

# Alternative Construction Procurement Methods, Advantages & Disadvantages

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Monday, June 13, 2016 - 1:00pm-2:15pm, Washington, Lower Level

*Presented by:*

*Bert Jones, Associate Vice Chancellor for Facilities Management Services, Virginia Community College System*

*James M. Apodaca, Senior Project Manager, Commodore Builders*

*James F. Gallagher, Principal, Resolution Management Consultants, Inc.*

*Russ Katherman, Engineering Manager, Architecture & Engineering, Montana Department of Administration*

As more States are beginning to use Construction Management at Risk as a vehicle to procure construction services, this presentation will provide an overview of how Montana and Virginia utilize this process. The presentation will also include the perspective from the contracting community. We will provide a discussion of the successes, bumps, hurdles, situations encountered and lessons learned along the way. We will also present data regarding costs of a/e and pre-construction services.

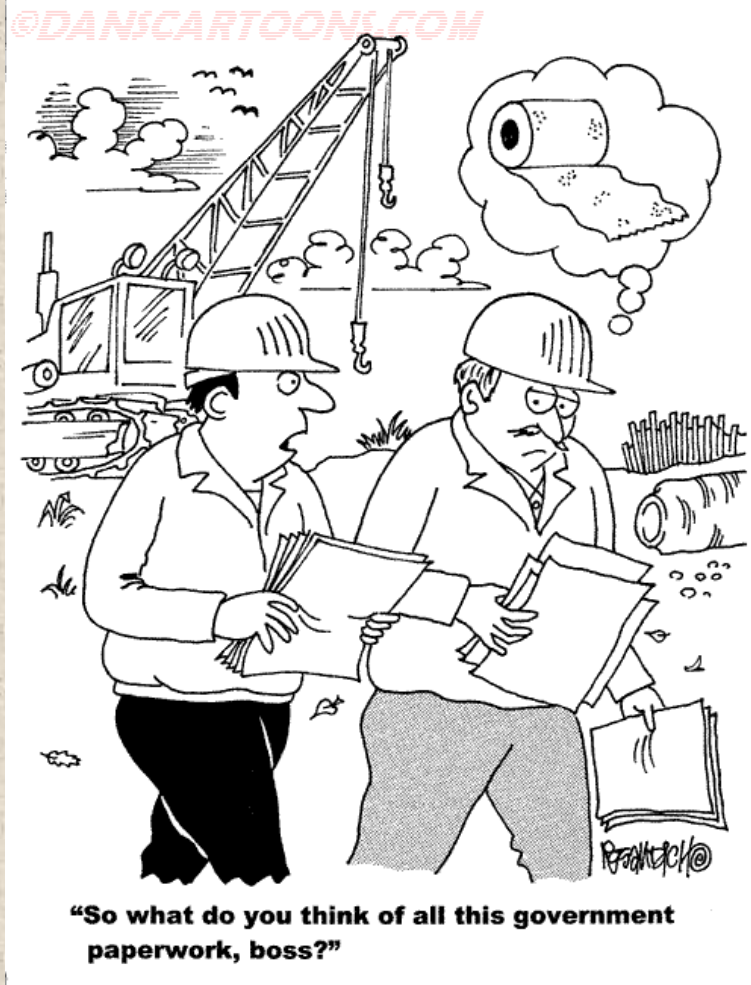
## **ABOUT THE SPEAKERS**

**BERT JONES** is responsible for all capital outlay construction for the Virginia Community College System. He and his staff provide technical and administrative support for all activities related to facilities and construction at 23 colleges with 40 campuses. Prior to VCCS Mr. Jones served as the Director of Engineering and Building for the Department of General Services where he was the state building official. In that role he was responsible for the construction, maintenance and operation of over 6.5 million sq. ft. of buildings and parking facilities.

**JAMES M. APODACA**, of Commodore Builders, a commercial construction management firm based in the Greater Boston area, is a Senior Project Manager with construction in his DNA. He has a degree in Business Management, but he grew up on project sites, working with his father who is a prominent General Superintendent in New Mexico. James has worked all over the U.S. on a wide spectrum of projects. He built three industrial parks, complete with infrastructure and a railroad, on the New Mexico, Mexico and Texas border. He has managed the construction of three million square feet of concrete tilt up warehousing and manufacturing facilities. In Florida, James became a licensed contractor and managed the pre-con and permitting for hi-rise residential towers. Construction projects in South Florida included interior fi-outs, healthcare, working in Miami International Airport on both air side and land side, multifamily residential, commercial parking structures, and hi-rise office building MEP system upgrades. In Boston, he oversaw the construction of the Match Charter School, a K-8 charter school on a 5 acre campus, which was the first campus in the city that was permanent modular construction. In downtown Boston he worked on the complete repositioning of a 1920's 15-story building from office/education to high end apartments. This included historical restoration of the first floor so that the building would be listed on the historical register. James plays an active leadership role in AGC of America and is currently the Chair of the Project Delivery Forum Steering Committee. His passion for construction has driven him to continue to seek out new ways to improve efficiency in the industry. Having experienced most Project Delivery Methods first hand and having worked in many different sectors within the industry, give James the ability to talk about what has worked, what is working and what doesn't work when it comes to the topic of Project Delivery.

**JAMES GALLAGHER**, a Principal with Resolution Management Consultants, Inc. (RMC), has over 28 years of hands-on experience in contract development, construction/project management and construction claims prevention and resolution. Licensed as a Professional Engineer in 13 states, Mr. Gallagher's experience spans all types of construction services on projects involving the public sector, institutional, commercial, power, environmental, marine, educational, and transportation including highway/bridges, light rail and airports on behalf of owners/operators and government agencies to contractors, engineers, architects, attorneys, and vendors. Dispute avoidance and resolution services have been provided by Mr. Gallagher on projects ranging in value from \$500,000 to \$1.5 billion on which various contracting vehicles were employed, including fixed-price, unit price, cost reimbursement and guaranteed maximum price; and issued under traditional design-bid-build, design-build; engineering, procurement construction (EPC); and public-private partnership (P3) procurement methods. James has provided expert witness testimony on a number of cases including at arbitration and trial, and is experienced in settlement discussions, mediation and dispute review boards. He has also been delivering presentations and training seminars for the past 20 years to professional organizations, companies and groups on topics such as project delivery systems, project management, change order management, differing site conditions, loss of productivity, minimizing and managing risks and disputes, and construction schedule methodologies.

For nearly 20 years, **RUSS KATHERMAN** has served as the Engineering Manager, Contracting, and Administrative Officer for the State of Montana's Architecture & Engineering Division. His responsibilities involve supervision of the construction project managers, all contracting functions for the state's vertical construction efforts, and oversight and resolution of claims and disputes. Another key area of responsibility is testifying before the state legislature on matters affecting construction of vertical public works infrastructure. Prior to coming to the State, Russ worked for the U.S. Army's Corps of Engineers in Kansas City as the Engineering Technical Project Manager for hydroelectric facilities new construction and equipment renovation projects, plus design and design review of many projects for the District's military installations. He also spent several years working in the private sector designing mechanical and electrical systems on a wide variety of building types. He is a licensed mechanical engineer and recently served as the 2009-2010 President for the National Association of State Facilities Administrators.



# Overview of Construction Contract Types and Delivery Methods Employed



## CONSTRUCTION CONTRACT TYPES

- **Design – Bid – Build**

Traditional method in which agency contracts with designer and contractor under separate contracts. Drawings and Specification developed in advance of construction bid proposals, and award of construction contract is based on the lowest responsive bid.

- **Design – Build**

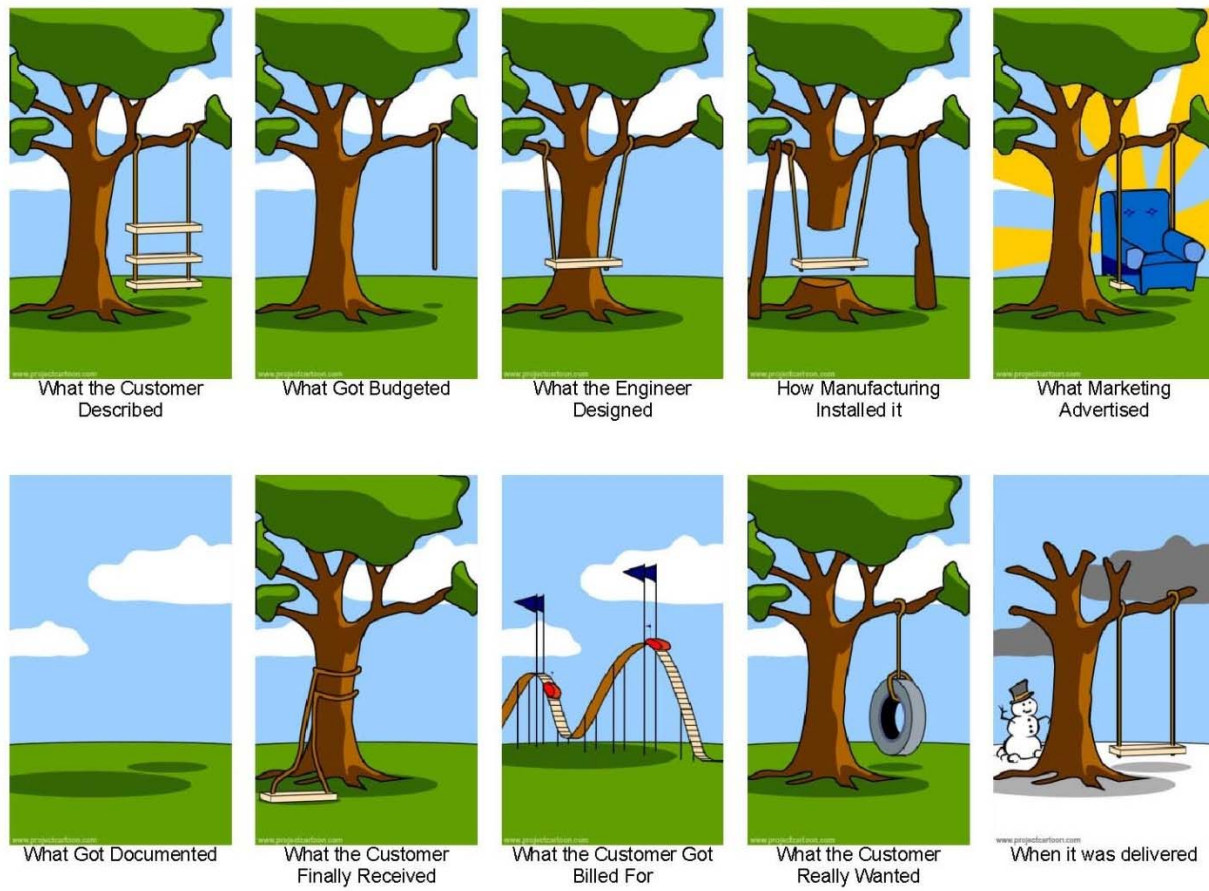
Agency contracts with a single entity to design and construct the project. Agency awards contract based on evaluation of a cost and technical proposal from Design-Build entities to achieve agency established criteria.

- **Construction Manager / General Contractor (CM/GC)**

Agency engages a project designer and qualified construction manager under a negotiated contract to provide both preconstruction services and construction.



# THE CONSTRUCTION PARADOX





## EARLY WORK - DEFINED

- CM/GC General Provisions – Definition

**Early Work** – Construction Phase Services authorized by Amendment that the parties agree should be performed in advance of establishment of the GMP. Permissible Early Work shall be limited to early procurement of Materials and supplies, early release of bid or proposal packages for site development and related activities, and any other advance Work related to critical components of the Project for which performance prior to establishment of the Guaranteed Maximum Price (GMP) will materially affect the Critical Path schedule of the Project.

**Early Work Amendment** – An Amendment to the CM/GC Contract executed to authorize Work under an Early Work Package.

**Early Work Price** – The sum of the Early Work (lump sum), the applicable CM/GC Fee, and the cost of any applicable bonds and insurance.

**Early Work Package** – Work Packages authorized by the Agency by an Early Work Amendment consisting of Work to be performed in advance of establishment of the Guaranteed Maximum Price (GMP).



## GUARANTEED MAXIMUM PRICE (GMP) - DEFINED

- CM/GC General Provisions – Definition

**Guaranteed Maximum Price (GMP)** – GMP shall mean the Guaranteed Maximum Price of the Contract, as stated in dollars within the GMP Amendment, as determined in accordance with Article 6 of the CM/GC Contract, and as it may be adjusted from time to time pursuant to the provisions of the Contract.

**GMP Amendment** – An amendment to the Contract, executed by and between the parties, to establish the GMP Supporting Documents for Construction Phase Services.

**GMP Supporting Documents** – The Documents referenced in the GMP Amendment as the basis for establishing the GMP. The GMP Supporting Documents shall expressly identify the Plans and Specifications, assumptions, qualifications, exclusions, conditions, allowances, bid items, estimated quantities, unit prices, and alternates that form the basis for the GMP.



## COST OF THE WORK - DEFINITION

- CM/GC General Provisions – Definition

**Cost of the Work (COW)** – The Cost of the Work are costs necessarily and reasonably incurred by the Contractor in the construction of the Project. The Cost of the Work shall exclude the Preconstruction Costs, costs of bonds and insurance, the CM/GC Fee, and any other cost or charge which the CM/GC states is not to be included in calculating the CM/GC Fee.

**Construction Phase Services** – All Work, other than Pre-construction Phase Services, consisting of, without limitation, construction related activities of the Contractor including schedule refinement, advance Materials procurement, advance construction (if approved by an Agency-issued Early Work Amendment), Project budget management, and development of bid packages.

*When is a cost considered incurred - a) once itemized in the EWA estimate; or b) when actually incurred or paid by CM/GC? Stay tuned for further discussion on this issue.*





## BENEFITS OF CM/GC CONTRACT

The AGC/NASFA 2012 CM/GC Guide for Public Owners defines CM/GC (or CM at Risk) as “a specific variation of construction management in which the public owner engages both a project designer and a qualified construction manager under a **negotiated contract** to provide both preconstruction services and construction. The CM/GC provides consulting and estimating services during the design phase of the project and acts as the general contractor during construction, holding the trades contracts and providing the management and construction services during the construction phase. The degree to which the CM/GC provides a cost and schedule commitment to the public owner is determined during the negotiation of the final contract. **(This is a risk issue. If there is no risk involved, it is not CM/GC.)**”

***Allocation of Risk.***





## CONSTRUCTION MANAGER <sup>AT</sup> RISK (CMAR)

- Allocation of risk between Owner and Contractor
  - Guaranteed Maximum Price (GMP) is established at a point where the design is sufficiently advanced and the Contractor can furnish a price with *minimal contingency* for possible increases in scope.
  - Engage at-risk construction expertise early in the design process to enhance constructability, manage risk, and facilitate concurrent execution of design and construction without the owner giving up control over the details of design.
  - Select both designer and contractor based on qualifications / expertise, while *preserving competitive bidding at the subcontractor / trade level.*

Source: Transportation Research Board – NCHRP Synthesis 402, Construction Manager-at-Risk Project Delivery for Highway Programs



## RISK-SHARING

The AGC/NASFA 2012 CM/GC Guide for Public Owners states:

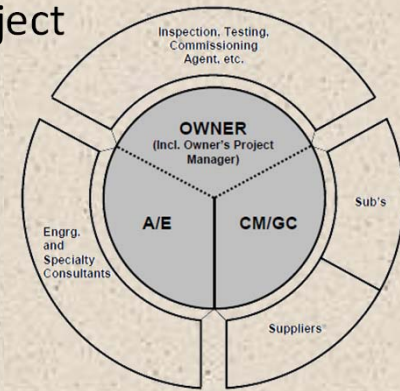
In some instances, the public owner may want to use a hybrid of the process described above. Probably the most commonly used hybrid is **converting the contract to a lump sum**. A public owner uses this method when it wants all the advantages of the preconstruction process without the **risk-sharing aspects** of the construction phase. When the method is used, the lump sum amount theoretically will go up a bit higher than the GMP as the entire burden for the **price risk has shifted to the contractor**, who should be adequately compensated for the increased risk. The other commonly used hybrid is **converting the contract to a cost-plus-a-fee delivery process at the end of design**. A public owner uses this method when he or she feels the costs are so clear and complete that there is very little exposure to cost overruns. By using a cost-plus method, an owner can reduce the overall price from the contractor (contingency) as it has now taken on all the risk for cost overruns.



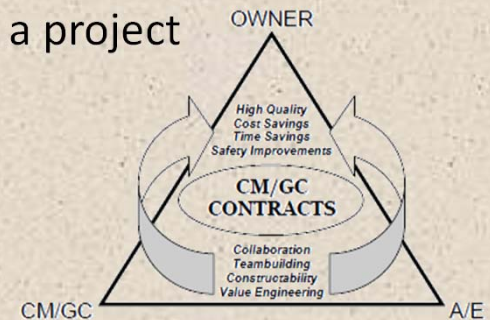


# SELECTING CM/GC FOR A PROJECT

- Factors used to determine if CM/GC is appropriate for the project
  - High risk
  - High level of technical complexity
  - Governed by significant schedule constraints
  - Require complex phasing
  - Contain **budget limitation**
  - Will realize **substantial cost savings** from value engineering analyses



- Primary considerations when evaluating CM/GC for use on a project
  - **Time savings**
  - **Cost savings**
  - Technical complexity
  - Not diminishing competition or encouraging favoritism



Time = \$

Source: Oregon Public Contracting Coalition to CM/GC Contracting





# SHOW ME THE MONEY!

## Why CM/GC



Fosters collaboration



Increases owner control and involvement



Manages risk



Accelerates delivery



Increases flexibility



Focuses on cost, value and problem solving

“CM/GC allows owners to cost-effectively resolve project challenges.”

ASCE | KNOWLEDGE & LEARNING





## ESTABLISHING GMP

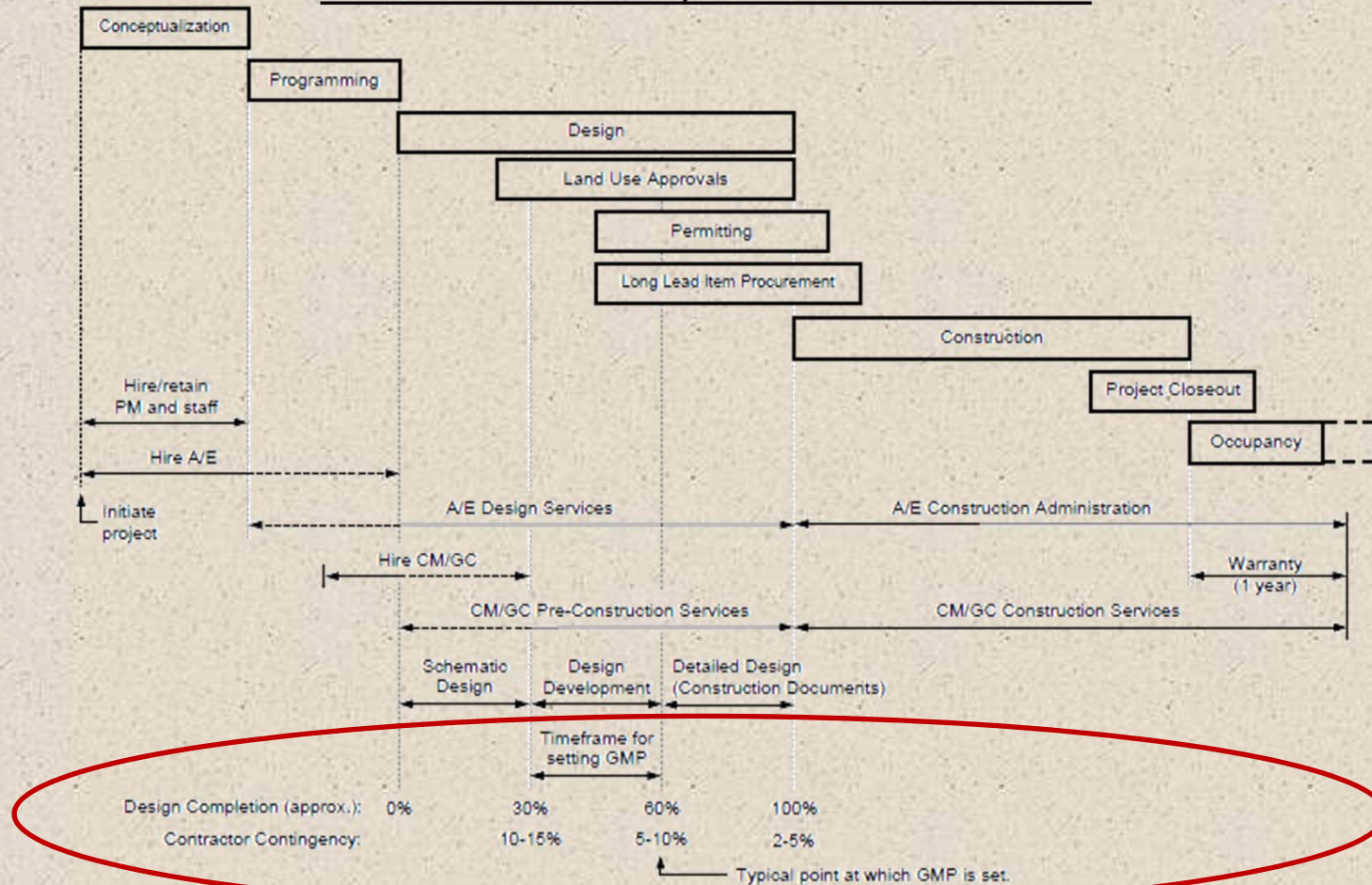
The AGC/NASFA 2012 CM/GC Guide for Public Owners states:

“At some point – normally at the completion of the construction document stage – the Guaranteed Maximum Price (GMP) is finalized, setting the contract price for the project (including the CM/GC’s fee and reimbursable costs). This ensures that the owner will get competitive bids for the cost of the work from the subcontractors and doesn’t require the CM/GC to include as much risk protection contingency to cover this risk.”

*The later in the design stage that the GMP is established, the less “risk protection contingency” is required to cover risk.*



## REPRESENTATIVE CM/GC PROJECT TIMELINE



Source: Oregon Public Contracting Coalition to CM/GC Contracting





# PURPOSE OF CONTRACT COMPLIANCE AUDIT

## 1.) Observe & Learn

- Understand and improve after completion
- Establish control processes to identify areas to keep cost down

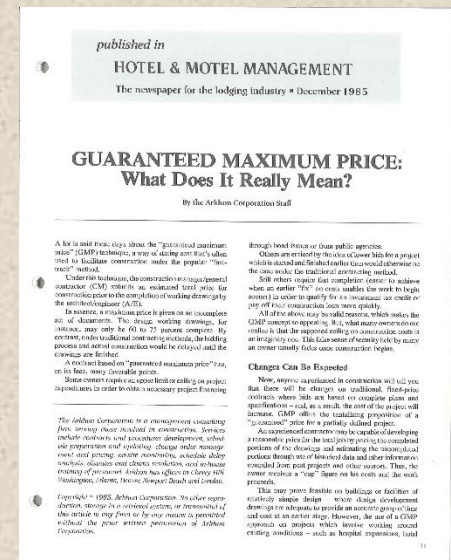
## 2.) Proactive Monitoring

- Monitor ongoing contractor costs to identify areas contractor is attempting to take advantage
- More due diligence required

## 3.) Recovery of Overruns

- Recover cost overruns and non-reimbursable costs

**Contractor View: GMP = Guaranteed Minimum Price**  
**Owner View: GMP = Cost Savings**







## PURPOSE OF CONTRACT COMPLIANCE AUDIT

- Contract Compliance is an Independent Process:
  - It should be the Contractor's responsibility, **not** the state, to answer questions / resolve issues;
  - The Process is intended to identify areas of high contractor cost (1 & 2) and minimizes overruns (3);
  - The Process is intended to allow, or reinforce the need for contractor input, ideas to monitor costs

*The policeman on the corner – once motorists realize there is no policeman in the car, they are less likely to observe posted traffic laws.*



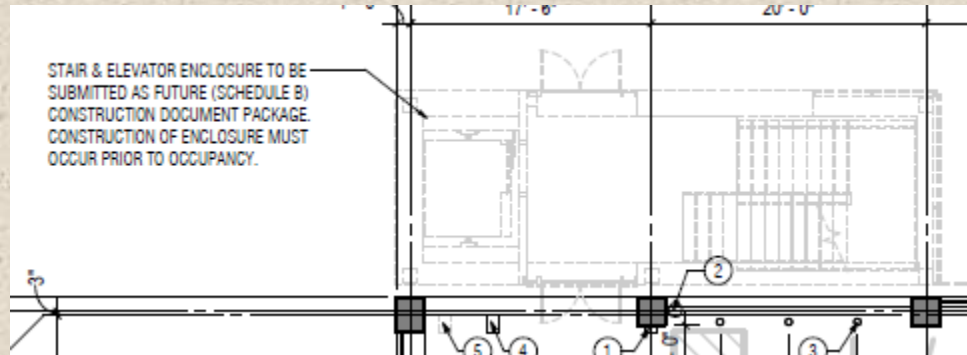
## IMPORTANCE OF CONTRACT LANGUAGE



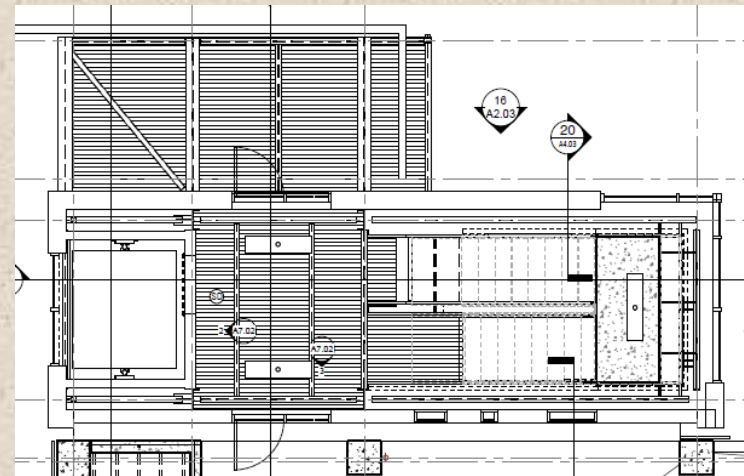
- Different interpretations of same language
- Old woman or young woman?



## MONTANA STATE – NEW PARKING STRUCTURE



October 2015, GMP Allowance of \$1.1M



March 2016, Bid @\$1.4M

Contractor claims difference is due from Owner as “increases in scope” despite allowance language stating by putting it out for bids, Contractor warrants no change in scope.



## MONTANA TECH – ADDITION TO ACADEMIC BLDG

PRE-CONSTRUCTION SERVICES	AMOUNT
GC/CM Pre-Construction Services	\$63,000.00
	<b>\$63,000.00</b>
CONSTRUCTION SERVICES	AMOUNT
GMP Amendment	
Cost of the Work	\$7,810,000.00
Revisions per budget options log	(\$842,275.00)
Allowance for ELC	\$850,000.00
General Conditions (GMCR)	\$675,061.00
GC/CM Contingency	\$222,420.00
GC/CM Fee (4.00%)	\$314,608.24
Gross Receipts Tax (1%)	\$81,798.14
<b>Sub-Totals =</b>	<b>\$9,111,612.38</b>
	<b>\$9,111,612.38</b>
	<b>\$63,000.00</b>
	<b>\$9,111,612.38</b>
	<b>\$9,174,612.38</b>

<b>\$10,845,462</b>	<b>As-Bid by CM/GC</b>
<b>\$9,174,612</b>	<b>GMP Contracted Amount</b>
<b>\$166,913</b>	<b>Owner Agreed Budget Sharing</b>
<b>\$9,341,525</b>	<b>Total Owner Responsibility</b>
<b>(\$1,503,937)</b>	<b>Difference To Be Resolved</b>

GMP @ 35% Documents, July 2015

Oct 2015, Bid @\$10,845,462

Contractor claims difference is due from Owner as “increases in scope” while contradicting GMP Narrative document.





## NEGOTIATING FROM A POSITION OF STRENGTH

### Article 6.5 – Determination of GMP:

“The CM/GC *shall* deliver to the Agency a proposed GMP and GMP supporting Documents at any of the milestones identified in the Project Delivery Timeline...”

### Article 6.6 – Failure to Furnish an Acceptable GMP:

“If the CM/GC *does not* furnish a GMP acceptable to the Agency, or if the Agency determines at any time in its sole discretion that the parties may fail to reach a timely agreement on a GMP acceptable to the Agency, the Agency may terminate the Contract without liability, and the CM/GC shall not receive additional compensation beyond the Pre-construction Costs under the Contract, payable to the date of termination, together with the amounts payable for Work completed and accepted by the Agency under an Early Work Amendment...”



## ENFORCEMENT OF CONTRACT

### Pirates of the Caribbean:

First, your return to shore was not part of our negotiations nor our agreement so I *must* do nothing. And secondly, you must be a *pirate* for the pirate's code to apply and you're *not*. And thirdly, **the code is more what you'd call "guidelines"** than actual *rules*. Welcome aboard the *Black Pearl*, Miss Turner.



***Conduct & Course of Performance - The conduct of the parties after execution of the contract and before any controversy has arisen as to its effect affords the most reliable evidence of the parties' intentions.***





## DID CM/GC PROVIDE FINAL RECONCILIATION?

Article 12 of the CM/GC Agreement – Final Payment:

“The CM/GC shall submit to the Agency a final detailed accounting of the Cost of the Work together with the CM/GC’s final application for payment. **Final costs shall include a reconciliation of all reimbursable bond and insurance costs.**”

Throughout the performance of contract the CM/GC had been permitted to ignore and dispute many of the contract provisions regarding their accountability for project costs, the meaning of “lump sum”, whether adjustments were due to a change in assumptions, methods and means,... enforcement of these provisions was minimal...

**Precedent established during contract performance that provisions, such as the above, would not be enforced.**



## MONTANA STATE – COLLEGE OF BUSINESS

### GMP AMENDMENT

Cost of the Work	\$12,088,488.00
General Conditions (GMCR)	\$771,531.67
GC/CM Fee (4%)	\$514,400.79
GC/CM Contingency	\$200,000.00
Gross Receipts Tax (1%)	included in COW
<b>Totals =</b>	<b>\$13,574,420.46</b>



GMP after Buy-Out @ 100%  
Documents, July 2013

July 2015, Contractor is 6-months  
behind schedule and requests Owner  
“partner” in \$600,000 loss.





## CONCLUSION – AN OUNCE OF PREVENTION!

Clear & Concise Contract Language to delineate Agency intent.

Consensus among Agency partners / participants. If internally we cannot agree to language meaning / intent, why should we expect contractor to reach agreement.

Develop Tools to Facilitate Monitoring of Project Costs

Work with CM/GC in preconstruction phase to develop tools for monitoring project costs.

Enforce Contract.

The contractor's job is to maximize their profit margins on projects. We do not need to look out for their interests, but that of the State.

