A Publication of ***Pinnell♦Busch, Inc.****, Project Management Consultants to the Design & Construction Industry*

THE PROJECT MANAGER™

NUMBER NINE, OCTOBER 2006

Aerial Tram to Insurance Crisis: Pinnell/Busch's Wide Range of Projects

As project management consultants to the design and construction industry for more than 30 years, Pinnell/Busch is known for expertise in numerous highly technical management skills: critical path scheduling, project management, construction claims and dispute resolution, estimating, scheduling software, and more recently, construction defects.

Two recent projects, however, demonstrate the firm's breadth of expertise and agility meeting a wide range of client needs on high-profile projects.

Portland's Aerial Tram

In January, the Portland Development Commission asked Pinnell/Busch to conduct a Risk Assessment for the Aerial Tram linking the $1.5 billion South Waterfront Project with Oregon Health and Science University's campus.

We engaged specialists in tram design and construction, risk assessment, and value engineering to help us determine the tram's most likely schedule and cost. After a detailed analysis, we pegged the cost at $55 million and forecast completion by mid-December 2006.

Construction Claims Task Force

In May, Contractor's Bonding and Insurance Company asked Pinnell/Busch to independently review issues before the Construction Claims Task Force, a legislatively authorized panel charged with examining the insurance crisis caused by the explosion of construction defect claims.

After review of the records, interviews with many of the involved parties, and research into third party warranty programs and license bond recovery funds, Steve Pinnell testified before the Task Force in August, recommending legislative changes for consideration by the Task Force.

Project Highlights

We've been especially busy in the year since our last newsletter, with a wider variety of projects than we can mention here. Some of the more interesting are:

Dispute Resolution and Claims Avoidance, Preparation, and Defense

Claims avoidance and preparation for contractors, claims defense for owners, and dispute resolution for all parties has long been one of the firm's primary specialties.

Recent projects include: claim defense for the U.S. Army Corps of Engineers on projects in Alaska and Montana; review of subcontractor claims for Skanska USA and the Salmon Creek Hospital; defense of claims at the University of Puerto Rico and a ship repair project for Cascade General; preparation of a request for equitable adjustment on the Hanford Radiation Shield Doors for the Department of Energy's Vitrification project at Hanford; and claim preparation for contractors throughout the West.

Last year, we stepped in to provide construction coordination for the Coos County Gas Pipeline, which supplies natural gas from the I-5 corridor to Coos Bay, Coquille, Myrtle Point, and the Coos Bay Industrial Area. We are now assisting the County's legal counsel in litigation over the initial contractor's performance.

Construction Defect Investigations

In addition to Steve Pinnell's research and testimony on the construction liability insurance crisis, Greg Mockford and his team of Dan Cadd and Neil Brown (with oversight from John Costello and help from Blake Marchand and Jennifer Thorne) have investigated and resolved an average of 10 construction defect cases per month.

Schedule Preparation for Contractors and Schedule Review for Owners

Construction scheduling has always been one of our core skills. This year's work includes the $86 million Hard Rock Hotel in California, work with Turner Construction to develop the CPM schedule for the new $200 million Salem Hospital Patient Tower, and three recent scheduling projects with Brockamp and Jaeger in Washington, including the $13 million Kaiser Medical Office Building.

continued on back page

Program Management

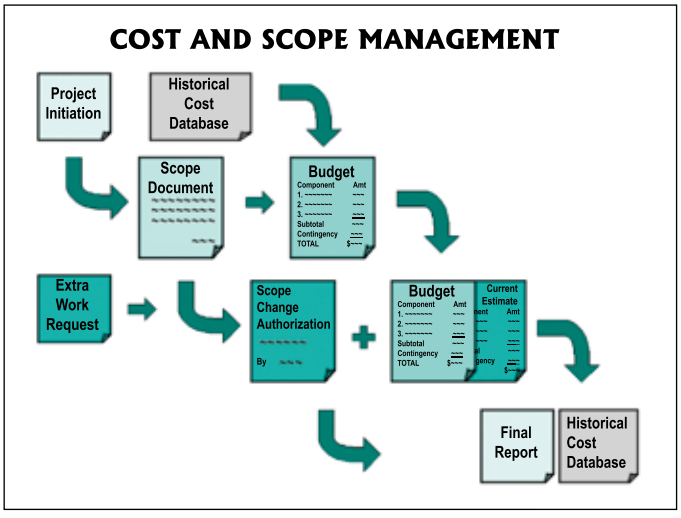
To Avoid Cost Over-runs and Schedule Delays

Program management is the management of a very large project ($100+ million), or a group of related projects that are managed both independently by project managers and as a group by the program manager (e.g. a county public works road program or sewer program).

If you're a program director (or project manager) with a poorly defined or unrealistic scope of work, an inadequate budget, or an overly optimistic schedule for the scope and available resources – what do you do?

One option is to find another job. If that's not possible, we suggest the following steps:

1. Clearly Define The Scope
Write up your understanding of the scope. Include the physical elements and capacity, plus your understanding of why the project is needed, what it will accomplish, and how success will be measured. Take it to your boss and get agreement from all decision-makers with, if possible, written confirmation. Then, distribute the scope document to everyone who will be involved to ensure that they all understand and support the program goals and strategy.



2. Prepare an Independent Cost Estimate
Regardless of the official budget, prepare your own independent estimate – based on the defined scope of work. If necessary, hire an independent cost estimator or a contractor to prepare a more accurate forecast of construction costs. Also verify the budget for personnel, professional services, and other 'soft' costs.

Program directors should require their project managers to develop, track, and take responsibility for their current estimates. If widely different from the official budget, either change the scope or the budget – now, not later. Track and control costs at the line item level, not the bottom line.

3. Prepare a Project Schedule
Prepare a critical path schedule, or at least a bar chart, with your best forecast of the tasks required and the time to accomplish them. Include planning activities, design, permits, construction, commissioning, and occupancy. Verify that you have sufficient resources and identify other potential problems and how to avoid them.

4. Prepare a Detailed Work Plan
You need a work plan of non-construction efforts for each project with the tasks to be performed, the personnel needed for each task, and the overall program resource needs and costs. Multiply the projected use of each resource (mainly personnel) times their unit cost to get the budget for personnel and expenses.

The key problem facing multi-project programs, like those for a public works department, is the limited number of in-house personnel available to complete all of the projects as scheduled. Although each individual project could be accomplished with the assigned personnel, when adding up the labor needed for all projects for each timeframe, you may find that the total demand exceeds the available resources.

5. Track Progress, Compare Actual Progress with Plan, and Take Corrective Action if Needed
Once you have a plan in place – scope, cost, and schedule (plus needed resources) – implement it. Track progress and compare with the plan. If encountering significant variations, re-plan and take corrective action.

During design, monitor for 'scope creep' and obtain a Scope Change Authorization before allowing any changes that affect the budget. Don't use the contingency for scope changes. Also ensure that you are achieving the program objectives and contract deliverables.

During construction, manage change proactively and notify the governing body if your current estimate significantly exceeds the budget. Negotiate and settle changes and claims promptly to avoid unnecessary conflict and impact.

6. Conduct a Performance Audit
Audit the program management plan and procedures with a risk assessment before embarking on a new program that is significantly larger or riskier than normal. And, conduct a performance audit midway through to confirm you're on track, or at the end to satisfy the governing body. A project final report can help disseminate lessons learned and improve overall organizational performance.

Recordkeeping and Notice

To Ensure Fair Payment for Delay and Impact

If you're a contractor's project manager on a doomed project that's careening towards the brink with a poor set of plans and specs, an unrealistic schedule or bid, a 'by-the-book' inspector, and flakey subcontractors – don't give up.

First, alert company management to the scope of the problems and get reassurance that you'll get the resources you need to avoid a disaster – even if you have to blow the general conditions budget. That's a lot cheaper than major delays or cost over-runs from inefficient operations, delays, or undocumented changes.

Second, dig into the plans and specifications to uncover as many problems and opportunities as possible before the crews encounter them in the field. Discuss the problems with your field supervisors and anyone else who can help. Then, insist on a meeting with the owner and designer, and get paid (if possible) for a constructability review, or submit a change order request.

Give Timely, Contract-Compliant Notice

Document the problems and insist on a prompt response and corrective action. If necessary, ask for a partnering session, or elevate the problem up the management chain to your company president and the highest possible level of the owner's management team.

Try to build positive relationships with the owner's personnel, but don't roll over and play possum – or you'll end up as road kill.

Document your position, and don't fail to provide notice as required in the contract, even if it creates some resentment.

Maintain Good Records

The most important records for recovering extra cost and time are the foremen's timecards and your accounting system. Ensure that the foremen know the proper cost codes and use them correctly. When work is added, assign a new cost code. All contractors should record weekly production quantities, in order to compute productivity and the impact from changes or delays (and truly control costs) – but few do.

The next important record is the Superintendent's Daily Report. Verify your field supervisors are recording progress and problems every day with a clear description of problems and delays.

Verify that the project schedule is accurate, sufficiently detailed, and is updated monthly with actual start and finish dates, percent complete, and revised logic as needed.

Verify that your project superintendent is preparing a weekly short-interval/look-ahead schedule and that it is adequately detailed, includes critical subcontractor work, relates to the master CPM schedule, and is being followed. To ensure it's being followed, have the superintendent mark the previous week's plan on the new schedule in order to compare plan versus actual.

Take photos of all significant operations and all problems. Be certain to date stamp all photos. If helpful, video inefficient operations. Make brief, clear notes of all significant telephone calls, including any agreements, and keep them on file.

Keep the RFIs up-to-date and maintain an accurate RFI log. Classify and prioritize each RFI to ensure that the most critical are handled first, and share the RFI log with the owner to point out slow reviews or other problems. Also check your submittal log to ensure that subcontractors and vendors are submitting when needed and that the owner and architect/engineer are timely in responding. Notify the delinquent party before it's too late.

Either maintain the weekly/monthly owner progress meeting minutes yourself or notify the owner of any discrepancies or missing information to ensure that they are complete and accurate regarding all issues of importance to you.

XYZ Construction Company, Inc. – Superintendents' Daily Report (SDR)

Job No./Title: 1423 Long Tom Bridge & Road Date: 6May04 (M T W Ⓣ F S S)
Weather: Showers, Rain Temp: high ____ low ____ Site Conditions: Good Report No. 13
Activity Start/Finish Dates & Numbers: Finished clear and grub east bridge abutment (activity 003.50% complete)
Plannned Tasks & Actions Needed: should finish west abutment next week

XYZ Trades	Crew	Work Performed: work area, equip used, if extra work.	Work Qty
Carpenters	2	Start prep to set bridge footings	
Laborers	4	Clearing and unload materials	
Cement Fin			
Oper Engr	2	Load out waste & doze surface	
	2	Hauled last waste from East Abutment	
Subtotal	10	Equipment Oper/Standby & Mat'l Delivery: Bridge footing forms & rebar	

Subcontractors		Work Performed: work area, equip used, if extra work.	Work Qty
Eros	2	Erosion control sub on site	
Total	2	Mat'l Delivery: Silt fencing	

Problems, Delays & Extra Work: River bed appears softer than expected, Jim's been drinking again...

Owner's Rep, Visitors, Tests, Directives, Discussion: Inspector stopped by at 10 AM

Supervisor's Signature: Steve Reviewer: _____ Date: 20 May

If All Else Fails, File a Claim

If you can't resolve the problems, don't hesitate to bring in a construction lawyer and a claims expert. Early legal review can help you avoid losing your contract rights and a claims expert can help ensure adequate documentation to prove your claim.

Don't wait to submit your change order request until the end of the project – when you're short of cash, the owner doesn't need your cooperation, and you have failed to give timely notice or have waived your rights.

Project Highlights, continued from front page

Schedule review clients include the University of Washington, the City of Kent, SERA Architects, HDR Engineering, the Oregon Department of Transportation, and Salem-Keiser School District.

Cost Estimating for Owners

Recent projects include the Portland Aerial Tram, Tualatin Valley Water District's $300 million water transmission main, Salem's peak flow treatment facility, and on-call estimating contracts for the City of Portland and Salem-Keiser School District.

Training

Training clients include the Associated General Contractors, Project Management Institute, the Oregon Department of Transportation, Cherry City Electric, the City of Kent, and many others.

Arbitration and Partnering

Steve Pinnell arbitrated a small dispute in Hood River, Oregon and will be arbitrating a large case in Chicago for the American Arbitration Association. His arbitration by email of a dispute in Alaska is an innovative approach for smaller cases which avoids travel expenses. Partnering projects included Multinomah County's Sauvie Island Bridge, the City of Portland's East Columbia to Lombard Collector, and numerous projects for the Oregon Department of Transportation.

Free Computer Software

We have all heard of wonderful free software available on the Internet, but also of software viruses and other problems that can come along with them. Pinnell/Busch has done the research, testing, and implementation of several software tools that can save you a great deal of time:

Gadwin Printscreen – to print screen contents, or save to file.
SpamBayes – a smart spam filter that you teach to reject spam.
PDFCreator – an alternative to Adobe to create .pdf files.
Mozilla Firefox – an alternative to Microsoft Internet Explorer.

Our website, *www.pinnellbusch.com/library.html* has links to the authors of the software, where you can download a copy. The website library also has past copies of *The Project Manager* newsletter, professional papers by Pinnell/Busch staff, and details for ordering Steve Pinnell's Book, *HOW TO GET PAID For Construction Changes.*

We've also developed our own "almost-free" software – an Excel-based Timecard that saves a great deal of time for consulting firms and other organizations that need to track time down to $1/10^{th}$ hour. We will eventually be selling it for a nominal fee (around $50) but are currently seeking Beta testers and co-developers to help us perfect what is already a great package. Let us know if you are interested.

For information on any of this free software or for consulting help with hardware and software, contact Patrick Melvin, our IT specialist, at *patrick@pinnellbusch.com* or 800-929-1009.

THE PROJECT MANAGER™

A Publication of ***Pinnell♦Busch, Inc.****, Project Management Consultants to the Design & Construction Industry*

HIGHLIGHTS: From Risk Assessment of Portland's Aerial Tram to Testimony before the Oregon Construction Claims Task Force; Program Management for Owners; Recordkeeping and Notice for Contractors

LET US KNOW: Call, write or fax this page to us if you're interested in more information on our services. Please tell us what subjects you would like to see addressed or who else would like to receive a copy.

PINNELL♦BUSCH, INC.
6420 SW Macadam Avenue, Suite 330
Portland, Oregon 97239 USA
www.pinnellbusch.com

BULK RATE
U.S. POSTAGE
PAID
Permit #9999
Portland, OR

RETURN SERVICE REQUESTED

Portland Telephone: (503) 293-6280
Portland Fax: (503) 293-6284
Seattle Telephone: (206) 283-3611
Tollfree 1-800-929-1009
E-Mail info@pinnellbusch.com

Attention Mail Room: *If addressee has left organization, please forward to successor.*

Please Route To:
❑ _____
❑ _____

♻ Printed on Recycled Paper