



January 17, 2014

Ms. Sarah Mitchell, P.E.
City Engineer
City of Park Ridge
505 Butler Place
Park Ridge, IL 60068

**Re: Sewer Analysis
Trammell Crow Company
205 W Touhy
Park Ridge, Illinois**

Dear Ms. Mitchell:

The intent of this letter is to outline and compare the sewerage usage for the three alternates:

1. 88 Unit – 3 Bedroom Building
2. 115 Unit – 1,2 and 3 Bedroom Building (proposed unit mix)
3. 115 Unit – 1,2 and 3 Bedroom Building with Low Flow Fixtures (proposed unit mix)

We utilized the Illinois EPA design criteria that estimates the population equivalent of a residential building as identified in the Illinois Recommended Standards for Sewage Works. The flow information utilized for the purposes of comparison is as follows:

- 1 Bedroom Unit = 150 gallons per day (gpd)
- 2 Bedroom Unit = 300 gpd
- 3 Bedroom Unit = 300 gpd

We will demonstrate by the following calculations that the proposed 115 unit plan discharges less sewerage than a code compliant 88 unit plan by applying the above information to the different alternates. In addition, the utilization of the low flow fixtures (planned to be incorporated into the project) will reduce the daily flows by approximately:

ALTERNATE #1 – 88 units – 3 Bedroom:	88 units x 300 gpd/unit	= 26,400 gpd
ALTERNATE #2 – 115 Units – 1,2 and 3 Bedrooms	65 units x 150 gpd/unit	= 9,750 gpd (1 Bedroom)
	47 units x 300 gpd/unit	= 14,100 gpd (2 Bedroom)
	3 units x 300 gpd/unit	= 900 gpd (3 Bedroom)
		= 23,940 gpd
ALTERNATE #3 – 115 Units with Low Flow Fixtures	23,940 gpd x 0.72*	= 17,237 gpd

*There is approximately a 28% overall reduction in flow as a result of utilizing the low flow fixtures.



The above analysis illustrates that there is a lower impact to the existing City of Park Ridge infrastructure as a result of the proposed 115 unit development by approximately 10%. **Trammell Crow is proposing to utilize low flow fixtures which is a reduction of an additional 28%, or a total reduction of 35% from the 88 unit as allowed per code.**

Feel free to contact me to discuss further or if you require additional information.

Sincerely,
Kimley-Horn and Associates, Inc.

A handwritten signature in blue ink that reads "Scott M. Willson".

Scott M. Willson, P.E.
Associate

Cc: Johnny Carlson, Trammell Crow
Grady Hamilton, Trammell Crow
Aaron Roseth, ESG Architects

Fixture Type	1992 EPACT	Estimated fixture Usage/day/person
Water Closet	1.6 gpf	5.05 flushes
Faucet	2.2 gpm	5.0 min
Shower Head	2.5 gpm	6.15 min

* High Efficient Water closet

Flush Type	GPF	Number of Flushes
#1	0.8	2
#2	1.28	1

Estimated water usage per day per person with code compliant 1992

Estimated water usage per day per person with High

EPACT fixtures

High-Efficient Fixture

efficient fixtures

8.08	Average .96 gpf*	4.848
11.00	1.5 gpm	7.5
15.38	2.0 gpm	12.3
34.46		24.648

Water Usage

1.6
1.28

0.96 =Average gallons of water usage per flush

Reduction in Water Usage

40%
32%
20%
28%



Community Planning + Site Design + Development Economics + Landscape Architecture

January 17, 2014

Mr. John Carlson
 Trammell Crow Company
 2215 South York Road, suite 204
 Oak Brook, IL 60523

RE: Population Forecasts for 205 Touhy, revised per change in total units from 121 to 115

Dear Mr. Carlson:

Teska Associates, Inc. has been asked to project population and school-aged children for the Trammell Crow proposal at 205 Touhy. A previous memo, dated November 19, 2013, discussed the anticipated impact from a 121 unit development. The following responds to a decrease in units (115) and will further explain this impact compared to the 88 3-bedroom unit plan.

Table 1: Population Projection Based on Rutgers and Ehlers Studies

	TOTAL UNITS	RUTGERS			EHLERS		
		TOTAL K-8	HIGH SCHOOL	TOTAL POP.	TOTAL K-8	HIGH SCHOOL	TOTAL POP.
TRAMMELL CROW PROPOSED 115 UNITS							
1BR	65	1	1	85	0	0	114
2 BR	47	5	2	93	6	2	56
3 BR	3	2	1	10	1	0	9
Total	115	8	4	188	7	3	180
TRAMMELL CROW PROPOSED 121 UNITS							
1BR	70	1	1	92	0	0	123
2 BR	48	5	2	95	6	2	57
3 BR	3	2	1	10	1	0	9
Total	121	8	4	196	7	3	190
88 THREE BEDROOM UNITS							
3BR	88	47	15	282	31	10	269

Revising the unit count from 121 to 115 is projected to decrease the projected total population, using both Rutgers and Ehlers methods. Utilizing the Rutgers methodology, population is expected to decrease from 196 residents to 188 residents. Similarly, utilizing the Ehlers methodology is projected to decrease population from 190 residents to 180 residents. Therefore, the total population in the 115 unit development is anticipated to be between 180 and 188 total persons, compared to 190 – 196 total persons in a 121 unit development. In contrast, 88 three-bedroom units (that would fully meet minimum lot area requirements) would produce far more population: between 269 – 282 total residents.

Despite a decrease in one bedroom units from 70 to 65, this development is still expected to generate between 10 and 12 school-age children. This is due to data indicating that so few school-age children live in one bedroom units. This is in contrast to the 88 3-bedroom units that are projected to result in 41 – 62 school-age children.

Table 2: Population Projection Based on Glenview Comparables

2012 GLENVIEW CENSUS				
	TOTAL UNITS	TOTAL K-8	HIGH SCHOOL	TOTAL POPULATION
TRAMMELL CROW PROPOSED 115 UNITS				
Total	115	3	1	112
TRAMMELL CROW PROPOSED 121 UNITS				
Total	121	3	1	118
88 THREE BEDROOM UNITS				
3BR	88	37	8	252

Applying the experience of developments in The Glen will result in a similar outcome. Based on the Glenview comparisons, the 115 unit and 121 unit developments are projected to result in 4 school-age children. The 115 and 121 unit mix developments are projected to result in 112 and 118 total residents, respectively. The 88 3-bed units are projected to result in 45 school-age children and 252 total residents.

As discussed previously, the configuration of one and two bed units may lead to additional benefits for the area, including attracting households without children that will support the walking environment and nearby commercial and transit amenities. It will also help meet housing demand in the marketplace, particularly for millennial and empty-nester households that are looking for high amenity, well-located projects. Further decreasing the number of units from 121 to 115 still provides these benefits.

If you have questions regarding this memorandum, please contact me at (847) 869-2015 x 204 or via email at sgoldstein@teskaassociates.com.

Sincerely,



Scott Goldstein, AICP and LEED AP
Principal

January 17, 2014

To: City of Park Ridge

Re: Proposed Development at 205 Touhy Ave, Park Ridge, IL

Greetings,

As a certified LEED Green Rater, I am writing in regards to the proposed development at 205 Touhy to provide some basic guidance on the reduced water usage plan for this project. The project is planning to utilize high efficient plumbing fixtures to reduce the amount of water discharge from this development.

The table below outlines water consumption using high efficient fixtures as compared to maximum consumption allowed by the 1992 Energy Policy Act (EPAAct) code, which is what is typically installed in new construction buildings, and illustrates both the water use and discharge reduction planned for this development.

Fixture Type	1992 EPACT	High-Efficient Fixture	Reduction in water use
Water Closet	1.6 gpf	Average .96 gpf	40%
Faucet	2.2 gpm	1.5 gpm	32%
Shower Head	2.5 gpm	2.0 gpm	20%

Based on the specifications planned compared to typical fixture usage rates for a residential occupied unit, the proposed development at 205 Touhy will save in aggregate, 9.76 gallons of water per person per day, or a **28% reduction** in water usage.

This represents a marked improvement from traditional new construction and will significantly reduce the infrastructure burdens on the city of Park Ridge.

Sincerely,

Jason La Fleur

*LEED AP Homes, BD+C; LEED for Homes Green Rater; NGBS Green Verifier; PHIUS+ Rater
2013 Chapter Leader of the US Green Building Council - Illinois chapter*

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