


THE BROAD DIMENSION

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tbd consultants

Construction Management Specialists
111 Pine Street, Suite 1315
San Francisco, CA 94111
(415) 981-9430 (San Francisco office)

1415 S.Barton St, #260, Arlington, VA 22204
(703) 609-7494 (Washington, DC, office)

4361 35th Street, San Diego, CA 92104
(619) 550-1187 (San Diego office)

8538 173rd Avenue NE, Redmond, WA 98052
(206) 571-0128 (Seattle office)

www.TBDconsultants.com

In this Edition:

CAL goes Green

January 1, 2011 marked the introduction of the mandatory CALGreen standard, otherwise known as the 2010 edition of the California Code of Regulations, Title 24, Part 11. It probably should not be surprising that California became

the first to introduce a state-wide mandatory green-building code. Although introducing new requirements, and emphasizing the ecological-aspects of the standard, this is more an evolutionary progression from the previous regulations, rather than a revolutionary new concept.

CALGreen is markedly different from LEED, although it promotes the same green-building goals. While LEED is a standard that developers and building owners can adopt if they want to, CALGreen is a requirement of the state and contains enhancements that cities and other local jurisdictions can adopt and make obligatory.

The requirements of CALGreen are generally less than those implemented in most new buildings that aim for a LEED rating, and this was deliberately planned in order to keep the cost impact to a minimum, while promoting good practice by using green-building methods that are familiar to the industry. Probably the largest cost will be to the cities and counties for training their building inspectors in the new standard! Although the requirements of CALGreen are less

than LEED, their overall impact on the environment could be substantially more, because the regulations become a requirement for all new buildings (or at least the vast majority). The implementation of CALGreen will reduce greenhouse gas emissions by 3 million metric tons by 2020, according to the California Air Resources Board.

Gaining a LEED rating has always been seen as making a building stand out from its competition, and the requirements of the CALGreen Code will not change that. Since CALGreen sets the minimum green-building standard that all new buildings must meet, being CALGreen certified will simply mean that the building is in compliance with the current codes.

The CALGreen Code is subdivided into standards for residential (up to 3 story) and non-residential buildings, and the standards themselves are divided into mandatory and non-mandatory ones. The non-mandatory standards are themselves sub-divided into two levels, known as Tier 1 and Tier 2. These Tier 1 and Tier 2 standards are not there so that owners can decide to go for a higher rating (like going for LEED Gold), but are there so that local jurisdictions can adopt higher standards than the minimum ones required throughout the state. Some of the requirements apply to specific building types, such as schools, and there is a Matrix Adoption Table that clarifies what applies where.

The mandatory requirements for non-residential buildings include:

- parking spaces for clean air vehicles (about 8% of total parking spaces)
- permanently anchored bicycle racks (5% of the number of visitor motorized-vehicle parking spaces, with a minimum of one 2-bike rack)
- 20% reduction of potable water use (excludes process water)
- separate indoor and outdoor water meters for buildings over 50,000 SF
- moisture-sensing irrigation systems for larger landscape projects
- divert 50% of construction waste from landfill (this requirement is relaxed if the local jurisdiction does not have a recycling center)
- use of materials that limit emission of volatile organic compounds (VOCs)
- commissioning for new, nonresidential buildings over 10,000 SF
- no direct-beam illumination from the building site
- requires O&M and educational material to ensure building and its systems are used correctly

The voluntary (Tier 1 and Tier 2) standards tend to build on the mandatory ones (e.g. setting standards for water use reduction up to 40%, and requiring the recycling of up to 80% of construction waste). It is anticipated that these voluntary standards will become mandatory as the years progress (just as many of the standards from the all-voluntary first edition of CALGreen in 2008 have now become mandatory).

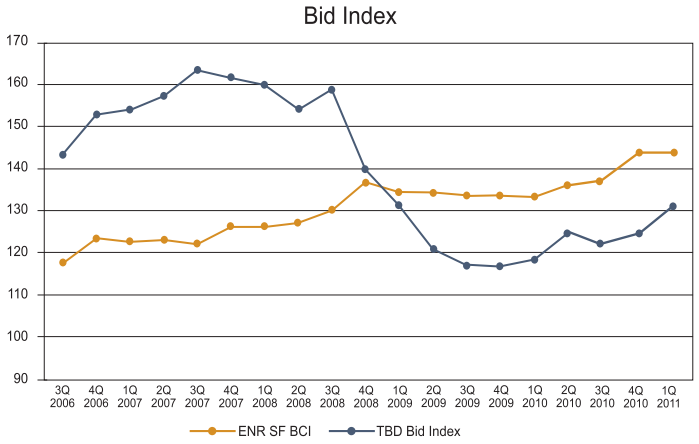
Inflation & Bid Prices

Geoff Canham, Editor

Around this time last year people were expressing fears about de-escalation. How times change! National inflation (as indicated by the Producer Price Index) is now starting to rise, driven by rising food prices and energy prices.

Unusual weather conditions (such as the floods in Australia and Canada, and the droughts in Russia) is one factor affecting food prices, and although food production remains historically high it is not keeping up with demand. The IMF says that 44 million people have been pushed into poverty since last June, and warned that food price rises are increasing economic imbalances. As a sign of that, higher food prices have been linked to the recent demonstrations in Tunisia and Algeria.

That same Middle East unrest, along with strong overseas economic growth, has been driving oil back up towards its historic highs. $4/gallon gasoline looks very likely again soon (writing in the latter half of February). Even before the events in Tunisia and Egypt set off the Middle East turmoil, oil prices were at 2-year highs. The price of Brent Crude had topped $100 a barrel as a result of a combination of supply problems, rising demand, and speculation by investors. That is not going to help our recovery from the Great Recession, with a study by IHS Global Economics suggesting that a 25 cent rise in gasoline prices will reduce employment by 600,000 jobs over the following 2 years. Continuing high unemployment, coupled with rising escalation, equals the marked possibility of stagflation (inflation in a stagnant economy).



And yet escalation rates in the US have been relatively low, and the Fed has been actively encouraging it to rise. Elsewhere it has been a more serious problem. In 2010 China raised reserve requirement 6 times in order to try curbing inflation, and continues doing so this year. China has been accused of keeping its currency artificially low, which has helped keep its products prices low in the US, but as it inflates its currency we will pay more. Rising import prices give domestic companies a cover for raising their own prices, and a number of companies have announced price increases due to rising raw material prices. An increase in spending by the public is also letting companies believe they can raise prices.

So, what does this mean for the construction industry? With the construction unemployment rate at 20.7% in December, 2010, building permits not increasing, and the Architectural Billings Index showing architects' work load staying about even, there are no real signs that the market is improving. But with the national ENR Building Cost Index being up 4.3% for the year, there are real increased costs that contractors can no longer swallow. There is also the fact that some contractors and subcontractors have gone out of business, others have been taken over, and those that remain have reduced their staffing levels to a minimum, with the result that the level of competition has been substantially reduced from where it was when the recession first started biting.

While competition for straight-forward projects (such as the classroom project we use for our Bid Index) remains as competitive as ever, where a difficulty factor (such as alteration work, bad access conditions, etc.) is added, the contractors are starting to mark them up. Risk factors are not being discounted as readily as they were a year ago.

It seems we are moving back into a two-tier construction bidding market, with fierce competition remaining for the simpler, low-risk, projects, but other projects attracting fewer bidders and higher bids.

UniFormat 2010

CSI, together with CSC (Construction Specifications Canada) have now released the next version of UniFormat, known as UniFormat 2010.

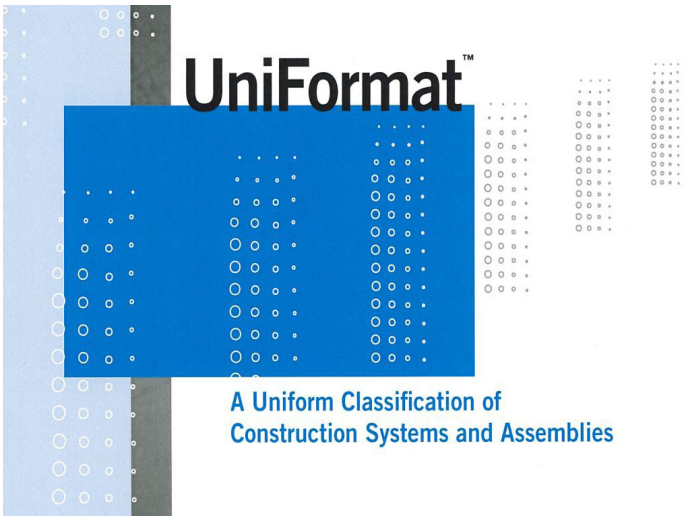
CSI has two formats that it recommends. The first is MasterFormat 2004, which is organized by trades and is recommended for contract specifications and estimates that are prepared later in design and which are likely to be compared with contractors' bids.

UniFormat 2010 is the other CSI format, and it is arranged in building elements. So, for example, all the costs for exterior walls fall in the same element, whether the construction is plaster, wood, metal, concrete, or anything else. This makes it ideal for comparing design options, and is why this is the format that CSI recommends for estimates during the early design phases, when value engineering is likely to take place, and for early project documentation and preliminary specifications.

The first version of UniFormat was developed by the GSA and the AIA and was launched in 1972. On its twenty-first birthday, in 1993, it became UniFormat II, an enhanced version that was developed by a team that included CSI,

GSA, and the AACE, among others. UniFormat II became the main elemental system for building construction.

UniFormat 2010 builds on its predecessors, and is designed to better tie in with the MasterFormat 2004 divisions, and aims to be even more applicable for use with BIM.



There have been new divisions added in to the UniFormat 2010 hierarchy to reflect changes in technology, or at least changes in emphasis. The only real significant shift of work within the format structure is the moving of Stairs from Interior Construction to Superstructure.

If you purchase the UniFormat 2010 documentation from CSI you will get a 204 page searchable PDF that goes through the history of the format, its uses, and details its structure. There is also a spreadsheet that maps the new format to previous versions, and to MasterFormat 2004 where applicable.

With UniFormat being organized by building elements, and MasterFormat being organized by trades, a combination of the two can provide a fine-grained work breakdown structure (WBS).

The Level 1 & 2 UniFormat headings are as follows:

INTRODUCTION
10 Project Description
20 Owner Development
30 Procurement Requirements
40 Contracting Requirements

A SUBSTRUCTURE
A10 Foundations
A20 Subgrade Enclosures
A40 Slab-on-Grade
A60 Water and Gas Mitigation
A90 Substructure Related Activities

B SHELL
B10 Superstructure
B20 Exterior Vertical Enclosures
B30 Exterior Horizontal Enclosures

C INTERIORS
C10 Interior Construction
C20 Interior Finishes

D SERVICES
D10 Conveying
D20 Plumbing
D30 Heating, Ventilation, and Air Conditioning
D40 Fire Protection
D50 Electrical
D60 Communications
D70 Electronic Safety and Security

E EQUIPMENT & FURNISHINGS
E10 Equipment
E20 Furnishings

F SPECIAL CONSTRUCTION & DEMOLITION
F10 Special Construction
F20 Facility Remediation
F30 Demolition

G SITEWORK
G10 Site Preparation
G20 Site Improvements
G30 Liquid and Gas Site Utilities
G40 Electrical Site Improvements
G50 Site Communications
G90 Miscellaneous Site Construction

Z GENERAL
Z10 General Requirements
Z70 Taxes, Permits, Insurance and Bonds
Z90 Fees and Contingencies