County, KS

To Be Filled in by the City:		Fee Paid \$ <u>N/A</u>	Date _____	Received by: _____
Proof of ownership and/or authorization of agent affidavit(s) submitted. Date: _____				
Technical studies required? ☐ Yes ☐ No If yes, what type and when submitted? _____				
Assurances of adequate public facilities received. ☐ Yes ☐ No If yes, date received _____				
Date application deemed complete: _____				
Surrounding property owners notified: _____		Date of publication: _____		Sign Posted _____
Date notices sent: _____		Public Hearing date: _____		
Planning Commission recommendation: _____		Date: _____		
City Council Action: _____		Date: _____	Ordinance # _____	Publication Date: _____

PROOF OF OWNERSHIP AFFIDAVIT

STATE OF _____)
) SS
COUNTY OF _____)

_____, being first duly sworn upon his/her oath deposes and states as follows:

(1) [FILL IN ONLY IF APPLICATION SUBMITTED ON BEHALF OF THE LEGAL OWNER]

That _____
(Name of owner signing Affidavit; if owner is a corporation or business, name of individual signing Affidavit, capacity and exact name and legal status of said corporation or business) is/are the legal owner/authorized official of the legal owner of the property that is the subject of Rezoning No. ____
_____/Special Use Permit No._____/ (Other)_____. (ALL OWNERS OF RECORD MUST FILE AN AFFIDAVIT).

(2) [FILL IN ONLY IF APPLICATION SUBMITTED ON BEHALF OF A CONTRACT PURCHASER]

That _____
(Name of contract purchaser signing Affidavit; if a corporation or business, exact name and legal status of said corporation or business) is the holder of a contract to purchase the property that is the subject of Rezoning No. ____/ Special Use Permit No._____/ (Other)_____ from the owner(s) and is therefore a "landowner" within the meaning of the Zoning Regulations.

Signature

Subscribed and sworn to before me this _____ day of _____, 200__.

Notary Public

My commission expires:

REZONING CHECKLIST [CODE 16-317]Date Submitted 4/4/2014Name of Project The Rocks on Roe

Case # _____

Description/Type of Project: Rezone and plat to establish a CP-2 Zoning for Zip KC (ropes course)

I, Keith Moody, (Contact Person's Name - Printed), hereby certify the attached and completed application contains the information as specified in accordance with the Roeland Park City Code, I understand the submission of incomplete or inaccurate information may result in a delay in processing and action on this application.

Signature of Contact Person _____

Date 4/4/12

NOTE: Some plans, because of their scale and complexity may require additional information not indicated on this checklist. You are encouraged to work closely with the Staff in advance of your actual application submittal. Please submit **ONLY THOSE DRAWINGS** necessary to provide information required by this checklist. Submission of construction drawing's or other nonessential drawings may delay the review process. Please check appropriate boxes (I = Included or N/I = Not Included) as the form is completed.

The following items shall be submitted in support of any application for rezoning:

☐ I ☐ N/I

1. Legal description of the property;
2. A statement of the reasons why rezoning is being requested;
3. The written comments of the Redevelopment Committee on the concept plan, if applicable pursuant to section 16-322;
4. A preliminary development plan, except for rezonings to a Single-Family Residence District and Duplex Residence District;
5. All studies as may reasonably be required pursuant to section 16-304;
6. Assurances of adequate public facilities as required by section 16-305.

PRELIMINARY
DEVELOPMENT PLAN
THE ROCKS
CITY OF
ROELAND PARK, KANSAS



SCALE: 1"=50'
50 25 0 50

OWNER:

CITY OF ROELAND PARK, KANSAS
4600 WEST 51ST STREET
ROELAND PARK, KANSAS 66205
ATTN: KEITH MOODY
PHONE: (913) 722-2600
EMAIL: kmoody@roelandpark.org

NOTES:

- LANDSCAPING: PLANS TO BE PROVIDED IN ACCORDANCE WITH CHAPTER XVI ARTICLE 6 ROELAND PARK CODE OF ORDINANCES WHEN FINAL DEVELOPMENT PLANS ARE SUBMITTED FOR EACH INDIVIDUAL LOT.
- PHASING:
PHASE 1 = LOT 3
PHASE 2 = LOT 1, LOT 2 AND ROE BLVD. IMPROVEMENTS
PHASE 3 = LOT 4 AND ROE PARKWAY AS NECESSARY.
- STORMWATER MANAGEMENT: THE DEVELOPER OF EACH LOT SHALL PROVIDE STORMWATER MANAGEMENT FACILITIES ON EACH INDIVIDUAL LOT UNLESS REGIONAL STORMWATER MANAGEMENT IS DESIRED BY LOT DEVELOPER AND APPROVED BY CITY.
- WATER SERVICE IS AVAILABLE ALONG ROE PARKWAY. ADDITIONAL IMPROVEMENTS FOR FIRE PROTECTION, INCLUDING FIRE HYDRANTS, TO BE DETERMINED AT FINAL DEVELOPMENT PLAN STAGE.

FLOOD NOTE:

THIS PROPERTY LIES WITHIN FLOOD ZONE X, DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF JOHNSON COUNTY, KANSAS AND INCORPORATED AREAS, MAP NO. 20091C0009G, PANEL NO. 9 OF 161 AND DATED AUGUST 3, 2009.

SITE DATA

SITE AREA: 7.259 ACRES
EXISTING ZONING: SINGLE FAMILY RESIDENTIAL DISTRICT
PROPOSED ZONING: CP-2 PLANNED GENERAL BUSINESS DISTRICT

PARKING DATA: LOT 1
SITE AREA: 2.33 ACRES
PROPOSED USAGE: HOTEL
TOTAL BUILDING AREA: 12,675 SF
PARKING: 12,675 SF
REQUIRED: 90 + EMPLOYEES/2 (1 SPACE FOR EACH TWO EMPLOYEES, 1 SPACE FOR EACH GUEST ROOM)
PROVIDED: 106 SPACES

PARKING DATA: LOT 2
SITE AREA: 1.47 ACRES
PROPOSED USAGE: RESTAURANT
TOTAL BUILDING AREA: 6,000 SF
PARKING: 6,000 SF
REQUIRED: 1 SPACE FOR EACH THREE SEATS
PROVIDED: 63 SPACES (195 SEATS MAX)

PARKING DATA: LOT 3
SITE AREA: 1.96 ACRES
PROPOSED USAGE: OUTDOOR ELEVATED OBSTACLE COURSE
TOTAL BUILDING AREA: 1,200 SF
PARKING: 1,200 SF
REQUIRED: TBD
PROVIDED: 36 SPACES

PARKING DATA: LOT 4
SITE AREA: 0.84 ACRES
TOTAL BUILDING AREA: TBD
PARKING: 4,100 GSF MIN
PROVIDED: TBD
ALL STALLS ARE 9' WIDE UNLESS NOTED

SHAHER, KLINE & WARREN

11250 Corporate Avenue
Lenexa, KS 66219-1392

913.888.7800 FAX: 913.888.7868

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THE ROCKS
ROELAND PARK, KANSAS

PRELIMINARY DEVELOPMENT PLANS
PRELIMINARY DEVELOPMENT PLAN

130099-220
SHEET NO.
1 OF 2

DESIGNED BY	DRAWN BY	CHECKED BY	ISSUE DATE	REV.	DATE	REVISIONS	BY	APPD
MM	ELM	MM	04/10/17	1				
4				2				
5				3				

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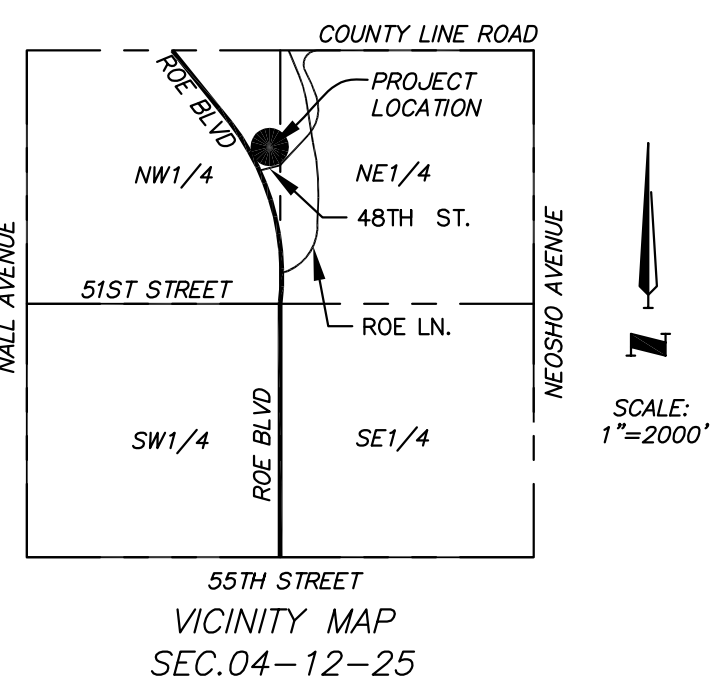
ZONED P-1
PLANNED INDUSTRIAL
PARK DISTRICT

ZONED SINGLE
FAMILY
RESIDENTIAL
DISTRICT

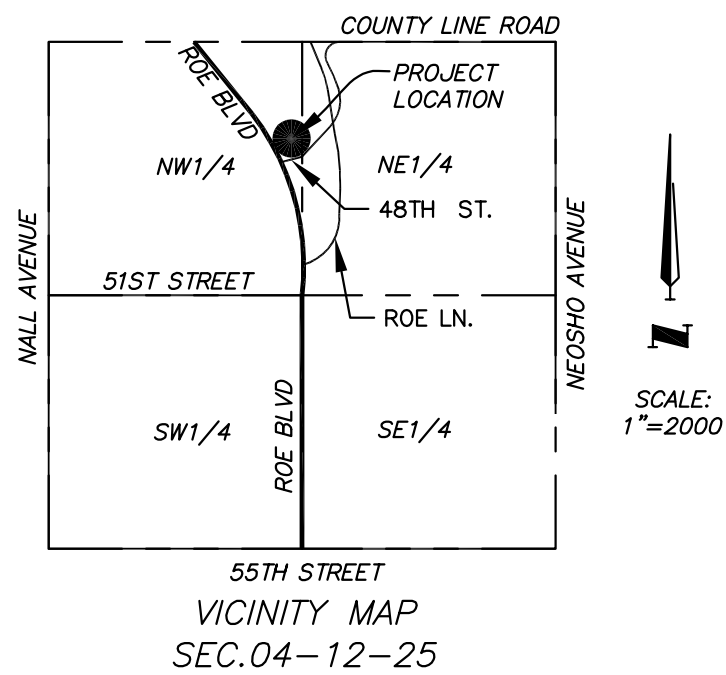
ZONED CP-2
PLANNED
GENERAL
BUSINESS
DISTRICT

ZONED
MULTIPLE
RESIDENCE
DISTRICT

ZONED CP-2
PLANNED GENERAL
BUSINESS DISTRICT



LE-PROJECT PROJECTS\130099-220\CAD\CIVIL\PDF\130099-220 PDF.DWG
LAYOUT: LAYOUT1
BY: DAN.MCGHEE
DATE: 4/10/2017
XREF DWG1: NONE
XREF DWG2: NONE
XREF DWG3: NONE
XREF DWG4: NONE



*ZONED
MULTIPLE
RESIDENCE
DISTRICT*

ZONED CP-
PLANNED
GENERAL
BUSINESS
DISTRICT

OWNER
CITY OF ROELAND PARK, KANSAS
4600 WEST 51ST STREET
ROELAND PARK, KANSAS 66205
ATTN: KEITH MOODY
PHONE: (913) 722-2600
EMAIL: kmoody@roelandpark.org



SCALE: 1"=50'

A horizontal graphic scale bar. The top part is a solid black bar. Below it, the bar is divided into segments: a white segment from 50 to 25, a black segment from 25 to 12.5, a white segment from 12.5 to 0, a black segment from 0 to 12.5, and a white segment from 12.5 to 50. The numbers 50, 25, 0, and 50 are placed below the bar at their respective positions.

*ZONED P-I
PLANNED INDUSTRIAL
PARK DISTRICT*

LOT 3
(1.96 AC)

LOT 2
(1.47 AC)

LOT 1
(2.33 AC)

LOT 4
(0.84 AC)

~~ZONED SINGLE
FAMILY
RESIDENTIAL
DISTRICT~~

ZONED
CP-2
PLANNED
GENERAL
BUSINESS
DISTRICT

LEGAL DESCRIPTION

ALL THAT PART OF THE NW 1/4 OF SECTION 4, TOWNSHIP 12, RANGE 25, IN THE CITY OF ROLAND PARK, JOHNSON COUNTY, KANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF THE NW 1/4 OF SAID SECTION 4; THENCE N 2° 32' 08" W, ALONG THE EAST LINE OF SAID NW 1/4, A DISTANCE OF 1302.36 FEET, TO A POINT ON THE SOUTHERLY EXTENSION OF THE EAST RIGHT-OF-WAY LINE OF ROE BOULEVARD, AS NOW ESTABLISHED; THENCE N 20° 45' 37" W, ALONG SAID SOUTHERLY EXTENSION, A DISTANCE OF 101.72 FEET, TO THE POINT OF INTERSECTION OF SAID EAST RIGHT-OF-WAY LINE WITH THE NORTH RIGHT-OF-WAY LINE OF WEST 48TH STREET, AS NOW ESTABLISHED, SAID POINT BEING THE POINT OF BEGINNING; THENCE CONTINUING N 20° 45' 37" W, ALONG SAID EAST LINE, A DISTANCE OF 8.35 FEET; THENCE NORTHWESTERLY ALONG A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF S 71° 04' 04" W, A RADIUS OF 210.00 FEET, A CENTRAL ANGLE OF 76° 28' 47"; AN ARC DISTANCE OF 280.31 FEET, TO A POINT OF TANGENCY; THENCE N 32° 27' 09" W, A DISTANCE OF 275.65 FEET, TO A POINT ON THE WESTERLY EXTENSION OF THE NORTH LINE OF A TRACT OF LAND RECORDED IN BOOK 200910 AT PAGE 003803, IN THE REGISTER OF DEEDS OFFICE, JOHNSON COUNTY, KANSAS; THENCE N 44° 06' 03" E (N 46° 42' 10" E, DEED), ALONG SAID NORTH LINE, AND ITS WESTERLY EXTENSION, A DISTANCE OF 396.21 FEET; THENCE N 77° 59' 53" E (N80°36"E, DEED), ALONG SAID NORTH LINE, A DISTANCE OF 374.00 FEET, TO A POINT ON THE WEST RIGHT-OF-WAY LINE OF ROE LANE, AS NOW ESTABLISHED; THENCE S 12° 04' 07" E (S9°28"E, DEED), ALONG SAID WEST RIGHT-OF-WAY LINE, A DISTANCE OF 317.23 FEET, TO THE INTERSECTION OF SAID WEST RIGHT-OF-WAY LINE WITH THE NORTH RIGHT-OF-WAY LINE OF WEST 48TH STREET, AS NOW ESTABLISHED; THENCE S 7° 24' 18" W (S10°38'47" W, DEED), ALONG SAID NORTH RIGHT-OF-WAY LINE, A DISTANCE OF 30.04 FEET; THENCE S 38° 45' 04" W (S41°59'33" W, DEED), A DISTANCE OF 236.73 FEET; THENCE SOUTHWESTERLY ALONG SAID NORTH RIGHT-OF-WAY LINE, BEING A CURVE TO THE LEFT HAVING AN INITIAL TANGENT BEARING OF S 38° 45' 09" W, A RADIUS OF 300.00 FEET, A CENTRAL ANGLE OF 1° 58' 16"; AN ARC DISTANCE OF 10.32 FEET, TO A POINT OF TANGENCY; THENCE S 36° 46' 53" W, ALONG SAID NORTH RIGHT-OF-WAY LINE, A DISTANCE OF 112.35 FEET; THENCE S 52° 32' 53" W, ALONG SAID NORTH RIGHT-OF-WAY LINE, A DISTANCE OF 4.61 FEET; THENCE SOUTHWESTERLY ALONG A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF S 43° 02' 45" W, A RADIUS OF 210.00 FEET, A CENTRAL ANGLE OF 19° 00' 15"; AN ARC DISTANCE OF 69.65 FEET, TO A POINT ON SAID NORTH RIGHT-OF-WAY LINE; THENCE S 52° 32' 53" W, ALONG SAID NORTH RIGHT-OF-WAY LINE, A DISTANCE OF 34.43 FEET, TO THE TRUE POINT OF BEGINNING.

THE ABOVE DESCRIBED TRACT OF LAND CONTAINS 316,198 SQUARE FEET, OR 7.259 ACRES,
MORE OR LESS.

KEY NUMBER	PROPERTY ID	OWNER
1	PF251204-3021	KAW ASSOCIATES GENERAL PARTNERSHIP
2	PF251204-3022	ROELANE PARTNERS, L.L.C.
3	PP62000000 0005	ALDI INC.
4	PP62000000 0003	JL GROUP HOLDINGS
5	PP62000000 0002	TA OPERATING LLC
6	PP67250000 0T0A2	BELLA ROE LOTS 2,3 AND 6 07 A LLC
7	PP67250000 0T0A	BELLA ROE LOTS 2,3 AND 6 07 A LLC
8	PP67250000 0001	BELLA ROE LOTS 2,3 AND 6 07 A LLC
9	64000000 0000	BOULEVARD APARTMENTS, LLC
10	PF251204-1019	BH ACQUISITION LLC
11	PP63350000 0001	PI REAL ESTATE LLC
12	PP63350000 0002	PI REAL ESTATE LLC
13	PF251204-1001	KCP&L
14	PF251204-1021	ROE BODY SHOP. INC.
15	PF251204-1005	CITY OF FAIRWAY
16	PP030000000 0003A	DAVID R AND SUSAN BUFORD SOLENBERGER TR.
17	PP030000000 0003	BRADLEY SCOTT SIMMONS
18	PP030000000 0004E	DAVID R AND SUSAN BUFORD SOLENBERGER TR.
19	PP030000000 0004D	BETH K MILLIGAN
20	PP030000000 0005	PHILLIP G & KELIE L BOLLINGER
21	PP030000000 0006B	SUSAN E. HOGSETT-DUNCAN & THOMAS EDWARD DUNCAN
22	PP030000000 0007B	SEAN P & KIMERLY J. MURPHY
23	PP030000000 0008C	FERRY PROPERTIES, LLC
24	PP030000000 0010	JAMES L. STRINE
25	PP030000000 0011B	RYAN M. HOLTHAUS
26	PP030000000 0011C	BONNIE M. & STEVEN M LATERRA
27	PP030000000 0011A	MARK JENNINGS

SHAFER, KLINE & WARREN

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Lenexa, KS 66219-1392
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THE ROCKS
ROELAND PARK, KANSAS

PRELIMINARY DEVELOPMENT PLANS
PROPERTY MAP

130099-220
SHEET NO
2 OF 2

Issue Date: 04/10/17

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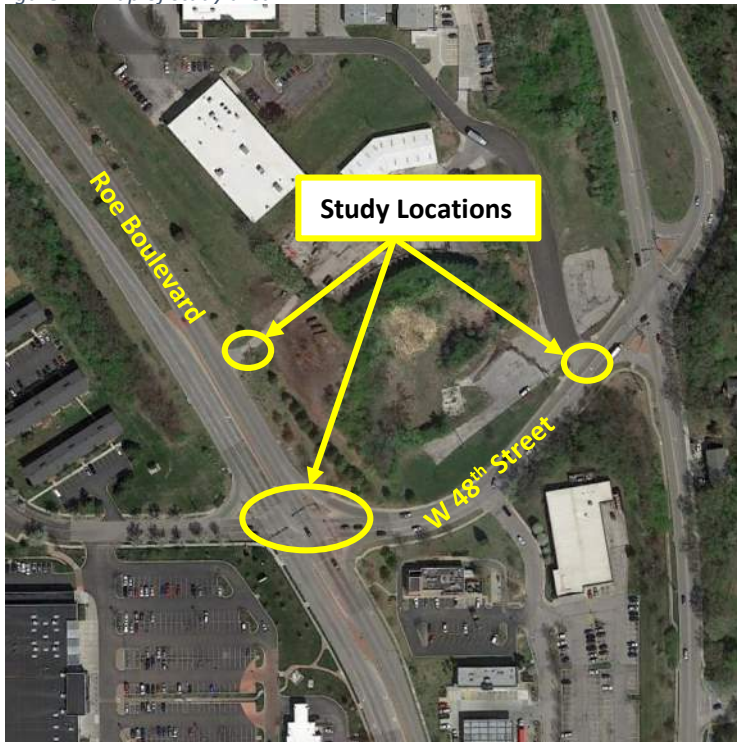


April 10, 2017

Mr. Keith Moody
City Administrator
City of Roeland Park
4600 W 51st Street
Roeland Park, KS 66205

Re: SKW Traffic Analysis of Caves Development at the Corner of 48th Street and Roe Boulevard

Figure 1 - Map of study area



A development is proposed in Roeland Park, KS, at the northeast corner of Roe Boulevard and 48th Street. Included in this development are a 90 room hotel, 6,500 square foot restaurant, and an elevated obstacle course experience to be run by ZipKC. This traffic analysis was completed to evaluate the impact of the additional trips created by this development at the right-in right-out on Roe Boulevard, intersection of Roe Parkway and 48th Street, and nearby intersection of Roe Boulevard and 48th Street, as shown in Figure 1. The proposed right-in right-out intersection is approximately 300 feet north of the Roe Boulevard and 48th Street intersection. Roe Parkway is approximately 600 feet east of Roe Boulevard on 48th Street.

Peak hour morning and evening traffic counts previously collected on Tuesday, July 26th, 2016, at Roe Boulevard and 48th Street for the Roe Boulevard corridor study were used in evaluating the intersections. These counts are included in the attached Appendix.

To estimate the traffic generated by the development, the methods from the Institute of Transportation Engineers (ITE) report Trip Generation Manual, 9th Edition were used.

The Trip Generation report documents historical vehicular trips counted at a variety of land uses. The trips are then plotted against independent variables, such as “number of employees” or “gross leasable square footage of buildings” to develop correlations between these independent variables and the vehicular trips generated by the various land uses. These correlations can then be used to estimate trips generated by future development of similar land uses. Estimates of daily, AM peak hour and PM peak hour vehicular trips were developed using the development plan contained in the Appendix. This same methodology was also used to help estimate the number of current trips created by the existing businesses on Roe Parkway.

While trips were able to be generated using ITE’s report for the proposed hotel and restaurant, there is no obstacle course or similar activity as a land use in their manual. Instead, trips were best estimated using engineering judgment and information provided from ZipKC. This includes the maximum number of people allowed on the course at a time (112 people maximum) and what expectations they have from their customer. They expect their customers to stay for one to one and a half hours, with three to four people coming in a vehicle. They also expect about 70% of their customers to



walk up to the activity as opposed to making reservations, so there is a strong possibility that there can be people waiting to get on during peak hours. The trips estimated used for this study are contained in the Appendix, and the traffic diagrams for existing and proposed traffic movements are included in the attached Exhibits.

The morning and evening peak hours were analyzed using methodology contained in the publication Highway Capacity Manual (HCM). The manual provides a methodology of calculating the expected average delay of vehicles subjected to stop and yield conditions. The expected average delay is further equated to a level of service (LOS) which is a letter designation between A and F. A level of service designation “A” describes the best of operating conditions, a movement where delays are very short and there is significant remaining capacity to accommodate additional vehicle movements before traffic operations begin to degrade significantly. A level of service designation “F” describes a movement where more traffic demand is present than what can be adequately accommodated. And therefore, average delays that are long, over 50 seconds per vehicle, will cause a rapid decline in traffic operations.

There are two corresponding software packages that allow us to evaluate the LOS of intersections. The first is Synchro, which is software that compliments the HCM when evaluating intersections with traffic signals. Synchro was used to calculate the existing and expected LOS for the intersection of W 48th Street and Roe Boulevard. Signal operations were evaluated with both the existing signal timing and optimized timings. Synchro’s corresponding software SimTraffic was also used to verify queuing lengths.

The second software package is the Highway Capacity Software (HCS). This software provides a way to evaluate the LOS for stop-controlled intersections, like the proposed right-in, right-out intersection and the Roe Parkway and 48th Street intersection. When calculating the LOS for stop-controlled intersections, the LOS is calculated for each leg, and the LOS for the stop-controlled legs are noted as they experience delay. All Synchro, SimTraffic, and HCS reports can be found in the Appendix.

Some assumptions were made in the number of through vehicles at the intersection of 48th Street and Roe Parkway. Using the counts for the west leg of 48th Street and Roe Boulevard, the through movements were then calculated. These were adjusted at the intersection to account for vehicles that may have entered the developed area to the south and for vehicles turning onto Roe Parkway. It was also assumed that the left and right turning vehicles exiting via Roe Parkway onto 48th Street with both have their own lane. The measured distance curb to curb at the entrance is 40 feet.

Table 1 shows the summary of LOS at the impacted and proposed intersections with existing and proposed volumes.

Table 1 - Existing and Proposed LOS at Impacted Intersections

	Right-in on Roe Blvd	Right-out 48 th St	Roe Blvd & 48 th St	48 th St & Roe Pkwy
Existing Peak AM LOS	N/A		B	B*
Existing Peak PM LOS	N/A		B	B*
Proposed Peak AM LOS	C*		B	B*
Proposed Peak PM LOS	B*		B	C*

* LOS for the stop-controlled leg



The LOS for the intersections are maintained with the additional traffic except during the evening peak hour at 48th Street and Roe Parkway. The increase in traffic and vehicles wanting to turn left from Roe Parkway onto 48th Street has an increase in delay that lower's that leg's LOS from a B to a C. In all cases, the LOS is very acceptable, even with the increase in delay at 48th Street and Roe Parkway.

The length of turning lanes is also considered when reviewing the increase in traffic. The four impacted turning movements are listed in Table 2 with the existing turn lane length currently available. All queue lengths fall within the existing turning bays at existing locations. The right turns into the development from Roe Boulevard are expected to be low – 18 and 17 vehicles entering in the morning and evening peak hours respectively. This will likely not need a dedicated right turn lane, as many municipalities require a right turn lane when those turning volumes exceed 100 vehicles during any hour.

Table 2 - 95% Queue Lengths

	SB Left – Roe Blvd at 48 th St	WB Left – 48 th St at Roe Blvd	SB Left – Roe Pkwy at 48 th St	WB Right – Roe Blvd from Development
Available Queue Length	250'	200'	N/A	N/A
Existing 95% Queue Length – Peak AM	61'	15'	2'	N/A
Proposed 95% Queue Length – Peak AM	72'	16'	4'	N/A
Existing 95% Queue Length – Peak PM	113'	185'	4'	10'
Proposed 95% Queue Length – Peak PM	177'	187'	8'	10'

SHAFER, KLINE & WARREN, INC.



By: Cheryl Bornheimer, P.E.
Project Engineer

Cc: Jose Leon
Enclosure(s)

Exhibit 1: Existing Traffic Counts

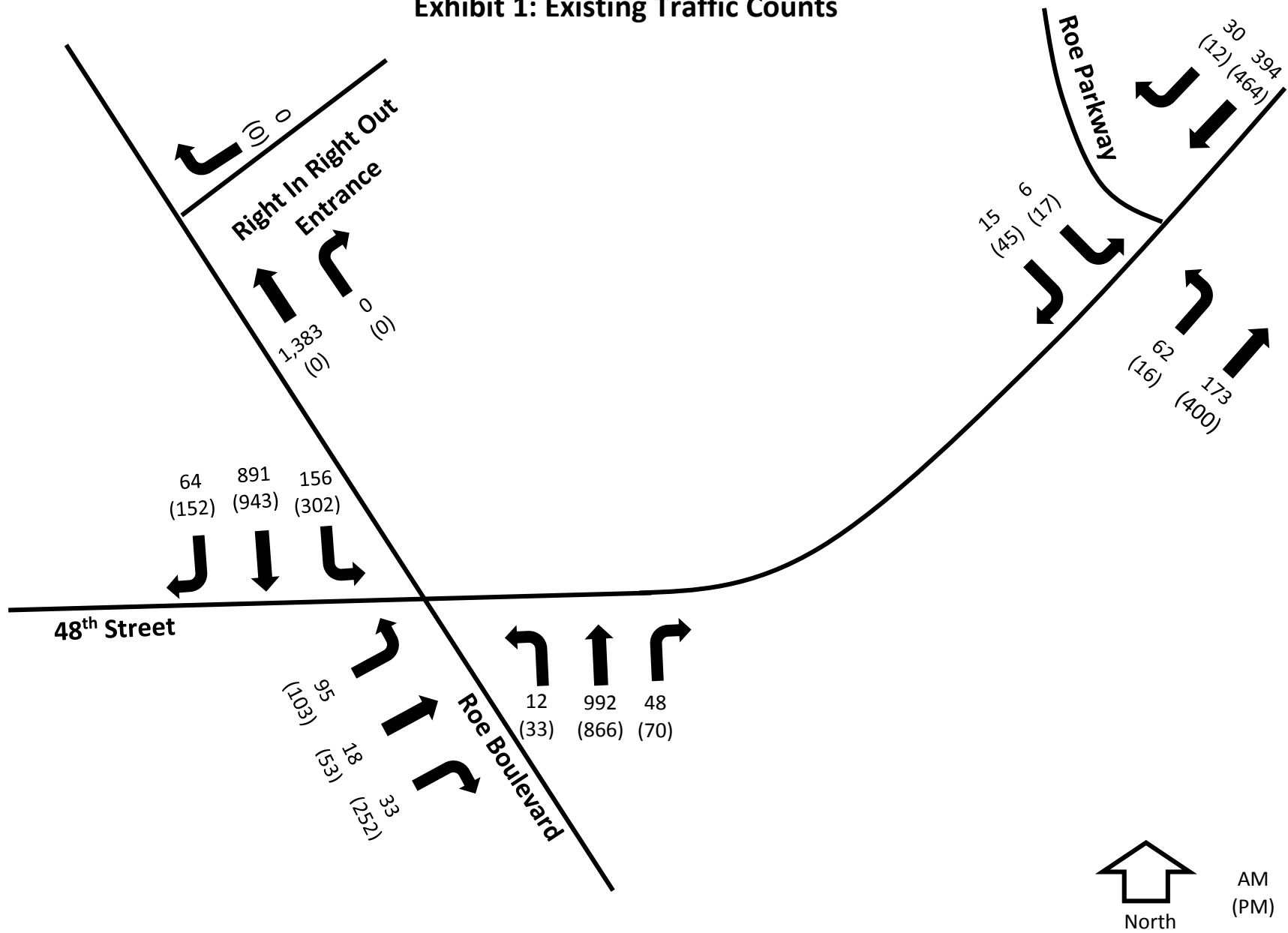
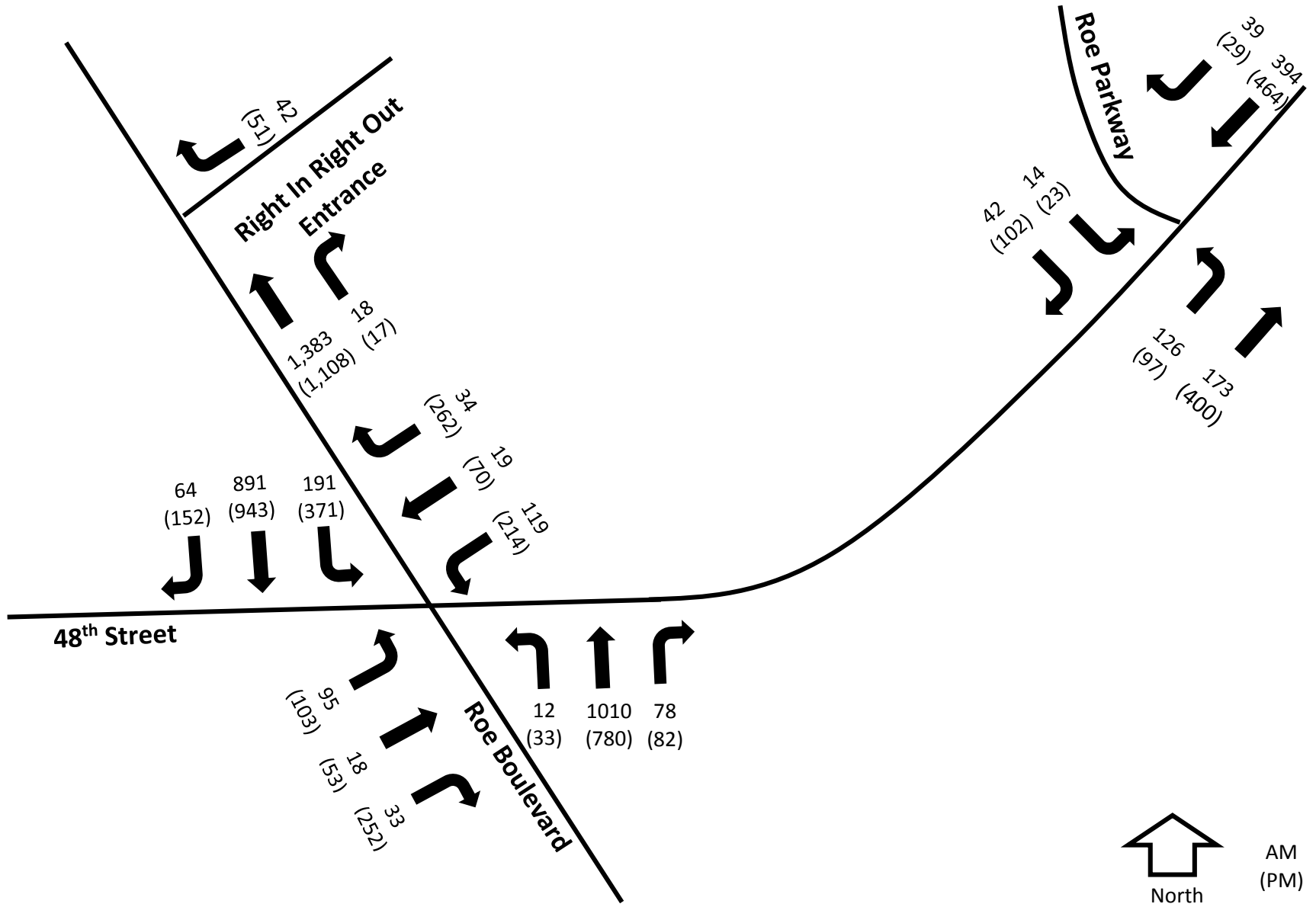


Exhibit 2: Proposed Traffic Counts





Shafer, Kline & Warren
11250 Corporate Ave

Lenexa, Kansas, United States 66219
913-888-7800 jason.koehler@skw-inc.com
Forming Partnerships - Delivering Results

Count Name: 48th & Roe
Site Code:
Start Date: 07/25/2016
Page No: 1

Turning Movement Data

Start Time	Roe Ave Southbound						48th Street Westbound						Roe Ave Northbound						Skyline Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 PM	32	222	57	0	0	311	57	18	35	0	0	110	20	187	5	0	0	212	8	17	22	0	0	47	680
6:15 PM	41	166	61	0	0	268	38	19	25	0	0	82	29	176	3	0	0	208	8	17	24	0	0	49	607
6:30 PM	40	168	49	0	0	257	60	20	26	0	3	106	19	156	3	0	3	178	15	16	25	0	0	56	597
6:45 PM	32	139	59	0	0	230	46	16	17	0	0	79	27	146	9	1	1	183	7	14	16	0	0	37	529
Hourly Total	145	695	226	0	0	1066	201	73	103	0	3	377	95	665	20	1	4	781	38	64	87	0	0	189	2413
7:00 PM	29	127	36	0	0	192	51	17	27	0	0	95	23	144	4	0	0	171	6	13	27	0	2	46	504
7:15 PM	23	139	48	0	0	210	45	9	19	0	0	73	19	130	3	0	0	152	3	25	18	0	0	46	481
7:30 PM	14	133	38	0	0	185	42	13	30	0	0	85	21	115	4	1	0	141	4	11	18	0	0	33	444
7:45 PM	25	101	34	0	0	160	38	14	10	0	0	62	9	109	8	0	0	126	3	10	16	0	0	29	377
Hourly Total	91	500	156	0	0	747	176	53	86	0	0	315	72	498	19	1	0	590	16	59	79	0	2	154	1806
8:00 PM	20	105	32	0	0	157	36	9	22	0	0	67	14	115	2	0	1	131	4	13	24	0	0	41	396
8:15 PM	19	91	34	0	0	144	30	8	25	0	0	63	5	116	4	0	0	125	1	9	18	0	0	28	360
8:30 PM	19	102	38	0	0	159	29	8	19	0	0	56	7	105	3	0	2	115	4	10	20	0	0	34	364
8:45 PM	26	87	32	0	0	145	38	5	11	0	0	54	10	97	4	0	1	111	2	8	15	0	0	25	335
Hourly Total	84	385	136	0	0	605	133	30	77	0	0	240	36	433	13	0	4	482	11	40	77	0	0	128	1455
9:00 PM	21	69	44	0	0	134	36	9	11	0	0	56	12	86	4	0	0	102	5	6	13	0	0	24	316
9:15 PM	21	78	40	0	0	139	33	7	11	0	0	51	10	97	2	0	0	109	1	10	21	0	0	32	331
9:30 PM	14	61	34	0	0	109	22	3	13	0	0	38	11	82	7	0	0	100	2	3	17	0	0	22	269
9:45 PM	15	77	33	0	0	125	16	4	12	0	0	32	5	53	2	0	0	60	9	6	11	0	0	26	243
Hourly Total	71	285	151	0	0	507	107	23	47	0	0	177	38	318	15	0	0	371	17	25	62	0	0	104	1159
10:00 PM	12	54	25	0	0	91	14	4	11	0	0	29	10	70	6	0	3	86	3	8	12	0	0	23	229
10:15 PM	12	37	23	0	0	72	17	2	5	0	0	24	6	38	5	0	0	49	4	8	3	0	0	15	160
10:30 PM	6	42	27	0	0	75	15	6	2	0	0	23	8	59	3	1	0	71	4	3	8	0	0	15	184
10:45 PM	9	35	21	0	0	65	7	4	5	0	0	16	5	40	3	0	0	48	5	1	5	0	0	11	140
Hourly Total	39	168	96	0	0	303	53	16	23	0	0	92	29	207	17	1	3	254	16	20	28	0	0	64	713
11:00 PM	6	31	27	0	0	64	13	5	2	0	0	20	3	43	2	0	0	48	2	5	3	0	0	10	142
11:15 PM	8	33	20	0	0	61	6	1	4	0	0	11	1	24	2	0	0	27	1	3	6	0	0	10	109
11:30 PM	10	13	19	0	0	42	6	1	1	0	0	8	2	21	1	0	0	24	3	3	5	0	0	11	85
11:45 PM	4	14	16	0	0	34	9	0	3	0	0	12	3	15	3	0	0	21	3	0	7	0	0	10	77
Hourly Total	28	91	82	0	0	201	34	7	10	0	0	51	9	103	8	0	0	120	9	11	21	0	0	41	413
12:00 AM	6	10	8	0	0	24	9	1	3	0	0	13	3	13	0	0	0	16	0	0	4	0	0	4	57
12:15 AM	5	7	12	0	0	24	6	0	1	0	0	7	3	9	1	0	0	13	0	0	1	0	0	1	45
12:30 AM	3	8	7	0	0	18	2	0	2	0	0	4	0	5	1	0	0	6	0	0	0	0	0	0	28
12:45 AM	2	11	12	0	0	25	1	2	1	0	0	4	0	8	0	0	0	8	0	0	1	0	2	1	38
Hourly Total	16	36	39	0	0	91	18	3	7	0	0	28	6	35	2	0	0	43	0	0	6	0	2	6	168
1:00 AM	3	11	5	0	0	19	6	0	4	0	0	10	2	5	0	0	0	7	1	0	1	0	0	2	38

1:15 AM	0	7	5	0	0	12	1	0	1	0	0	2	0	6	0	0	0	6	0	0	1	0	0	1	21
1:30 AM	5	6	3	0	0	14	5	0	1	0	0	6	0	9	1	0	0	10	0	0	1	0	0	1	31
1:45 AM	0	3	3	0	0	6	2	0	3	0	0	5	0	6	0	0	0	6	0	0	0	0	0	0	17
Hourly Total	8	27	16	0	0	51	14	0	9	0	0	23	2	26	1	0	0	29	1	0	3	0	0	4	107
2:00 AM	0	5	5	0	0	10	4	1	0	0	0	5	0	3	2	0	0	5	0	0	1	0	0	1	21
2:15 AM	1	4	1	0	0	6	1	3	2	0	0	6	0	6	0	0	0	6	0	1	0	0	0	1	19
2:30 AM	1	3	3	0	0	7	6	0	2	0	0	8	1	5	0	0	0	6	0	0	0	0	0	0	21
2:45 AM	2	4	1	0	0	7	3	1	0	0	0	4	2	6	0	0	0	8	0	0	0	0	0	0	19
Hourly Total	4	16	10	0	0	30	14	5	4	0	0	23	3	20	2	0	0	25	0	1	1	0	0	2	80
3:00 AM	2	3	3	0	0	8	6	0	1	0	0	7	0	7	0	0	0	7	0	0	3	1	0	4	26
3:15 AM	2	11	4	0	0	17	3	1	0	0	0	4	1	1	0	0	0	2	0	0	2	0	0	2	25
3:30 AM	0	5	5	0	0	10	6	0	0	0	0	6	0	5	0	0	0	5	0	0	0	0	0	0	21
3:45 AM	2	7	2	0	0	11	4	1	3	0	0	8	1	3	0	0	0	4	1	0	1	0	0	2	25
Hourly Total	6	26	14	0	0	46	19	2	4	0	0	25	2	16	0	0	0	18	1	0	6	1	0	8	97
4:00 AM	1	6	3	0	0	10	9	0	1	0	0	10	2	10	0	0	0	12	0	0	1	0	0	1	33
4:15 AM	1	4	2	0	0	7	6	0	1	0	0	7	0	9	0	0	0	9	0	0	2	0	0	2	25
4:30 AM	2	7	4	0	0	13	10	0	1	0	0	11	0	17	1	0	0	18	2	1	3	0	0	6	48
4:45 AM	2	13	5	0	0	20	11	0	1	0	0	12	2	11	0	0	0	13	0	1	4	0	0	5	50
Hourly Total	6	30	14	0	0	50	36	0	4	0	0	40	4	47	1	0	0	52	2	2	10	0	0	14	156
5:00 AM	1	19	6	0	0	26	16	1	1	0	0	18	0	21	0	1	0	22	1	0	4	0	0	5	71
5:15 AM	1	29	7	0	0	37	16	0	3	0	0	19	0	27	0	0	0	27	0	1	5	0	0	6	89
5:30 AM	6	32	10	0	0	48	31	1	1	0	0	33	2	47	1	0	0	50	2	1	11	0	0	14	145
5:45 AM	10	42	18	0	0	70	37	1	3	0	0	41	1	56	1	0	0	58	3	0	3	0	0	6	175
Hourly Total	18	122	41	0	0	181	100	3	8	0	0	111	3	151	2	1	0	157	6	2	23	0	0	31	480
6:00 AM	10	31	12	0	0	53	41	2	3	0	0	46	6	67	1	0	0	74	5	5	13	0	0	23	196
6:15 AM	10	53	19	0	0	82	53	1	3	0	0	57	6	82	4	0	0	92	6	2	17	0	0	25	256
6:30 AM	12	103	39	0	0	154	80	1	5	0	0	86	3	124	3	0	0	130	6	1	18	0	0	25	395
6:45 AM	11	147	36	0	0	194	68	2	14	0	0	84	10	135	4	0	0	149	5	4	15	0	0	24	451
Hourly Total	43	334	106	0	0	483	242	6	25	0	0	273	25	408	12	0	0	445	22	12	63	0	0	97	1298
7:00 AM	7	115	33	0	0	155	76	4	8	0	0	88	4	163	1	0	0	168	9	4	24	0	0	37	448
7:15 AM	14	123	36	0	0	173	86	7	8	0	0	101	13	203	1	0	0	217	3	5	22	0	0	30	521
7:30 AM	13	175	39	0	0	227	90	5	19	0	0	114	10	252	1	0	1	263	15	8	32	0	0	55	659
7:45 AM	12	197	39	0	0	248	70	6	15	0	0	91	14	277	2	0	0	293	6	7	24	0	0	37	669
Hourly Total	46	610	147	0	0	803	322	22	50	0	0	394	41	895	5	0	1	941	33	24	102	0	0	159	2297
8:00 AM	19	142	38	0	0	199	61	7	20	0	0	88	11	236	4	0	2	251	6	2	25	0	0	33	571
8:15 AM	20	157	40	0	0	217	75	5	21	0	0	101	13	227	5	0	0	245	6	1	14	0	0	21	584
8:30 AM	19	122	23	0	0	164	62	2	19	0	0	83	13	214	1	0	0	228	8	3	14	0	0	25	500
8:45 AM	15	149	57	0	0	221	59	3	20	0	0	82	8	168	1	0	0	177	8	6	23	0	0	37	517
Hourly Total	73	570	158	0	0	801	257	17	80	0	0	354	45	845	11	0	2	901	28	12	76	0	0	116	2172
9:00 AM	11	123	28	0	0	162	41	4	21	0	0	66	13	162	1	0	0	176	7	7	12	0	0	26	430
9:15 AM	11	102	22	0	0	135	40	7	15	0	0	62	10	139	5	0	0	154	6	6	10	0	0	22	373
9:30 AM	12	126	16	0	0	154	46	4	22	0	0	72	17	142	3	0	0	162	3	6	9	0	0	18	406
9:45 AM	11	137	24	0	0	172	38	3	12	0	0	53	8	122	1	0	0	131	2	4	13	0	0	19	375
Hourly Total	45	488	90	0	0	623	165	18	70	0	0	253	48	565	10	0	0	623	18	23	44	0	0	85	1584
10:00 AM	21	120	29	1	0	171	18	6	16	0	0	40	10	130	1	0	0	141	6	2	14	0	0	22	374
10:15 AM	15	101	28	0	0	144	42	10	20	0	0	72	10	109	3	0	0	122	4	5	11	0	0	20	358
10:30 AM	16	127	28	0	0	171	31	4	20	0	0	55	11	113	1	0	0	125	2	7	19	0	0	28	379
10:45 AM	16	119	41	0	0	176	42	12	21	0	0	75	5	129	2	0	0	136	6	8	18	0	0	32	419
Hourly Total	68	467	126	1	0	662	133	32	77	0	0	242	36	481	7	0	0	524	18	22	62	0	0	102	1530
11:00 AM	21	104	33	1	0	159	35	12	24	0	0	71	15	106	1	0	0	122	2	6	14	0	0	22	374
11:15 AM	22	112	40	0	0	174	43	11	30	0	0	84	19	120	2	0	1	141	6	16	17	0	0	39	438
11:30 AM	29	135	46	0	0	210	52	16	39	0	0	107	22	134	3	0	0	159	4	12	16	0	0	32	508

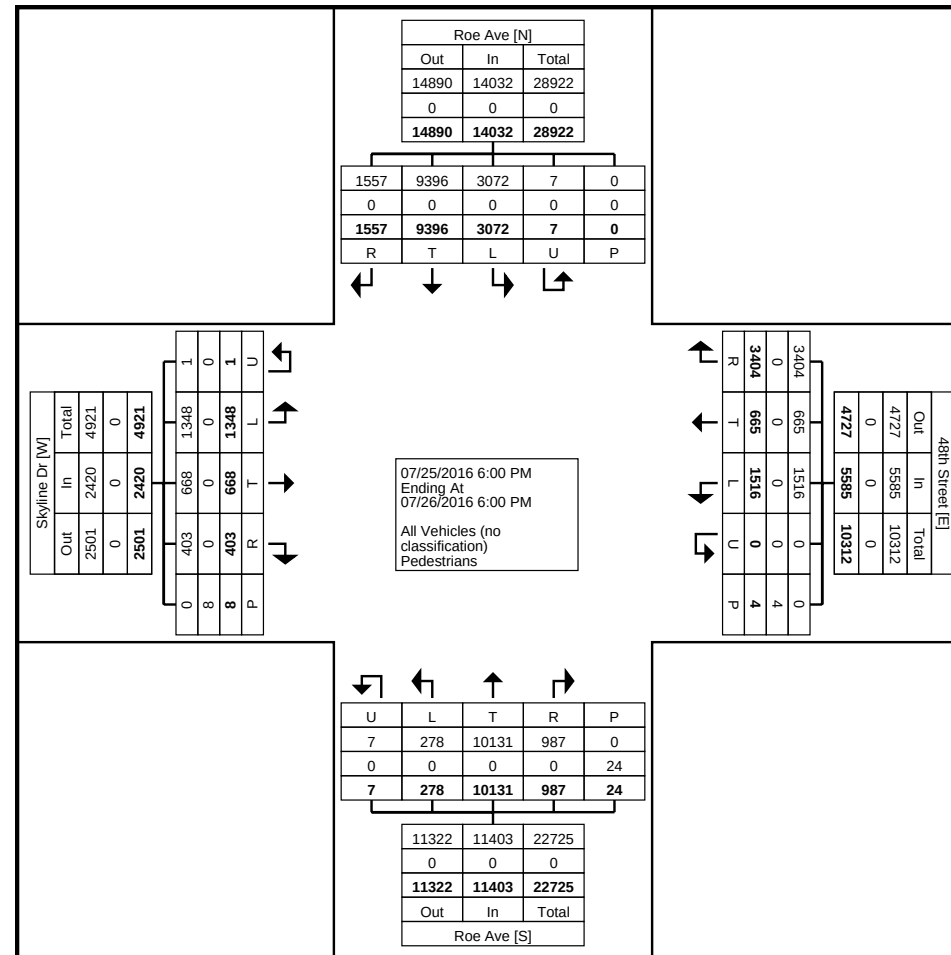
11:45 AM	22	146	47	0	0	215	45	10	22	0	0	77	23	140	3	0	0	166	2	11	21	0	0	34	492
Hourly Total	94	497	166	1	0	758	175	49	115	0	0	339	79	500	9	0	1	588	14	45	68	0	0	127	1812
12:00 PM	14	146	39	0	0	199	49	14	27	0	0	90	18	136	1	0	0	155	6	16	28	0	0	50	494
12:15 PM	27	139	56	0	0	222	36	13	30	0	0	79	19	134	4	0	0	157	4	13	20	0	0	37	495
12:30 PM	20	143	42	0	0	205	44	11	27	0	0	82	18	160	6	0	0	184	5	15	25	0	0	45	516
12:45 PM	30	140	53	0	0	223	52	8	23	0	0	83	18	135	4	0	0	157	7	13	30	0	0	50	513
Hourly Total	91	568	190	0	0	849	181	46	107	0	0	334	73	565	15	0	0	653	22	57	103	0	0	182	2018
1:00 PM	22	138	47	0	0	207	38	10	24	0	0	72	24	131	3	0	1	158	9	16	23	0	0	48	485
1:15 PM	17	132	32	0	0	181	50	7	19	0	0	76	17	150	4	0	0	171	7	11	19	0	0	37	465
1:30 PM	22	130	37	0	0	189	37	12	25	0	1	74	15	135	6	0	1	156	7	13	21	0	0	41	460
1:45 PM	21	133	49	1	0	204	41	15	23	0	0	79	14	140	5	0	0	159	7	14	12	0	0	33	475
Hourly Total	82	533	165	1	0	781	166	44	91	0	1	301	70	556	18	0	2	644	30	54	75	0	0	159	1885
2:00 PM	28	137	43	0	0	208	55	17	27	0	0	99	11	154	6	0	1	171	8	11	23	0	0	42	520
2:15 PM	23	140	40	0	0	203	40	13	32	0	0	85	14	154	4	0	1	172	3	14	13	0	0	30	490
2:30 PM	21	136	54	1	0	212	40	10	23	0	0	73	22	165	4	1	0	192	9	9	19	0	0	37	514
2:45 PM	25	138	38	0	0	201	54	12	21	0	0	87	14	145	5	2	0	166	3	13	18	0	0	34	488
Hourly Total	97	551	175	1	0	824	189	52	103	0	0	344	61	618	19	3	2	701	23	47	73	0	0	143	2012
3:00 PM	24	122	46	0	0	192	52	13	22	0	0	87	18	151	7	0	0	176	4	12	21	0	0	37	492
3:15 PM	19	163	55	1	0	238	59	14	29	0	0	102	28	157	2	0	0	187	5	11	22	0	2	38	565
3:30 PM	22	156	57	0	0	235	54	10	30	0	0	94	17	192	5	0	1	214	3	8	21	0	0	32	575
3:45 PM	32	173	53	0	0	258	52	9	31	0	0	92	7	157	6	0	0	170	8	12	21	0	0	41	561
Hourly Total	97	614	211	1	0	923	217	46	112	0	0	375	70	657	20	0	1	747	20	43	85	0	2	148	2193
4:00 PM	46	170	65	0	0	281	43	10	24	0	0	77	20	198	3	0	0	221	6	10	23	0	0	39	618
4:15 PM	32	215	69	0	0	316	58	6	35	0	0	99	17	208	5	0	1	230	6	14	21	0	0	41	686
4:30 PM	32	220	65	0	0	317	52	21	31	0	0	104	13	182	3	0	0	198	7	19	18	0	0	44	663
4:45 PM	40	225	78	0	0	343	59	19	38	0	0	116	19	192	9	0	0	220	6	14	25	0	0	45	724
Hourly Total	150	830	277	0	0	1257	212	56	128	0	0	396	69	780	20	0	1	869	25	57	87	0	0	169	2691
5:00 PM	42	242	65	0	0	349	71	23	52	0	0	146	19	182	8	0	0	209	9	18	25	0	0	52	756
5:15 PM	39	253	84	1	0	377	64	11	43	0	0	118	19	211	7	0	1	237	7	9	24	0	0	40	772
5:30 PM	31	223	75	1	0	330	48	14	47	0	0	109	13	178	9	0	2	200	10	12	29	0	2	51	690
5:45 PM	43	235	56	0	0	334	57	14	34	0	0	105	20	171	8	0	0	199	7	9	29	0	0	45	683
Hourly Total	155	953	280	2	0	1390	240	62	176	0	0	478	71	742	32	0	3	845	33	48	107	0	2	188	2901
Grand Total	1557	9396	3072	7	0	14032	3404	665	1516	0	4	5585	987	10131	278	7	24	11403	403	668	1348	1	8	2420	33440
Approach %	11.1	67.0	21.9	0.0	-	-	60.9	11.9	27.1	0.0	-	-	8.7	88.8	2.4	0.1	-	-	16.7	27.6	55.7	0.0	-	-	-
Total %	4.7	28.1	9.2	0.0	-	42.0	10.2	2.0	4.5	0.0	-	16.7	3.0	30.3	0.8	0.0	-	34.1	1.2	2.0	4.0	0.0	-	7.2	-
All Vehicles (no classification)	1557	9396	3072	7	-	14032	3404	665	1516	0	-	5585	987	10131	278	7	-	11403	403	668	1348	1	-	2420	33440
% All Vehicles (no classification)	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	24	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



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11250 Corporate Ave

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Turning Movement Data Plot



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Turning Movement Peak Hour Data (6:00 PM)

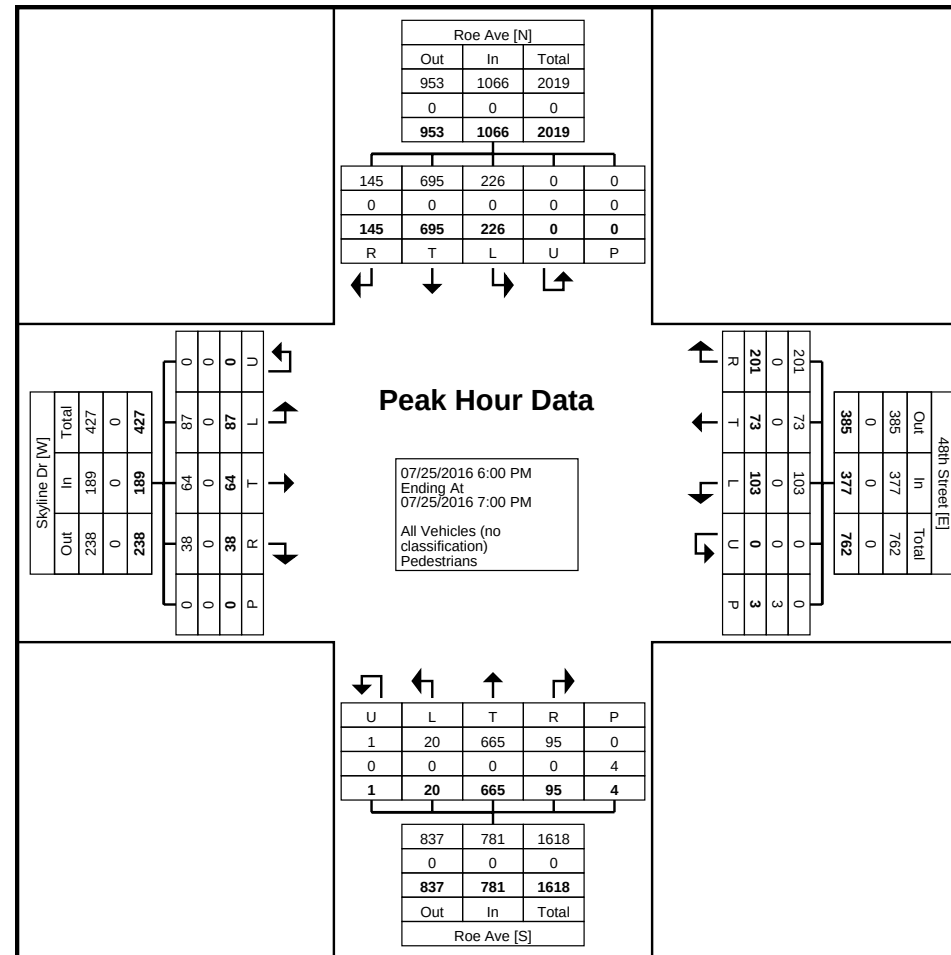
Start Time	Roe Ave Southbound						48th Street Westbound						Roe Ave Northbound						Skyline Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
6:00 PM	32	222	57	0	0	311	57	18	35	0	0	110	20	187	5	0	0	212	8	17	22	0	0	47	680
6:15 PM	41	166	61	0	0	268	38	19	25	0	0	82	29	176	3	0	0	208	8	17	24	0	0	49	607
6:30 PM	40	168	49	0	0	257	60	20	26	0	3	106	19	156	3	0	3	178	15	16	25	0	0	56	597
6:45 PM	32	139	59	0	0	230	46	16	17	0	0	79	27	146	9	1	1	183	7	14	16	0	0	37	529
Total	145	695	226	0	0	1066	201	73	103	0	3	377	95	665	20	1	4	781	38	64	87	0	0	189	2413
Approach %	13.6	65.2	21.2	0.0	-	-	53.3	19.4	27.3	0.0	-	-	12.2	85.1	2.6	0.1	-	-	20.1	33.9	46.0	0.0	-	-	-
Total %	6.0	28.8	9.4	0.0	-	44.2	8.3	3.0	4.3	0.0	-	15.6	3.9	27.6	0.8	0.0	-	32.4	1.6	2.7	3.6	0.0	-	7.8	-
PHF	0.884	0.783	0.926	0.000	-	0.857	0.838	0.913	0.736	0.000	-	0.857	0.819	0.889	0.556	0.250	-	0.921	0.633	0.941	0.870	0.000	-	0.844	0.887
All Vehicles (no classification)	145	695	226	0	-	1066	201	73	103	0	-	377	95	665	20	1	-	781	38	64	87	0	-	189	2413
% All Vehicles (no classification)	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data (7:30 AM)

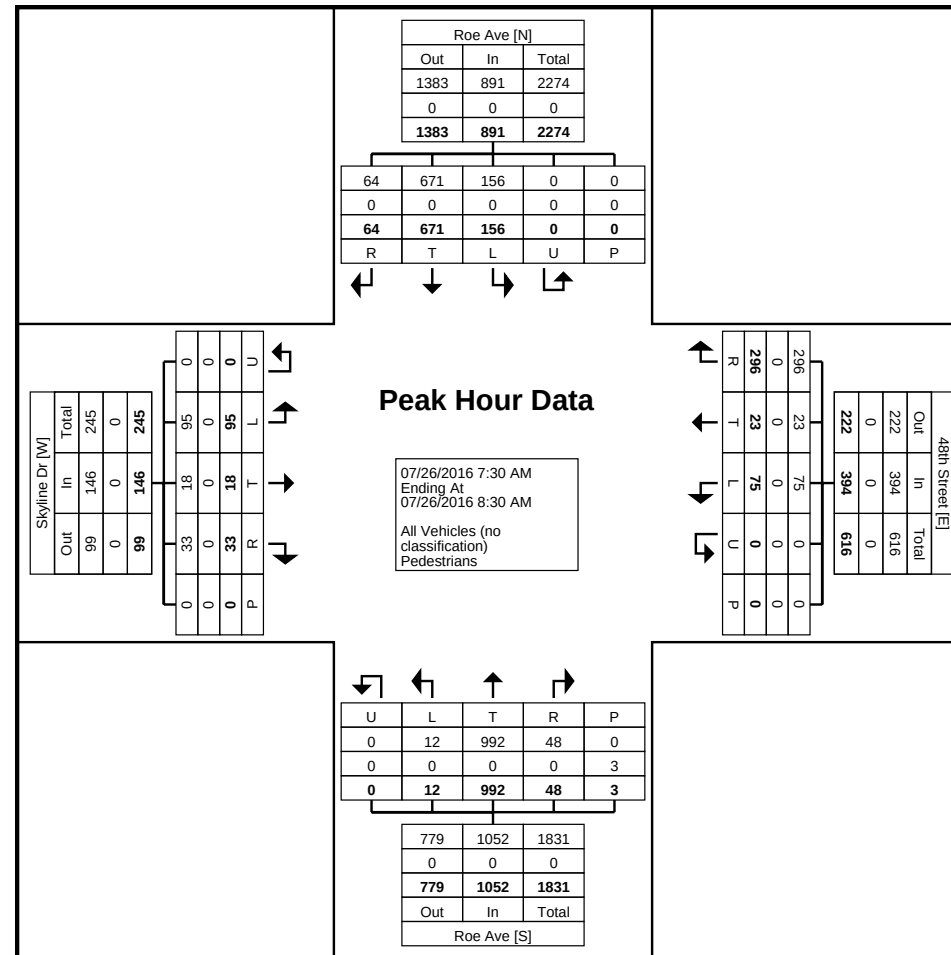
Start Time	Roe Ave Southbound						48th Street Westbound						Roe Ave Northbound						Skyline Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:30 AM	13	175	39	0	0	227	90	5	19	0	0	114	10	252	1	0	1	263	15	8	32	0	0	55	659
7:45 AM	12	197	39	0	0	248	70	6	15	0	0	91	14	277	2	0	0	293	6	7	24	0	0	37	669
8:00 AM	19	142	38	0	0	199	61	7	20	0	0	88	11	236	4	0	2	251	6	2	25	0	0	33	571
8:15 AM	20	157	40	0	0	217	75	5	21	0	0	101	13	227	5	0	0	245	6	1	14	0	0	21	584
Total	64	671	156	0	0	891	296	23	75	0	0	394	48	992	12	0	3	1052	33	18	95	0	0	146	2483
Approach %	7.2	75.3	17.5	0.0	-	-	75.1	5.8	19.0	0.0	-	-	4.6	94.3	1.1	0.0	-	-	22.6	12.3	65.1	0.0	-	-	-
Total %	2.6	27.0	6.3	0.0	-	35.9	11.9	0.9	3.0	0.0	-	15.9	1.9	40.0	0.5	0.0	-	42.4	1.3	0.7	3.8	0.0	-	5.9	-
PHF	0.800	0.852	0.975	0.000	-	0.898	0.822	0.821	0.893	0.000	-	0.864	0.857	0.895	0.600	0.000	-	0.898	0.550	0.563	0.742	0.000	-	0.664	0.928
All Vehicles (no classification)	64	671	156	0	-	891	296	23	75	0	-	394	48	992	12	0	-	1052	33	18	95	0	-	146	2483
% All Vehicles (no classification)	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-



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Turning Movement Peak Hour Data Plot (7:30 AM)



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Turning Movement Peak Hour Data (4:45 PM)

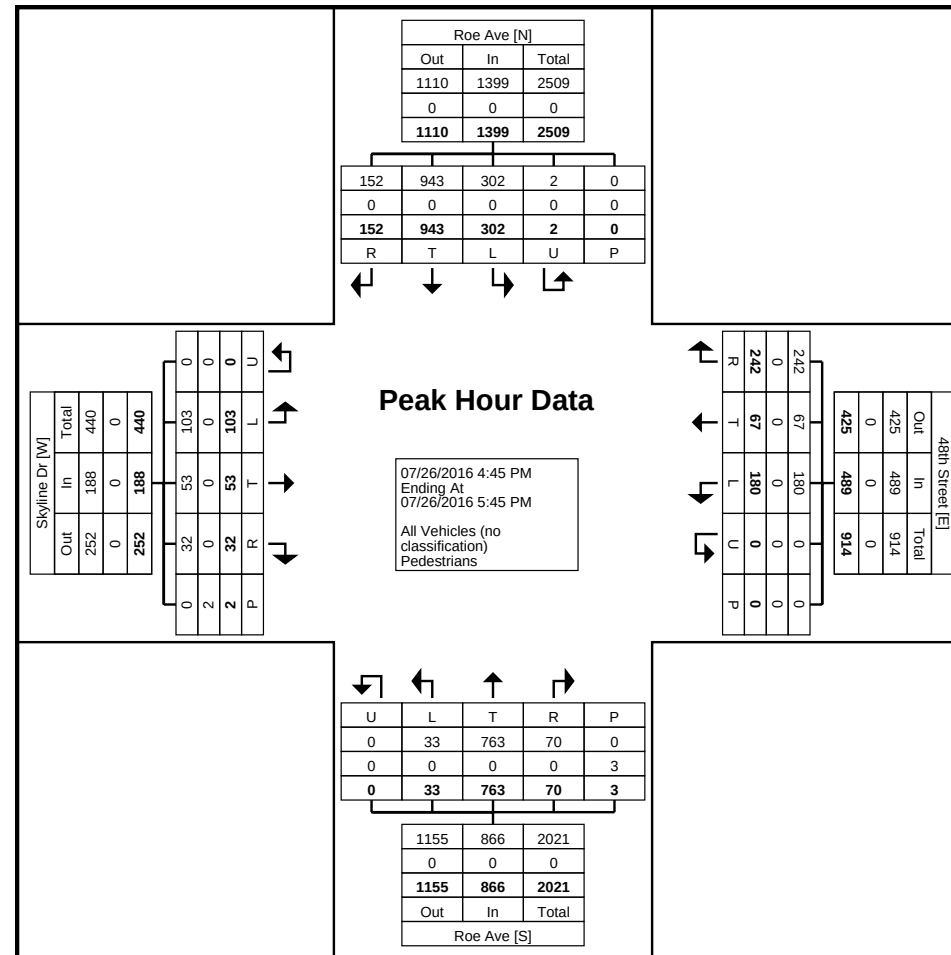
Start Time	Roe Ave Southbound						48th Street Westbound						Roe Ave Northbound						Skyline Dr Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:45 PM	40	225	78	0	0	343	59	19	38	0	0	116	19	192	9	0	0	220	6	14	25	0	0	45	724
5:00 PM	42	242	65	0	0	349	71	23	52	0	0	146	19	182	8	0	0	209	9	18	25	0	0	52	756
5:15 PM	39	253	84	1	0	377	64	11	43	0	0	118	19	211	7	0	1	237	7	9	24	0	0	40	772
5:30 PM	31	223	75	1	0	330	48	14	47	0	0	109	13	178	9	0	2	200	10	12	29	0	2	51	690
Total	152	943	302	2	0	1399	242	67	180	0	0	489	70	763	33	0	3	866	32	53	103	0	2	188	2942
Approach %	10.9	67.4	21.6	0.1	-	-	49.5	13.7	36.8	0.0	-	-	8.1	88.1	3.8	0.0	-	-	17.0	28.2	54.8	0.0	-	-	-
Total %	5.2	32.1	10.3	0.1	-	47.6	8.2	2.3	6.1	0.0	-	16.6	2.4	25.9	1.1	0.0	-	29.4	1.1	1.8	3.5	0.0	-	6.4	-
PHF	0.905	0.932	0.899	0.500	-	0.928	0.852	0.728	0.865	0.000	-	0.837	0.921	0.904	0.917	0.000	-	0.914	0.800	0.736	0.888	0.000	-	0.904	0.953
All Vehicles (no classification)	152	943	302	2	-	1399	242	67	180	0	-	489	70	763	33	0	-	866	32	53	103	0	-	188	2942
% All Vehicles (no classification)	100.0	100.0	100.0	100.0	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Shafer, Kline & Warren
11250 Corporate Ave

Lenexa, Kansas, United States 66219
913-888-7800 jason.koehler@skw-inc.com
Forming Partnerships - Delivering Results

Count Name: 48th & Roe
Site Code:
Start Date: 07/25/2016
Page No: 10



Lot	Building Use	Units	Building Configuration	Building Size Sq Ft	ITE Land Use Code	ITE Page Number	Comments	AM Total	PM Total	Am Enter	Am Exit	PM Enter	PM Exit	% PM Pass Thru Trips	# PM Pass Thru Trips Total	
(#)	(text)	(#)	(text)	(sq ft)	(#)	(#)	(text)	(trips)	(trips)	(trips)	(trips)	(trips)	(trips)	%	(trips)	
1	Hotel	90	Hotel		310	613	Hotel by # of Rooms	48	54	28	20	28	26			
2	Restaurant		Restaurant	6,500	932	1885	High Turnover (sit-down) restaurant	70	64	39	32	38	26			
3	Zip KC		Obstacle Course				Estimated by numbers provided		0	25	25	50	62			
4	Empty Lot															
	TOTAL	0						118	118	92	76	116	114			

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

Existing AM
4/4/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	53	32	95	18	33	12	992	48	156	671	64
Future Volume (vph)	103	53	32	95	18	33	12	992	48	156	671	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	240		0	75		165	250		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	80			25			75			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt		0.944			0.904				0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1758	0	1770	1684	0	1770	3539	1583	1770	5019	0
Flt Permitted	0.517			0.714			0.338			0.133		
Satd. Flow (perm)	963	1758	0	1330	1684	0	630	3539	1583	248	5019	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			36				164		25	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		405			337			523			412	
Travel Time (s)		9.2			7.7			10.2			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	58	35	103	20	36	13	1078	52	170	729	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	93	0	103	56	0	13	1078	52	170	799	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		6			6			6			6	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	22.5		9.5	22.5		9.5	28.5	28.5	9.5	28.5	

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

Existing AM
4/4/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	13.6%	32.1%		13.6%	32.1%		13.6%	40.7%	40.7%	13.6%	40.7%	
Maximum Green (s)	5.0	18.0		5.0	18.0		5.0	24.0	24.0	5.0	24.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	12.8	8.0		10.6	7.8		39.7	34.0	34.0	47.4	46.2	
Actuated g/C Ratio	0.18	0.11		0.15	0.11		0.57	0.49	0.49	0.68	0.66	
v/c Ratio	0.43	0.40		0.44	0.26		0.03	0.63	0.06	0.47	0.24	
Control Delay	26.7	24.3		28.2	17.1		6.8	19.0	0.1	11.2	7.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	26.7	24.3		28.2	17.1		6.8	19.0	0.1	11.2	7.4	
LOS	C	C		C	B		A	B	A	B	A	
Approach Delay		25.6			24.3			18.0			8.1	
Approach LOS		C			C			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 15.1

Intersection LOS: B

Intersection Capacity Utilization 59.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: Roe Avenue & Skyline Dr/48th Street

9.5 s	28.5 s	9.5 s	22.5 s
9.5 s	28.5 s	9.5 s	22.5 s

Queues
13: Roe Avenue & Skyline Dr/48th Street

Existing AM
4/4/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	93	103	56	13	1078	52	170	799
v/c Ratio	0.43	0.40	0.44	0.26	0.03	0.63	0.06	0.47	0.24
Control Delay	26.7	24.3	28.2	17.1	6.8	19.0	0.1	11.2	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	24.3	28.2	17.1	6.8	19.0	0.1	11.2	7.4
Queue Length 50th (ft)	39	24	36	8	2	190	0	26	47
Queue Length 95th (ft)	73	61	68	37	9	#344	0	68	108
Internal Link Dist (ft)		325		257		443			332
Turn Bay Length (ft)	120		240		75		165	250	
Base Capacity (vph)	258	478	232	459	451	1717	852	362	3320
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.19	0.44	0.12	0.03	0.63	0.06	0.47	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Summary of All Intervals

Start Time	7:20
End Time	8:30
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	4015
Vehs Exited	4037
Starting Vehs	87
Ending Vehs	65
Travel Distance (mi)	966
Travel Time (hr)	65.9
Total Delay (hr)	33.9
Total Stops	4530
Fuel Used (gal)	51.8

Interval #0 Information Seeding

Start Time	7:20
End Time	7:30
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60
Volumes adjusted by Growth Factors.	
Vehs Entered	4015
Vehs Exited	4037
Starting Vehs	87
Ending Vehs	65
Travel Distance (mi)	966
Travel Time (hr)	65.9
Total Delay (hr)	33.9
Total Stops	4530
Fuel Used (gal)	51.8

Intersection: 13: Roe Avenue & Skyline Dr/48th Street

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	TR
Maximum Queue (ft)	116	124	118	17	18	218	256	92	142	198	49
Average Queue (ft)	48	36	53	8	3	105	120	25	49	48	12
95th Queue (ft)	93	78	98	21	15	189	202	61	109	119	37
Link Distance (ft)		337		268		440	440		359	359	359
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120		240		75			250			
Storage Blk Time (%)	0	0				9	2				
Queuing Penalty (veh)	0	0				1	1				

HCS7 Two-Way Stop-Control Report

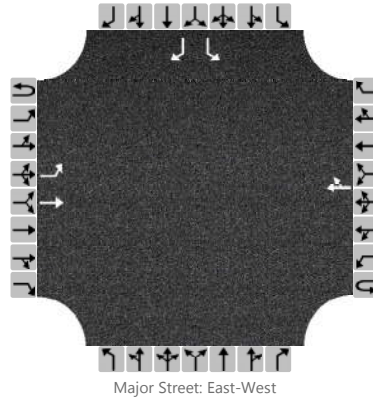
General Information

Analyst	CLB
Agency/Co.	SKW
Date Performed	3/10/2017
Analysis Year	2017
Time Analyzed	Existing Peak AM
Intersection Orientation	East-West
Project Description	48th St & Roe Pkwy

Site Information

Intersection	48th St & Roe Parkway
Jurisdiction	Roeland Park, KS
East/West Street	48th Street
North/South Street	Entrance
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume, V (veh/h)		62	173				394	30						6		15
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		67												7		16
Capacity, c (veh/h)		1094												347		611
v/c Ratio		0.06												0.02		0.03
95% Queue Length, Q ₉₅ (veh)		0.2												0.1		0.1
Control Delay (s/veh)		8.5												15.6		11.0
Level of Service, LOS		A												C		B
Approach Delay (s/veh)	2.2												12.4			
Approach LOS													B			

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

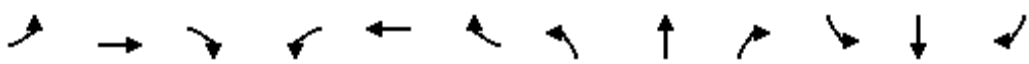
Existing Peak PM

3/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	53	32	180	67	242	33	763	70	302	943	152
Future Volume (vph)	103	53	32	180	67	242	33	763	70	302	943	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	240		0	75		165	250		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	80			25			75			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt		0.944			0.883				0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1758	0	1770	1645	0	1770	3539	1583	1770	4979	0
Flt Permitted	0.460			0.619			0.230			0.183		
Satd. Flow (perm)	857	1758	0	1153	1645	0	428	3539	1583	341	4979	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			263				179		48	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		405			337			523			412	
Travel Time (s)		9.2			7.7			10.2			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	58	35	196	73	263	36	829	76	328	1025	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	93	0	196	336	0	36	829	76	328	1190	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		6			6			6			6	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	22.5	9.5	22.5	

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

Existing Peak PM
3/10/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	14.8%	35.2%		14.8%	35.2%		14.8%	35.2%	35.2%	14.8%	35.2%	
Maximum Green (s)	5.0	18.0		5.0	18.0		5.0	18.0	18.0	5.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effect Green (s)	13.7	9.8		13.8	9.8		24.3	18.3	18.3	36.7	33.2	
Actuated g/C Ratio	0.21	0.15		0.22	0.15		0.38	0.29	0.29	0.57	0.52	
v/c Ratio	0.44	0.31		0.66	0.71		0.12	0.82	0.13	0.62	0.46	
Control Delay	21.3	17.8		29.5	15.1		9.2	24.1	1.3	21.2	13.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	21.3	17.8		29.5	15.1		9.2	24.1	1.3	21.2	13.4	
LOS	C	B		C	B		A	C	A	C	B	
Approach Delay		19.7			20.4			21.7			15.1	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 64

Actuated Cycle Length: 64

Offset: 54.5 (85%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 18.2

Intersection LOS: B

Intersection Capacity Utilization 77.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 13: Roe Avenue & Skyline Dr/48th Street

			
9.5 s	22.5 s	9.5 s	22.5 s
			
9.5 s	22.5 s	9.5 s	22.5 s

Queues
13: Roe Avenue & Skyline Dr/48th Street

Existing Peak PM
3/10/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	93	196	336	36	829	76	328	1190
v/c Ratio	0.44	0.31	0.66	0.71	0.12	0.82	0.13	0.62	0.46
Control Delay	21.3	17.8	29.5	15.1	9.2	24.1	1.3	21.2	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	17.8	29.5	15.1	9.2	24.1	1.3	21.2	13.4
Queue Length 50th (ft)	33	21	61	26	4	48	0	59	80
Queue Length 95th (ft)	56	49	91	86	m19	#235	5	#262	#205
Internal Link Dist (ft)		325		257		443			332
Turn Bay Length (ft)	120		240		75		165	250	
Base Capacity (vph)	254	519	297	651	289	1013	580	526	2608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.18	0.66	0.52	0.12	0.82	0.13	0.62	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Summary of All Intervals

Start Time	4:35
End Time	5:45
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	4301
Vehs Exited	4279
Starting Vehs	60
Ending Vehs	82
Travel Distance (mi)	1060
Travel Time (hr)	74.1
Total Delay (hr)	38.5
Total Stops	4804
Fuel Used (gal)	56.2

Interval #0 Information Seeding

Start Time	4:35
End Time	4:45
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:45
End Time	5:45
Total Time (min)	60
Volumes adjusted by Growth Factors.	
Vehs Entered	4301
Vehs Exited	4279
Starting Vehs	60
Ending Vehs	82
Travel Distance (mi)	1060
Travel Time (hr)	74.1
Total Delay (hr)	38.5
Total Stops	4804
Fuel Used (gal)	56.2

Intersection: 13: Roe Avenue & Skyline Dr/48th Street

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	TR
Maximum Queue (ft)	130	134	228	208	42	140	177	136	153	175	56
Average Queue (ft)	51	44	103	38	13	81	99	66	63	63	35
95th Queue (ft)	97	91	185	102	33	134	159	113	119	130	68
Link Distance (ft)		337		268		440	440		359	359	359
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120		240		75			250			
Storage Blk Time (%)	1	0	0			9	0				
Queuing Penalty (veh)	1	0	0			3	0				

HCS7 Two-Way Stop-Control Report

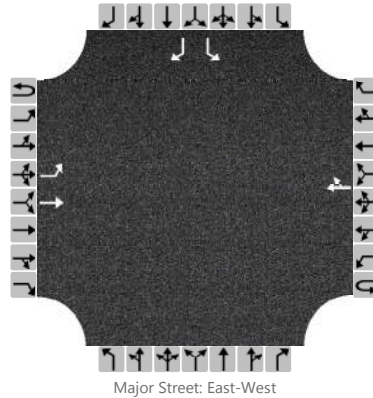
General Information

Analyst	CLB
Agency/Co.	SKW
Date Performed	3/10/2017
Analysis Year	2017
Time Analyzed	Existing Peak PM
Intersection Orientation	East-West
Project Description	48th Street Entrance

Site Information

Intersection	48th Street Entrance
Jurisdiction	Roeland Park, KS
East/West Street	48th Street
North/South Street	Entrance
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume, V (veh/h)		16	400				464	12						17		45
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17												18		49
Capacity, c (veh/h)		1043												271		561
v/c Ratio		0.02												0.07		0.09
95% Queue Length, Q ₉₅ (veh)		0.0												0.2		0.3
Control Delay (s/veh)		8.5												19.2		12.0
Level of Service, LOS		A												C		B
Approach Delay (s/veh)	0.3												14.0			
Approach LOS													B			

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

With Development AM

4/3/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	53	32	119	19	34	12	1010	78	191	671	64
Future Volume (vph)	103	53	32	119	19	34	12	1010	78	191	671	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	240		0	75		165	250		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	80			25			75			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt		0.944			0.904				0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1758	0	1770	1684	0	1770	3539	1583	1770	5019	0
Flt Permitted	0.521			0.697			0.338			0.132		
Satd. Flow (perm)	970	1758	0	1298	1684	0	630	3539	1583	246	5019	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			37				153		25	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		405			337			523			412	
Travel Time (s)		9.2			7.7			10.2			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	58	35	129	21	37	13	1098	85	208	729	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	93	0	129	58	0	13	1098	85	208	799	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		6			6			6			6	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.5	22.5		9.5	22.5		9.5	32.0	32.0	11.0	33.5	

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

With Development AM

4/3/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	12.7%	30.0%		12.7%	30.0%		12.7%	42.7%	42.7%	14.7%	44.7%	
Maximum Green (s)	5.0	18.0		5.0	18.0		5.0	27.5	27.5	6.5	29.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	12.9	8.1		10.8	8.0		43.0	37.2	37.2	52.3	51.0	
Actuated g/C Ratio	0.17	0.11		0.14	0.11		0.57	0.50	0.50	0.70	0.68	
v/c Ratio	0.46	0.42		0.59	0.27		0.03	0.63	0.10	0.54	0.23	
Control Delay	30.1	26.3		37.3	18.6		6.6	19.0	0.7	13.3	7.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	30.1	26.3		37.3	18.6		6.6	19.0	0.7	13.3	7.0	
LOS	C	C		D	B		A	B	A	B	A	
Approach Delay		28.4			31.5			17.6			8.3	
Approach LOS		C			C			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 15.8

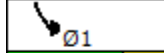
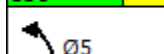
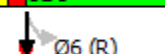
Intersection LOS: B

Intersection Capacity Utilization 63.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 13: Roe Avenue & Skyline Dr/48th Street

							
11 s		32 s		9.5 s		22.5 s	
							
9.5 s		33.5 s		9.5 s		22.5 s	

Queues
13: Roe Avenue & Skyline Dr/48th Street

With Development AM

4/3/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	93	129	58	13	1098	85	208	799
v/c Ratio	0.46	0.42	0.59	0.27	0.03	0.63	0.10	0.54	0.23
Control Delay	30.1	26.3	37.3	18.6	6.6	19.0	0.7	13.3	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.1	26.3	37.3	18.6	6.6	19.0	0.7	13.3	7.0
Queue Length 50th (ft)	43	26	50	9	2	208	0	33	47
Queue Length 95th (ft)	79	64	89	40	8	#334	5	93	108
Internal Link Dist (ft)		325		257		443			332
Turn Bay Length (ft)	120		240		75		165	250	
Base Capacity (vph)	244	448	217	432	448	1756	862	385	3422
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.21	0.59	0.13	0.03	0.63	0.10	0.54	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Summary of All Intervals

Start Time	7:20
End Time	8:30
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	4093
Vehs Exited	4082
Starting Vehs	71
Ending Vehs	82
Travel Distance (mi)	984
Travel Time (hr)	65.0
Total Delay (hr)	32.4
Total Stops	4438
Fuel Used (gal)	51.5

Interval #0 Information Seeding

Start Time	7:20
End Time	7:30
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:30
End Time	8:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	4093
Vehs Exited	4082
Starting Vehs	71
Ending Vehs	82
Travel Distance (mi)	984
Travel Time (hr)	65.0
Total Delay (hr)	32.4
Total Stops	4438
Fuel Used (gal)	51.5

Intersection: 13: Roe Avenue & Skyline Dr/48th Street

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	TR
Maximum Queue (ft)	83	142	209	38	18	226	249	98	78	82	54
Average Queue (ft)	40	38	73	9	4	117	115	34	33	32	26
95th Queue (ft)	78	93	151	29	16	206	199	72	67	62	61
Link Distance (ft)		337		268		440	440		359	359	359
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120		240		75			250			
Storage Blk Time (%)		1				14	3				
Queuing Penalty (veh)		1				2	2				

HCS7 Two-Way Stop-Control Report

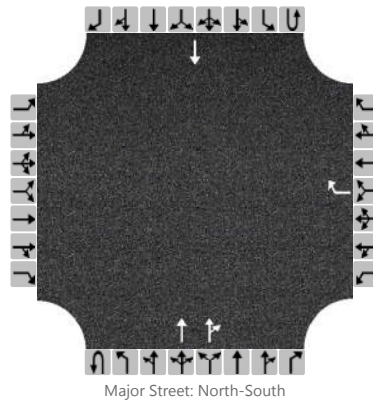
General Information

Analyst	CLB
Agency/Co.	SKW
Date Performed	3/10/2017
Analysis Year	2017
Time Analyzed	Peak AM Proposed
Intersection Orientation	North-South
Project Description	NE Corner of Roe & 48th Development

Site Information

Intersection	Right-in Right-out on Roe
Jurisdiction	Roeland Park, KS
East/West Street	Prop. Right-in Right-out
North/South Street	Roe Blvd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	1	0
Configuration								R			T	TR			T	
Volume, V (veh/h)								42			1383	18			1146	
Percent Heavy Vehicles (%)								3								
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								46								
Capacity, c (veh/h)								345								
v/c Ratio								0.13								
95% Queue Length, Q ₉₅ (veh)								0.5								
Control Delay (s/veh)								17.0								
Level of Service, LOS								C								
Approach Delay (s/veh)					17.0											
Approach LOS					C											

HCS7 Two-Way Stop-Control Report

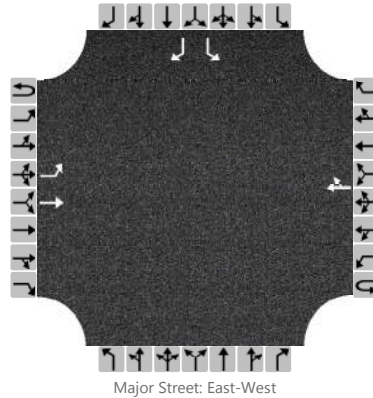
General Information

Analyst	CLB
Agency/Co.	SKW
Date Performed	3/10/2017
Analysis Year	2017
Time Analyzed	Proposed Peak AM
Intersection Orientation	East-West
Project Description	48th St & Roe Pkwy

Site Information

Intersection	48th St & Roe Parkway
Jurisdiction	Roeland Park, KS
East/West Street	48th Street
North/South Street	Entrance
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume, V (veh/h)		126	173				394	39						14		42
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		137												15		46
Capacity, c (veh/h)		1085												265		607
v/c Ratio		0.13												0.06		0.08
95% Queue Length, Q ₉₅ (veh)		0.4												0.2		0.2
Control Delay (s/veh)		8.8												19.4		11.4
Level of Service, LOS		A												C		B
Approach Delay (s/veh)	3.7												13.4			
Approach LOS													B			

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

With Development Peak PM

4/3/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	53	32	211	70	260	33	780	82	371	943	152
Future Volume (vph)	103	53	32	211	70	260	33	780	82	371	943	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		0	240		0	75		165	250		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	80			25			75			130		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Frt		0.944			0.882				0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1758	0	1770	1643	0	1770	3539	1583	1770	4979	0
Flt Permitted	0.348			0.631			0.225			0.157		
Satd. Flow (perm)	648	1758	0	1175	1643	0	419	3539	1583	292	4979	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			217				205		47	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		405			337			523			412	
Travel Time (s)		9.2			7.7			10.2			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	112	58	35	229	76	283	36	848	89	403	1025	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	93	0	229	359	0	36	848	89	403	1190	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			16			16	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		6			6			6			6	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		
Detector Phase	7	4		3	8		5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	22.5		9.5	22.5		9.5	22.5	22.5	9.5	22.5	
Total Split (s)	9.6	22.6		9.8	22.8		9.5	28.6	28.6	19.0	38.1	

Lanes, Volumes, Timings
13: Roe Avenue & Skyline Dr/48th Street

With Development Peak PM

4/3/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	12.0%	28.3%		12.3%	28.5%		11.9%	35.8%	35.8%	23.8%	47.6%	
Maximum Green (s)	5.1	18.1		5.3	18.3		5.0	24.1	24.1	14.5	33.6	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max	C-Max	None	C-Max	
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	
Pedestrian Calls (#/hr)		0			0			0	0		0	
Act Effct Green (s)	16.5	12.5		16.9	12.7		34.7	29.0	29.0	50.7	44.4	
Actuated g/C Ratio	0.21	0.16		0.21	0.16		0.43	0.36	0.36	0.63	0.56	
v/c Ratio	0.55	0.31		0.80	0.81		0.13	0.66	0.13	0.80	0.43	
Control Delay	31.9	21.0		46.1	27.3		10.6	26.4	0.4	30.2	13.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	31.9	21.0		46.1	27.3		10.6	26.4	0.4	30.2	13.0	
LOS	C	C		D	C		B	C	A	C	B	
Approach Delay		26.9			34.6			23.4			17.4	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 22.7

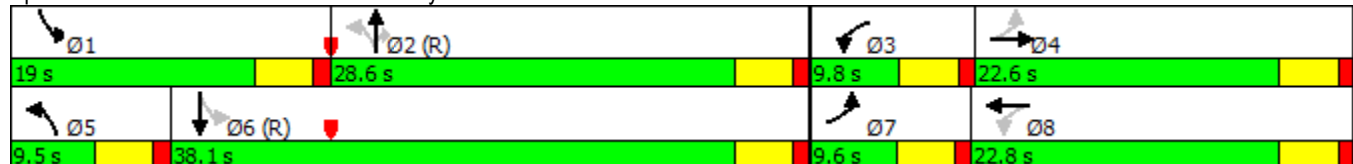
Intersection LOS: C

Intersection Capacity Utilization 82.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 13: Roe Avenue & Skyline Dr/48th Street



Queues
13: Roe Avenue & Skyline Dr/48th Street

With Development Peak PM

4/3/2017



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	112	93	229	359	36	848	89	403	1190
v/c Ratio	0.55	0.31	0.80	0.81	0.13	0.66	0.13	0.80	0.43
Control Delay	31.9	21.0	46.1	27.3	10.6	26.4	0.4	30.2	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	21.0	46.1	27.3	10.6	26.4	0.4	30.2	13.0
Queue Length 50th (ft)	43	25	93	66	7	203	0	122	138
Queue Length 95th (ft)	75	61	143	152	21	273	0	#316	194
Internal Link Dist (ft)		325		257		443			332
Turn Bay Length (ft)	120		240		75		165	250	
Base Capacity (vph)	205	424	288	543	279	1282	704	502	2786
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.22	0.80	0.66	0.13	0.66	0.13	0.80	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Summary of All Intervals

Start Time	4:35
End Time	5:45
Total Time (min)	70
Time Recorded (min)	60
# of Intervals	2
# of Recorded Intervals	1
Vehs Entered	4415
Vehs Exited	4412
Starting Vehs	89
Ending Vehs	92
Travel Distance (mi)	1090
Travel Time (hr)	84.0
Total Delay (hr)	47.3
Total Stops	4888
Fuel Used (gal)	59.6

Interval #0 Information Seeding

Start Time	4:35
End Time	4:45
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:45
End Time	5:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Vehs Entered	4415
Vehs Exited	4412
Starting Vehs	89
Ending Vehs	92
Travel Distance (mi)	1090
Travel Time (hr)	84.0
Total Delay (hr)	47.3
Total Stops	4888
Fuel Used (gal)	59.6

Intersection: 12: Roe Avenue & Wal Mart Access/51st Street

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	67	88	113	93	49	166	166	134	155	163	26
Average Queue (ft)	23	23	51	49	17	85	77	45	71	73	8
95th Queue (ft)	55	58	91	82	43	160	148	92	138	150	26
Link Distance (ft)	153	153		278					328	328	328
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)			200		96			80			
Storage Blk Time (%)						4		1	4		
Queuing Penalty (veh)						1		3	4		

Intersection: 13: Roe Avenue & Skyline Dr/48th Street

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	L	T	T	TR
Maximum Queue (ft)	158	139	212	241	149	230	265	336	190	196	144
Average Queue (ft)	48	45	102	40	16	134	142	87	63	77	30
95th Queue (ft)	103	99	187	108	62	213	230	177	141	164	86
Link Distance (ft)		337		268		440	440		359	359	359
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	120		240		75			250			
Storage Blk Time (%)	2	0		0	0	20	4	1			
Queuing Penalty (veh)	2	0		0	0	6	3	3			

Intersection: 14: Roe Avenue & Roe Lane/50th Terrace

Movement	EB	EB	WB	WB	B9	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	T	L	T	TR	L	T	T	R
Maximum Queue (ft)	167	230	48	98	67	106	171	235	51	225	224	111
Average Queue (ft)	150	166	45	74	19	28	69	77	8	102	108	40
95th Queue (ft)	202	250	59	111	65	62	143	170	31	178	184	74
Link Distance (ft)		171		48	52		328	328		550	550	550
Upstream Blk Time (%)	20	39	10	19	3							
Queuing Penalty (veh)	0	132	0	0	0							
Storage Bay Dist (ft)	142		108			122			85			
Storage Blk Time (%)	62	18	10	19		0	1			13		
Queuing Penalty (veh)	103	31	9	20		0	1			2		

Intersection: 17: Roe Avenue & 52nd Street

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 19: Roe Lane

Movement	EB	WB	NB	SB	SB
Directions Served	TR	L	LTR	L	TR
Maximum Queue (ft)	120	70	92	93	54
Average Queue (ft)	42	17	67	44	30
95th Queue (ft)	101	52	85	87	50
Link Distance (ft)	105		53		78
Upstream Blk Time (%)	1		65	11	
Queuing Penalty (veh)	0		0	0	
Storage Bay Dist (ft)		65		120	
Storage Blk Time (%)	1	1		11	
Queuing Penalty (veh)	0	1		8	

Intersection: 23: Roe Avenue & CVS/Wal Mart Access/Sycamore Drive

Movement

Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 331

HCS7 Two-Way Stop-Control Report

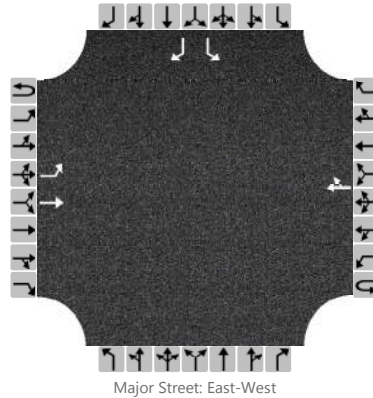
General Information

Analyst	CLB
Agency/Co.	SKW
Date Performed	3/10/2017
Analysis Year	2017
Time Analyzed	Proposed Peak PM
Intersection Orientation	East-West
Project Description	48th Street Entrance

Site Information

Intersection	48th Street Entrance
Jurisdiction	Roeland Park, KS
East/West Street	48th Street
North/South Street	Entrance
Peak Hour Factor	0.92
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	1	0	0	0	1	0		0	0	0		1	0	1
Configuration		L	T					TR						L		R
Volume, V (veh/h)		97	400				464	29						23		102
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		105												25		111
Capacity, c (veh/h)		1026												192		554
v/c Ratio		0.10												0.13		0.20
95% Queue Length, Q ₉₅ (veh)		0.3												0.4		0.7
Control Delay (s/veh)		8.9												26.6		13.1
Level of Service, LOS		A												D		B
Approach Delay (s/veh)	1.7												15.6			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

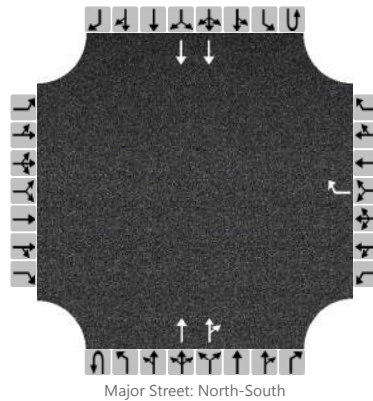
General Information

Analyst	CLB
Agency/Co.	SKW
Date Performed	3/10/2017
Analysis Year	2017
Time Analyzed	Peak PM Proposed
Intersection Orientation	North-South
Project Description	NE Corner of Roe & 48th Development

Site Information

Intersection	Right-in Right-out on Roe
Jurisdiction	Roeland Park, KS
East/West Street	Prop. Right-in Right-out
North/South Street	Roe Blvd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	1.00

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	1	0	0	2	0	0	0	2	0
Configuration								R			T	TR			T	
Volume, V (veh/h)								51			1108	17			1466	
Percent Heavy Vehicles (%)								3								
Proportion Time Blocked																
Percent Grade (%)					0											
Right Turn Channelized	No				No				No				No			
Median Type/Storage	Left Only								1							

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)								57								
Capacity, c (veh/h)								425								
v/c Ratio								0.13								
95% Queue Length, Q ₉₅ (veh)								0.5								
Control Delay (s/veh)								14.8								
Level of Service, LOS								B								
Approach Delay (s/veh)					14.8											
Approach LOS					B											

April 10, 2017

Mr. Keith Moody
City Administrator
City of Roeland Park
4600 W 51st Street
Roeland Park, KS 66205



RE: The Rocks – Preliminary Stormwater Summary

Dear Mr. Moody:

This letter summarizes preliminary stormwater calculations to support the proposed Rocks development at the northeast corner of Roe Boulevard and West 48th Street, which is also known as the Caves / Swimming Pool redevelopment project. The project includes a hotel, restaurant and outdoor elevated obstacle course experience.

An existing one story public works facility with associated parking and storage areas, as well as the former pool site parking is located on the 7.25 acre site. The site discharges to storm infrastructure along 48th Street and Roe Lane on the east boundary of the site. The stormwater system on 48th Street connects to Roe Lane, so Roe Lane is considered the outfall location for both predevelopment and post development conditions. The underlying soils are Sharpsburg-Urban land complex, 4 to 8 percent slopes, with a hydrologic soil group rating of C, and Vinland-Rock outcrop complex, 15 to 45 percent slopes, with a hydrologic soil group rating of D. The hydrologic soil group C rating has been downgraded to D soils, to account for significant previous development on the site including the public works facility and Kansas Turnpike Authority onramp. The existing impervious area covers 3.07 acres or 42.3% of the site. See attached Exhibit A for a delineation of existing impervious area. The site lies within flood zone X (areas outside the limits of the 0.2% annual chance floodplain); see attached Exhibit B for a FEMA flood insurance rate map.

The existing buildings, pavement, and gravel storage areas will be removed for the redevelopment of the property. The proposed buildings, sidewalks, and parking areas will cover 3.35 acres or 46.2% of the total site area. As this is an increase of more than 5,000 square feet of impervious area for this redevelopment project, APWA 5600 requires that post development discharge rates from the site do not exceed pre development discharge rates for the 50%, 10%, and 1% storm events. See attached Exhibit B for a delineation of proposed impervious area.

The table below summarizes the peak site discharge rate for existing and proposed conditions (no stormwater detention controls), for a SCS Type II 24-hour rainfall.

Condition	Area (ac)	CN	Tc (min)	Peak Discharge		
				50% storm (cfs)	10% storm (cfs)	1% storm (cfs)
Existing	7.25	87	10	23.63	39.27	63.11
Proposed	7.25	88	7	26.73	43.73	69.50

Therefore stormwater detention is necessary to reduce post development discharge rates to allowable pre development conditions. Utilizing the target release rate for each regulatory storm event,

Hydraflow Hydrographs can estimate the required storage volume for stormwater management facilities. The following table summarizes the estimated required detention volumes for each storm event.

Storm Event	Post Development Discharge Rate (cfs) (no controls)	Target Release Rate (cfs)	Estimated Required Detention Volume (cf)	Estimated Required Detention Volume (ac-ft)
50% (2-yr)	23.63	23.5	8,864	0.20
10% (10-yr)	39.27	39.0	13,638	0.31
1% (100-yr)	63.11	63.0	12,690	0.29

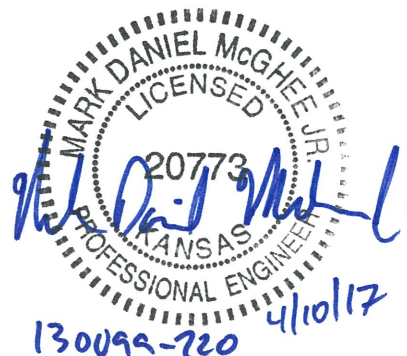
The 10% (10-yr) storm controls the detention facility sizing at approximately 13,700 cf or 0.31 ac-ft. One stormwater detention facility could be provided to regionally serve the proposed Lots, or each Lot could provide their own surface or underground detention system. Schematically either an underground detention chamber system or a surface detention basin providing this volume could be installed west of Roe Lane, near the outfall of this redevelopment site. A Hydraflow Hydrographs Report summary containing peak discharge rates, time of concentration, and curve number calculations is attached. HYD 1 is the pre-development condition and HYD 2 is the post-development condition of the site for the 50% (2-yr), 10% (10-yr) and 1% (100-yr) storm events.

The Mid-America Regional Council Manual of Best Management Practices for Stormwater Quality, will be utilized for the selection and design of BMP's on each lot. Stormwater BMP's will be provided to treat the net increase in impervious area over the required treatment area, which is the existing condition pervious area. Specific treatment methods will be determined during final design. Given the limited increase in impervious area, it is anticipated that catch basin inserts will provide adequate treatment for the improvements.

Please contact Dan McGhee, P.E., should you have any questions regarding this letter.

SHAFFER, KLINE & WARREN, INC.

Enclosure(s)



[illegible]

$1'' = 120'$

NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED
WITHIN TOWNSHIP 11 SOUTH, RANGE 25 EAST AND
TOWNSHIP 12 SOUTH, RANGE 25 EAST.

City of Roeland Park
200176

ZONE X

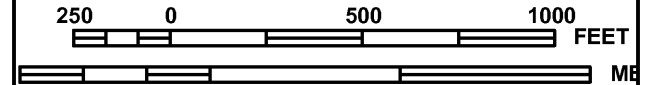
W 51ST ST

4

PROJECT
SITE



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0009G

FIRM

FLOOD INSURANCE RATE MAP

JOHNSON COUNTY,
KANSAS
AND INCORPORATED AREAS

PANEL 9 OF 161

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRWAY, CITY OF	205185	0009	G
MISSION, CITY OF	200170	0009	G
ROELAND PARK, CITY OF	200176	0009	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



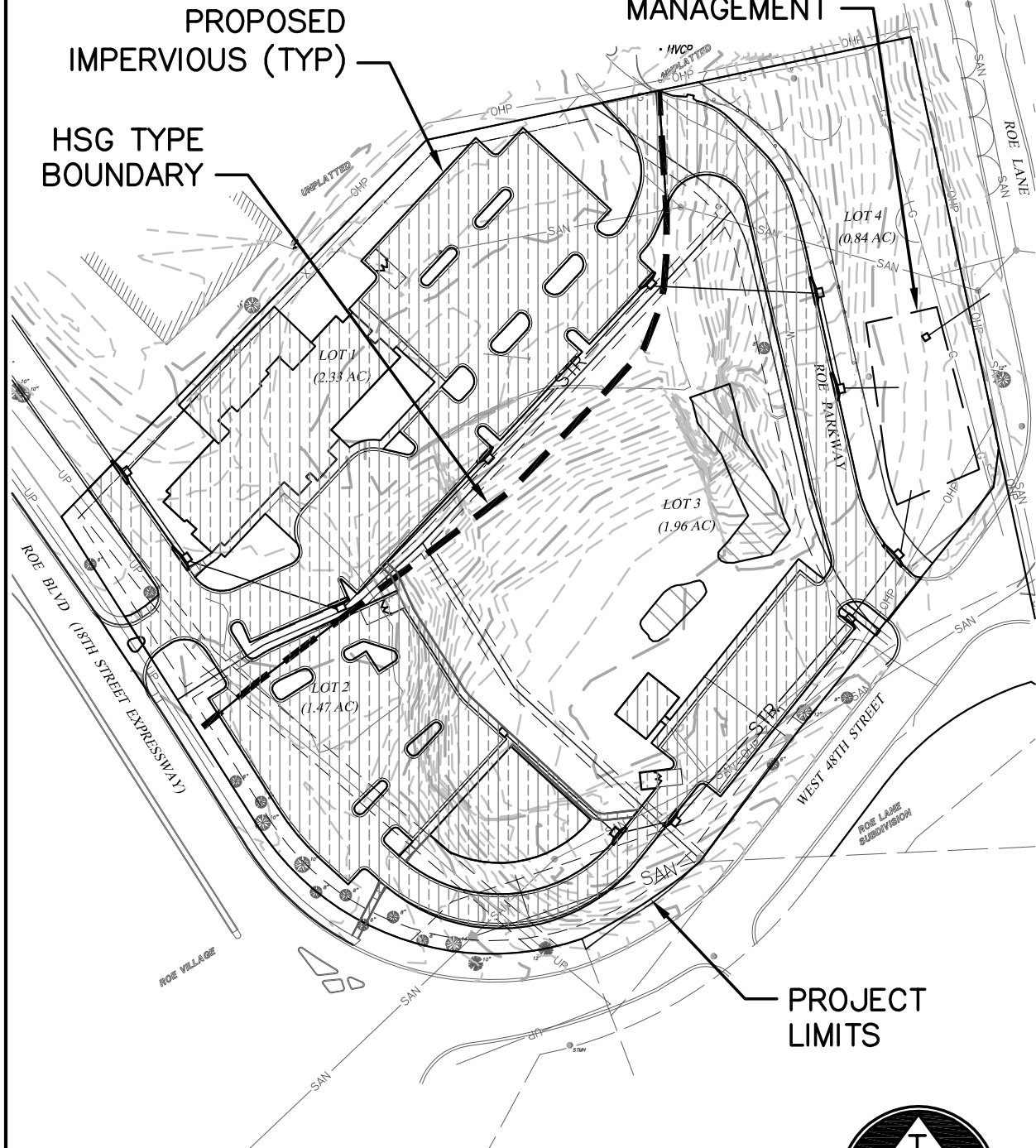
MAP NUMBER
20091C0009G

MAP REVISED
AUGUST 3, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

EXHIBIT C POTENTIAL STORMWATER MANAGEMENT



SHAHER, KLINE & WARREN

11250 Corporate Avenue
Lenexa, KS 66219-1392
913.888.7800 FAX: 913.888.7868



SURVEYING | ENGINEERING | CONSTRUCTION

PROJECT NO.130099-220 | DATE: 04/10/17 | BY:MDM

PROPOSED CONDITIONS



1" = 120'

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	23.63	2	720	61,676	-----	-----	-----	PRE DEVELOPMENT
2	SCS Runoff	26.73	2	718	62,110	-----	-----	-----	POST DEVELOPMENT
The Rocks Redevelopment SWM.gpw					Return Period: 2 Year			Monday, 04 / 10 / 2017	

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Monday, 04 / 10 / 2017

Hyd. No. 1

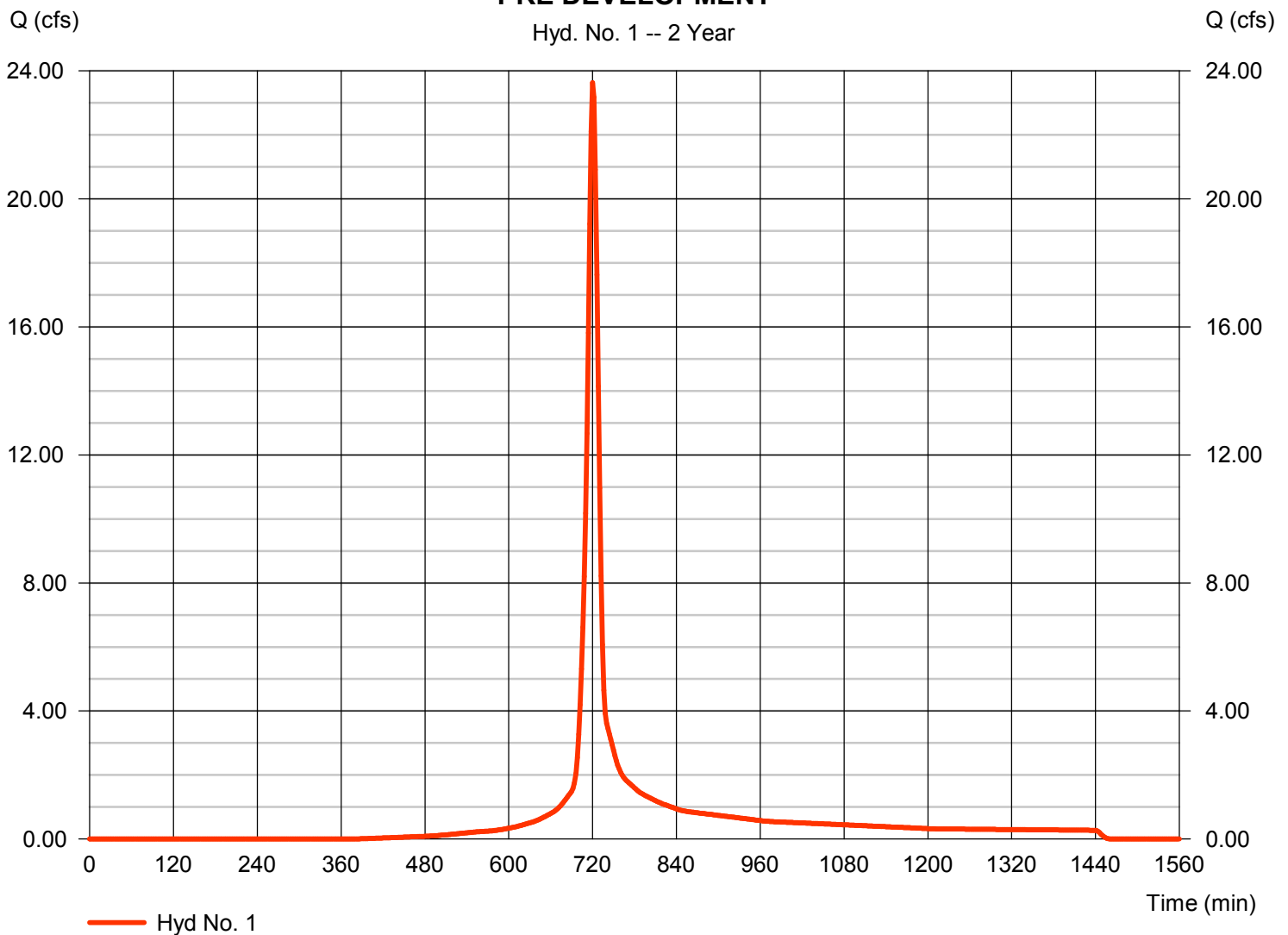
PRE DEVELOPMENT

Hydrograph type	= SCS Runoff	Peak discharge	= 23.63 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 61,676 cuft
Drainage area	= 7.250 ac	Curve number	= 87*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.00 min
Total precip.	= 3.60 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(4.180 x 80) + (0.520 x 91) + (2.550 x 98)] / 7.250

PRE DEVELOPMENT

Hyd. No. 1 -- 2 Year



<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
--------------------	----------	----------	----------	---------------

Manning's n-value	=	0.240		0.011		0.011
Flow length (ft)	=	100.0		0.0		0.0
Two-year 24-hr precip. (in)	=	3.60		0.00		0.00
Land slope (%)	=	8.00		0.00		0.00
Travel Time (min)	=	7.73	+	0.00	+	0.00 = 7.73

Flow length (ft)	=	110.00	0.00	0.00	
Watercourse slope (%)	=	3.60	0.00	0.00	
Surface description	=	Unpaved	Paved	Paved	
Average velocity (ft/s)	=	3.06	0.00	0.00	
Travel Time (min)	=	0.60	+	0.00	+
				0.00	= 0.60

X sectional flow area (sqft)	= 1.00	1.00	1.00	
Wetted perimeter (ft)	= 1.00	1.00	1.00	
Channel slope (%)	= 2.00	15.00	3.70	
Manning's n-value	= 0.055	0.055	0.015	
Velocity (ft/s)	=3.83			
		10.49		
			19.11	
Flow length (ft)	(\{0\})215.0	230.0	480.0	
Travel Time (min)	= 0.94	+ 0.37	+ 0.42	= 1.72

Total Travel Time, Tc 10.00 min

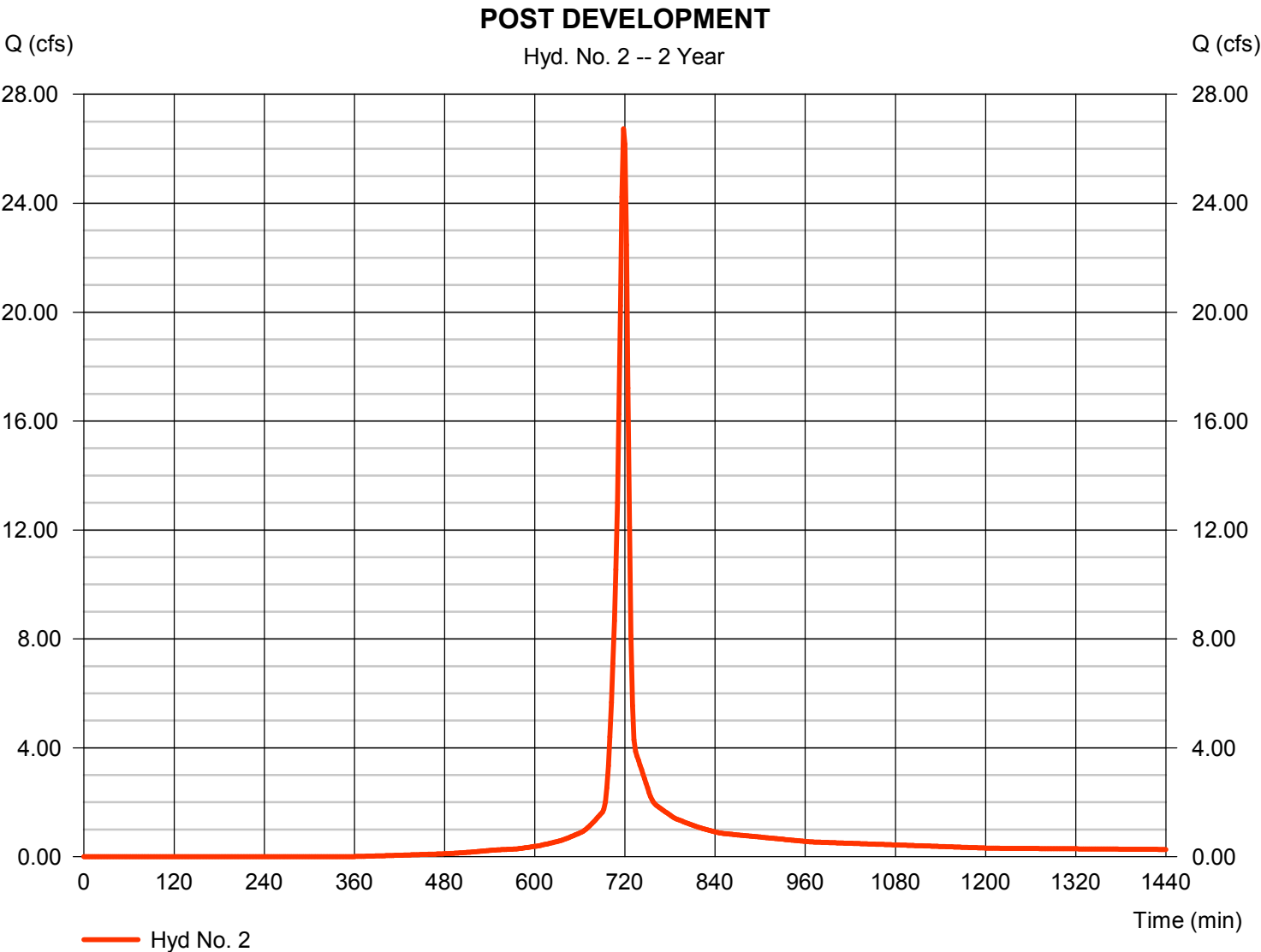
Hydrograph Report

Hyd. No. 2

POST DEVELOPMENT

Hydrograph type	=	SCS Runoff	Peak discharge	=	26.73 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	62,110 cuft
Drainage area	=	7.250 ac	Curve number	=	88*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	7.00 min
Total precip.	=	3.60 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(3.900 x 80) + (0.120 x 91) + (3.230 x 98)] / 7.250



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	39.27	2	720	104,506	-----	-----	-----	PRE DEVELOPMENT
2	SCS Runoff	43.73	2	718	104,075	-----	-----	-----	POST DEVELOPMENT
The Rocks Redevelopment SWM.gpw					Return Period: 10 Year			Monday, 04 / 10 / 2017	

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Monday, 04 / 10 / 2017

Hyd. No. 1

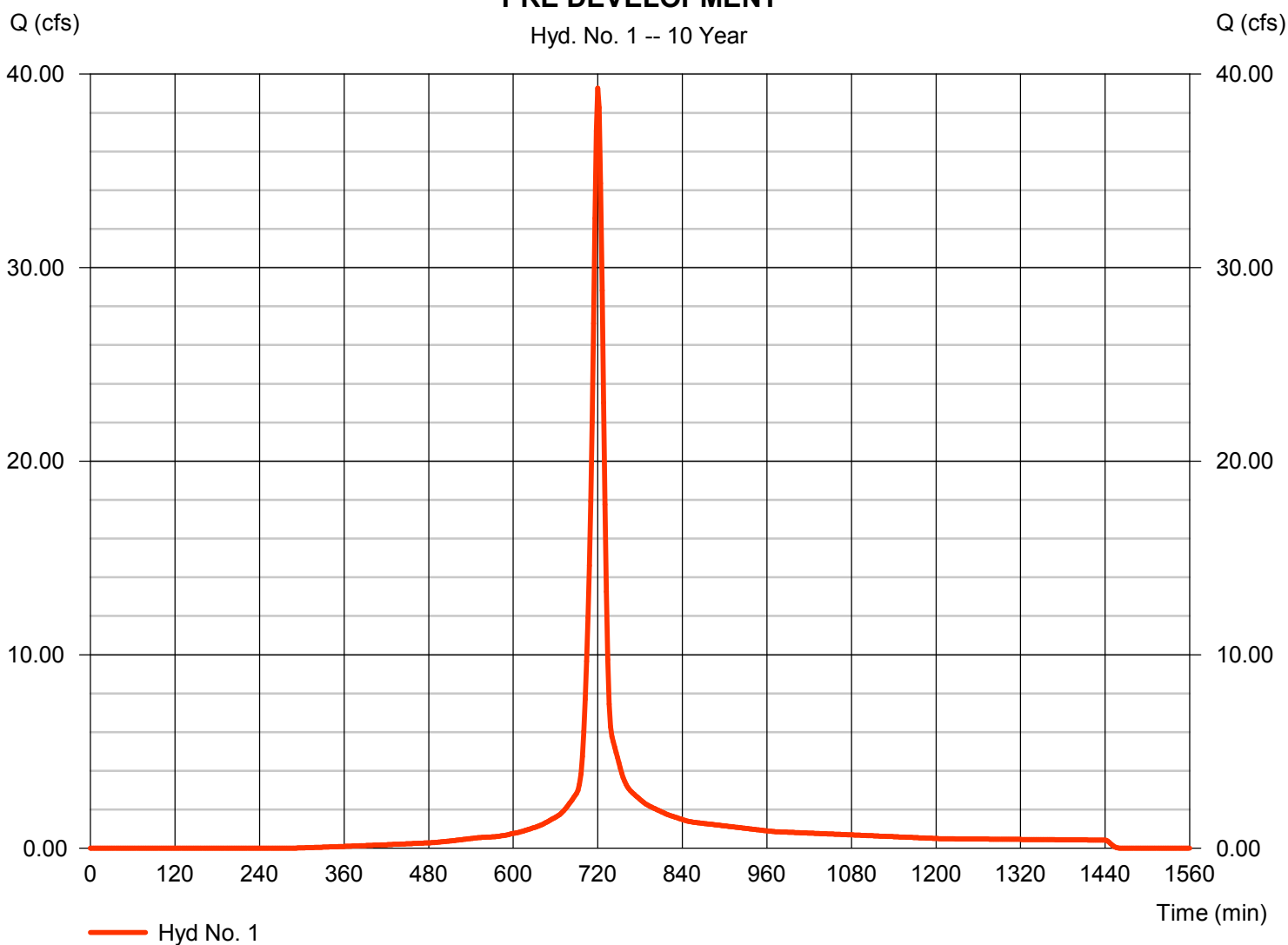
PRE DEVELOPMENT

Hydrograph type	= SCS Runoff	Peak discharge	= 39.27 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 104,506 cuft
Drainage area	= 7.250 ac	Curve number	= 87*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.00 min
Total precip.	= 5.30 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = $[(4.180 \times 80) + (0.520 \times 91) + (2.550 \times 98)] / 7.250$

PRE DEVELOPMENT

Hyd. No. 1 -- 10 Year



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Monday, 04 / 10 / 2017

Hyd. No. 2

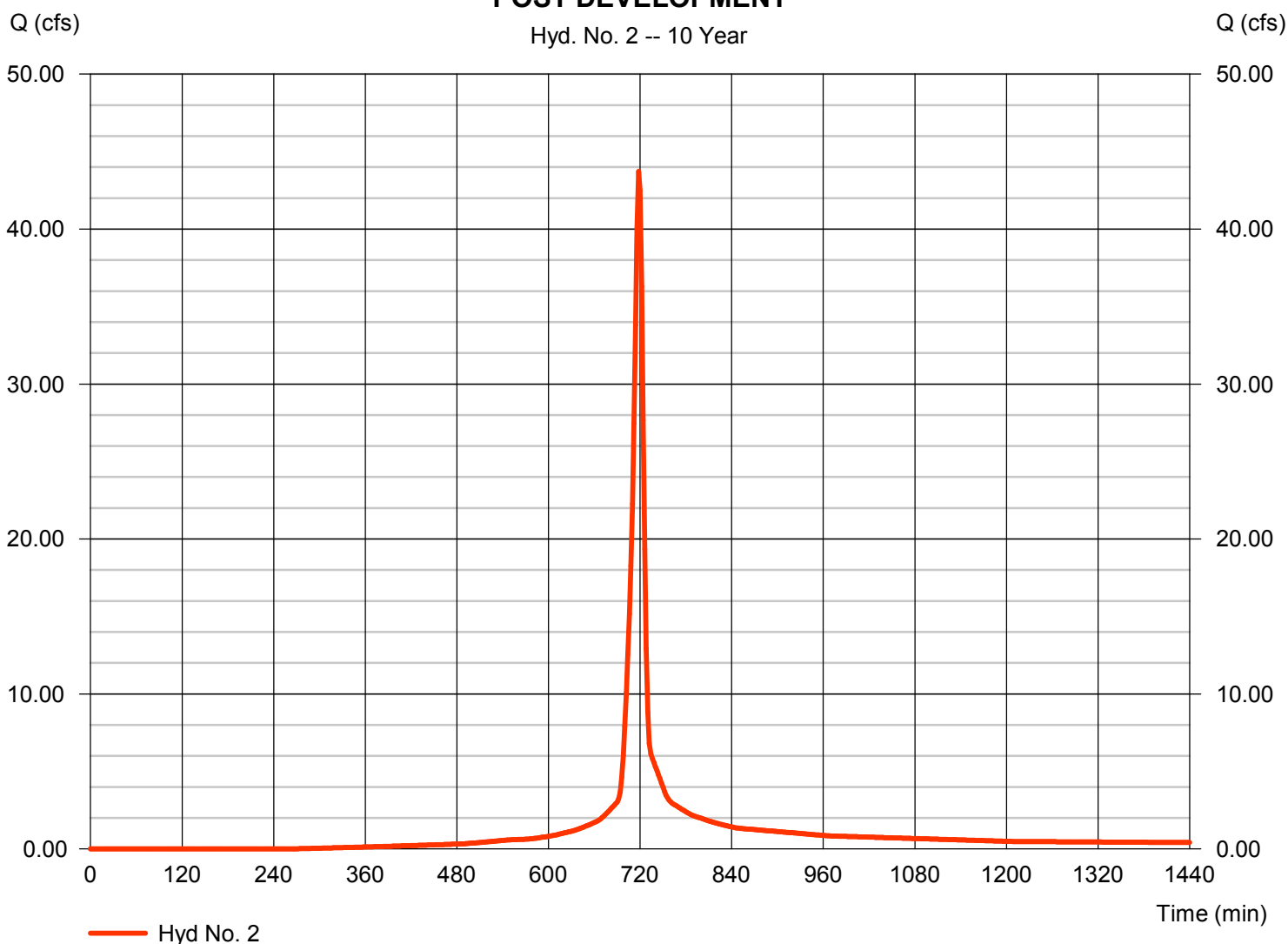
POST DEVELOPMENT

Hydrograph type	= SCS Runoff	Peak discharge	= 43.73 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 104,075 cuft
Drainage area	= 7.250 ac	Curve number	= 88*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 7.00 min
Total precip.	= 5.30 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.900 x 80) + (0.120 x 91) + (3.230 x 98)] / 7.250

POST DEVELOPMENT

Hyd. No. 2 -- 10 Year



Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	63.11	2	720	172,403	-----	-----	-----	PRE DEVELOPMENT
2	SCS Runoff	69.50	2	718	170,286	-----	-----	-----	POST DEVELOPMENT
The Rocks Redevelopment SWM.gpw					Return Period: 100 Year			Monday, 04 / 10 / 2017	

Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Monday, 04 / 10 / 2017

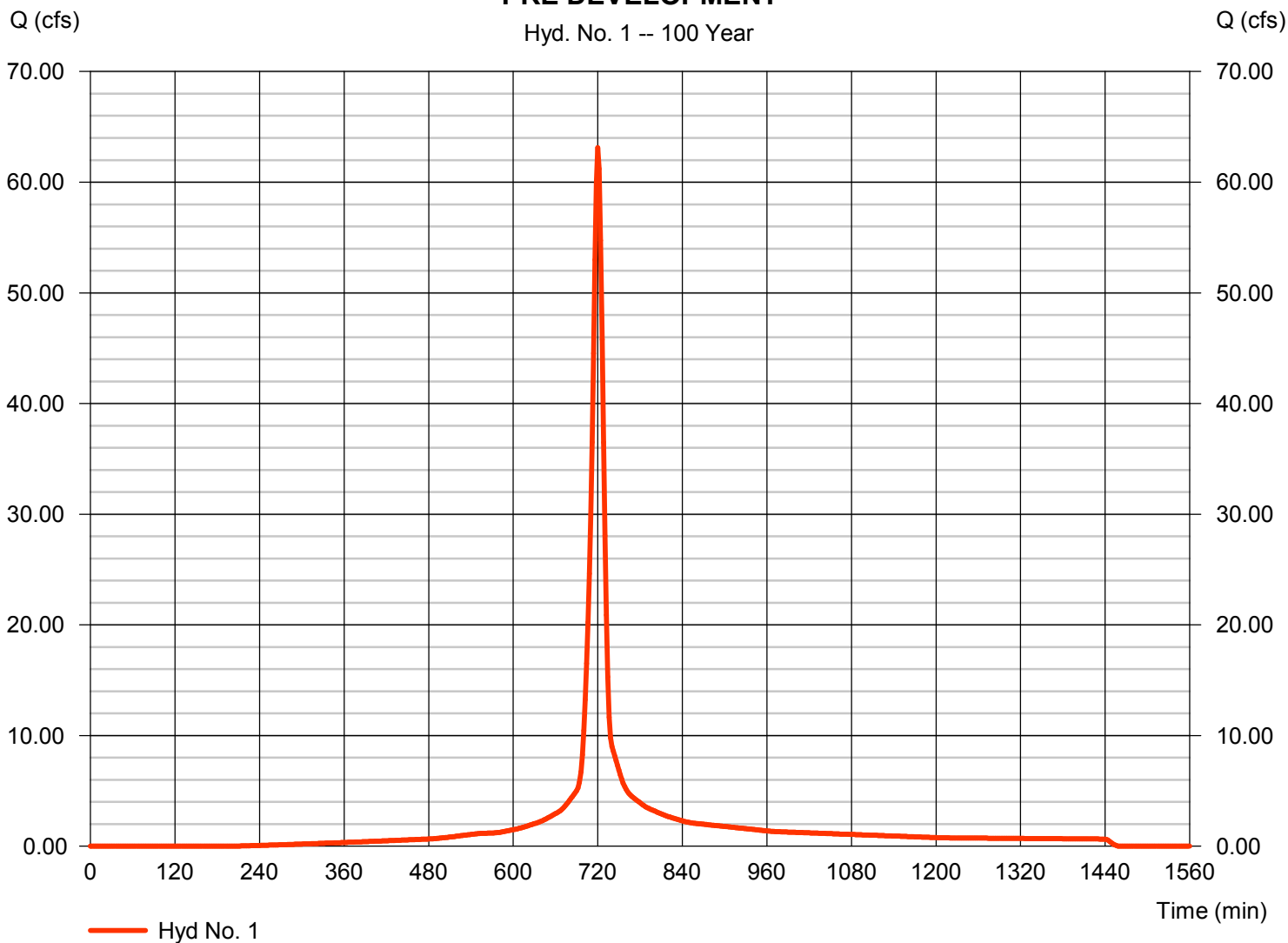
Hyd. No. 1

PRE DEVELOPMENT

Hydrograph type	= SCS Runoff	Peak discharge	= 63.11 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 172,403 cuft
Drainage area	= 7.250 ac	Curve number	= 87*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.00 min
Total precip.	= 7.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = $[(4.180 \times 80) + (0.520 \times 91) + (2.550 \times 98)] / 7.250$

PRE DEVELOPMENT



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2016 by Autodesk, Inc. v10.5

Monday, 04 / 10 / 2017

Hyd. No. 2

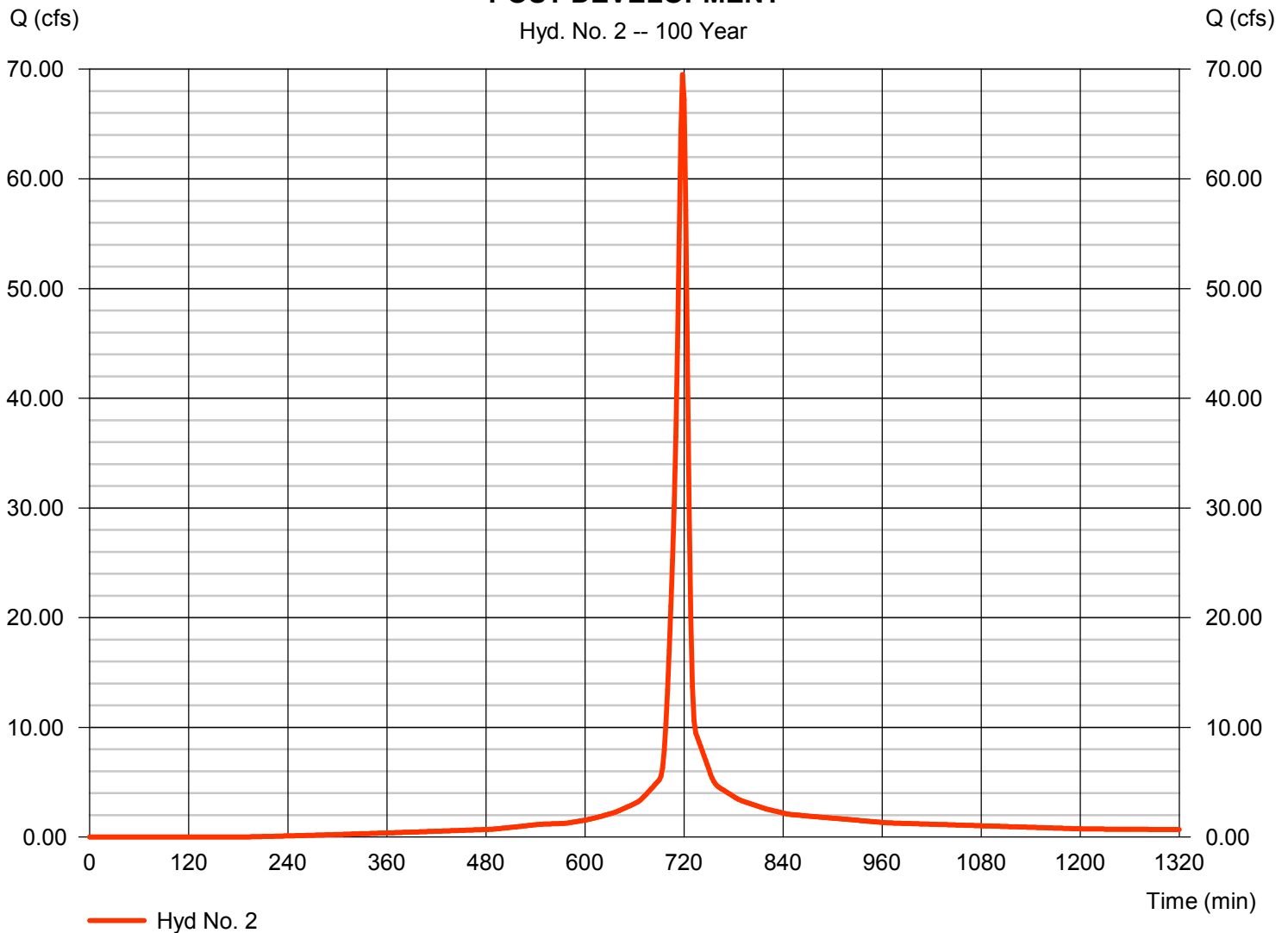
POST DEVELOPMENT

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 7.250 ac
 Basin Slope = 0.0 %
 Tc method = User
 Total precip. = 7.90 in
 Storm duration = 24 hrs

Peak discharge = 69.50 cfs
 Time to peak = 718 min
 Hyd. volume = 170,286 cuft
 Curve number = 88*
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 7.00 min
 Distribution = Type II
 Shape factor = 484

* Composite (Area/CN) = [(3.900 x 80) + (0.120 x 91) + (3.230 x 98)] / 7.250

POST DEVELOPMENT



Wastewater

March 14, 2017

Mr. Keith Moody
Roeland Park City Administrator
4600 W 51st Street
Roeland Park, KS 66205

RE: Sanitary Sewer Availability for 4800 Roe Pkwy – PID# PF251204-3014

Dear Mr. Moody:

Sanitary sewer service for parcel # PF251204-3014 at 4800 Roe Pkwy., located at the NE corner of Roe Ln. & 48th St. is available. A sewer main relocation project is currently being reviewed by JCW for the proposed development at this property.

If you have any questions, please contact me at 913-715-8524.

Sincerely,

Jeena John, P.E.
New Development Compliance Engineer

cc: Jennifer Harder, PE, New Development Engineering Manager
Kevin Figge, Senior Engineering Compliance Specialist



March 16, 2017

City of Roeland Park
Keith Moody-City Administrator

Location to serve:
48th & Roe-East Side(Old Pool Area)

To Whom It May Concern:

Kansas City Power & Light Company will provide electrical service for the above referenced project. As the franchise electrical utility for this area, KCP&L has the electrical capacity to serve your project in accordance with our Standard Practices, Rules and Regulations. Developer must submit application for electrical service in a timely manner and provide all requested items as stated on KCP&L's Commercial Application.

Sincerely,

A handwritten signature in cursive script, appearing to read "John Wienstroer".

John Wienstroer
Field Design Supervisor
Kansas City Power & Light Company
16215 W. 108th St.
Lenexa, Ks. 66219
913-894-3060
John.Wienstroer@kcpl.com

April 5, 2017

Dan McGhee
11250 Corporate Avenue
Lenexa, KS 66219

Re: Water Availability Letter for The Rocks – 4800 Roe Pkwy

Dear Mr. McGhee

This letter is in reference to the water availability for property located at 4800 Roe Pkwy in Roeland Park, KS. At the time of this writing, there is an existing 6" water main located on the west side of Roe Pkwy and a 6" water main located on the north side of W 48th St that ends approximately 120ft east of the west property line. There are no known issues at this time with providing domestic service. Because of the location and nature of the existing infrastructure, anticipated fire flow demands should be verified against existing hydrant flows.

If you have further questions, please let me know.

Thank you,



Carla Hussey, P.E.
Manager-Developer Services
913/895-5773



**Kansas
Gas Service™**

A Division of ONE Gas

7421 West 129th Street
Overland Park, KS 66213
kansasgasservice.com

March 16, 2017

Mr. Keith Moody
City Administrator
City of Roeland Park
4600 W. 51st St.
Roeland Park, KS 66205

Re: "Will Serve" Letter – W. 48th St. & Roe Blvd., Roeland Park, KS

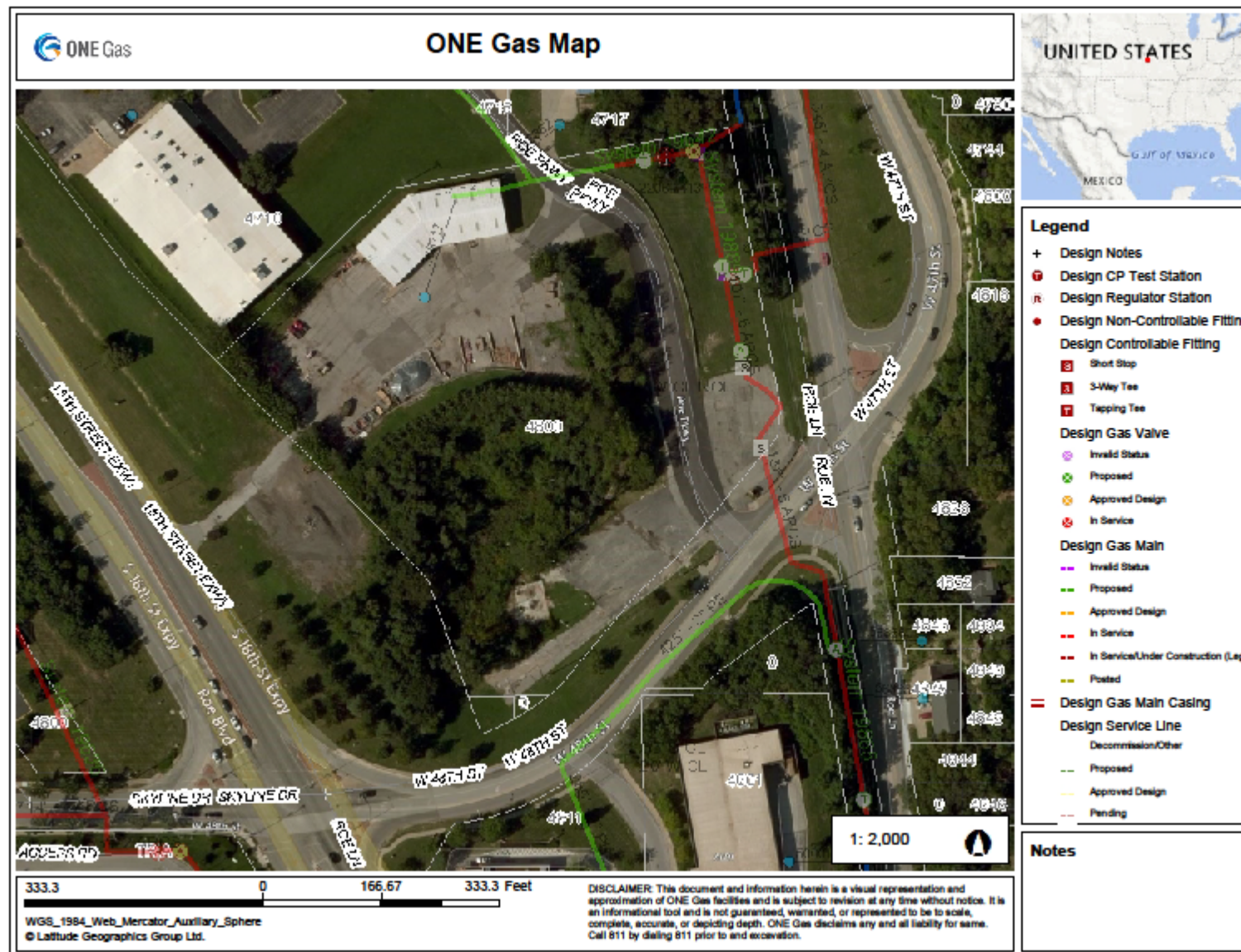
Dear Mr. Moody:

This letter is to confirm Kansas Gas Service has gas main facilities adjacent to your property at the northeast corner of W. 48th St. & Roe Blvd., Roeland Park, KS. The best route to get service to the site, installation of new gas main, easements, changes to existing pipe location or size, grade changes, location of gas meters, termination of old services, or any cost associated would still need to be determined. Please consult with us prior to finalizing your plans so Kansas Gas Service can determine the best route to provide service to the project, adequate space and safe locations for all gas meters. A map of our facilities is attached for your information.

Feel free to contact me if you have any questions.

Sincerely,

Bill Ahrens
Project Manager



Item Number: Action Items- III.-1.
Committee 4/18/2017
Meeting Date:



City of Roeland Park

Action Item Summary

Date: 4/16/2017
Submitted By: Jennifer Jones-Lacy
Committee/Department:
Title: **Special Event Permit Regulation Changes - Remanded from Council**
Item Type: Discussion

Recommendation:

Review and approve the changes to the Special Events code as outlined by the Governing Body.

Details:

The Planning Commission originally approved recommended changes to the Special Events Section of the Zoning Code (16-703) on November 15, 2016. The recommended changes were provided to the City Council which decided to make changes to the code from what the Planning Commission recommended. Per City Code, any changes to recommendations of the Planning Commission by the Governing Body requires a super majority affirmative vote to pass. These changes were debated for four months. On March 20th, the Council approved Ordinance No. 949 (attached) but only by a simple majority. The vote was 5 "yea" and 3 "nay" and the Mayor did not vote. To have a super majority, they would have needed one additional "yea" vote in order to be approved.

After the meeting, staff discovered that the ordinance was not approved according to our regulations since the Mayor did not vote. At the April 17th Council meeting, the Council voted to remand the item back to the Planning Commission with recommended changes as detailed below.

Sec. 16-703. - Special Events; Permit Not Required.

Special events meeting the Type 1 definition are allowed without a special event permit provided all the following performance standards are met:

(a) The special event is conducted entirely on private property owned or leased by the sponsoring organization as a permanent facility or with the written permission of the property owner or lessee.
(b) Any structure used in conjunction with the special event shall meet all applicable yard setbacks, shall be the subject of a valid building permit, and shall be promptly removed upon the cessation of the event.

(c) The special event shall be restricted to hours of operation between 8:00 a.m. and 11:00 p.m., to a maximum duration of four days, and to a maximum frequency for similar events of six non-consecutive times per calendar year.

Special events meeting the Type 1 definition that include on-site signs and/or displays in conjunction with the event are allowed without a permit provided the following conditions are met:

(a) The special event does not involve outdoor activities (i.e. people congregating or participating in outdoor activities);

(b) The special event does not continue for more than thirty one (31) consecutive days and the property does not exceed a total of more than sixty (60) special event days. At least fifteen (15) days must pass between each special event;

(c) Any/all special event display(s) area does not exceed five hundred (500) square feet or five percent (5%) of the total square feet of the property, whichever is less.

(d) The special event shall not endanger or be materially detrimental to the public health, safety or welfare or injurious to property or improvements in the immediate vicinity of the neighborhood special event.

(e) The special event shall not cause undue traffic congestion or accident potential.

Financial Impact

Amount of Request:	
Budgeted Item?	Budgeted Amount:
Line Item Code/Description:	

Additional Information

Staff Report from December 5th Meeting

Every October, St. Agnes installs several small crosses on their grounds in conjunction with yard signs. Per 16-910(b) of the Municipal Code, three temporary signs are permitted on any lot and shall have a surface no larger than three square feet (maximum of 2.5 feet wide and 3.5 feet in height). The signs are really part of what I would consider a "special event" and should really be addressed through those definitions.

Currently, Section 16-703 states special events meeting the Type 1 definition does not require a permit and shall be restricted between the hours of 8 am and 11 pm for a maximum of four days.

Type 1 is defined as "fund raising or non-commercial events held outside for non-profit religious, educational or community service organizations that routinely operate in the City, including on-site signs and structures held in conjunction with the event." I recommend we make amendments to the Special Events section of Chapter 16 to state that signs associated with a special event shall be allowed up to 31 days and a max of four non-consecutive times per year. The revisions also state that the City shall not limit the number of signs associated with the event while maintaining a limit on the size of signage. This will allow the Catholic Church to continue its observation during the month of October without being in violation of the City's sign ordinance.

Below are the proposed changes to our existing special events code as indicated by the underlined/italicized text.

16-703. SPECIAL EVENTS; PERMIT NOT REQUIRED. Special events meeting the Type 1 definition are allowed without a special event permit provided all the following performance standards are met:

(a) The special event is conducted entirely on private property owned or leased by the sponsoring organization as a permanent facility or with the written permission of the property owner or lessee.
(b) Any structure used in conjunction with the special event shall meet all applicable yard setbacks, shall be the subject of a valid building permit, and shall be promptly removed upon the cessation of the event.

(c) The special event involving outdoor activities (i.e. people congregating or participating in outdoor activities) shall be restricted to hours of operation between 8:00 a.m. and 11:00 p.m., to a maximum duration of four days, and to a maximum frequency for similar events of six non-consecutive times per calendar year.

(d) Advertising signs and symbols marking a special event shall be limited to a maximum duration of 31 days, and to a maximum frequency for similar events of four non-consecutive times per calendar year. The number and location of the signs and symbols shall not be limited by the city. However, the width of any given sign shall not exceed eight feet (8') in length and the overall height of any signage should not exceed four feet (4') above grade.

This recommendation was approved by the Planning Commission on November 22nd and must be approved by the City Council via ordinance to go into effect. To make changes to the proposed ordinance, the Council would need a 2/3rd majority vote to override the Planning Commission's recommendation. Please see attached proposed Ordinance 949.

How does item relate to Strategic Plan?

How does item benefit Community for all Ages?