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Residential Subdivisions Urban vs. Rural

By Leon Opatz



Leon Opatz

An urban subdivision is one that is served by city utilities, including city water and city sewer. A rural subdivision is one that is not served by city water and sewer, instead, each lot in a rural subdivision typically has its own well to provide for a source of water and an individual sewage treatment system (ISTS) to treat the sewage from the house. The ISTS usually consists of a large concrete septic tank and primary and secondary soil treatment areas. A soil treatment area requires about 7,500 to 10,000 square feet of yard area on each residential lot. The actual area required is determined by the number of bedrooms inside the home.

Designing a Rural Subdivision

All subdivision and zoning codes vary from city to city and township to township. However, they normally require that each lot is capable of supporting an individual ISTS. By locating the soil treatment areas above the level of any seasonally saturated soils and on undisturbed native soils, adequate treatment of sewage will be provided without contaminating the groundwater. These soil treatment areas must be located before any construction begins and be protected from any disruption during all phases of construction. Codes also require

that each lot meet certain buildable requirements. The buildable area typically requires a minimum area that is one to four feet above the seasonally high groundwater as determined in the field by the mottled soil and/or highest anticipated groundwater elevation. This requirement is to assure that the homebuyer will have an adequate usable yard area after the house is constructed. The lowest allowable floor elevation of each proposed house is also dependent upon mottled soils and/or groundwater elevations. It usually takes a minimum of five hand-augured soil borings per proposed lot to determine if all the above requirements can be met. In some cases, more borings may be required. Another unique feature of rural subdivisions is, unlike an urban subdivision where the entire development is usually designed to be mass-graded, a rural subdivision is typically designed so only the road right-of-ways and any required drainage features, such as ditches or stormwater ponds, are graded. Individual lots are not graded unless fill is needed to raise the elevation to meet buildable area requirements. This allows the homebuilder much more latitude for placement of the house on the lot and the ability to save desired trees or any other distinctive natural features.

The Typical Lot

A typical lot in a rural subdivision is one to 2-1/2 acres in size with 200 to 300 feet of street frontage. In order to include the individual well and ISTS, these lots need to be larger than an urban lot. Because of the larger lot size, a developer will not

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Industry Leader Spotlight: J. Michael Noonan

J. Michael Noonan is Minnesota Division President for Toll Brothers Inc., a luxury homebuilder boasting fiscal 2005 revenues of \$5.79 billion. The Fortune 500 company, headquartered in Horsham, Pa., is one of the top 10 homebuilders in the United States by revenue.



J. Michael Noonan
Toll Brother Inc.

Noonan came on board in May 2005 to help launch the Minnesota office, located in Eagan. The office was an expansion of Toll Brothers' growing

presence in the Midwest, where it operates in the metro Chicago and Detroit markets.

"My job was to help take the division 'live' ", says Noonan, a Toronto native, who moved to the United States in 1998. "There previously had been a body on the ground here for three years looking to find appropriate pieces of dirt to allow us to advance our development activities."

Noonan also serves as vice president of the Builders Association of the Twin Cities.

What do you do in your job?

"I provide management to a team of 30 individuals, who ultimately are responsible for the identification and acquisition of land, land development, sales and marketing,

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Getting Through the Development Process

Doing It Right the First Time

By Steve Schwanke

It's hard to imagine, but we had two clients with clear titles to properties they wanted to develop, but didn't realize that existing easements would prevent them from doing so. Making things worse, the value of both properties diminished as a result.

We've also worked with developers who were totally unaware their vision for new construction had to be located 1,000 feet from any protected bodies of water on their site, including wetlands.

As with any real estate purchase, title insurance compensates for losses of not having clear title. Unfortunately, this insurance won't do a thing to alleviate losses from not being able to develop a property for one reason or another. However, before a land deal is ever finalized, an experienced development consultant can overlay a developer's initial plan with information from a title company to see if there are any easements, encumbrances and encroachments that will present problems.

Three other critically important issues that need to be dealt with before finalizing any deals are: What is on the land? What is underneath it? And what do you want put on it?

No two pieces of land are alike. That's why a consultant often recommends beginning a project with an ALTA Survey (American Land Title Association) that will discover easements, rights-of-way and other conditions that impact land development.

Major developments, such as the new corporate campus for Medtronic in Mounds View, may require an environmental review, such as an AUAR or Alternative Urban Area Review. This kind of study examines environmental impact from traffic flow, wastewater, drainage and related issues. The AUAR process can take time to complete. In Medtronic's case, it took nearly seven months.

Really Knowing the Landscape

Besides all the qualities and services already mentioned, a good consulting firm should be experienced in assessing a site's development potential for retail, residential, office, industrial, institutional or mixed-use. When looking for this kind of firm, ask about its other capabilities, such as master planning, civil engineering design, subdivisions and platting, land surveying and construction staking. Also see if the firm offers landscape architectural design, transportation planning and traffic engineering, wastewater system design and storm water management.

Development consultants should also be skilled in establishing rapport with city councils, planning commissions, citizen and special interest groups, and watershed districts. The latter have enormous influence over all water-related matters.



Steve Schwanke



Dean Lakes, Shakopee, MN.

Make no mistake about it, water issues are critical. Our experience has shown that about 10% of the cost of a development will be needed for researching and planning mitigation of storm water runoff, flash flooding, drainage and erosion.

Seeing the Vision More Clearly

Many of the concerns, conditions and processes described above came into play in the Dean Lakes project. The 260-acre development by Ryan Companies is located in Shakopee, east of County Road 83 and north of Hwy. 169. The property surrounds a small lake, has a sensitive wetlands complex, and a high water table that is just below the surface in some spots.

Considered for decades as a prime site for industrial development, our comprehensive analysis indicated the market could not support such a large area for that purpose. In addition, Scott County and MnDOT had serious concerns about the potential for major traffic buildup and congestion, especially since the site is adjacent to a busy Hwy. 169 interchange.

However, our studies showed that traffic flow would be less congested, even during rush hours, if the property were developed for mixed use of residential, retail, office and commercial. After two years of research and analysis, and looking at a number of concepts, a comprehensive plan was approved in 2003.

Although construction has only been underway for about two years, a number of single and multiple family homes are built, along with some retail and a 20,000 sq. ft. medical office building. The plan also included setting aside 83 acres for preserving and enhancing wetlands, developing trails and 150-foot wide trail corridors.

This development plan saved a significant amount of money for Ryan. For example, building trails and reintroducing native plants reduced park and recreation fees to about half the required amounts. In addition, the extensive trail corridor areas provide mitigation of storm water runoff, which avoided additional costs for storm sewers, holding ponds, swales or underground storage systems.

Steve Schwanke, *Principal*
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yield as many lots per acre or per lineal foot of street as they would in a typical urban subdivision. In order for the developer to recoup their investment, houses built on these lots are typically not starter homes and will range from \$450,000 to \$500,000 in price.

Variations of a Rural Subdivision

One available option is to construct a community well and clustered community septic system designed to serve a certain portion of, or perhaps the entire subdivision. The associated watermain system and sanitary sewer collection system are then also constructed within the development. The water and sewer systems are owned by the Homeowner's Association (HOA). The HOA usually hires a licensed operator to maintain and operate the system.

When a person thinks of a "rural" subdivision, one usually thinks about ditches on each side of the road. However, more and more rural subdivisions are using concrete curb and gutter. In fact, Ham Lake requires it. Even though the initial cost of development is greater, the use of concrete curb and gutter gives the development a classier look and generally reduces the number of trees that need to be removed during road construction.



Hidden Forest West, Ham Lake, MN

Even though they are not as common in rural areas as they are in the urban areas, townhomes are occasionally platted and constructed in a rural subdivision. They usually consist of detached townhomes or duplexes as opposed to a four-plex or larger buildings.

Leon Opatz, *Senior Professional Engineer*
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and overseeing the management and construction of the homes. I'm also responsible to ensure that our division is fulfilling the expectations of the corporate office from an operational aspect, but more importantly, from a financial aspect."

What are you currently working on?

"We have two job sites that we're actively working on and will close sales this fall and winter. Steeplechase of Eagan will be 95 home sites. The site, which was the former Diamond T Ranch, is fully developed and a number of homes are coming out of the ground. The second is Spring Lake Estates in Prior Lake, which will be 120 homes.

In addition, we're opening up for sale the Lakes at Maple Grove, which will be 194 homes. And we're under contract to buy 112 lots in Blaine, which we're calling the Estates at Gardenwood. We'll start marketing lots there by early next year."

Where did you go to school?

"I graduated with a BA from the University of Toronto in 1978 and earned a Bachelor of Applied Arts in urban and regional planning from Ryerson Polytechnical Institute in Toronto in 1981. I earned a Master of Arts in public administration at Carlton University in Ottawa, Ontario, in 1992, and an MBA from the University of Ottawa in 1999. I also was a doctorate candidate in the School of Public Administration at Hamline University from 2000 to 2003. The state of the art is always changing, so continuing

education is important because it challenges you with different ideas."

Tell me about your family.

"My wife Leanne and I have two sons, Alexander, 15 and Matthew, 13, and we live in Mendota Heights."

What was the first job you ever had?

"I worked in a family warehouse at age 12. I did everything - sweeping, cleaning, repackaging damaged goods, unloading trucks, driving forklifts. It taught me to appreciate hard work, and I also realized, if I don't get an education, I could end up doing this the rest of my life."

Why do you do what you do?

"What gets me up and going every day is the challenge of making a startup successful and working toward the realization of meeting the goals established by the corporate office. At first it was daunting. You start with a small group, and you're basically chief cook and bottle washer. Now we're up to 30 people and have four active sites. We're working to evolve our place in the market as well as in the corporate organization."

What is the one thing you would most rather do instead of working on a Monday morning?

"I love to downhill ski, and provided that I could turn that Monday into a Tuesday, Wednesday and Thursday, my family and I would go skiing - probably going back to Canada and hanging out at Whistler."