



# TPC Architects, Inc.

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October 2011

## TPC Architects, Inc. Newsletter

### Architecture Billings Index Turns Positive after Four Straight Monthly Declines *Strong level of inquiries for new projects*

On the heels of a period of weakness in design activity, the Architecture Billings Index (ABI) took a sudden upturn in August. As a leading economic indicator of construction activity, the ABI reflects the approximate nine to twelve month lag time between architecture billings and construction spending. The American Institute of Architects (AIA) reported the August ABI score was 51.4, following a very weak score of 45.1 in July. This score reflects an increase in demand for design services (any score above 50 indicates an increase in billings). The new projects inquiry index was 56.9, up sharply from a reading of 53.7 the previous month.

### Building codes and double-jeopardy natural hazard areas

Current building codes don't take into account structural damage that could occur when two or more natural disasters such as earthquakes and hurricanes hit the same area, according to a National Institute of Standards and Technology report published in the Journal of Structural Engineering. The codes take into account individual disasters and do not require that structures be designed for

## SITE PLANNING

We hope you enjoyed last month's article about Site Selection. If you missed it, you can access it via the "Past Newsletters" link on the left. This month the focus is on what to do next. By now you know the answer: PLAN!

Regular readers of TPC's newsletter may be familiar with the three tenants of master planning:

- Ministry Master Planning (*usage assessment and projection*)
- **Facilities Master Planning** (*both **site** and buildings, including phasing*)
- Financial Master Planning (*both soft and hard costs*)

Let's talk now about the site planning portion of Facilities Master Planning. The prerequisite to this step is the preparation of a *Ministry Master Plan* in order to define the ministry needs for your facilities. Be sure to know what you need before you plan your site or buildings!

### Net Usable Land

Let's say that you've determined from your Ministry Master Plan that you need ten acres of land. Remember, this must accommodate ALL ministry functions - parking spaces, recreation fields, plazas, and other appurtenances (desirable extra functions) - along with the building space. Does this mean that you should purchase a ten acre parcel? Not necessarily. You must account for several factors that can subtract from the actual usable area for ministry. Consider the following:

- **Site geometry.** *Is the parcel deep and narrow, preventing efficient layout or usage? Does it have unusable space created by angles? Is its shape compatible with your ministry needs (such as a softball field)?*
- **Site Access.** *You'll need two points of access / egress in most cases. Does your site allow this? What about left turn in / out; does a road median or other conditions prevent this?*
- **Topography.** *Sloping land at best will require some grading, will introduce additional development cost, and at worst is not usable. Is a portion of your site unusable due to slope?*
- **Easements.** *If you've done your homework you'll have a preliminary title report that identifies all easements and restrictions on the site. With rare exception you cannot place a structure in an easement, so you must evaluate how "usable" this site area is for your ministries.*

both wind and seismic loads simultaneously. Buildings tailored to meet code requirements in these double-jeopardy areas "do not necessarily achieve the level of safety implied," the researchers write.

**Researchers look to develop quake-warning system similar to Japan's**

Japan spent \$500 million on a system to warn residents of a coming earthquake -- and it saved thousands of lives in the magnitude 9 earthquake in March. A team of researchers in California has put together a test system for \$2 million and hopes to secure private funding to cover the \$80 million it will take to make it a statewide public system over the next five years.

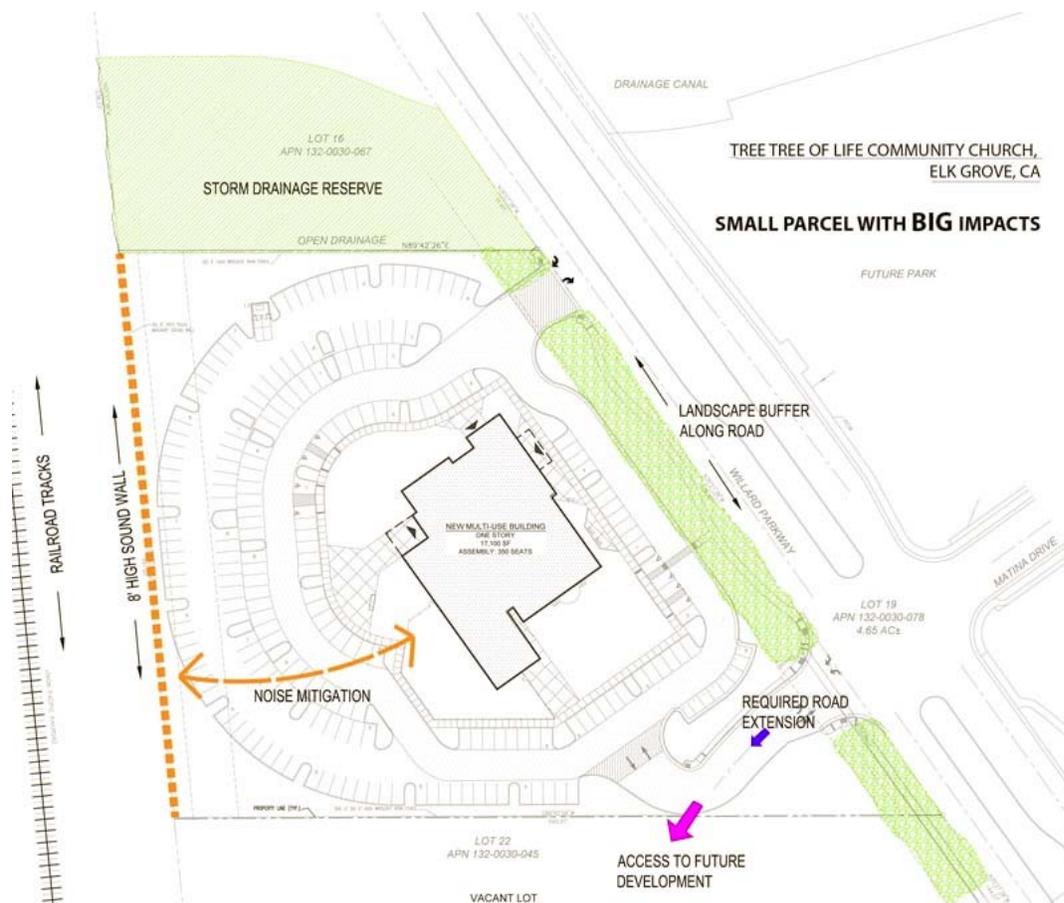
The system places seismic monitors underground, which send warnings after the "P" waves of an earthquake and before the more dangerous "S" waves. "Shame on us if we do not learn from their misfortune," said Marcia McNutt, director of the U.S. Geological Survey, about Japan's experience.

**WTC collapse may have been caused by explosive chemical reaction**

Molten aluminum from the aircraft hulls mixed with water from the sprinkler systems at the World Trade center could be responsible for the collapse of the twin towers, according to a study by Christian Simensen, a scientist at SINTEF, a Norwegian research institute. He said the two jets that flew into the buildings were "trapped inside an insulating layer of building debris," which caused the heat to rise, melting tons of aluminum. When hot aluminum mixes with water, explosions occur. To prevent similar explosions, "We could develop means of rapidly emptying sprinkler systems in the floors beneath the point of impact," said Simensen.

**Sustainable Development**

- **Setbacks.** *The front (street) setback is often a major factor. In some communities a landscape "greenbelt" can occupy a significant percentage of your property, especially for smaller parcels. You should account for all setbacks in calculating the net usable land area.*
- **Environmental restrictions.** *Wetlands, vernal pools, and various other environmental features are protected from development. In some instances noise is a factor as well. For instance, what if your property is located adjacent to railroad and you intend to construct children's educational facilities? You may have to separate the building area from the noise source, or construct expensive sound walls.*
- **Agency restrictions.** *Notice in the site plan below the requirement to extend a city street onto the site for access to an adjacent undeveloped parcel. Your site may also be subject to agency restriction that will affect the net usable acreage.*



**Core Elements**

Now that you've selected a property and identified the net usable acreage you're ready to master plan this site. With your ministry needs clearly before you, you'll want to address the following major elements:

- **Site Access.** *Establish two or more points of access that work well with the streets, left turns, and overall traffic patterns. For some projects a traffic analysis will be required, which will also address the "queue" or on-site capacity for vehicles entering and leaving the site.*

## Commercial solar-rooftop projects could soar as cost drops

Overproduction of solar panels around the world has caused a glut, which has led to lower prices. Some companies plan to take advantage of this and lease their rooftop spaces to solar-energy operations. The number of commercial solar-rooftop projects increased 22% from the first quarter to the second quarter of this year, according to a report by the Solar Energy Industries Association and GTM Research.

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- **Site Circulation.** *Resolve how to best move both people and cars around your campus. For larger campuses such as Bayside Church in Granite Bay and Adventure Christian Church in Roseville TPC worked closely with both the agencies and the church to create effective site circulation.*
- **Community Connection.** *How you layout your site and how the community accesses both parking and buildings are significant factors in how your church will be viewed by others. Is your campus visually open and inviting? Is your campus psychologically accessible?*
- **Building Campus.** *Your Ministry Master Plan will define the amount of building space required and the relationship of the ministry areas. You can now determine how to "package" and "display" these ministry functions, perhaps with multiple buildings. The space between buildings is an important consideration, along with courtyards, plazas, and other people-friendly spaces.*
- **Parking Design.** *No one wants to walk 1,000 feet from their car to the front door. Give careful consideration to the travel distance, path of travel, and safety of these pedestrian connections. Landscape areas, both in parking medians and boundaries are also notable features that should be designed to minimize pedestrian obstacles.*
- **Phasing.** *Most churches need a phasing plan for site and building development. Your site should be designed to make these development transitions effective.*

## Adjacencies & Community Access

We are seeing an increased need and acceptance of a healthy marriage between the church and community. How about your church? What is your posture? You should give careful consideration to this relationship as you design your site.

One of TPC's church clients determined that their church should be designed to function as **an emergency response center** for their community along with hosting regular community activities. Other churches have the strategy of **hosting sports leagues**, and some make it a point to use their large assembly rooms for **community concerts and conventions**. These things will affect the design of your church campus.

## Environmental Considerations

This is a subject that will be addressed in a future newsletter. But make a note, as indicated above, that for some properties environmental considerations play a huge role in site design. TPC worked with a church in Lincoln, CA that had a small lake, complete with beavers, right in center of the campus. Another property in Granite Bay contains an Indian Grinding Rock along with other protected features.

## Summary

Site design is a very exciting step in your church planning! You'll discover the potential of your site in practical detail. At TPC we encourage churches to begin this site planning process very early, even before you purchase the property. We suggest preparing a "Site Feasibility Study" as an abbreviated site planning task, allowing you to assess the potential of the property before you finalize terms for purchase. Please feel free to call on us at TPC at any time during your pursuit and planning of your property.

I encourage you to contact me personally with any questions you may have.

Sincerely,

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