RLK INCORPORATED

Creating extraordinary Communities

**Minnetonka Office**
6110 Blue Circle Drive
Suite 100
Minnetonka, MN 55343
TEL: 952-933-0972
FAX: 952-933-1153

**Hibbing Office**
303 East 19th Street
PO Box 656
Hibbing, MN 55746
TEL: 218-262-5528
FAX: 218-262-5059

**Duluth Office**
4511 West First Street
Suite 3
Duluth, MN 55807
TEL: 218-720-6219
FAX: 218-720-6267

**Ham Lake Office**
1321 Andover Blvd. NE
Suite 114
Ham Lake, MN 55304
TEL: 763-434-7646
FAX: 763-434-8007



RLK INCORPORATED

Engineering • Planning • Surveying • Landscape Architecture • Traffic

Fall 2005

# Constraint Analysis: Up-Front Research Makes Better Projects

John R. Mazzitello

It is often said, "Look before you leap." That is precisely the thought process behind the Constraint Analysis report; a tool utilized in the conceptual stages of a development project to determine obstacles and requirements when proposing a development project. In a relatively short period of time and at a critical stage of the project, a developer can have a good understanding of existing site conditions as well as the municipal and regulatory requirements of the development project. Moreover, a Constraint Analysis report can assist a developer in determining critical issues or thresholds for making a project economically feasible.

The following areas should be analyzed as part of any Constraint Analysis report:

**1. American Land Title Association (ALTA)/Topographic Survey:** Existing site conditions are a critical factor in planning a development. Accomplishing a full ALTA/topographic site survey will identify precise property lines, easements and unique features of a proposed development site. The locations of existing structures, wetlands, wells, underground tanks (fuel and/or septic), utilities and other site anomalies will need to be dealt with during the site development process. Establishing site topography is equally as important for assisting developers in placing facilities and understanding the type and quantity of grading activity that will be required.

**2. Local Government Code and Design Requirements:** Each local government is different and zoning requirements such as parking ratio, setback distances, landscaping, green space and building height can vary greatly. By researching this information in the conceptual stage of a development project, the developer becomes aware of the criteria that must be met in order to propose a development that is acceptable to the local governing agencies.

**3. Existing Utility Information:** One of the most important things to know about a prospective development project is what existing utilities are available to serve the site area. Comparing available watermain flows with those required for fire protection across the site, as well as an understanding of the available capacity and accessibility of existing sanitary sewer lines can determine the size and scope of feasible development. Moreover, an early understanding of available electric, telecommunication and natural gas service can help developers determine costs of bringing these services to the site, if necessary.

**4. Stormwater Runoff Requirements:** The control and treatment of stormwater runoff from any proposed development site is typically one of the most challenging aspects of a

*CONSTRAINT ANALYSIS to page 3*

# Industry Leader Spotlight: Gary Hook

Gary Hook
Kraus-Anderson

Gary Hook, who started his career at Kraus-Anderson Construction Co. as an apprentice carpenter 36 years ago, was promoted in September to executive vice president of business development. He will oversee all of Kraus-Anderson's entities in their business development efforts. In addition, he will continue to oversee the Circle Pines, Duluth, Phoenix, AZ and Madison, WI Special Projects and Facilities Group offices.

During his tenure at Kraus-Anderson, Hook has managed major projects in 32 states. He has been the project leader for many developments, including more than 60 projects for Menards, 11 Cabela's stores and more than 200 school district projects valued in excess of $600 million.

He has also been the lead on projects for the National Sports Center in Blaine, the Courage Center in Golden Valley, Guidant in St. Paul and flood-related work in East Grand Forks.

**What do you do in your job?**

"My new responsibilities will be to move to the corporate office on January 1st and head up the planning of the business group for the whole company. I will help figure out where we will go in the future – new offices, new markets, new customers. I will help take us to the next step. I also will contin-

*GARY HOOK to page 3*

# Selecting the Right Land Survey for Your Development

Kurt Kisch

Experienced real estate professionals and landowners recognize that land surveys are one of the very first items to procure when developing a site. However, it can be confusing to determine which type of land survey is best suited for a particular situation. Generally, there are three different types of surveys: boundary, topographic and ALTA/ASCM land title survey. This article will review the purpose and benefits associated with each type of land survey, as well as how they may potentially impact the site design for your particular development.

### Boundary Surveys

A boundary survey is the documentation of outside parcel boundaries for an identified property. It is based upon the property descriptions that exist in deeds and title certificates from public records. Gaps or overlaps with adjoining parcels are displayed, as well as physical encroachments (such as fences or retaining walls). Significant site improvements (buildings and structures) are typically located and shown. Boundary surveys are often utilized for parcel transactions or as an aid in the settlement of property boundary line disputes.

The boundary survey is critical for identifying the optimum placement of proposed structures within the property. It also is a document that is typically more accurate than legal descriptions for determining the area of a parcel.

### Topographic Surveys

A topographic survey shows the contour and relative elevation data of a parcel of land created from three-dimensional data collected from field observations. Along with elevation information, topographic surveys also delineate improvements that have been constructed on a property. Improvements may include concrete curbs and walks, paved parking and driving lanes, and visible utilities.

The topographic survey is usually required by the local unit of government during the preliminary plat review stage of development. Site designers need topographical survey information to determine the most favorable views and exposures and the most efficient use of the parcel based on grading and utility constraints.

### ALTA/ACSM Land Title Surveys

The acronyms ALTA/ACSM represent the American Land Title Association and the American Congress of Survey and Mapping. Both are national organizations that have set standards of care, accuracy and guidelines for the professional land surveyor in preparing surveys.

The ALTA/ACSM land title survey combines the boundary survey and the improvements, as delineated on site, together with land title information. This combination of data is often required by buyers, sellers, lenders, designers and developers to provide a more clear and comprehensive depiction of a particular parcel.

The title report will list all recorded encumbrances that affect individual parcels of property. Liens, mortgages, easements, foreclosures, covenants, operation agreements and certain types of recorded financing requirements are all uncovered and listed as a result of the title research.

In the case of land development, one of the most important issues is the discovery of recorded easements. The process to revise, release or vacate an easement or encumbrance can sometimes take a matter of months and may result in delays to project schedule and approvals. This becomes the primary reason that encumbrances and easements that are held against the property are discovered early in the development process.

The ALTA/ACSM land title survey is used and relied upon by the title insurer to remove or add exceptions to coverage and, thereby, issue various types of coverage requested by the lender or buyer. The surveyor's duty to the title company is to report or graphically show how potential claims by others may affect the property and result in a loss due to a claim on their insurance policy.

The seller of a property also uses and relies upon the ALTA/ACSM survey to protect himself against potential claims from the buyer after the conveyance.

### Conclusion

As technology advances in our modern world, free electronic information and data regarding parcels of land is even more available than ever before. The majority of that data is assembled from historic mapping that may be several years old, and may not be based on actual on-the-ground surveys. With this availability of spatial and jurisdictional data, temptation is great to assemble the information and begin to utilize it for development design. However, the costs associated with revisions to plans based on incomplete or inaccurate data, can accumulate rapidly. Larger and well-established development companies usually require complete land surveys as a part of their due diligence process in land acquisition and site development efforts.

This initial and fundamental service establishes the groundwork and base that is critical to the start of a successful project. Investment in time and resources at this stage of the development process can result in significant cost savings in the overall development and construction of the project.

*Kurt Kisch,*
*Professional Land Surveyor*
*kkisch@rlkinc.com*



*CONSTRAINT ANALYSIS from page 1*

project. Requirements for the handling of stormwater are becoming more stringent, and it is essential to the success of a development project to understand the local regulations and policies. Coordination in advance with local watershed districts, as well as local, county and state agencies, can go a long way to establishing viable option(s) for the treatment of stormwater runoff.

**5. Geotechnical Information:** Knowing the existing soil conditions is critical to understanding construction requirements as well as the feasibility of balancing the cut and fill of the site during grading. Paved parking areas, roads and foundation analysis can be accomplished more efficiently and accurately if underlying soil conditions are known in advance. Additionally, understanding the underlying soil conditions can help to identify if stormwater infiltration will be possible on site.

**6. Environmental Information:** The National Environmental Policy Act (NEPA) requires developers to analyze environmental impacts as part of the development design process. A preliminary look at the proposed development to determine potential environmental issues such as contaminated soils, wetlands, endangered species and the level of analysis based upon development size can help a developer plan the timeline (and associated cost) of environmental approval. Accurately assessing environmental approval timelines allows for a more exact development timeframe.

**7. Traffic Analysis:** Impacts on traffic flow in the area surrounding a proposed development is often one of the most discussed issues during the project approval process. An initial look at how a development will alter existing traffic patterns, as part of a Constraint Analysis, can help define any modifications to area transportation routes that may be necessary as part of a development project.

**8. Application Process/Permits Required:** A project's development schedule is one of the foremost issues on the mind of a developer. By identifying the permits and approvals that will be required as part of a development proposal, the local municipal approval process can be identified in order to assist the developer in planning their project schedule.

By making a small, initial investment in producing a Constraint Analysis, a development project can be planned and designed to make local government and regulatory approval easier and, in some cases, faster than without the up-front research. A Constraint Analysis report can also help a developer assess risk and determine market viability of a proposed project.

*John R. Mazzitello,*
*Professional Engineer*
*jmazzitello@rlkinc.com*

*GARY HOOK from page 1*

ue to oversee the Facilities Group and Special Projects offices."

**What are you currently working on?**

"We're getting ready to start the 12th Cabela's store in Milwaukee. We're doing a lot of work for Menards. We're doing work for Lowe's in Wisconsin. We're involved in 56 school district projects out of our Circle Pines office. We're also working on a condo development in Duluth, and we're working with Duluth-based Cirrus Design [a designer and manufacturer of FAA certified small aircraft] on several projects. In addition, we will begin working on a four-sheet ice expansion to the Schwan Super Rink, which is a division of the National Sports Center in Blaine and we're working with The Avalon Group on a retail development in Oakdale. We do all of Becker Furniture World's work and have a couple of projects going on. We're also completing six projects in Pensacola, FL, after the hurricane hit a year ago."

**Education:** "I graduated from three technical colleges: Thief River Falls, Bemidji and I went through the apprenticeship program at St. Paul Technical College, where I also received a teaching degree. I taught night school for a few years."

**Family:** "I live in Woodbury with my wife, Janet. We have three grown children. Brian works at Kraus-Anderson as a project manager in our Circle Pines office. Tim works in our rental group at Circle Pines. Amber is a junior at North Dakota State University where she's majoring in construction management with a minor in business. We also have two granddaughters, Courtney, 2, and Kylie, 10 months."

**First job you ever had?**

"I was born in Bemidji and raised just northwest of Thief River Falls. My first job was when I was 12 or 13. I worked on dairy farms. It really taught me how to work."

**Why do you do what you do?**

"Construction is a neat business. There's a lot of satisfaction, especially in the field where you see buildings getting built. You see results every day. I also love working with people, both Kraus-Anderson clients and employees. This is a great business. It's hard work, but it's a rewarding business."

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

"We have a cabin where I like to spend time with my family. We still have a farm up north where we do a lot of hunting. My wife and I also have a place in Arizona. I love to hunt and fish, but I can honestly say that when I get up in the morning I love to come to work. That's what keeps me going. I could have retired two years ago, but I want to do this for a long time yet."