

The *Boston Globe's* Big Dig:

A Disservice to the Truth

A Reply from Bechtel/Parsons Brinckerhoff

20 February 2003

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For nearly 20 years, Bechtel/Parsons Brinckerhoff (B/PB) has provided management consulting services for the Central Artery/Tunnel Project (CA/T), the most complex civil engineering and construction project in the United States today. Our dedicated employees are proud of the role we have played in improving transportation and reshaping Boston's waterfront and downtown business district.

We understand the frustration of officials and the public over increased project costs. We first raised those concerns ourselves, more than eight years ago, as has been well documented. Major reasons for the cost growth include inflation, increases in project scope, and environmental mitigation. Fortunately, B/PB's aggressive management and engineering reviews and proposals have saved the project as much as \$1.7 billion.

As management consultant to the Massachusetts Turnpike Authority (MTA) on the "Big Dig" project, B/PB has been responsible for preliminary design, management of the final design process and construction by other consultants and contractors, and reporting on the project's overall cost and schedule. The state has always maintained authority and responsibility for policy-level decision making, direction of the project, and oversight of B/PB.

The state hired other engineering and construction firms to take responsibility for final design and actual construction. All construction contracts were awarded by the Massachusetts Highway Department (MHD) on a fixed-price basis after competitive bidding. Each designer and contractor is responsible to MTA for its cost, schedule, and work quality. B/PB does estimate the costs of individual contracts, monitors them for adherence to budget, schedule, and contract terms; provide quality assurance services; and oversee the contractors' safety programs.

We are proud of our work and equally proud of our ethical conduct. Realizing that no such work can be perfect, we have always been willing to have our professional efforts scrutinized by any objective and independent organization that has technical knowledge of complex civil engineering and construction project management. B/PB has cooperated fully with an MTA-initiated review being coordinated by the National Academy of Engineering, for example, and welcomes further state and federal scrutiny.

B/PB also cooperated with the *Boston Globe* in its year-long examination of the Big Dig, making our professional staff available for many hours of interviews and handing over thousands of documents. Unfortunately, the *Globe's* reporters never understood the fundamentals of the engineering and construction industry. Their stories do not accurately explain either B/PB's contractual responsibilities on the project or the work performed. They misstate key facts and resort to half-truths and innuendo to indict B/PB unfairly.

A few of many examples from Day 1 of the series:

- The *Globe* completely misconstrues the roles and responsibilities of the project manager and design consultants on the Big Dig. To keep project cost and schedule within bounds, and to preserve accountability, the state hires specialized design firms and holds them accountable for their designs. B/PB is not responsible for checking design submittals and is not responsible for their content—yet the *Globe* blames B/PB for any and all alleged flaws in the final design of the project.

- The *Globe* contends that cost overruns totaling \$1.1 billion are B/PB’s fault and responsibility. Once again the *Globe* fails to grasp the fundamentals of the engineering and construction industry, and ignores the complexities of underground construction in a historic urban area. Virtually every construction project faces unanticipated challenges requiring contract modifications, known as change orders, that are not the result of neglect, mistakes, or abuse. The changes in Boston, approved by MTA, reflected a host of legitimate circumstances, including the discovery of unforeseen underground obstacles such as undocumented utilities and old wharves buried in landfill, state-mandated changes in the scope of project work, and schedule adjustments caused by factors such as public requests for noise or traffic mitigation.
- Of the \$75 million worth of specific B/PB mistakes alleged by the *Globe*, more than half is accounted for by a Fort Point Channel leak for which B/PB was not found at fault by MTA’s independent engineering consultant.
- The *Globe* claims the FleetCenter was not included in preliminary designs, an error that resulted in almost \$1 million in additional costs. The truth is that incomplete plans drawn up by the final designer—not B/PB—led to \$30,000 of rework, only 3 percent of the *Globe*’s figure. Yet the *Globe* now asserts that the FleetCenter case “has come to symbolize the problems plaguing the \$14.6 billion project and the state’s failure to protect taxpayers.” If so, only the *Globe*’s own misreporting is to blame.

Blaming the State

In Day 2 of its series, the *Globe* condemns the state’s cost-recovery efforts as “nearly a lost cause.” The story implies that B/PB, through incompetence or sheer greed, took taxpayers for a ride while the state looked the other way.

To the contrary, the Big Dig project is not only the largest infrastructure project in U.S. history, but also one of the most intensely scrutinized. There have been dozens of audits, investigations, and reviews by federal, state, and local officials as well as news media. Many critics have questioned B/PB’s project management, but few specific charges have been substantiated upon close review.

One of the few incontestable facts in the Day 2 story is that the project’s Cost Recovery Committee—which has authority to investigate allegations of unjustified cost overruns—“exonerated [B/PB] in all 15 cases it considered against the [joint venture].”

The committee, which consisted of the state project director, state construction manager, and Federal Highway Administration project engineer, was independent of B/PB. Its findings were based on timely and balanced investigations by expert evaluators, not judgments by reporters following old paper trails taken out of context.

In the only two cases cited in the Day 2 story—the Ted Williams Tunnel wall movement and the design delay in the Fort Point Channel tunnel—independent engineering firms that reviewed the evidence concluded that B/PB and other parties performed with a “reasonable standard of care” in dealing with complicated and unique design challenges.

B/PB remains fully committed to working with the state’s cost recovery process. Indeed, B/PB has granted every state request for more time to review specific claims, beyond that allotted in the contract. B/PB has agreed to nine such requests since 1994.

Misrepresentation and Innuendo

Day 3 of the *Globe* series begins with a blatant misrepresentation of facts and quickly descends into unsubstantiated innuendo about political influence peddling.

“When inspectors found cancer-causing asbestos dust swirling around a Big Dig work site in 1996,” the story begins, “the project’s private-sector manager faced a possible trial and millions of dollars in fines for flouting clean air laws.” But state transportation officials, supposedly in thrall to B/PB, “hired a lawyer to broker an unusual settlement” that let B/PB off the hook for only \$131,000, while “taxpayers paid more than \$3 million to clean up the asbestos mess.”

To the contrary, no inspector ever found asbestos dust “swirling around a Big Dig work site.” Moreover, despite the innuendo about brokering an “unusual” settlement, there was no backroom deal.

Here’s what did happen. The state Attorney General alleged that asbestos-containing materials were removed and transported from the Anelex Building site by the construction contractor in a manner that violated the state Clean Air Act and applicable regulations (including requirements for adequate wetting of material, sealing asbestos-containing materials into leak-tight containers, and disposal).

The settlement was entirely normal and aboveboard. It cost the contractors, not taxpayers, \$493,000, a substantial sum of money. The settlement was reviewed and approved in August 1999 by the Attorney General, the Massachusetts Department of Environmental Protection, and MHD and its environmental consultants.

The increased cost of asbestos abatement resulted from the unexpectedly aggressive methods required to remove asbestos-containing adhesives from concrete surfaces in the building before demolition, which led to extra work and delayed completion of the contract. There was no cost to taxpayers beyond the cost of these required activities, and specifically no added cost to address the allegations made by the Attorney General.

Even though the state takes only a tiny fraction of such cases to trial, the story goes on to suggest—without a shred of evidence—that B/PB only escaped a trial and “millions of dollars in fines” thanks to political clout.

The article notes further that Bechtel “had stellar Republican credentials, a handy tool when trying to persuade President Ronald Reagan, a California Republican, to give liberal Massachusetts the nation’s most expensive public works project.” But once again, facts get in the way of a good story: “Ultimately, in 1987, Reagan vetoed start-up funding for the Artery project.”

And far from showing that B/PB called the shots, the story relates that James J. Kerasiotes, the state’s top Big Dig official, along with Governor William Weld, “demanded” that B/PB remove its project manager from the Big Dig in 1994 when a public rift developed over cost estimates.

At issue was the public insistence by state officials that project costs would be maintained at under \$8 billion (not counting inflation), in contradiction to B/PB’s 1994 projection that total project costs would come in at around \$14 billion.

In a report issued in 2001, the Massachusetts Inspector General noted that two senior Bechtel officials flew to Boston in December 1994 to personally inform the governor and his senior advisers about the true cost estimate. In addition, the Inspector General stated, “B/PB insisted upon and, in fact, made full disclosure to local FHWA [Federal Highway Administration]

officials in 1994-1995 of each exclusion, deduction, and accounting assumption comprising the \$6 billion difference.”

It was the responsibility of state and federal authorities to communicate with the public. Yet in another stretch of the truth, the *Globe* story manages to leave the impression that B/PB bears major responsibility for hiding costs and misleading the public.

Strip away the negative images conjured up by repeated talk of “lobbyists, strategists and consultants,” and what do you have? Thousands of words that fail to support the headlines.

This kind of reporting is not only false but deeply unfair—both to the *Globe* readers trying to understand this huge project, and to the thousands of men and women who are working so hard to bring it to closure.

Boston Globe allegation: "Artery Errors Cost Over \$1B," Feb. 9, 2003

Allegation: The project ran up "\$1.6 billion in construction cost overruns," of which at least \$1.1 billion was directly B/PB's fault.

Facts: The \$1.6 billion in question—which comes from B/PB's own charts—reflects legitimate modifications to original project construction contracts and cannot be construed as errors. The *Globe* reporters ignored repeated attempts by B/PB's professional staff to explain the complexities of underground construction in a historic urban area. Examples of these change orders include:

- \$321 million in project scope changes—including new work ordered by the state or work shifted from one contract to another with state approval. For example, in 1993-1994 the state ordered changes in the alignment of the I-90 tunnel that widened and deepened the necessary excavation, increasing the cost of dirt disposal. B/PB supported creative solutions to minimize the additional cost, including a disposal contract with the city of Quincy that saved the state about \$60 million.
- \$263 million in design development. These were state-mandated changes that enhanced the project, such as an underpinning to the Central Artery-to-Storrow Drive ramp to facilitate traffic flow during project construction. They also included modifications, based on field experience, to corrosion protection and waterproofing methods and roadway surfaces.
- \$357 million to cope with what engineers call "differing site conditions"—obstacles to site development that could not be known or specified in advance of site excavation or construction. In Boston, these site conditions included a maze of uncharted utilities and old wharves buried under landfill. Contractors also discovered and removed rock and historic pile obstructions prior to building tunnel walls and bridge foundations.
- \$152 million for unforeseeable schedule adjustments. Given the complex interrelationships among jobs, a delay in one had ripple effects on many others. For example, the project rescheduled the sequence of work and authorized overtime schedules and additional material storage for electrical and mechanical contractors to minimize the time-and-cost impact of delays in tunnel construction.
- \$85 million in approved costs to deal with third parties, such as utilities and property owners adjacent to the project. For instance, the project had to install double-paned windows and air conditioners in many buildings affected by construction noise.
- \$460 million in unclassified costs. These include global settlements with contractors for extra costs incurred by unavoidable construction delays. This category also includes changes to reflect the fact that some items whose quantity was uncertain were priced in the contract on a per-unit basis. Examples include traffic barriers and the per-foot cost of drill shafts. If

contractors had to install more barriers to safely manage traffic or drill deeper than expected to reach rock or hard clay, costs rose accordingly.

Allegation: B/PB failed to depict the FleetCenter arena in its preliminary designs, costing taxpayers nearly \$1 million in construction rework.

Facts: This anecdote makes for great reading, but it completely misrepresents the impact of a minor design oversight on the project.

B/PB drafted preliminary designs for the project area near what is now FleetCenter in 1989, four years before construction began on the center. B/PB did not update one set of designs to reflect the new arena when it turned them over to the final design consultant.

Responsibility for final site design in the area fell to Jacobs Engineering. Its failure to include FleetCenter columns and a garage air exhaust shaft in drawings of one project section caused only one mishap: an improper routing of utilities that cost \$30,000 to fix. Jacobs was put on notice by B/PB that redesign costs for this issue were not reimbursable.

The FleetCenter was properly shown on all other relevant project drawings for 6 other projects in the area and identified in contract specifications and survey drawings on this particular contract.

In this case as elsewhere, the *Globe* completely misconstrues the roles and responsibilities of the project manager (B/PB) and design consultants on the Big Dig. As the section design consultant develops a final design, B/PB reviews the design submittals for conformance to the preliminary design and general projectwide standards, and manages interfaces between the final designs. Based on this limited review, B/PB recommends and submits the final design to the Client for approval. The design consultant, not B/PB, stamps and is responsible for its final design. The state took authority for approving final designs. Contrary to the *Globe*'s account, B/PB was not responsible for alleged flaws in the final design of this or any other part of the project.

The *Globe* does not explain or substantiate its overblown figure of \$991,000 for rework in the FleetCenter area. The overwhelming cause of rework in the area was not faulty design plans, but the discovery of an unknown, buried underpinning support of the elevated highway behind the FleetCenter. The support was apparently installed by the Massachusetts Bay Transportation Authority (MBTA) when the Orange Line was originally constructed in the 1960s. There were also unknown underground concrete encasements of a water line that caused additional impacts. In total, these unanticipated subsurface conditions resulted in approximately \$570,000 in additional costs and had nothing to do with the location of the FleetCenter or any alleged design errors.

Allegation: B/PB neglected to perform basic work called for in its contracts, such as conducting crucial field surveys of the elevated Artery. As a result, contractors incurred large overruns. Such failures cost the state more than \$350 million.

Facts: The \$350 million reflects costs to deal with what engineers call “differing site conditions”—unexpected obstacles to construction, such as undocumented utilities. These are inevitable when building underground in a historic urban

area. The *Globe's* ignorance of this basic fact is symptomatic of its superficial treatment of cost issues on the Big Dig project.

With regard to field surveys, this charge is both incorrect and misleading. As part of the preliminary design, the project spent about \$90 million to extensively survey the entire route. This work included an aerial survey, field survey, test pits, borings, and geotechnical consulting services. It also involved assembling historical information on the existing artery, including artery pile-driving logs, utility company plans, and building plans. Utility lines were located as precisely as possible prior to the work. Those lines were not always installed where the utility companies said they would be, or were moved later without documentation. Similarly, soil conditions could not be known with certainty despite extensive field core drilling investigations. These challenges were normal and expected on major underground construction projects, particularly in dense urban areas. The *Globe's* anecdotes of alleged design errors repeatedly ignore these realities, betraying an ignorance of normal engineering and construction practices.

A detailed survey of the Artery was not done completely in advance of construction, since the contractor was required to do a survey prior to building the Artery underpinning. This standard industry practice saved the cost of doing the survey twice. The costs incurred to deal with issues that were identified by the contractor's survey would have had to be paid for whether or not the survey was done before the design. Overall, this approach saved the state money, contrary to the *Globe's* assertion.

Allegation: Construction on many of the Big Dig's major contracts began with incomplete and inaccurate designs, causing costly delays.

Facts: All project designs were essentially complete when construction began, with one major exception: the ongoing mechanical and electrical design work at the time the Mainline Tunnel and Ventilation Building contracts were signed. This was work that was not needed until construction was well under way. Waiting for completion of all designs would have needlessly extended the schedule, thus adding to overall costs, such as inflation in labor and materials as well as management costs.

The fast-track approach to construction, involving some parallel work in design and construction, saved considerable time. This well-established methodology increases certain costs, primarily in field changes, but they are more than offset by larger savings stemming from a faster schedule.

The individual section design consultants, not B/PB, signed off on the design drawings associated with their contracts. They are the responsible designers of record. B/PB conducts a review of each consultant's design submittals for conformance to the preliminary design and general projectwide standards, and manages interfaces between final designs. Based on that limited scope of review, B/PB recommends and submits the consultant's final designs to the Client for approval. B/PB neither stamps nor guarantees the accuracy of the final designs. The project has had an established and detailed review process by each design discipline for quality assurance. These reviews are well documented, even if ignored by the *Globe*.

The three other allegedly incomplete designs referenced in the *Globe* article were still pending at the time bids were first advertised, in order not to miss a window of opportunity for federal funding. The bid advertisements were approved by both state and federal highways officials. Subsequent addenda brought the designs to completion before the bids were tendered and construction began.

Allegation: No documentation of the so-called fast track plan exists, calling into question whether it was an actual initiative or an after-the-fact justification.

Facts: State officials, who continuously reviewed B/PB's work and approved all bids and contracts, supported the fast-track approach ever since construction began in 1991. Construction industry research supports this philosophy based on overall economics and schedule advantages. The project has documented schedule savings of more than two years, resulting in net cost savings to the state of approximately \$1 billion. Economic benefits to road users will come to an additional \$1 billion.

Allegation: The cost to build tunnels from Haymarket Square to North Station grew nearly 60 percent over the contractor's bid, an object lesson in B/PB's mismanagement.

Facts: Evidence shows that the growth in costs was directly related to the conditions encountered at the site, not mismanagement. Assertions to the contrary by Jay M. Cashman Inc. are those of a contractor trying to build a case for a claim. Cashman had ample time to review all relevant documents and addenda during the bid phase. The bid phase was appropriately extended when it was determined that the contractors would need more time to evaluate new information.

Parts of the plans were revised several times, but addenda are a normal part of the bid process. On a job as complicated and accelerated as the Big Dig, addenda were unavoidable. These changes affected less than 5 percent of the total contract value.

Contrary to the *Globe*'s claim, only about \$2 million to \$5 million of the \$16 million cost of all changes in the Artery underpinning were related to survey issues. As noted above, the main factors were the discovery of unforeseen underground obstructions and geological conditions, underground utility lines not located as shown on drawings, and the ripple effect of all these changes on our ability to keep traffic flowing in the Causeway Street area.

For example, Cashman found a 9-foot-wide sewer main and other obstructions where the firm was to build tunnel walls. A concrete slab supporting the sewer line was not shown in the "as-built" drawings in the utility company's records. The discovery impeded construction of the tunnel wall and changed the sequence of the work for which the contractor was compensated. Despite extensive borings at the site, different bedrock elevations were also discovered during construction. This complication required isolated redesigns—but nothing close to "new plans for more than a mile of tunnel walls" as alleged by the article. Such conditions were beyond anyone's control and were to be expected when building a tunnel through a city that is hundreds of years old.

Allegation: On Dec. 22, 1994, MBTA officials met with B/PB to discuss plans to raze a ramp near the FleetCenter. MBTA's representatives told B/PB that it would cause the

Green Line and the ramp to collapse. B/PB did not change the plans. Three years later, conceding that MBTA officials were right all along, B/PB ordered an elaborate support system for which Cashman received \$250,000.

Facts: The project coordinated with MBTA throughout the entire course of the design. The New Chardon Street off-ramp, which was a common train and roadway ramp developed jointly with MBTA and the Big Dig, did require additional underpinning due to its proximity to a slurry wall and utility work. Although underpinning was part of the design bid by the contractor, additional costs resulted from revisions to this underpinning due to site-specific field conditions as opposed to lack of coordination with MBTA.

Allegation: Drawings for the Ted Williams Tunnel left a 4-foot gap between tunnel sections, causing \$307,000 in new work.

Facts: There was an error in the final design of the tunnel sections where two contracts came together. It was corrected with the extension of a cut-and-cover tunnel. The Cost Recovery Committee concluded there were \$9,000 in additional costs, which B/PB, and the two section design consultants responsible for the final design of the tunnel sections, agreed to bear.

Allegation: Once construction began, B/PB and the design firms it managed fired out hundreds of “design update” packages to contractors already in the field, often with new information that conflicted with other designs. Some of those updates arrived years into construction.

Facts: Issuance of design update packages to construction contractors is normal construction industry practice as designers react to newly discovered site conditions, approved initiatives for cost containment and schedule recovery, and updates from mechanical and electrical designers. Many Big Dig contracts involved five to six years of construction.

Allegation: B/PB’s quality control was lax, based on the findings of Federal Highway Administration inspectors. One steel beam was made of a weaker grade of steel than project regulations allowed.

Facts: The FHWA inspection report rated the overall quality of work on the site as “satisfactory.” Furthermore, the Quality Assurance Process Review conducted by FHWA in July 2000 listed the process for acceptance of metal products as one of five noteworthy accomplishments.

Inspectors discovered one beam of lower-grade steel, caused by a supplier error. It was a temporary bulkhead end pile. The contractor requested that the temporary pile be accepted rather than removed, since it carried a reduced load and was not a structural member. The final designer agreed.

Allegation: In November 1999, Drew King, a B/PB field engineer, noted in a report that a steel dam built to keep water out of Fort Point Channel tunnel area was not sealed. B/PB never informed state managers of King’s findings or directed the contractor, Modern Continental Construction Co., to make the needed repairs. Two years later, a massive leak erupted, causing the largest construction setback

and delaying I-90's opening at a cost of at least \$41 million. A state inquiry concluded that B/PB had relied on an "unreasonable" design in the first place, according to a confidential report by the law firm of Kirkpatrick & Lockhart. In October 1997, an independent group of engineers, who were invited to review the designs before construction began, called them "unrealistic."

Facts: The MTA's independent engineering consultant, retained after the leaks occurred, did not find fault with B/PB's performance. The sheeting discontinuity was the result of construction contractor noncompliance with the contract documents and MTA held the contractor accountable for that deficiency.

The junction between land and water tunnels creates great challenges during construction. Under tremendous pressure, water seeks out minute imperfections in the work and can cause catastrophic results.

While inspecting the underwater work, Drew King identified an area where the sheet pile had stopped. The contractor with ultimate responsibility for the work indicated that the remaining sheet piles were installed after Mr. King's inspection. Problems associated with the construction were routinely discussed between the contractor staff, B/PB staff, and MTA staff. These meetings were not formally recorded.

The leaks, which delayed tunnel construction, had several causes and flow paths. In assessing responsibility, various MTA lawyers, aided by an expert engineer with substantial marine geotechnical experience who was independently retained by MTA after the leaks occurred, spent more than 2,000 hours trying to establish the cause of the leak, but could not do so with certainty. To avoid costly litigation, MTA decided to mediate the issue before two sitting judges on the Armed Services Contract Board of Appeals, Judge Williams and Judge Hardy. The mediation process started in October 2002 and concluded that December. The mediators succeeded in convincing the parties that the liability for the leak should be shared between the owner and the contractor. The leak was attributable to unexpected site conditions and to contractor performance issues compounded by pressure to complete the job quickly.

The quoted comment about B/PB relying on an "unreasonable design" is taken out of context and demonstrates the *Globe's* lack of understanding of complex engineering issues. The law firm Kirkpatrick & Lockhart was citing a prior consultant's conclusion in October 1997 that some design assumptions were unrealistic. These concerns were shared through a combined meeting between Modern Continental Construction, B/PB, and the consultants. The meeting resulted in some changes to the design that improved the sealing surface and the construction methods. These changes were given to the contractor in December 1999, prior to the tube placement.

Boston Globe allegation: "State's Cost-Recovery Efforts Have Been Nearly a Lost Cause," Feb. 10, 2003

Allegation: The Cost Recovery Committee routinely overlooked or excused B/PB's errors.

Facts: The Cost Recovery Committee is the responsibility of MTA, not B/PB. Its members—the Big Dig's state project director, state construction manager, and Federal Highway Administration project engineer—are independent of B/PB. They turn cases over to independent experts for review. About 71 cases have been closed and more than 250 remain open. The few findings against B/PB to date reflect the quality of B/PB's work, not excuses or cover-up.

There is no guarantee, of course, that B/PB will be held blameless in all cases that remain open. We will, as we have throughout the project, respond to the cost recovery process and respect its decisions.

Allegation: The state relied on B/PB to point out flaws in its own designs and management. B/PB referred just three cases to the Cost Recovery Committee.

Facts: Numerous authorities, including federal and state transportation officials, have always had the right and did take the opportunity to flag potential cost recovery issues. According to the MTA legal department, the *Globe* had access to only 71 closed cases of a total of more than 350 cost recovery cases. It appears that the *Globe*'s statistics about B/PB were derived from a small sample. In addition, many of the cases do not document the referral source. B/PB's recollection is that it initiated more cases than the *Globe* identified.

Allegation: The state's contract was fundamentally flawed, effectively rewarding the firm for delays and overruns.

Facts: B/PB has received a standard compensation package for the professional services it provides. This includes fees for service as well as reimbursement of its labor and operating costs, a normal industry practice. It has always had project incentives to minimize delays, overruns, or both. Before 1996, B/PB's fees were tied to actual progress, so schedule delays lowered its compensation. For the next five years, B/PB's fee was allowed to fluctuate based on the state's assessment of such factors as project cost, schedule, staffing, safety, and materials management. Since February 2001, B/PB has accepted an even more rigorous incentive arrangement based on a fee of only 7 percent, with the potential to earn another 5 percent if the project achieves substantial cost savings and safety improvements.

Allegation: B/PB will receive more than \$2 billion by project completion, including \$180 million in profits.

Facts: The *Globe* inflated B/PB's fees by 50 percent. Currently, it is estimated that for the period 1985-2005 B/PB will receive \$122 million in fees and its

subconsultants will receive \$26 million. B/PB's fees represent only about 8 tenths of 1 percent of project costs. The vast majority of B/PB's revenues are simply pass-through payments—reimbursements for labor and direct expenses or for payments to other subcontractors.

Allegation: No formal procedure existed to oversee B/PB's performance at all until 1994.

Facts: B/PB's performance has continuously been monitored by MTA and several federal and state agencies, including FHWA, Department of Transportation Inspector General, State Auditor, and State Inspector General, as well as several independent consultants engaged by MHD/MTA over the years. From the beginning of the project, MHD/MTA put in place a "part/counterpart" organization, by which state design, construction, and services officials shadowed their counterparts at B/PB. In the late 1990s the project adopted an Integrated Project Organization at MTA's behest. MTA inserted employees directly into the construction and project management team, where they directly supervise day-to-day project activities. For example, the project's construction manager is a state official to whom B/PB staffers report.

Allegation: B/PB reviewed and recommended the state pay all overruns. And yet hundreds, perhaps thousands of the overruns were rooted in missing or incorrect information in the design process supervised by B/PB.

Facts: This statement is categorically false. The state, FHWA, and B/PB undertake an extensive analysis for each change order. The merit of the issue is determined and then the commercial context of the issue is established. Over the life of the project, the average change order has been settled at approximately 50 percent of its claimed value. In summary, not all claims have merit and those that do are often not settled at the contractors' claimed value. Some are rejected entirely. Furthermore, to allege that "thousands of the overruns" are related to B/PB mistakes is false and totally unsupported.

It should also be noted that all commercial settlements are approved by state and federal officials as part of the change order process.

Allegation: On the wall movement in East Boston, B/PB neglected to show the design drawings to its geotechnical specialist. If it had, \$31 million could have been saved.

Facts: B/PB followed the project's procedure for review of this contractor-designed temporary excavation support wall. The submittal was reviewed by B/PB's excavation support specialist and its in-house geotechnical expert.

In this case, the soil was not as strong as expected and additional costs were needed to allow for this site condition.

The independent consultant hired by MTA to review this matter concluded: "We do not find that the failure to identify this area of lower strength is the specific fault of any of the parties involved, nor do we find that any actions of the parties contributed to the wall movement. In our opinion, all entities operated with a reasonable standard of care. The subsurface investigations appear to be compatible with industry standards as are the conclusions drawn from the results

of these investigations. . . . Geotechnical engineering is not an exact science. At times, even with a reasonable standard of care, conditions that are different from those that would normally be expected, different from the results indicated from prudent sampling, testing, and analyses programs, or different from conditions shown in the contract documents will occur. In our opinion this is what happened in the case of the . . . wall movement incident.”

Allegation: B/PB missed the deadline on filing the insurance claim for the wall movement.

Facts: The insurance broker, SRC, was notified in May 1994 of a potential claim. The MHD’s legal department would not authorize B/PB to notify the carriers while it was negotiating with the construction contractor for cost recovery, despite insistent recommendations from B/PB and the broker. During the arbitration process, no arbitrator found that B/PB, as distinct from MHD, failed in a timely manner to file the insurance claim.

In September 1994, MHD authorized B/PB to direct SRC to notify carriers, which happened on September 15, 1994, a year after the occurrence. Contrary to the *Globe’s* assertion, the insurance carrier has agreed to pay about \$1 million.

Allegation: The Helmes Report on the Fort Point Channel said that B/PB failed to take steps to resolve a design dispute with Maguire/Harris and an eight-month schedule delay occurred.

Facts: The underlying challenge in the design of the tunnel running under Fort Point Channel was the need for a huge excavation support wall due to weak soil conditions. Early design concepts would have increased the project cost about \$500 million. Finding a more cost-effective alternative took months of careful study. B/PB came up with several creative solutions, including soil strengthening (by mixing cement into the soil) and extended development of immersed tubes, which could be built without elaborate excavation. These innovations limited the cost increase to about \$200 million, saving \$300 million. B/PB also came up with the proposal to build the lower level of the vent structure as an integral part of tube construction, which greatly benefited the project schedule in that area.

Allegation: Phil Helmes dropped his conclusion that B/PB was remiss in its management of the Fort Point Channel tunnel design only because the state would not agree to his request for more time to investigate further.

Facts: Helmes apparently told the *Globe* that he would have liked more time to investigate the issues. His official report judged that B/PB “performed with a reasonable standard of care” on “this very complicated and unique design challenge.” He did not find B/PB remiss.

Allegation: B/PB spurned a state request in January 2002 to waive the legal limit on review of all of its work. The joint venture said it would only waive the limit on individual cases.

Facts: Whenever the Client has requested an extension of the statute of limitations on a specific issue, claim, or contract, B/PB agreed to such a request. B/PB has agreed to a total of nine such requests since 1994.

B/PB declined to enter into a “global” agreement that would suspend the statute of limitations for all potential and unidentified issues or claims that may be asserted against B/PB arising out of any or all of the contracts or services performed by B/PB on the project from 1985 to the present. Any such “global” agreement would undercut the terms and conditions worked out by the parties in the original contract, including insurance carriers.

Allegation: There’s an inherent conflict of interest in that B/PB does preliminary design and then passes judgment on its own design work (during the final design and construction phase).

Facts: B/PB is responsible for the preparation of preliminary design, which is both approved by the client and used by the various section design consultants in the development and finalization of the project design. The consultants provide design development submittals to B/PB to review for consistency with B/PB’s preliminary design criteria. From that point on, the design is owned by the design consultant, not B/PB. In this review process, and otherwise in the management of the project design development effort, B/PB represents and protects the interests of the Client in obtaining a final project design that satisfies the Client’s approved criteria. The section design consultant is responsible for the adequacy of the final design as signified by its stamping of that design.

This design management role of B/PB is typical for an engineering firm providing program management services on a major infrastructure project. The Client entered into direct contracts with the various section design consultants and is responsible for approval of their designs. The project’s approach to design development and finalization thus has checks and balances intended to ensure that the Client receives quality final designs consistent with its approved criteria.

Boston Globe allegation: "Lobbying Translates into Clout," Feb. 11, 2003

Allegation: When inspectors found cancer-causing asbestos dust swirling around a Big Dig work site in 1996, the project's private-sector manager faced a possible trial and millions of dollars of fines for flouting clean air laws.

Facts: No inspector ever found asbestos dust "swirling around a Big Dig work site." The Attorney General alleged that asbestos-containing materials were removed from the Anelex Building site by the construction contractor in a manner that violated the state Clean Air Act and applicable regulations (including requirements for adequate wetting of material, sealing asbestos-containing materials into leak-tight containers, and maintaining air cleaning equipment). It also alleged that the contractor (not B/PB) improperly transported asbestos-containing materials to a nonapproved disposal site in violation of approved project shipping documents and federal and state environmental laws and regulations, and forged the shipping documents to cover up the deception. This matter was the subject of a settlement agreement among the Attorney General, the Massachusetts Department of Environmental Protection, MHD, B/PB, Camp Dresser and Hygienetics Environmental Services (MHD's environmental consultants), and the contractor and subcontractors, signed in August 1999. As part of this settlement agreement, the parties paid a total of \$493,000 into an escrow account controlled by the Attorney General's office. B/PB, although never agreeing to any culpability, made a substantial monetary contribution to this payment to resolve the issue. Prior to approving the settlement with B/PB, both the MTA and the Attorney General conducted independent cost recovery reviews of B/PB's performance to determine that the proposed settlement amount was fair and reasonable.

Allegation: Taxpayers paid more than \$3 million to clean up the asbestos mess.

Facts: The increased cost of asbestos abatement paid as part of the Anelex Building demolition contract resulted from the unexpectedly aggressive methods required to remove asbestos-containing adhesives from concrete surfaces in the building before demolition, which led to extra work and delayed completion of the contract. There was no cost to taxpayers beyond the cost of these legitimate activities, and specifically no added cost to address the allegations made by the Attorney General.

Allegation: Confidential project documents from 1995 reveal that B/PB knowingly hid project costs.

Facts: This assertion is absolutely false. B/PB has continually advised MHD/MTA about any and all cost estimates and components, as noted in the 2001 report of the state Inspector General. The IG noted that B/PB provided "uncannily" accurate cost estimates to MTA in 1994 and "insisted upon and, in fact, made full disclosure to local FHWA officials in 1994-1995" of all relevant budget assumptions.

Allegation: Because of campaign contributions, some elected officials intervened at crucial junctures in ways that helped the company avoid scrutiny.

Facts: The story offers not a shred of evidence, only innuendo, in support of this claim. The allegation is absurd on its face considering the intense scrutiny the project has received from the State Inspector General, State Auditor, Department of Transportation Inspector General, State Attorney General, FHWA, and MHD/MTA. None of these watchdog agencies has ever alleged that public officials intervened on B/PB's behalf.

Allegation: Michael P. Lewis, then the deputy project director, directed William Edwards of B/PB to "sanitize" the budget documents he prepared for federal officials by deleting the cost exclusion information.

Facts: When former state project director Peter Zuk told the *Globe* that the term "sanitize" meant clean up (simplify) rather than conceal, many readers no doubt suspected an artful dodge. But the *Globe* failed to note that minutes of the meeting clearly show that participants discussed the exclusions, and federal officials requested a copy of the exclusions as well as the associated budget assumptions.

Federal officials were kept fully in the loop. As the *Globe* well knows, the State Inspector General reported in 2001 that "B/PB insisted upon and, in fact, made full disclosure to local FHWA officials in 1994-1995 of each exclusion, deduction, and accounting assumption . . . and that local FHWA officials used these assumptions in their own internal analyses."

As a matter of fact and public record, B/PB has always kept its client well informed on project cost and schedule matters.

Allegation: Top B/PB executives flew in with a surprising offer: The company would give the state up to \$50 million to pay for past mistakes. After B/PB met with the governor's chief of staff, the afternoon meeting with MTA never took place and B/PB rescinded its offer.

Facts: The *Globe* completely misrepresents B/PB's offer, which included no admission of wrongdoing but responded to the state administration's urging that B/PB find ways to "share the pain." B/PB brought three options to the table at a morning meeting:

- B/PB offered to terminate its work on the project, thereby foregoing any future fees that it would have earned, if MTA chose to do this for its own convenience. MTA could then take over and complete the work. B/PB offered to assist in an orderly transition.
- Alternatively, B/PB offered to put \$20 million of its fees at risk for failure to meet future cost growth and schedule objectives, but only if it could control project decisions that would affect those factors.
- As a third alternative, B/PB would put \$50 million in fees at risk going forward if it could assume full decision-making authority on key project matters.

At an afternoon session with MTA lawyers—which did take place, contrary to the *Globe*'s mistaken assertion—MTA officials rejected all of these alternatives in favor of a peremptory demand for hundreds of millions of dollars in “reparations”—payments to offset project cost increases without regard to whether they were caused by any B/PB professional deficiencies. MTA officials also demanded major retroactive changes to the contract. B/PB declined to continue discussions on that basis. B/PB representatives also discussed the matter with the governor’s chief of staff and were urged to remain at the negotiating table, which we did. We remain there to this day.

Allegation: MTA lawyers say B/PB officials rarely agree to meet for talks, and when they do, they send lower-level employees with no decision-making power.

Facts: B/PB has met with MTA negotiators whenever requested. Participation in these meetings has included senior vice presidents from both Bechtel and Parsons Brinckerhoff. Any final decisions must be approved by executive corporate management of both firms as well as the MTA chairman and board.