



# THE BAY DIMENSION

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## Market Conditions Update

Gordon Beveridge

### Market Trends

For most contractors, 2007 and the proceeding two years were the best of times in almost all sectors. However, before the end of 2007, the wheels had started to come off the housing market and the biotech markets. Both of

these markets continue to lag, with no optimistic forecast to anticipate any turn around in these sectors in the coming year (2008) or in 2009.

The troubled waters in the housing/financing market has had serious ripples on the economy and it is still not certain that we have entered a recession as measured by the general economy statistics nationwide, but there is enough uncertainty to get everyone's attention and focus.

However, so far this year (writing in June 2008) in the Bay Area almost all other sectors have been holding up, as measured in terms of construction in place. In particular, the lodging and healthcare markets continue to be very strong, with healthcare leading the field.



The mood in the construction market is, however, becoming cautionary, with financing becoming tighter and a migration of the labor market from housing to other sectors. This has been evident especially at the subcontract level on smaller projects. The competition on the lower end (\$10-40M) has become fierce. As a result, some bids are coming in 15-20% below where the market was 7-8 months ago. This is primarily as a result of the competition at the sub-trade level. It is now common on these projects to have 5-6

bidders or more in each trade compared to one or two some 7-8 months. There is an urgency to build up a backlog now before the economy may turn down further.

What has become clear is that commodity prices have a life of their own. Only certain products can be classified as stable as a result of the housing slowdown e.g. lumber and drywall. The majority of materials are subject to the world wide swings in global demand and exchange rates. As a result it is still not the case that escalation of raw materials is under control or can be predicted. Recent examples of rampant gyrations have been steel and oil prices. It is prudent for the subject of this risk to be addressed by the owner and contractor in order to identify materials that can be bought out at an early stage. Paying for storage or holding charges may help to allay the risk of future buy-out.

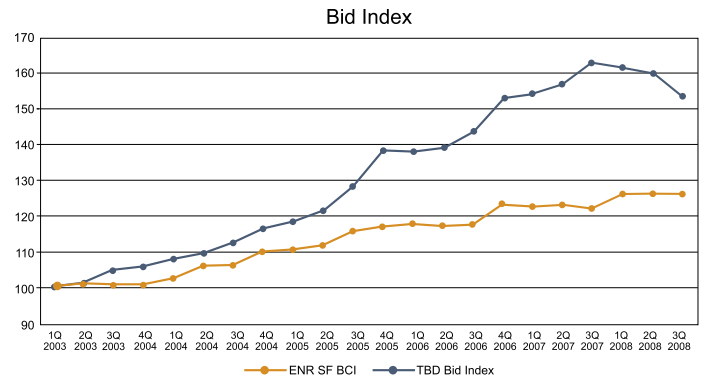
The enormous healthcare market remains the biggest driver for many large contractors. There remains a dearth of contractors/subcontractors with the experience and availability to tackle the avalanche of healthcare work currently in the design/preconstruction phases. This position does not look like changing anytime soon. The lack of competition has encouraged changes in procurement to entice interest in this market and secure subcontractors at an early stage. However, the MEP trades are already saturated with work, and as a result owners may have to accept that bids in these trades will not be as competitive as desired. Owners would be well advised to carry a bidding contingency for these impacted building systems.

**Escalation**

The tracking of escalation typically falls into two categories, the tracking of raw costs of material and or labor, or the actual in place costs as measured by bids received.

TBD has developed an index based on pricing the same project (a school building) every three months based on market prices at that time. This method captures the Bay Area market rather than some homogenous national index which is a compendium of all regions, and the current TBD Bid Index is as follows:

The above reflects the following historical escalation from the TBD Bid Index:



Year	Escalation
2003	7.62%
2004	10.01%
2005	16.39%
2006	11.67%
2007	3.86%

Market research has indicated that future escalation trends will be down from the previous three years. Currently we are predicting the following escalation amounts:

Year	Escalation
2008	0 - 5%
2009	4 - 5.5%
2010	5 - 6%
2011	5 - 6%

Particularly over the coming year, as described above, we expect the market conditions to vary substantially depending on size and type of project, and so the above percentages are given as an approximate average over all projects.

We mentioned oil prices earlier, and for its impact on a specialty construction market we only have to look at the Caltrans Asphalt Paving Price Index. This tracks the unit rates for asphalt paving in place, and shows an increase of 225% from January 2007 to June 2008!!!

# Preconstruction Services Part 2

Matt Craske

*In the previous edition of the Bay Dimension we looked at estimating and scheduling services. Now we are going to look at some other preconstruction services that may form part of the GMP delivery method.*

## Site Logistics

Working out the logistics of your construction site is vital and an experienced GC can provide invaluable insight with this subject. This effort should be undertaken as early as possible and reviewed regularly. The site logistics plan feeds the estimating process, the procurement process and can be a key tool in keeping neighbors and authorities informed and happy.

## Constructability Review

Another area where an experienced GC can be invaluable is through constructability reviews. Each drawing package issue should be reviewed and commented upon for any constructability issues. These comments would include availability and cost of materials selected, difficulty of installation, long lead warnings and alternative recommendations.



## Value Engineering

Value engineering is an analytical process to ensure that the project team is delivering the right scope for the right budget. Total cost of ownership, first cost, constructability and schedule should all be evaluated during this process. It is often seen as a way to cut costs once they get out of control, but it is actually a much more effective tool when used continuously throughout design. All major design decisions should be evaluated as they are made to ensure the team has chosen the most effective way of achieving the goals of the building owner.

## Risk Management

Risk management helps reduce the value and amount of change orders during construction and also helps projects to maintain budget and schedule. It has also become a preferred method of contingency calculation through Monte Carlo Analysis. Through the cross functional discussion of a project's risks and the entire project team gaining greater understanding of their effects, a mitigation plan can be created to minimize or eradicate the impact of the risks identified. It is recommended that any large or complex construction project should undertake a formal risk workshop at least once during the design process to identify, quantify and mitigate project risks. From these workshops a risk log can be created and updated monthly.

## Cost Control & Monthly Reporting

When people talk about cost control and monthly reporting, they are usually referring to the activities undertaken during construction. However on larger projects these activities should also be undertaken during the design phase. For a large project the design phase can cost tens of millions of dollars, so it is important to keep track of the spend and progress each month to ensure that the design phase will be completed within budget and schedule.

## Procurement

Having experienced individuals with knowledge of the local construction market to review and negotiate proposals and contracts is often neglected even on multi-million dollar projects. If a fee can be negotiated down by a fraction of



a percent or the double checking of calculations discovers an error, it can save a large project millions of dollars.

### Cost

Preconstruction services are not related to project value, but to the duration and level of service requested. The best way to budget for them correctly is to take the duration of design and assess the number of full time equivalents [FTE's] needed to meet the level of services requested. Percentage calculations are inaccurate.

### Contracting

Preconstruction services are normally contracted on a time and materials basis [T&M] or as a lump sum [LS]. With either method it is important to be clear about the scope of work and the schedule in the RFP documentation. It is also prudent to ensure that the preconstruction activities are contracted and invoiced separately from construction activities. If a T&M approach is taken it is wise to agree with the service provider a set multiplier or rate schedule by position at time of contact.

*In the next edition we will start looking at the GMP negotiation process.*

## Green Concrete

Portland cement production can produce half a ton of carbon dioxide for a ton of cement, just from the super heated raw materials, plus another third of a ton of emissions from burning the fuels to heat the kilns. About 7% of global carbon dioxide emissions come from cement production. One way to make concrete more environmentally friendly is to use more efficient kilns and alternatives to fossil fuels as energy source.

Another popular option is to use fly ash (waste from power stations) or slag (from blast furnaces) to replace some of the cement. It is possible to replace up to about 20% of the cement in concrete with fly ash, and slag might replace up to 60%. Using fly ash or slag may not result in concrete of the same strength as using just cement, but is certainly suitable for non-structural uses such as paving and

curbs. If you are looking for LEED points, these cement replacements count as post-industrial recycled content, and there is an innovation credit available for replacing over 40% of the cement.

New Scientist magazine reported that researchers in Australia and India have plans to capture the CO<sub>2</sub> from the cement production and use it to grow microalgae, which in turn will be used to produce biodiesel, which then will heat the cement kilns.

An Australian company ([www.Zeobond.com](http://www.Zeobond.com)) is turning fly ash and slag into geopolymer concrete, releasing only about 15% of the greenhouse gases that regular Portland cement does. The company uses aluminates and silicates extracted from the waste that then combines to form a chain-like molecule called a polymer, and with suitable aggregates this can form geopolymer concrete.

Apart from the cement in concrete, some other green options include the rebar, which uses a high recycled content like almost all steel, the use of recycled aggregate, and using non-toxic retardant chemicals instead of acid washing. The use of titanium oxide in concrete can also help neutralize many of the pollutants in the air.

