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THE COMMONWEALTH OF MASSACHUSETTS
OFFICE OF THE INSPECTOR GENERAL

REPORT ON THE FRANKLIN
PARK ZOO TROPICAL FOREST PAVILION

GOVERNMENT DOCUMENTS
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Inspector General

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SUMMARY

FRANKLIN PARK ZOO TROPICAL FOREST EXHIBITS

Background (See Pages 3-39)

In 1972 the Metropolitan District Commission (MDC) and the Boston Zoological Society (BZS) embarked upon an ambitious program to develop a "state-of-the-art" enclosed zoo facility at Franklin Park. The extensive development project was to include four circular pavilions, each representing a distinctive Asian/African habitat, a variety of outdoor animal exhibits, and renovations to existing zoo buildings. During several years of planning and design development studies, construction cost estimates rose sharply from \$13.7 million to \$30 million, forcing repeated cutbacks in the original project's scope. Finally, in 1977, MDC eliminated three of the four pavilions and broke the remaining project into phases. The first phase centered on the Tropical Forest pavilion, a circular structure which would enclose approximately an acre of floor space. The pavilion was to be filled with exotic plants, simulated natural rockwork, and animals and educational exhibits appropriate to an African rain forest.

A contract to construct only the shell of the pavilion was let in the spring of 1979.

In the fall of 1980, MDC entered into a "minimum package" contract with the firm of Weidlinger Associates, structural engineers, to design all interior exhibits, site work, and utilities necessary to make the Tropical Forest pavilion operational. As part of the minimum package, the firm of Jerry M. Johnson, Inc., which had been working on preliminary planning and design of the zoo exhibits for nearly eight years, was chosen to design all natural and educational exhibits, acting as Weidlinger's subcontractor.

By the end of 1981, drawings and other documents produced under MDC's minimum package contract were substantially complete, according to project progress reports. At this time, MDC began exploring methods of fabricating the pavilion's exhibits without following the State's competitive bidding statutes. MDC's project manager contacted the Division of Capital Planning and Operation's (DCPO's) general counsel and asked for advice on how the Commission might legally retain an "exhibit designer-producer" (EDP), who would finish designing the pavilion's exhibits while simultaneously fabricating them. This approach was necessary, MDC argued, because exhibit fabrication was inextricably linked to exhibit design and therefore required highly creative artistic services which could not be obtained through competitive bidding. Under MDC's proposed approach, the EDP would subcontract with a general contractor, who would be selected through competitive bidding, and whose responsibilities would include construction of supports and surfaces needed to install the EDP's exhibits.

Following discussions of this proposal, an agreement was reached between DCPO, MDC, and the Designer Selection Board (DSB), the agency responsible under Chapter 579 for identifying qualified designers for State agency buildings. Under this agreement, 1) MDC was to remain responsible for administering the minimum package construction project, 2) the Designer Selection Board was to solicit applications of the EDP contract, review applicants, and submit names of qualified finalist firms to MDC, and 3) MDC was to select the EDP and negotiate contract terms. In October 1982, DSB reviewed applicants for the EDP work and selected Jerry Johnson as the first-ranked finalist.

Shortly thereafter, MDC contacted the Inspector General and asked him whether he would object to MDC's desire to exempt further design and construction of the Tropical Forest

pavilion's exhibits from competitive bidding. The Inspector General replied that an in-depth study of the exhibit design project appeared to be warranted. The results of the Inspector General's study are summarized below.

Findings
(See pages 40-85)

Numerous problems stand in the way of completing the Tropical Forest pavilion in a timely manner without wasting significant amounts of public funds.

Incomplete construction documents could cause waste of \$1 million in public funds

Documents required for competitive bidding and efficient construction are incomplete. The clearly stated intent of the minimum design package was to produce all final construction documents necessary to bid and construct a fully operational Tropical Forest pavilion. The final construction documents submitted to the MDC by Weidlinger Associates and its exhibit design subcontractor Jerry M. Johnson Inc., fail to meet this contractual intent.

Specifically, educational exhibit drawings are missing final photographs, artwork and text. Natural exhibit drawings lack complete elevations, construction details of artificial rockwork, and heights of tropical plantings. Fabrication specifications are sketchy, vague, incomplete and were submitted only when the contract was virtually over, rather than in successive progress drafts for MDC review and approval, as the contract prescribed. Written strategies and schedules for exhibit construction, and for plant acquisition, holding, delivery, maintenance and installation, were explicitly required by the contract, but have not been pro-

duced. (See pages 42-47.) The MDC now proposes to hire an exhibits designer-fabricator, at a cost of up to \$3 million, in part to finish incomplete exhibit designs and construction documents -- despite the fact that the agency already has a lump sum contract which requires that these designs and documents be completed at no further cost to the State.

The Commission's failure to enforce its contract seems likely to lead to considerable waste of public funds during construction. Because the exhibit designs are incomplete, the design consultant's construction documents, whose function is to guide exhibit fabrication, are necessarily also incomplete. Because key aspects of the designer's work have not been developed fully and delineated clearly in the construction documents, it has not been possible to estimate the work's cost accurately, or subject the work to competitive bidding, or pinpoint the general contractor's responsibilities for his more than \$4 million worth of exhibit-related general construction work. As a result, significant waste of public funds is likely to occur in four ways. (See Figure 1, page 41.)

First, the EDP contract ceiling probably will be set excessively high and total spending probably will reach it. Cost estimates for the EDP work were admittedly preliminary and "soft," were not independently reviewed or verified, and yet were used to set the EDP contract's ceiling amount. MDC is not likely to be able to reduce that ceiling through contract negotiations with prospective EDP firms because little competition exists. DSB has given MDC the name of only one qualified EDP firm -- Jerry Johnson -- and MDC has made it clear it wants Johnson to do the work. Neither is MDC likely to be able to control EDP contract costs through monitoring contractor payments. Until the Commission develops reliable estimates of what the EDP work should entail and cost, it will have no basis for determining whether time spent by the EDP was necessary. It thus seems reasonable to conclude that the EDP contract's ceiling will probably be set excessively

high, and that total spending under the contract probably will reach that inflated ceiling. (See pages 48-52.)

Second, procurement of EDP materials, equipment and fabrication probably will be needlessly expensive. MDC argues that the pavilion's \$3 million worth of EDP services and materials cannot be bid competitively, because the exhibit fabrication is in large part an artistic undertaking. This argument is refuted, however, by exhibits designer Jerry Johnson -- who says competitive bidding by qualified contractors on EDP services is feasible -- and by the State Purchasing Agent -- who says competitive bidding on EDP materials is both feasible and in the Commonwealth's interest. The major impediment to competitive bidding, besides MDC's policy against it, is the absence of complete, detailed construction drawings and strategies, which prospective contractors would need to estimate construction costs accurately and develop realistic competitive bids. (See pages 52-54.)

Third, the general contractor probably will carry unnecessarily high bids on his portion of the exhibit fabrication work, thereby inflating the project's construction cost accordingly. Inflated bids are probable because the present incompleteness of EDP construction documents create uncertainties concerning the amount, character and timing of the work to be done. Because these uncertainties would expose a contractor to potential financial losses, prospective contractors probably would submit bids which are high enough to offset such losses. (See pages 54-57.)

Fourth, the frequency and cost of construction change orders probably will exceed levels normally experienced. As presently contemplated, the construction of EDP exhibits and related general contractor work seems likely to generate a higher than normal volume of wasteful change orders because the work to be accomplished has not been adequately defined, planned or coordinated. (See pages 57-59.)

Because of the four problem areas outlined above, the planned construction of the pavilion's exhibits is likely to

waste on the order of \$1 million of public funds. (See pages 59-61.)

Issues fundamental to the
pavilion's workability
have not been resolved

In addition to the waste of public funds likely to be caused by incomplete exhibit designs and construction documents, costly delays and inadequate construction work may result from important design and management issues which have not yet been resolved.

First, basic disagreements remain between MDC and BZS concerning the exhibits' design approach. The BZS director states that major revisions to Johnson's design work are "probably necessary." The BZS director believes that present exhibit designs fail to reflect the Africa Today theme, which the BZS has decided should be a major element throughout the zoo. The director also states that the designs place too much emphasis on text and not enough on images to be effective for children and general zoo visitors. (See pages 61-62.)

Second, Although approximately \$11 million has already been spent on the Tropical Forest pavilion's design and construction, MDC has not yet determined whether the pavilion's operation will be financially feasible. For example, a preliminary estimate of energy costs indicate that it will cost on the order of \$500,000 a year to heat the pavilion, but final estimates of this and other energy costs have yet to be prepared. Questions concerning other costs of operating the facility, and sources of revenue for meeting these costs, have not been resolved. (See pages 64-65.)

Third, Although MDC plans to build less than the minimum package if the legislature declines to augment the zoo project's currently available capital funds, it has not been demonstrated that this approach is advisable. MDC has not

yet identified available alternatives or assessed their relative advantages and disadvantages. Two alternatives currently being discussed by MDC and BZS are to 1) construct all site and utility work but no interior exhibits (this would leave the shell empty and unusable), and 2) construct all exhibits but no utilities (this would make it possible to open the pavilion but not to keep the plants alive).

The quality of these alternatives suggest that careful study and full public disclosure should be insisted upon before construction is allowed to begin on anything less than the full minimum package. (See pages 64-65.)

Fourth, although the Designer Selection Board has designated Jerry Johnson the most qualified finalist for the EDP contract, and although MDC has made it clear that it wishes to engage Johnson as the Tropical Forest pavilion exhibit designer-producer, questions concerning Johnson's past performance have been ignored by the MDC and not called to the attention of the Designer Selection Board. (See pages 65-67.)

State statutes and
procedures apparently
have or may be violated

In addition to the problems listed above, which could contribute to considerable waste of public funds, several violations of State statutes and procedures have occurred or appear on the verge of occurring.

First, should MDC sign a contract with Johnson, the State's conflict of interest statutes may be violated. Johnson's firm has worked under MDC contract for seven years planning and designing the same exhibits which it would be paid to construct were it awarded the EDP contract. This arrangement would seem contrary to the intent of Chapter 268A of the General Laws, which prohibits firms and persons from obtaining a contract for any construction project in which

they participated in engineering design or environmental analysis. (See pages 67-68.)

Second, should MDC sign a contract with any of the three current EDP finalists selected by the Designer Selection Board, the State's designer selection statutes apparently will be violated.

Over the past 11 years, Jerry Johnson's firm has been the principal master planner and programmer for the Franklin Park Zoo's animal and educational exhibits. Chapter 7, section 30I(d) of the General Laws prescribes that "A designer or programmer appointed to do a feasibility study, master plan or program for a project shall be ineligible for appointment to perform the design services for that project." Thus, by designating Johnson as first-ranked finalist for the EDP contract, DSB sanctioned an apparently legally prohibited firm to perform design services. (See pages 68-70.) In another apparent violation of designer selection statutes, DSB failed to publicly explain its reasons for ranking all finalists--a clear statutory requirement--because, in the words of several of its members and staff "it would serve no useful purpose to do so." (See page 71.)

Third, a majority of the DSB members who participated in reviewing applicants for the EDP contract have made it clear they believe that the DSB did not choose three fully qualified finalists for the contract, although the Board's procedures require that three qualified finalists be designated.

One Board member told the Inspector General's staff that he had been unable to find "even a shred of evidence that the two finalists other than Johnson were qualified to do the EDP work". This same Board member stated that he felt the EDP selection was "an end run" around the Board's procedures. A second Board member reported remembering "a lot of pressure on the Board", and said he told MDC officials "it looks like you have already selected someone." (See pages 72-74.)

Fourth, DSB did not advertise the contract widely enough to ensure competition.

Although the designer selection statutes do not require the Board to advertise outside of Massachusetts, the unique combination of highly specialized skills required to carry out the EDP contract should have prompted the Board to advertise nationally in zoological circles in order to ensure adequate competition among prospective contractors. (See pages 74-75.)

DCPO's decision not to
exercise jurisdiction
over the pavilion project
has deprived the project
of the safeguards that
DCPO was created to provide

Chapter 579, Acts of 1980 made DCPO responsible for administering State agencies' building projects as of July 1, 1981. DCPO's policy, however, is to decline jurisdiction over any building project that was under a design contract prior to January 1, 1982. Consistent with this policy, DCPO declined jurisdiction over the Tropical Forest pavilion exhibit design contract and intends to decline jurisdiction over the contemplated construction of exhibits, utilities and sitework. Had DCPO reviewed the Zoo case on its merits, rather than applying its blanket policy of declining jurisdiction, it would have had an opportunity to find the serious deficiencies and likely future waste documented in this report. (See pages 75-78.)

MDC has largely failed to
correct management
deficiencies which have
been brought to its attention

Late in 1978, MDC commissioned a comprehensive review of the entire Franklin Park Zoo development project. The study, conducted by the engineering firm of Simpson, Gumpertz and Heger (SGH), reviewed the many delays and multi-million dol-

lar increases in the project's estimated cost during the zoo project's seven year history. The SGH report, published in the fall of 1980, found a variety of problems in the zoo project's planning and administration.

Today, more than three years after the SGH report pointed out these deficiencies, most still are evident. (See pages 78-85.)

Recommendations
(See Pages 86-93)

The design of the minimum package has revealed or created problems which could lead to considerable waste of public funds, violation of law, and other undesirable consequences. To remedy these problems, the Inspector General has made 11 recommendations for corrective actions. These recommendations concern:

- the Designer Selection Board's selection of EDP finalists;
- the completion of minimum package construction documents;
- the feasibility of proceeding with minimum package construction;
- the management of minimum package construction; and
- the management of future design and construction contracts.

Amongst other actions, the Inspector General recommends that:

1. The MDC should repudiate the DSB's EDP selection process and reject all three of the Board's EDP finalists;

2. The MDC should enforce its contract with Weidlinger associates by requiring the firm to produce complete, construction ready, biddable contract documents;
3. The MDC should produce evidence of the feasibility of constructing the minimum package before construction bids are solicited;
4. The MDC should establish an internal contract review unit which reports directly to the Commissioner;
5. The Deputy Commissioner, DCPO, should review the Tropical Forest pavilion project and associated zoo development plans, and should determine whether it would be in the public interest for DCPO to exercise jurisdiction as authorized by Chapter 579;
6. The Legislature should delete that part of MDC's capital outlay request which would exempt fabrication of the Tropical Forest pavilion's exhibits from competitive bidding statutes;
7. The Designer Selection Board should develop and publish written guidelines explaining the policies, procedures, and standards the Board uses in discharging its responsibilities under the State's designer selection statutes.

PREFACE

The Office of the Inspector General presently is reviewing several MDC construction projects and intends to issue one consolidated report on them shortly.

The case study which follows, a review of the MDC's ongoing construction program at Franklin Park Zoo's Tropical Forest pavilion, is being released prior to the full consolidated report because its findings and recommendations are directed to legislative and executive officials who presently are reviewing critically important alternatives concerning the pavilion's completion.

Some legislators have questioned whether the funds needed to complete the Tropical Forest pavilion should be diverted to other public purposes. Such questions of public policy are beyond the Inspector General's jurisdiction and this report does not attempt to address them.

Our study was greatly facilitated by the cooperation of public officials in the Metropolitan District Commission (MDC), the Division of Capital Planning and Operations (DCPO), and the Designer Selection Board (DSB). We were also aided by members and staff of the Boston Zoological Society (BZS), representatives of Weidlinger Associates (MDC's prime consultant for design and coordination and construction supervision), and Jerry M. Johnson, Inc. (the pavilion exhibit designer).

The review team interviewed these individuals (for their names, see Appendix A) and reviewed hundreds of documents related to the project, including contracts and contract amendments; contract plans, drawings, and specifications; cost estimates and budgets; invoices and progress reports; correspondence and memoranda in the files of MDC, DCPO, DSB, and

Weidlinger Associates; and statutes, regulations, and guidelines. The review team also analyzed and made extensive use of Simpson, Gumpertz & Heger's detailed review of the zoo project's early planning and design development history.

The professional backgrounds of the review team's members included the fields of structural engineering, architecture, and management analysis.

The report is organized into four sections. Part One (Introduction) outlines the study's scope and methods. Part Two (Case Study) presents a two-section chronology of the zoo development project's history. The first section covers the project from its inception in the spring of 1972 through the end of 1979, at which point MDC engaged a consultant to review the project's problem-ridden past. The second section of the case study chronology spans the years 1980, 1981, and 1982. Part Three (Findings) identifies significant problems evident in the project's design efforts during the past three years. Part Four (Recommendations) identifies means of correcting those problems and preventing waste in the project's future phases. It also includes recommendations for improving the administration of future building projects.

PART ONE

INTRODUCTION

In 1972, architectural consultants hired by the MDC began preparing preliminary plans for an extensive zoo development project to be designed on an Asian/African theme in southern Roxbury's 500-acre Franklin Park. The architects' feasibility study proposed just under one-third of a million square feet of enclosed building area at an estimated construction cost (not including design fees, exhibits, animals, site work, and other expenses) of approximately \$13.7 million.

As refined in subsequent design studies, the zoo development was to include four enclosed pavilions -- Tropical Forest, Desert, Veldt, and Bush Forest -- each of which would use live animals, plants, geological features, and educational exhibits to depict the life forms and ecological systems of a distinctive Asian/African habitat. Outdoor areas would simulate additional Asian/African habitats and human settlements.

Today, nearly 11 years after planning for the project began, there have been no new operational facilities produced. As design work proceeded, the estimated cost of the total redevelopment project rose from \$13.68 million in 1972, to \$18.92 in 1974, and to nearly \$30 million in 1976. In the face of these soaring cost projections, funding grew uncertain and a succession of redesigns was undertaken to reduce the original project's scope and cost.

Presently, plans to construct three of the four pavilions have been suspended. The shell of the fourth pavilion, the Tropical Forest, whose construction was completed in 1983 at a total design plus construction cost of some \$11 million, stands empty, awaiting the extensive interior work necessary to make it operational -- artificial rockwork, supporting

scaffolding, plantings, animal stock, climate control systems, and educational exhibits. A request for \$7.99 million in capital outlay funds to complete this and related work currently is before the Legislature.

By way of background, our study first briefly reviews the many problems that plagued the zoo development project from its inception up until the fall of 1980. (This review closely summarizes an extensive examination of the project conducted for the MDC by Simpson, Gumpertz & Heger Inc., consulting engineers [hereafter, SGH]. The SGH report, which was commissioned in January 1980 and published in September 1980, evaluated the project's planning and administration from the spring of 1972 through December 1979.)

Our study then focuses on the 36 months from January 1980 to December 1982, during which time efforts were made to refine the Tropical Forest pavilion's exhibits' designs and arrange for their fabrication. During this period, MDC entered into a contract with the prime zoo project consultant, Weidlinger Associates, to design the minimum set of interior and exterior exhibits, site improvements, and utility systems necessary to open the newly constructed Tropical Forest pavilion to the public. Our case study focuses in particular on this minimum package's administration and results.

PART TWO

CASE STUDY: THE TROPICAL FOREST PAVILION

Historical Background (1972-1979)

Amid public and legislative pressure, MDC and BZS undertake to revitalize Franklin Park Zoo

The Franklin Park Zoo, built in 1912, occupies approximately 68 acres of land within upper Roxbury's 500-acre Franklin Park. Prior to 1957, the zoo was managed by the City of Boston. After 1957, the MDC began to manage the zoo.

In the mid- to late 1960s, the Boston Zoological Society (BZS), a nonprofit private organization, responding to public concerns that the zoo was deteriorating, began operating the Children's Zoo, a child-oriented portion of the zoo. In addition, the Society established committees to evaluate taking over the entire zoo's management.

Simultaneously, the MDC engaged for the zoo the nationally known consulting firm of Harbridge House as its management consultant. The agency also hired a large Boston architectural firm to prepare a long-range zoo development plan.

At about the same time, a legislative study commission was established to investigate and address the zoo's reported neglect. In its 1967 report, the commission concluded that:

"The Franklin Park Zoo is in deplorable condition and one of the worst zoos in the country....As such, it is a blemish upon the reputation of the city of Boston, the MDC and the commonwealth."¹

Following the report, which recommended that MDC seek some form of private management for the zoo, MDC and BZS signed a

¹ Quoted in an Associated Press article, Boston Globe, February 20, 1983.

contract under which BZS and MDC would jointly manage both the Franklin Park Zoo and MDC's Walter D. Stone Zoo in Stoneham; MDC would pay BZS an annual management fee of \$200,000.

In 1970, shortly after the contract was signed, a zoo director was hired and a program was launched to completely renovate the Franklin Park Zoo. The new zoo would be largely enclosed, would contain educational exhibits, and would emphasize Asian/African habitats. Envisioned as a facility of outstanding, even "world" quality, the new Franklin Park Zoo was expected to attract visitors year-round.

BZS hires Huygens and Tappe
to study feasibility and
prepare schematic designs

In the spring of 1972, BZS retained the architectural firm of Huygens and Tappe for the job of performing a feasibility study for the zoo redevelopment project.

That fall, Huygens and Tappe completed the feasibility study: the proposed zoo project would entail nearly one-third of one million square feet of enclosed space; construction cost was estimated at \$13.7 million (not including exhibit design and construction, parking facilities, fees for building design and construction supervision, and other expenses). Funding for design and construction was to be provided by MDC. (Total MDC funding available for the project at this time was \$7.2 million.) Funding for the exhibits was to be provided by BZS. (At this point, Jerry M. Johnson was working for BZS as an exhibit designer.)

MDC and BZS decided to develop the feasibility study further and MDC commissioned Huygens and Tappe to approve a schematic design of the zoo development.

The schematic design report was completed in late November 1973: it proposed four pavilions -- Tropical Forest, Desert, Veldt, and Bush Forest -- each representing a character-

istic Asian/African habitat. The pavilions were to be enclosed circular buildings with tent-like roofs, connected to one another by enclosed linked buildings containing educational exhibits, animal holding areas, and mechanical equipment. At this point, estimated construction cost had risen to \$14.7 million. Most of the increase, according to the schematic design report, resulted from program additions which BZS had made since the feasibility study.

MDC directs Huygens and Tappe to carry out final design and construction supervision

MDC authorized Huygens and Tappe to proceed with a final design contract five months later, in April 1974. The contract's scope of work was divided into four phases: design development, construction documents, bidding, and construction supervision.

Before proceeding, MDC, BZS, and design team members met to discuss the overall approach to the project, including the possibility of constructing the four pavilions in phases rather than simultaneously. BZS opposed that approach, and it was decided that design development drawings would be undertaken for the entire master plan. Completed in July 1974, the design development drawings generated a more refined cost estimate: \$18.9 million.

MDC approves preparation of construction documents even though important questions were unanswered

At this point, with design development drawings complete, important components of the project still had not been resolved. For example, the entire zoo educational program was not yet developed, a survey of site and utility condi-

tions needed by the design team was late and not available, animal service requirements had not been defined, and the question of whether the planned renovation of the Children's Zoo was to be included in the master plan work and budget was not settled. Most importantly, means of funding the estimated \$18.9 million project cost had not been established. Nevertheless, on July 10, 1974, the MDC approved the design development submission and authorized Huygens and Tappe to proceed with construction documents.

On the same day, BZS Executive Director Russ Sylva wrote to MDC Commissioner John Sears to register the Society's concern over MDC's decision to proceed with construction documents. Sylva's letter identified several problems:

- BZS could raise no more than \$6 million of the total project cost, which might amount to \$25 to \$30 million; MDC should establish a firm budget for the balance;
- phasing master plan construction did not appear feasible;
- certain design elements needed further work;
- the interface between "exhibit construction" and "basic construction" was not well defined;

According to Sylva's letter, these problems could have further cost ramifications.

Design team's cost
cutting campaign
is unsuccessful

A few weeks later, an updated project cost estimate (including Jerry Johnson's estimate of \$5.2 million for exhibits), put total project cost at \$28.2 million. MDC and BZS decided that \$3 million would have to be cut from building costs to get the project back on a \$24 million budget (\$18 million to be provided by MDC, \$6 million by BZS).

Over the next 12 months, the design team attempted unsuccessfully to achieve the \$3 million cost savings without reducing the master plan's basic program. Meanwhile, the design team continued working on construction documents for the entire master plan which, as BZS Director Sylva put it in May of 1975, amounted to working on "drawings that can't be built...."

MDC divides master
plan construction
into two phases

In August 1975, Sylva, increasingly concerned about the master plan's total cost, wrote MDC to recommend that the architects be asked to divide the master plan into two phases: phase I would be a package that could be built for approximately \$5.5 million; the balance of the master plan would be built in one or more phases as future funding became available. MDC adopted this suggestion and, at the suggestion of BZS and the MDC Planning Office, the Commission decided, in October 1975, that the Tropical Forest pavilion should form the basis of the phase I bid package. The cost of building the pavilion shell (not including exhibits) was estimated at approximately \$5.1 million.

Phase I construction documents were completed eight months later, in July 1976; the construction cost estimate for the pavilion's shell plus site and utility work was \$7.7 million. The design team was immediately instructed by MDC and BZS to reduce design elements as needed to bring the phase I package back to its \$5.1 million budget. The design team submitted a list of reductions but said that these would severely limit the operational value of the pavilion.

In October 1976, the design team completed construction drawings for phase II, which included the other three pavilions, and various site and utility work; estimated construction cost was \$22.1 million. Added to the cost estimate for

phase I, the estimated cost of constructing the entire master plan, including exhibits, was now approximately \$35 million.

MDC adopts new zoo
master plan

Early in 1977, having concluded that the project presently contemplated could not be financed and stood at a standstill, with MDC taking little initiative to get it moving, BZS proposed a drastically reduced master plan. The plan consisted of a single pavilion (the Tropical Forest), with its associated exhibits, equipment, and site work (but relocated to the site of the Desert pavilion under the previous master plan), plus site work, and renovations to the Children's Zoo, an animal holding building, and other existing facilities. MDC staff agreed with the BZS plan, and unverified cost estimates by BZS and MDC put the total cost of the revised master plan (including design fees and exhibit costs) at \$12.32 million.

The Society's initiative culminated 15 months later, in a March 2, 1978 amendment to the design team's contract. Under the amendment, most of the elements included in the Society's master development plan were organized into three bid packages as follows:

<u>Bid Package</u>	<u>Major Elements Included</u>
#1	Tropical Forest pavilion, entrance, exits, and classrooms;
#2	Tropical Forest outdoor exhibits, outdoor Savannah exhibits, and various site and parking facilities, and utilities;
#3	Renovations to existing facilities including the Children's Zoo, Birds' World, Antelope House, and the Administration building.

MDC changes prime
design consultant

The March 2, 1978 amendment to the design team's contract also changed Huygens and Tappe's role from prime consultant to architectural subcontractors. Weidlinger Associates, which had been Huygens and Tappe's structural engineering subcontractors, became the prime design consultant. MDC personnel gave several reasons for the change: there was a large structural component to the remaining work; the MDC felt more comfortable dealing with an engineer rather than an architect; the MDC was not satisfied with administrative coordination of the work under the Huygens and Tappe contract; and the MDC was unhappy with Huygens and Tappe's record with respect to controlling project costs and over-billing for design fees.

Shell of the Tropical
Forest pavilion is
bid and constructed

For bid package #1, only minor changes were required in Huygens and Tappe's designs for the Tropical Forest pavilion, and Weidlinger was able to draw heavily on the previously completed contract documents. On October 13, 1978, Weidlinger submitted updated contract documents and estimated construction costs of \$6,844,950. In February 1979, MDC received a low bid of \$9,241,276 -- thirty-five percent over Weidlinger's estimate -- from the J.F. White Construction Company. Construction began in May 1979. (It would be substantially complete by August 1982. Change orders during construction increased the total construction cost to \$10.04 million.)

Bid package #2 and #3 run
into budget problems

Work on bid package #2 and #3 progressed far less smoothly. In contrast to bid package #1, these two packages required a large amount of redesign and new design, which was obstructed by uncertainty over the zoo's basic program and unavailability of other needed information. The work also was impeded by the absence of adequate preliminary cost estimates. (MDC used BZS' preliminary cost estimates, without reviewing and attempting to verify them; BZS estimates were not documented.) Before signing the March 1978 contract amendment, Weidlinger warned MDC that the Commission's cost estimate for the two bid packages (\$3.8 million) was unrealistically low and that only some of the items included in the two packages could be built for that sum. Seven months after signing the amendment, Weidlinger submitted, on the basis of subsequent design analyses, a cost estimate of \$10.74 million for the two bid packages. MDC called Weidlinger unprofessional and irresponsible for allowing costs to escalate so sharply. Weidlinger responded that MDC had exhibited no real concern for the construction budget despite Weidlinger's repeated warnings.

In November 1979, MDC Commissioner Carbone wrote Weidlinger Associates, and noted that the estimated construction costs of bid packages #1, #2, and #3 were now well beyond the \$19 million that had been appropriated. He directed the firm to complete only the design development documents and not the working drawings for packages #2 and #3. The Commissioner also requested information as to the cost of utilities, site work, and landscaping required to allow the Tropical Forest pavilion to open in the early summer of 1981. (This was to become the so-called "minimum package.")

The Minimum Package
(1980-1982)

MDC hires Simpson, Gumpertz
& Heger to review the
entire zoo project

Shortly thereafter, the MDC commissioned Simpson, Gumpertz & Heger Inc. to review and evaluate the planning and design of the zoo project from its inception to the present. The firm's report, which covered events that occurred between spring 1972 and the end of 1979, was published nine months later, in September 1980.

MDC begins negotiations
with Weidlinger on a
"minimum package"

On January 31, 1980, MDC and Weidlinger officials met to begin discussing amending Weidlinger's contract into the minimum package of design work necessary to make the Tropical Forest pavilion "operational." Thus, MDC, as of this date, was seeking to negotiate an amendment to the Weidlinger contract which would limit Weidlinger's scope of work to the design of the interior and the exterior of the Tropical Forest pavilion and accompanying site preparation and utility work, and which would eliminate, among other things, any responsibility (previously proposed in bid package #3) for renovating existing buildings.

MDC discovers that final
design of exterior
Tropical Forest exhibits
is not under contract

On February 26, 1980, MDC Chief Engineer Martin Weiss apparently realized that while Weidlinger was under a contractual obligation as of that date to complete design devel-

opment for the exterior exhibits, Weidlinger was under no contractual obligation to complete construction drawings for the exterior exhibits. The following day, Weiss phoned Weidlinger Project Manager Kirmani and asked him to submit his understanding of Weidlinger's responsibilities for final design of the exterior exhibits under the terms of its current contract.

In a letter dated two days later, Kirmani wrote that Jerry Johnson had only been engaged to do design development work under Weidlinger's contract, that his fee therefore included no money for construction documents or construction supervision and that:

"...working drawings for the exhibits can only be done by the exhibit designer and [were] intended not to be done during our contract...."

MDC decides that its design consultant, not BZS, will be responsible for all exhibit design

In a memo to Commissioner Carbone dated March 21, 1980, Weiss outlined, as summarized below, events which had taken place in connection with MDC's efforts to negotiate a minimum package contract amendment with Weidlinger.

On March 3, 1980, MDC asked BZS "to review the matter of who is to design the Exterior Exhibits"; the Society did not respond.

During the week of March 3, 1980, Commissioner Carbone was informed of the problem of the exterior exhibits.

On March 10, 1980, MDC met with BZS Executive Director Tim Anderson for "clarification" of the Society's contract with Jerry Johnson. On the same day, BZS offered to make \$100,000 available to MDC to hire a project coordinator.

On March 12, 1980, "MDC met with Jerry Johnson to discuss both the Interior and Exterior exhibits."

On March 14, 1980, in a meeting in Commissioner Carbone's office attended by Chief Engineer Weiss and BZS representative Ted Rhoades, the Commissioner directed Weiss to continue the negotiations on the minimum package with Weidlinger "on the basis that [Weidlinger] would be responsible for the design of both the Interior and Exterior exhibits," with Jerry Johnson doing the design work as a subcontractor to Weidlinger rather than under contract with BZS. This arrangement was preferred to having all exhibit design consolidated in BZS's contract, "for purposes of coordination and responsibility."

Although the March 14 meeting with the Commissioner had been arranged to discuss BZS's offer to provide \$100,000 for a project coordinator, that subject was not discussed in the meeting. Later that day, however, Weiss reports the Commissioner mentioned that he and BZS were considering a construction management firm to take over the project.

On March 20, 1980, Ted Rhoades of BZS informed Weiss that he had notified Jerry Johnson of the new arrangement. Rhoades also mentioned that BZS had selected a separate consultant for the pavilion's interior educational exhibits because BZS did not like Johnson's conceptual design. However, according to Weiss, "it was subsequently learned that the MDC Parks' staff prefer Johnson's educational exhibits."

With respect to the design of exhibits, Weiss' memorandum reported that:

"On March 20, [I] notified Weidlinger that they will be responsible for the design of all exhibits so when their work is finished there will be nothing further to be done by anybody. They were further instructed to revise their proposed Scope of Work [for the minimum package] to include the design fee and construction costs for the Interior and Exterior Exhibits and to arrange a meeting with Johnson, Weidlinger and MDC."

Weiss' memorandum to Carbone concluded by asking the Commissioner to clarify several issues including,

"Does BZS or MDC decide on the designer (and concept) for the Educational Exhibits?"

"Does the Commissioner intend to hire a construction management firm? If so, at what point in time?"

"Should [I] continue to proceed on these matters as has been indicated in this memo?"

Robert Davidson takes over
negotiation of a minimum
package contract amendment
with Weidlinger and Jerry
Johnson

Weiss' March 21 memo was copied to Robert Davidson, who was asked by the Commission at about this point in time to handle negotiation of the minimum package amendment to Weidlinger's contract as a consultant to MDC.

On March 24, 1980, according to his written notes, Davidson met with Kirmani, MDC Project Engineer Henry Higgott, and Jerry Johnson at Jerry Johnson's office. Davidson's notes show that he:

"...led off meeting by describing the type of contractual terms the MDC wished to pursue i.e. one design contract, everything else [subcontracted]. Also probably one construction contract. Reason - MDC wants to assure complete job; nothing left out."

Davidson's notes also indicate he told Johnson and Kirmani that all design must be included in the minimum package (underlined in his notes), and that he discussed possible ways for Johnson to fabricate the exhibits.

The notes also contain this entry: "Problem: Educational exhibits are to be done by other than JJ. This has been initiated by BZS. JJ very unhappy."

The need for a "good scope" for the minimum package was also emphasized in Davidson's notes. The task of preparing the scope had been assigned, apparently by Weiss, to MDC Pro-

ject Engineer Henry Higgott, but Davidson's notes express fear that Higgott had too much other work to do and would not get to the scope in timely fashion.

On April 1, 1980, a Davidson memo to the files reports, Weiss confirmed that there definitely would be one contract with Weidlinger for all design, that Johnson would be the subcontractor for both interior and exterior exhibits, including educational exhibits, that there would be a single construction contract, and that the Commissioner was "still talking about [a construction] management [consultant] contract."

BZS notifies Commissioner Carbone that Jerry Johnson's existing exhibit designs conflict with the Society's educational program

On April 24, 1980, Timothy Anderson, BZS Executive Director, and Lydia Kowalski, BZS Education Director, wrote a letter to Commissioner Carbone evaluating Jerry Johnson's 1975 Franklin Park Zoo design development books against MDC's current construction plans and BZS's current educational program. The letter pointed out that seventy-five percent of Johnson's design development work was no longer pertinent, since it addressed pavilions which were no longer going to be built. The letter also asserted that Johnson's design outline for the Tropical Forest pavilion 1) called for more material than visitors would be able to absorb, 2) focused too heavily on visual materials, 3) addressed too many topics in one space, which would slow traffic in narrow walkways, and 4) did not include the Africa Today cultural component, a major exhibit theme that BZS thought should run throughout the zoo. The letter also took issue with Johnson's emphasis on extensive audio-visual equipment and materials, the development, maintenance, and protection of which BZS called "ex-

tremely costly and not practical given the financial projections of the zoo." More fundamentally, the letter indicated, Johnson's heavy focus on audio-visual material conflicted with the Society's emphasis on the kinds of tactile, participatory exhibits which have proven most effective in exciting the interest of zoo visitors. "In summary," the letter concluded, "very little of [Johnson's] exhibit design development books address educational exhibitry...."

New MDC Commissioner
appointed

In May 1980, Terrence Geoghegan became MDC Commissioner, replacing Guy Carbone, who had held office for 12 months.

Davidson submits proposed
minimum package agreement
to MDC: cites need to
reduce its scope to meet
budget

On August 25, 1980, five months after initiating discussions with Weidlinger and Jerry Johnson on a minimum package amendment to Weidlinger's contract, and approximately five weeks after enactment of the Capital Outlay program, Davidson submitted the results of his negotiations to Martin Weiss for approval. Davidson's memo also estimated the proposed minimum package construction cost as follows:

1. Site utilities and other improvements	\$ 6,000,000
2. Interior and exterior exhibits	5,500,000
3. Design and construction supervision	1,000,000
4. Contingencies	<u>1,000,000</u>
Total 1980 costs	\$13,500,000

Against this cost estimate, Davidson noted that the MDC had only \$10 million currently available. This left a potential minimum construction package budget of \$8 million plus \$2 million for contingencies and supervision. Pointing to

the shortfall, Davidson recommended that the contemplated second amendment to Weidlinger's design contract should include design of all minimum construction package items, but that Weidlinger and the Commission should aim at a construction package valued at \$8 million in case no further funds could be obtained from the Legislature. The specific items to be deleted in order to pare \$3.5 million from what was already supposed to be the minimum feasible package would be determined through the process of completing the minimum package design.

(Thus, MDC did not know, when it signed the second amendment to Weidlinger's contract, whether it would in fact be possible to assemble an \$8 million construction package that made sense to build, given that it was estimated to take \$13.5 million to build the "minimum package.")

Simpson, Gumpertz & Heger
report criticizes MDC
administration of the
zoo project from 1972
through 1979

The SGH report was published in September 1980. After presenting a detailed chronology of the zoo project over the preceding seven and one-half years, the report concluded that past delays and cost escalations had been caused by many factors including a variety of administrative problems at MDC. The report's recommendations stressed three needed improvements in the zoo project's future management: an explicit written definition of the responsibilities, duties, and authority of MDC and BZS; defined and regular communication between MDC and BZS; and an MDC project manager with authority to make major design decisions.

The report's remaining recommendations which applied to both the zoo project and to other MDC operations follow: 1) MDC should document important facts and decisions; 2) MDC should respond to requests for information promptly; 3) MDC

should monitor the work of consultants carefully and constantly; 4) MDC should expedite payment of legitimate invoices; 5) MDC should respond to contractors' requests for additional time and funding quickly and efficiently; 6) MDC should verify all cost estimates used for contractual purposes; and 7) MDC should ensure that each phase of a project is adequately developed, and that budgets and cost estimates correlate, before initiating the next phase.

MDC amends Weidlinger
contract to implement
the minimum package

On September 25, 1980, MDC and Weidlinger amended their March 1978 contract, changing its scope to the design of the minimum package of construction necessary to make the Tropical Forest pavilion and existing facilities at Franklin Park Zoo operational. The amendment deleted work on the Savannah, Children's Zoo and other facilities, and all site and utilities work not directly related to completing an operational Tropical Forest pavilion. The contract still included exterior exhibit site and utility work which had been included in bid package #2 but which was directly related to the pavilion's operations.

The additional fee for this minimum package amendment was \$620,000, including \$225,000 for Jerry Johnson to do the exhibits and plantings documents. (This amendment brought Weidlinger's project design fees to a total of \$1.5 million since the 1978 contract; another \$1.3 million had been spent on design between 1972 and 1977. Of this \$2.8 million total, Jerry Johnson received \$450,000. He also received an additional \$225,000 from the BZS, between 1972 and 1977, for a total of \$675,000.)

In outlining the minimum package's new scope of work, the amendment to Weidlinger's contract stated that the

"Scope of the Minimal Bid Package will include, but will not necessarily be limited to, the following, since it must include all items necessary to make the Tropical Forest Pavilion and parts of Franklin Park Zoo operational." (Emphasis in the original.)

In specifying the scope of design work for interior exhibits, the minimum package amendment stated that:

"The exhibit work is to include [the design of] all construction work, mechanical, electrical and plumbing work, all finish work, finish exhibit work, all loaming, seeding, planting and educational exhibits including Graphics and Audio Visual....the work includes, but is not necessarily limited to, the following: (since the exhibits must be complete and operational)."

Much of the detailed scope of work which followed matched, virtually word for word, a draft contract BZS had proposed signing with Johnson seven months earlier. There were, however, several significant differences between the two documents.

1. The BZS draft contract had itemized and estimated the cost of many of the exhibit designer's major work tasks; MDC's minimum package lumped Johnson's total fee in with Weidlinger's total fee, making it difficult to see what Johnson was being paid, both in total and by task.

2. The BZS draft contract had stipulated that separate sets of construction documents be prepared for natural and educational exhibits; MDC's minimum bid package made no such stipulation.

3. The BZS draft contract had been quite specific in illustrating the work expected to be produced as part of educational exhibits' final construction drawings and specifications (including "written texts," "typesetting specifications," "artwork for one-of-a-kind wall murals," etc.); MDC's

minimum package's detailed scope of work for educational exhibits was, in full, as follows:

- "a. An overall communications system for the Tropical Forest Pavilion Exhibits, including exhibit light boxes, Graphics and Audio Visual equipment, and other related items for animal, cultural and environmental conditions.
- b. All signage related to the animal exhibits including identification labels.
- c. A directional signage system for the Franklin Park Zoo."

The only other explicit references to the required content of educational exhibits in the minimum package amendment's scope of work appeared in the section of the document's general listing of scope components:

"2.3.3 Interior Exhibits, including Educational Exhibits with Graphics and Audio-visual for:

- 1. Visitors Walkway
- 2. Dioramas
- 3. Natural Exhibits
- 4. Pavilion Planting
- 5. Plant Misting System
- 6. Exhibit Water System
- 7. Educational Exhibits."

The minimum package, like the BZS draft contract, required "a written strategy and time schedule" for acquiring, holding, delivering, planting, and maintaining tropical plants, and "a written strategy and schedule for exhibit construction with emphasis on Pavilion access and moving of materials and equipment within the Pavilion." Both of these strategies were to be submitted for MDC review and approval with 30%, 90%, and 100% progress prints.

Another noteworthy provision of the minimum package required Weidlinger to maintain a daily log of all project correspondence and communication, and to submit a monthly sum-

mary of it to the Commission. This requirement was repeated, detailed more fully, and extended to Weidlinger's subcontractors, including Johnson, in a notice-to-proceed letter sent to Weidlinger by Martin Weiss' office (but drafted by Davidson) on September 29, 1980.

In discussing the construction documents phase, the amendment noted that "The [construction] contract is to be a Chapter 149 contract" (meaning that it would be subject to State statutes governing competitive bidding for public building projects). The amendment also directed Weidlinger to recommend to the Commission, and incorporate into the construction documents, alternative deletions of construction work that would allow a construction contract to be awarded at or below \$8.5 million should funding for the minimum package not be obtained.

Davidson is retained by MDC
to coordinate design of the
minimum bid package and
other zoo projects

Following negotiation of the proposed minimum package agreement with Weidlinger, Davidson was retained by MDC on a consultant contract at a fee not to exceed \$48,000, to coordinate the entire zoo project. His contract, dated October 2, 1980, contained the following scope of work:

- "1. Coordinate and manage the development of design of the Tropical Forest Pavilion (Minimal Package and changes to Bid Package I where necessary).
2. Assist the Commission in matters pertaining to development plans and designs of other elements of Franklin Park Zoo.
3. Establish and conduct a process of communication and record keeping to facilitate design review, advisory input and the resolution of design issues.

4. Carry out the policies of the Commission, introduce policy positions to the Commission for consideration and provide the Commission with regular progress reports.

5. Coordinate the design efforts of others (BZS) with the Commission and its Consultants to insure adequate consideration in view of project status schedules and costs.

6. Make recommendations to the Commission regarding the Franklin Park Zoo construction program where necessary to expedite the policies of the Commission and completion of the Tropical Forest Pavilion."

BZS and MDC continue to disagree over the design of educational exhibits

According to Lydia Kowalski, BZS Education Director, Davidson's hiring provided, for the first time, an MDC representative who had an overview of the projects that were going on in the zoo. However, notes taken by Davidson and Kowalski at the same meetings show pervasive disagreements about established facts and conflicting views of their respective organizations' responsibilities, commitments, and approaches to exhibit design.

Unresolved issues noted in a meeting on November 11, 1980 included: Was Jerry Johnson the designer for the Tropical Forest educational exhibits? Would MDC or BZS pay for design of BZS's Africa Today exhibit? How could BZS' design consultants interact with Johnson? How much control or input would BZS have in the content and design of exhibits? How would BZS suggestions be incorporated into Jerry Johnson's designs? Who would pay for exhibit fabrication and installation?

Notes on a December 5 meeting indicate lack of agreement on reducing the number of exhibits in the Tropical Forest (an issue raised more than seven months earlier by BZS in its letter to Commissioner Carbone); on whether BZS' design con-

sultant could be used under a subcontract to Jerry Johnson; on who would design the Africa Today project; on how BZS funds for the educational projects in the Tropical Forest would be allocated; and on the mechanism through which BZS would have input into the design process for the Tropical Forest educational exhibits.

In a December 22, 1980 meeting at which Jerry Johnson and Davidson were present, Lydia Kowalski questioned the proposed inclusion of extensive audio-visual equipment in the Tropical Forest and asked how the Africa Today theme would be incorporated within the Tropical Forest exhibits. (She had raised both issues in her letter to Commissioner Carbone eight months earlier.)

Frustrated by its lack of influence, BZS turns its attention away from design of the Tropical Forest exhibits

A March 19, 1981 memo from Lydia Kowalski to Davidson proposed an educational exhibit review process under which Jerry Johnson would send rough sketches and wording for each exhibit to BZS Education Committee members for review. The Committee would respond with comments and suggestions to Johnson, who would submit revised sketches and finished wording to the Committee in time for the Committee to review them, before Johnson sought final MDC approval. Based on Johnson's second submission, the Committee would make final recommendations, presumably to MDC.

BZS Trustee Paddy Wade, who was head of the Society's Education Committee at this time, feels that the Committee reached broad agreement on Jerry Johnson's design approach to the pavilion's educational exhibits. According to Lydia Kowalski, however, this proposed review procedure was initiated but did not work; Jerry Johnson was frequently late with his submissions, provided no finished wording, and proved

extremely unresponsive to BZS's suggestions although some changes were made. Frustrated by its inability to significantly influence the exhibit designs despite repeated efforts to do so, BZS, according to Kowalski, shifted its limited energies and resources towards its Children's Zoo and Community Resource Center projects and away from the Tropical Forest exhibits.

Paddy Wade states that a major reason why Johnson was unable to produce finished text for the educational exhibits (particularly those exhibits involving the Africa Today theme), was that BZS did not have sufficient staff to provide Johnson with the research materials he needed to complete the educational exhibit design work. Ms. Wade also stressed that creation of educational exhibit text takes considerable work, that Johnson had not had sufficient time to create it, and that the text and other detailed aspects of the educational exhibits would be worked out with the exhibit designer-producer once an EDP contract was let. Ms. Wade also reports that, in her opinion, Johnson was responsive to BZS's suggestions in many important respects. Although Wade was involved in reviewing zoo planning and exhibit designs for several years, she volunteered that her involvement in reviewing Johnson's work was not as extensive and day-to-day as was Kowalski's; nor, she acknowledged, did she have Kowalski's expertise and background in educational exhibitry.

Johnson requests a \$35,000
fee increase to procure
photographs for educational
exhibits

On June 25, 1981, Johnson's office wrote Kirmani requesting that a budget of \$35,000 be established to allow for identifying, acquiring, and printing reference copies of photographs needed for the educational exhibits. Johnson made it clear he considered those activities to be beyond the

scope of his work under the minimum package amendment, but he argued that:

"the design process would be greatly facilitated, and the designs themselves greatly improved, if we were able to search for and acquire the needed photographs during the next two months."

Several days later, Johnson's office informed Kirmani that Davidson had advised them to:

"...proceed to identify the subject of imagery without the additional funds requested for travel and procurement."

Johnson's office told Kirmani that they would now start identifying photographs, but hoped their request would not be forgotten.

Asked about the intent of his advice, Davidson said he told Johnson to proceed without additional funds from MDC only because he thought BZS was going to raise the money needed to purchase the photographs; when it became clear that BZS would not or could not raise the money, Davidson did not believe Johnson was under an obligation to proceed. Davidson and Weidlinger Project Manager Kirmani claimed that it had been clear to them from the start that photographs, artwork, and other production-ready graphics could only be provided by the actual exhibit fabricator, who would need to review and revise decisions about the finished artwork continuously as the educational exhibits took form. But BZS Education Director Lydia Kowalski took the opposite view. She believed that artwork and photographs could and should be provided before fabrication.

Omnibus Construction Reform Act takes effect

On July 1, 1981, Chapter 579 of the Acts of 1980 took effect. The Act had been drafted and recommended to the

Legislature by the Special Commission Concerning State and County Buildings, popularly referred to as the Ward Commission after its Chairman, Dr. John William Ward. The legislation's intent was to prevent misadministration, corruption, and other causes of waste in the design and construction of public buildings. Passed 12 months earlier, with a year's waiting period to facilitate accommodation to its many new provisions, the Act centralized responsibility for planning, constructing, and maintaining all State agency buildings in a newly created agency, the Division of Capital Planning and Operations (DCPO).

Under the Act's provisions, all but very small contracts for construction work on State agency buildings were to be awarded by DCPO on the basis of open competitive bidding between prequalified contractors; all but very small contracts for design work on State agency buildings were to be awarded through the State Designer Selection Board (DSB), an independent body composed primarily of volunteer professionals from the fields of contracting, architecture, and engineering.

Johnson complains to Weidlinger about being asked to work without compensation and without a contract

In a letter to Kirmani dated August 5, 1981, Johnson complained that Weidlinger was asking him to design plumbing, irrigation, and misting systems for natural plantings, whereas Johnson's understanding was that he was to provide only design criteria for these systems to Weidlinger's consulting engineers. Johnson offered to do the design work, if Weidlinger wished, but only if Weidlinger provided additional fees.

Johnson also complained to Kirmani that he was "still without a contract stating our obligations to you as a team member" and asked for a contract within the month. (Kirmani

sent Johnson a copy of a proposed contract 17 months later in January 1983; the wording of the contract did not resolve the dispute mentioned above.)

MDC Commissioner Geoghegan
defends the zoo project
and the MDC

At approximately the same time, Commissioner Geoghegan appeared before the Governor's Council to discuss various proposed change orders. In his written testimony, Geoghegan also defended the zoo development program against a State Auditor report's charges of poor administration.

The Commissioner's written testimony to the Council acknowledged that there had indeed been serious problems in delays and rising construction costs during the zoo project's previous years. He noted, however, that former Commissioner Carbone had identified these problems and commissioned "a major management review" (the SGH report), whose findings and recommendations had been released about a year ago. Thanks to the Governor's personal interest and assistance, the Commissioner added:

"the recommendations in the report have been instituted. The zoo project has been brought back under control and the present construction is now scheduled for completion in November."

Addressing the State Auditor report's criticisms of MDC's consultant and design contracts, the Commissioner's testimony reported that upon becoming Commissioner in May 1980, he had "brought in a major management consultant team [the nationally known consulting firm of McKinsey & Company, Inc.] to do a reorganization of the MDC in order to correct the long-standing problems."

The Commissioner assured the Council that:

"The management team made its recommendations and these have been implemented. The results have

been that we now have a single line of responsibility and authority in each operating division and we have all of the projects in each division of Sewer/Water/Parks on a schedule of accomplishment running for the next two years. All of these projects are reviewed on a monthly basis for conformance to time and dollar schedules. This review is done by an independent group of contract administration [sic] and Exception Reports are brought directly to the Commission. In this way, we expect to avoid the problems of cost overruns and time overruns which have occurred in the past."

Johnson warns that incomplete artwork will impede fabrication and undermine exhibit quality

On August 20, 1981, Johnson wrote Kirmani, reminded him that the 90% submittal date for the Tropical Forest pavilion's educational exhibits was approaching, and asked him for funds to produce final artwork (such as production-ready photographs, illustrations, diagrams, maps) and final copy. Without this artwork and copy, Johnson asserted, bidding and immediate production could not take place. As the Exhibit Designer put it:

"In the normal course of preparing educational exhibits for zoos, aquariums and museums, this provision of artwork and copy flows naturally from the sort of design work identical with the work we have been performing under our current agreement. It is unfortunate that this agreement, by not providing a budget for such items as travel, printing, photo acquisition, production of original artwork, reproduction rights or writing of finished copy, will result in our submitting a package which could not then go into immediate production....If the package we are submitting, in fulfillment of our present agreement, is directly put out to bid, we fear that this would lead to confused and inefficient performance by the contractor and would result in a final product the quality of which would be seriously compromised."

Within four days of receiving Johnson's letter, Kirmani sent it to Davidson along with the request, "Please advise us

as soon as possible, of the M.D.C.'s view on this matter." Davidson's copy of Kirmani's memorandum is annotated, "copies for F. McCarran [Parks Division Director] J. Wright [MDC Chief Counsel] and J. McCann [MDC Contracts Administrator]." (Neither Kirmani nor Davidson was able to find documentation of any MDC review, decision, or response to this matter.)

MDC changes the Tropical
Forest's animals and
exhibits

In August 1981, with the shell of the Tropical Forest pavilion substantially complete and with Johnson's designs of pavilion animal exhibits nearing 90% completion, MDC Director of Zoos, Richard Naegeli, wrote the MDC Parks Director to explain that he, the design team, BZS, and MDC Design Coordinator Davidson wished to recommend a change in the animals to be included in the Forest pavilion's exhibits. Leopards, dwarf forest buffalos, and monkeys, among others, should be added, he proposed, "allowing a variety of more interesting, colorful and active animals than we currently have scheduled."

According to Davidson, the idea for the change was his own. Weidlinger and Johnson wrote memos supporting the proposal. After a series of cost estimates by various parties, Weidlinger notified Davidson that the proposed changes would result in a net savings of \$144,000 in design and construction costs. The total design and construction costs of adding the new animals was \$308,000 but an exterior pygmy hippo exhibit was deleted as part of the proposed change package, and that deletion was estimated to save about \$452,000, much of which, according to Weidlinger, would have been spent on blasting; the net savings estimate of \$144,000 resulted. In order to provide time for Jerry Johnson to design the required changes in the animal exhibit areas, the minimal package contract schedule would have to be extended 78 days,

from October 1, 1981 to December 18, 1981. Construction work would commence by April 1, 1982, provided funding was obtained.

On September 24, 1981, Parks Division Director Francis McCarran, Jr. wrote to the Commission formally requesting its authorization to make the proposed animal changes and associated design changes in the Tropical Forest's exhibits. The Director's memorandum noted that the change would produce a net saving of \$144,000. He also mentioned that elimination of the pygmy hippo exhibit would save \$450,000.

On October 6, 1981, the Commission voted to approve the changes.

Weidlinger asks MDC to
decide how exhibit work
will be contracted

On September 24, 1981, Kirmani wrote Robert Davidson and asked for clarification from MDC as to how to prepare contract documents for the natural and educational exhibit artwork, including rockwork, panels, photographs, illustrations, maps, etc. Kirmani explained that such items could not be part of the general construction contract, and noted that the final specifications for the general contractor's work could not be completed without knowing how the exhibit artwork contract would be awarded.

DCPO's General Counsel
advises MDC on how
exhibit work could be
contracted

Following Kirmani's request, Davidson contacted Robert Garrity, DCPO's General Counsel, for advice on how Chapter 579 might affect MDC's plans. Davidson explained that MDC wished to let one contract for both design and construction of the Tropical Forest exhibits; he wondered whether this

could be accomplished simply by having prospective general contractors carry a specified allowance in their bids for the exhibit work. The winning general contractor would then select an exhibit subcontractor acceptable both to himself and the MDC. (In other words, although the MDC already had Weidlinger under contract to provide complete designs, it was now proposing to award a new contract to complete the designs in part while the project was under construction.) MDC argued that given the artistic nature of zoo design, the exhibits would have to be redesigned continually while under construction.

In a December 9, 1981 memorandum to Davidson, Garrity offered his "informal advice as to the available methods of obtaining design/construction of the [Tropical Forest] exhibits." To Davidson's inquiry about allowances, Garrity concluded they could not be used legally: the exhibit fabrication work probably would be defined by the courts as related to public buildings and therefore would be subject to Chapter 149, which requires competitive bidding for construction of public building projects and expressly prohibits the use of allowances. Nevertheless, Attorney Garrity declared:

"It would be impossible to bid for the required services under Chapter 149 because contract plans and specifications cannot be developed in the necessary detail to provide the contractor with his precise obligations under the contract. A tremendous amount of design work of an artistic nature will be required through the course of the work."

Since bidding was "impossible," Garrity concluded that MDC should seek to insert, in the language of the Commission's capital outlay request for zoo construction, language defining the exhibit work as a "design/build" contract. Under existing law, that designation would make the exhibit work "an alternative method of procurement." Thus defined, the work legally could be exempt from Chapter 149's requirements for competitive bidding. Garrity added that in select-

ing a consultant to provide the design/build services, the Designer Selection Board's procedures should be followed to the extent feasible (as the law requires). He also attached suggested legislative language to implement his recommendation, and included in that language an exemption from the State's centralized purchasing statutes, which require competitive bidding on the procurement of materials, supplies, and equipment.

New MDC Commissioner
appointed

On May 3, 1982, Richard A. Nylen became MDC Commissioner, replacing Terrence Geoghegan, who had held office for 24 months.

Earliest date for opening
Tropical Forest pavilion
postponed to June 1984

In a May 12, 1982 memorandum, Davidson estimated that the Tropical Forest pavilion could be opened no earlier than spring 1984, and could be opened by then only if construction funding was obtained before September 1, 1982. Exhibit fabrication, he stated, would take 17 months, and 24 months should be allotted to the complete construction project, including preparations. The memo recommended that MDC initiate the process of selecting an exhibit designer-producer (hereafter referred to as an EDP) in cooperation with DCPO.

Davidson also noted in this memo that DCPO was legally responsible for all aspects of the minimum package construction program: advertising for bids, selection of an EDP, review of general contractor bids, contract negotiation with the EDP, and construction.

DCPO declines jurisdiction
over the Tropical Forest
pavilion project and MDC
asks DSB to advertise for
EDP firms

Fourteen days later, MDC Parks Division Director Francis McCarran sent a letter to DCPO's administrator, the Deputy Commissioner of Administration and Finance for Capital Planning and Operations (hereafter referred to as the Deputy Commissioner). The letter thanked DCPO Chief Counsel Garrity and DSB Director George Beaton for their cooperation and proceeded to "confirm certain conclusions that have been made," namely: 1) that construction of the entire minimum package would remain MDC's responsibility, 2) that DSB would advertise for EDP firms and recommend applicants to MDC, and 3) that the Commission would make the final selection.

The letter also asked DSB to advertise for EDP applicants by the end of June so that the Tropical Forest pavilion could be opened by spring 1984.

In a letter dated two days later, Deputy Commissioner Stuart Lesser, responding to a question concerning two other MDC projects, informed MDC's Contract Administrator that DCPO would "...not exercise any jurisdiction over building projects that were under a design contract executed prior to January 1, 1982."²

Minimum package cost
estimate updated to
\$15.3 million

In a cost estimate dated July 1982, Weidlinger estimated the cost of minimum package construction work as follows:

² In a recent interview with the Inspector General's staff, Lydia Kowalski, BZS Education Director, said that the MDC decision to contract with Johnson for the pavilion exhibits "came out of the blue" and BZS was surprised and upset by it.

I.	General conditions	\$ 927,000
II.	Site utilities	2,170,500
III.	Site work	2,946,000
IV.	Interior exhibits	
	A. General contractor work	4,201,700
	B. EDP work	3,000,000
	5% Contingency	662,260
	Inflation @ 10% (through 12/83)	<u>1,390,740</u>
	TOTAL	\$15,298,200

This was the last complete cost estimate done for the overall project.

In planning the project at this time, the MDC and consultants had interconnected the work of the general contractor, who would be doing site and utilities work outside the Tropical Forest pavilion building shell and extensive finishing work inside it, with that of the EDP. Both contracts were planned to run concurrently, with the G.C. assisting the EDP in hoisting, placement, deliveries, and scaffolding, as part of his \$10 million contract.

DSB selects three EDP
finalists and transmits
their names to MDC

On August 18, 1982, the DSB advertised in Massachusetts newspapers and the Central Register for firms to design and produce the natural and educational exhibits at Franklin Park Zoo. Four applications were received.

On October 5, 1982, after asking questions of several MDC representatives, including Robert Davidson, the Board selected three finalists and ranked Jerry Johnson first.

MDC asks Inspector General
to support legislative
exemption from competitive
bidding

Shortly thereafter, MDC Commissioner Nylen informed the Inspector General that MDC intended to ask the Legislature to exempt construction of the Tropical Forest exhibits from the State's competitive bidding laws, as advised by DCPO Counsel Garrity, in order to allow the hiring of an EDP. The Commissioner asked the Inspector General whether he would object to the exemption, stressing that time was of the essence because the Legislature was reviewing MDC's capital outlay request for the zoo and might disapprove it unless the Inspector General felt it possible to express his support. Following an overview of the project presented by MDC staff in which the inherently artistic nature of the exhibit work was stressed, the Inspector General's staff reviewed immediately available documents, conducted interviews with key actors, and assessed potential issues.

Inspector General recommends
that competitive bidding
not be suspended

A few days later, on October 14, 1982, the Inspector General wrote Commissioner Nylen to report he had concluded preliminarily that it appeared inadvisable to exempt acquisition and fabrication of the animal, educational, and plant exhibits at Franklin Park Zoo from the State's competitive bidding statutes. As construction documents, the Inspector General noted, the exhibit drawings appeared incomplete. It was this incompleteness, it seemed, rather than the inherent artistic nature of the work to be done, that prevented the work in question from being placed out to bid. In addition, because the scope of exhibit fabrication was incompletely defined, the scope of the general construction work to be done in conjunction with exhibit fabrication was also incom-

pletely defined. This poorly defined scope for construction work seemed likely to inflate bids and encourage costly change orders during construction. The Inspector General also observed that the Designer Selection Board's advertising of the EDP contract appeared to have been too narrow, given the unusual range of capabilities required to do the work. The Inspector General invited MDC officials to respond to these preliminary observations.

MDC argues its case

On November 1, 1982, MDC Commissioner Nylen wrote to explain the Commission's position on points made by the Inspector General two weeks earlier. The Commissioner's letter argued that the finished exhibit work could not be bid competitively. Competitive bidding, the Commissioner observed, requires that work be pre-designed, price-estimated, fully defined in plans and specifications, and awarded for construction in accordance with these plans and specifications. None of this is possible, the Commissioner argued, because the work in question is essentially creative in nature.

The Tropical Forest pavilion, the Commissioner's letter emphasized, is designed to do more than just recreate animals' environments and provide information on how animals act and survive; the pavilion "is intended to be a masterpiece" in which the visitor actually experiences a tropical forest.

Therefore, the Commissioner explained, MDC's approach to completing the pavilion's exhibits was as follows:

"To re-create and describe the tropical forest environment is a task of science and art; a product of construction and creativity; a process of designing and doing and doing and designing. Like a painting, the product is finished only after the finishing touch.

Herein lies the essence of the MDC's position. Each of the exhibits require a degree of imagination, design and creativity. Each element (of

rock, plant, film, sound, etc.) must appear right, in itself and as part of the entire zoo experience. As each element is finished, the next must be designed (or modified) for compatibility; so that the entire mosaic is acceptable." (Emphasis added.)

The Commissioner's letter stated that the project had been carefully organized to ensure artistic quality, financial control, and efficient project execution. Artistic quality would be assured by requiring the EDP to submit shop drawings during the course of the work. These plans, drawings, sketches, photographs, films, and other proposed final exhibit finishes would be reviewed and approved for their quality and compatibility with other work and with the pavilion's animals. Financial control would be assured by "proper budget allocations" and "project management." Efficient project execution would be assured by the project's clear and appropriate organization of responsibilities between the EDP and the general contractor. With respect to the Inspector General's suggestions concerning broader advertising for the EDP, the Commissioner observed that advertising had been conducted by DSB and was not MDC's responsibility.

Commissioner Nylen and MDC staff met the next day with the Inspector General and his staff. A model of one of the animal exhibits was presented and Robert Davidson gave a slide show on what the Tropical Forest would look like (using images from other zoos). MDC staff emphasized that the pavilion was to be a "world class facility" and argued that this goal of outstanding artistic quality could not be achieved if the work were bid competitively. The Commissioner asked the Inspector General to provide a definitive opinion on MDC's desire for a legislative exemption from competitive bidding as soon as possible because the Legislature appeared likely to act on MDC's capital outlay request for the pavilion within the next few days.

Inspector General informs
MDC that he will undertake
an in-depth review

Three days later, on November 4, 1982, the Inspector General informed Commissioner Nylen by letter that his initial concerns about suspension of competitive bidding, inadequacy of DSB advertising, and incompleteness of contracted design work had not been resolved by MDC's presentation. In addition, the letter noted, other concerns had surfaced. Could Jerry Johnson, who prepared the preliminary designs and initial cost estimates in this case, and who had been referred to MDC by DSB as the first-ranked EDP finalist, legally do further design work on this project? Could not several elements of the EDP project, such as audio-visual equipment, clearly be bid without doing violence to the creative process? Could not some of the incompleteness in contract documents be remedied before proceeding?

Despite these preliminary concerns, the Inspector General acknowledged that he had not had time to study the matter in sufficient depth to provide a definitive opinion to the General Court. However -- since the capital outlay bill might be acted upon by the Legislature at any moment, and since the Inspector General's opposition to an exemption from competitive bidding, even if qualified as being only preliminary, might precipitate rejection of the entire zoo request rather than of only the proposed exemption -- the following arrangement seemed appropriate: 1) the Inspector General would not formally oppose enactment of a legislative exemption, but 2) the MDC Commissioner would not use the exemption until the Inspector General had reviewed the entire matter in-depth and had issued such recommendations as he deemed necessary. In particular, the Commissioner would not initiate negotiations with Jerry Johnson for the EDP contract until the Inspector General's study was concluded. Commissioner Nylen agreed to this arrangement.

The Legislature closed its 1982 session without acting on MDC's request for capital outlay funds. Early in 1983, MDC's request was reintroduced as part of an "emergency jobs bill." The new request included language creating exemptions from both Chapter 149 and the State's competitive purchasing statutes. The request is currently before the General Court.

In mid-March 1983, a draft report on the Inspector General's study was circulated for review and comment to officials of MDC, DCPO, and DSB. The study's final findings and recommendations follow.

PART THREE

FINDINGS

Overview

A major effort to complete the design of the Tropical Forest pavilion's interior and exterior exhibits was undertaken by MDC between January 1980 and December 1982. During this effort:

- established safeguards, procedures, and contractual requirements were ignored or circumvented;
- several State laws were apparently violated or are on the verge of being apparently violated;
- serious administrative problems were evident, many of them the same problems that the SGH report identified as responsible for the zoo project's long delays and escalating costs prior to 1980.

As a result of these deficiencies, the minimum package design contract, whose stated purpose was to produce all final construction drawings and specifications needed to build an operational Tropical Forest pavilion, has instead produced documents which are incomplete and which therefore will neither elicit responsible bids, nor facilitate efficient construction management, nor ensure adequate fiscal control. Consequently, as explained in the pages which follow, if construction proceeds as presently planned, considerable public funds could be wasted. (Figure 1).

Figure 1

EFFECTS OF INCOMPLETE CONSTRUCTION DOCUMENTS
ON PROJECTED WASTE OF PUBLIC FUNDS
(Tropical Forest Pavilion
Exhibit Construction)

Finding 1.

Construction Documents Are Incomplete
and Will Impede Efficient
Exhibit Fabrication

The second amendment to MDC's contract with Weidlinger Associates required the firm to prepare all final exhibit designs and associated construction documents needed to construct a complete, fully operational pavilion.

Robert Davidson states that the second amendment to MDC's contract with Weidlinger Associates never intended that Weidlinger prepare complete, construction-ready documents that could be placed out to bid and awarded to a low bidder. Davidson asserts that from the very beginning of negotiations with Weidlinger, alternative procedures other than bidding were considered for hiring someone to produce the interior exhibits. The only document which even partially supports this assertion is a handwritten memorandum Davidson prepared for MDC Project Engineer Henry Higgott on April 7, 1980, stating that MDC should consider placing an allowance in the bid documents to permit the minimum bid package exhibit designer to participate in exhibit fabrication and finishing.

All non-internal documents and other evidence indicate that it was MDC's and Weidlinger's intent to amend the contract to require Weidlinger to prepare construction documents (i.e., finished designs from which construction could proceed) which could be used in preparing a request for construction bids. A February 29, 1980 letter from Weidlinger Project Engineer Kirmani to MDC Chief Engineer Weiss states that the MDC-Weidlinger Associates contract then in effect did not require Weidlinger to provide "working drawings" of final exhibits. MDC's second amendment to Weidlinger's contract changed this situation; a March 30, 1980 letter from Kirmani to Jerry Johnson states that MDC had decided to include in Weidlinger's amended scope of work "the preparation

of construction documents for the interior and exterior exhibits."

Moreover, regardless of Davidson's intent when negotiating with Weidlinger, the contract speaks for itself and is binding upon both parties. The contract amendment makes it clear that Weidlinger was to provide finished designs from which construction could proceed. Section 2.7 of the contract, which requires the preparation of "construction documents" states that Weidlinger is to prepare "in detail the requirements for the construction of the Minimum Bid Package." Sections 2.3 and 2.6 require that the minimum bid package include all construction items, including exhibits, necessary to make the Tropical Forest pavilion "complete and operational."

The contract amendment also clearly provides for Weidlinger to produce documents which can be placed out for bidding. Weidlinger is to prepare all items necessary for a minimum bid package. Chapter 149 section 44A requires that construction contracts be awarded to the lowest responsible and eligible general bidder on the basis of competitive bids. Section 2.7 states that Weidlinger must provide the details necessary for preparing a "Chapter 149 contract." As explained below, Weidlinger's final submissions fall far short of this contractual requirement.

Exhibit drawings are incomplete

With respect to educational exhibits, the final drawings do not include:

- photographs;
- text;
- diagrams, mural, and other production-ready artwork.

With respect to natural exhibits, the final drawings do not include:

- complete elevations of artificial rockwork (only sample and incomplete elevations are shown);
- details of intersections, changes in plane, and other non-typical rockwork configurations;
- heights of plants.

Specifications are
incomplete and vague

A 25-page document entitled "Outline of Work for the Exhibit Designer-Producer..." contains a general introduction to the project, identifies key project participants, outlines their general roles and responsibilities, and details the responsibilities of both the EDP and general contractor for major phases of the exhibit work. To the extent that specifications governing the EDP contract's \$3 million worth of work have been prepared, they are contained in this 25-page outline of EDP work. Specifications governing the general contractor's \$10 million worth of work, in contrast, fill nearly 800 pages.

In general, the outline calls for approval of EDP work by MDC or by the exhibit supervisor (a contractor hired by MDC) rather than specifying standards that the EDP work must meet. In some cases, the construction drawings also take this approach. For example, only minimum thicknesses are specified for artificial rockwork with total or maximum thickness left, in all cases, to the decision of the exhibit supervisor. To the extent that the work did not lend itself to specification through words (colors, textures, or finishes, for example), samples could have been prepared to establish direction, standards, and quality controls, and to

apprise prospective EDP contractors of the type of work desired.

"Specifications" for audio-visual programs are also sketchy, as the following excerpt illustrates:

"c. Aquatic Theater

1. Design and produce the following:

- (a) Film projection with sound totaling four 10 minute programs.
- (b) Slide projection with sound totaling two 10 minute programs.
- (c) Film projection with sound of 45 minute duration."

Weidlinger's contract required that specifications be submitted for MDC review and approval with the firm's 60%, 90%, and 100% completion submissions. According to Project Coordinator Davidson, however, EDP specifications were included only in the 100% submission, and had to be revamped rapidly, after it was realized that Weidlinger Associates would have to completely rewrite an unsatisfactory April 1982 version of the specifications drafted by Johnson.

Other important contract document requirements were met only partially or not at all

Weidlinger's contract amendment called for "a written strategy and schedule for exhibit construction with emphasis on Pavilion access and moving of materials and equipment within the Pavilion." It also required "a written strategy and time schedule for plant acquisitions, holding, delivery, planting and maintenance." The contract further prescribed that preliminary and updated versions of both strategies be included for MDC's review and approval in Weidlinger's 30%, 90%, and 100% completion submissions.

According to Weidlinger's project manager Kirmani, the only document ever submitted to MDC in satisfaction of these contractual requirements was a single letter, just slightly over two pages long, from Johnson (unsigned) to Kirmani, on April 30, 1981. Whether Kirmani actually submitted this letter to MDC is not certain. Asked whether MDC had received any exhibit fabrication or plant strategies, Davidson said definitely not. (In a subsequent interview, after Kirmani was asked the same question and produced Johnson's letter in response to it, Davidson changed his statement and said he had received a strategy at the 30% completion submission.) The date of Johnson's letter corresponds most closely, but not exactly, to the due date of the 30% completion submission. Neither Kirmani nor Davidson stated that any subsequent updated strategies were provided. Davidson said "none were needed."

Essentially, Johnson's letter to Kirmani made three points:

1. MDC has "two main options" for the minimum package construction package: a) let one all-inclusive contract for the entire scope of work, or b) let one contract for general construction work and one for all exhibit work. (Johnson did not offer a third alternative: let separate contracts for the natural exhibit, educational exhibit, and audio-visual work.) Johnson recommended that MDC adopt the second option.

2. BZS should be involved in the "actual development" of the pavilion because a) it can get price discounts in purchasing photographs, films, and artwork for educational exhibits; b) it can obtain tax exempt donations of artifacts, displays, and other exhibit material; and c) it can acquire, acclimatize, and hold exotic plant materials, services which "might be difficult to develop under normal MDC bidding procedures." (This last suggestion may have been Johnson's effort to supply the plant strategy and schedule required by MDC's contract.)

3. The definition and scheduling of the exhibit work is complicated and will require close coordination with non-exhibit work.

With respect to the substance of the "written strategy and schedule for exhibit construction" required by the contract, Johnson's letter had only this to say:

"How best to combine the numerous [sic] efforts involved in a proper work sequence, taking into account the limitations of space and access, is an item of prime importance. For instance, it is our recommendation that within the Pavilion the natural exhibit work be initiated in Pygmy Hippo #1 and carried clockwise about the central planter, with the Contractor working his way out of the structure. To implement this sequence, we suggest that the Contractor, prior to his starting the work, develop and submit for approval by the Commission and his consultants his planned access routes. The depicted pathways [should] take into account all earthwork ramps or timber bridge constructions that may be required as well as the type of equipment he considers necessary to implement the exhibit construction."

The deficiencies in final contract documents illustrated above will impede effective administration of the minimum construction package. Because key aspects of the EDP work have not been clearly delineated, it has not been possible to estimate the work's costs accurately, or subject the work to competitive bidding, or pinpoint the general contractor's responsibilities for exhibit-related support work. Because Weidlinger Associates has not produced required strategies and schedules for exhibit fabrication and planting, coordination of EDP and general contractor responsibilities has not been possible. And because complete specifications and other forms of performance standards for EDP work have not been provided, requirements for some of the general contractor's exhibit related work also are incompletely specified.

These undesirable conditions appear likely to waste considerable public funds, as explained by the four findings which follow.

Finding 1A.

The EDP Contract Ceiling Probably Will
Be Set Excessively High and
Total Spending Probably
Will Reach It

The cost of EDP work presently is budgeted at a ceiling of \$3 million. The problems discussed below suggest that this ceiling probably has been set too high, and that the entire \$3 million is nevertheless likely to be spent.

The EDP project budget is
unsubstantiated and poorly
documented

The \$3 million EDP budget was compiled by Weidlinger Associates in its capacity as MDC's prime design consultant for the entire zoo project. In a joint interview with Minhaj Kirmani, the Weidlinger consultant who prepared the budget, and Robert Davidson, the consultant who serves as MDC's EDP project manager, the Inspector General's staff established that many large budget items could neither be explained nor documented. For example, neither Kirmani nor Davidson could justify or provide written backup for the following budget items:

- \$240,000 for supervising the general contractor's installation of the EDP's natural exhibits and rockwork. (In order to expend this entire sum during the 14 months during which both the EDP and general contractor are expected to be on the job simultaneously, the equivalent of more than four people, each drawing \$50,000 per year, would have to supervise the general contractor, full time, every day of the entire 14 months.)
- \$280,000 for finishing artificial rock walls. (It is difficult to determine how this estimate was developed because without complete elevation drawings of the rockwork, the number of

square feet of rockwork to be finished is uncertain; and without specifications for what "finishing" entails, the cost per square foot of finishing the rockwork is difficult to estimate.)

- \$265,000 for acquisition of graphic images, reproduction and typography. (This figure includes \$100,000 for acquisition fees. Davidson acknowledged that he "really had no idea" what acquisition costs of photographs might be.)
- \$150,000 for "graphic art production." (Neither Kirmani nor Davidson could explain how this related to the preceding \$265,000 item.)

Weidlinger Project Manager Kirmani, a structural engineer, acknowledged that he had lacked the knowledge to develop these exhibit estimates himself and had gotten the last three figures listed above in phone calls to one of Jerry Johnson's ex-employees.

Asked how he could have accepted Weidlinger's cost estimate without getting written documentation and justifications, Davidson asserted that he had reviewed and satisfied himself on each of Weidlinger's cost estimate figures. Asked for documentation of that review, Davidson said he had made notes but had thrown them away.

Weidlinger Associates' \$3 million cost estimate was transmitted by MDC to DSB, which listed it, without review, as the maximum lump sum fee in its advertisement for exhibit designer-producer firms. The accuracy of the Weidlinger budget is thus critically important, because it automatically established the maximum fee that prospective EDP contractors would attempt to negotiate.

However, neither Kirmani, who prepared the budget, nor Davidson, who was responsible for reviewing it, viewed the budget in such a significant light. They both admitted that the \$3 million cost estimate was "preliminary" and "soft," but emphasized that this was all that could reasonably be expected at such an early stage of design. The budget might well be higher than necessary, they indicated, since one pur-

pose of doing a preliminary cost estimate is to identify a funding level that is likely to prove sufficient; the budget would be pared down to what was actually necessary, they asserted, as EDP negotiations proceed.

Prospects for negotiating
a lower contract ceiling
appear remote

It is difficult to see where MDC will find leverage to negotiate such a reduction, however. MDC has already made it clear to everyone, including Jerry Johnson, that it wants Johnson to be the contractor, and the DSB has ranked Johnson first among its three finalists. Because of a failure to advertise the contract nationally, the other two finalists are not qualified (as will soon be shown), so Johnson has no competition to be concerned about. In addition, because contract documents are incomplete, MDC has no defensible cost estimate it can use to argue that the EDP contract budget ought to be less than \$3 million, or to determine how much less it should be. And prospective EDP contractors are unlikely to be enthusiastic about agreeing to a lower contract ceiling or a lean fixed fee, given the contract documents' incompleteness.

The EDP budget has not
been independently
reviewed

A second means by which Weidlinger's "soft" EDP cost estimate might have been refined and reduced was through a review by an independent agency. Under Chapter 579, estimates for agency design and construction projects are prepared or reviewed by DCPO. According to DSB's Executive Director, the Board often makes recommendations to the Deputy Commissioner concerning those fees. In the EDP project, however, MDC submitted its \$3 million total project cost estimate -- without

any breakdown or justification -- to the Deputy Commissioner, who simply transmitted the figure, without review, to DSB, which also failed to review it.

Asked why he did not ask for and review a breakdown of MDC's estimate, the Deputy Commissioner said that MDC has more expertise in zoo projects than DCPO and DSB, that they have their own engineering staff, that they have been working on this project for years, and that it did not make sense to try to bring DCPO up to MDC's level of understanding of the project or budget, or for DCPO to review their figures. Asked whether it did not seem important for DCPO to exercise some oversight role in a case where a feasibility designer was being considered for a contract that would implement his own design -- thereby creating the possibility of a self-serving, inflated preliminary design -- the Deputy Commissioner replied, "It's a question of how much you want to interfere with the clear wishes of MDC, how much bureaucracy you want to overlay on an agency."

The Boston Zoological Society, which MDC considers responsible for funding part of the project, was given no opportunity to review Weidlinger's budget.

The EDP budget provides
little basis for achieving
fiscal control

Asked how MDC could possibly prevent unnecessary or unjustified expenditures in the EDP contract given the softness of its budget, MDC Project Manager Davidson expressed complete confidence that he knew how to prevent unjustified expenditures: he would closely monitor contractors' requests for payment against their time records to be sure that MDC paid only for the labor and costs that the EDP actually incurred. Asked how he would be sure that the amount of time put in was actually necessary, he replied only that this

problem was no different than that found in other consultant contracts.

Both the EDP and exhibit supervisor would be paid for the hours they spend; neither would have strong incentive to limit those hours. It thus seems likely that MDC would be hard pressed to exercise effective control over excessive time billing in the EDP contract until it arms itself with reasonably firm estimates of what time and material costs should be for major elements of the contract.

Incomplete contract documents
also impede fiscal control

In addition to a realistic cost estimate, effective fiscal control over the costs of EDP services also requires a clearer understanding of what the EDP contractor and exhibit supervisor are expected to do. The contract drawings' incomplete performance standards and unclear interface details (which will be discussed shortly) will require the EDP contractor to spend an unpredictable amount of billable time, will make it difficult to determine whether the EDP's payment requests are for time spent productively, and will impede efforts to detect whether the EDP's invoices are running ahead of work actually accomplished.

Finding 1B.

Procurement of EDP Materials, Equipment,
and Fabrication Will Probably Be
Needlessly Expensive

Supplies and equipment could
be bid competitively

The language of MDC's pending capital outlay request would exempt the EDP project from State statutes requiring

competitive bidding for construction contracts and purchases of supplies and equipment.

The State Purchasing Agent has informed the Inspector General's staff that he was not consulted about, and does not approve of, the proposed exemption from centralized competitive purchasing. The Weidlinger cost estimate includes \$400,000 for plant materials which, in the Purchasing Agent's opinion, could and should be bid competitively. Other project items which unquestionably should be bid, according to the Purchasing Agent, include \$109,000 in audio-visual equipment.

In November 1982, responding to the Inspector General's concerns, MDC Commissioner Nylen agreed that some of the items to be purchased under the EDP contract could be bid competitively. He pledged that his staff would analyze the EDP contract and identify all such items. Reminded of this pledge four months later and asked what items had been earmarked for competitive bidding, MDC Project Coordinator Davidson said, "None yet."

Exhibit fabrication could
be bid competitively

Exhibit fabrication items that the MDC wishes to exempt from competitive bidding include an estimated \$363,000 for fabrication and installation of exhibit cases and panels, and \$696,000 for casting artificial rock panels in fiberglass molds. MDC officials assert that such elements cannot be bid because they are artwork. In an interview with the Inspector General's staff, however, Jerry Johnson stated that all of the EDP contract elements could be competitively bid, and said his firm was indifferent as to whether the contract was bid or negotiated. Johnson stated that "with prequalification, anything can be done." Johnson also reported that it had been his understanding, until relatively recently, that MDC intended to put the EDP contract out to bid.

Incomplete contract documents
are the chief impediment to
competitive bidding

The major obstacle to obtaining competitive bids for supplies, equipment, and exhibit fabrication appears to be incomplete drawings and specifications. For example, the planting drawings show pot sizes but not plant heights; bids could not be obtained from these drawings, according to plant dealers interviewed, because plant heights can cause price differences of as much as one hundred percent for a given type of exotic plant and pot size. Similarly, according to MDC officials, exhibit case fabrication cannot be bid because additional artistic graphic design work remains to be done on them.

If planning and design work were completed, however, such items could be put out to bid. If only plants, audio-visual equipment, exhibit case and panel fabrication, and rock casting were bid, assuming conservatively that competitive bidding would save an average of fifteen percent of MDC's budgeted costs, the savings would approximate \$235,000.

We would submit, however, as Exhibit Designer Jerry Johnson has stated, that all EDP exhibit work and purchases could be bid, provided construction documents are complete and bidders are prequalified.

Finding 1C.

The General Contractor Probably Will
Carry Unnecessarily High Bids,
Inflating Construction Costs

The analysis which follows assumes that when a general contractor submits a bid to execute a project which is less than clearly specified, he will include contingencies in that

bid to cover the perceived risks of undertaking an incompletely defined project. As explained below, several aspects of the minimum package's construction documents seem likely to encourage general contractors to inflate their bids.

The EDP outline of work identifies three main actors: the general contractor, the exhibit designer-producer, and the exhibit supervisor.

The General Contractor (G.C.) is responsible for exterior and interior work involving utilities and landscaping as well as for interior work related to natural and educational exhibits, for a lump sum bid price. According to the most current cost estimate, the total value of this work is approximately \$10.25 million, of which some \$4.2 million is closely related to exhibit work inside the pavilion. The outline of work describes the G.C. as the "coordinator of interfaces between his work and the work of the EDP." "Interface" is defined to include such activities as scheduling and sequencing of work, cutting and patching, sharing of access to work spaces, and "similar considerations and activities." Among his responsibilities, the G.C. must unload, store at the site, and transport to designated locations the EDP's plants and soil mixtures. He must provide architectural surfaces, structural supports, and electrical work to receive the EDP's work. He also must "do all hoisting as required for the performance of work by the EDP," and "furnish, install[,] maintain and remove all temporary ramps, chutes and similar items as required by the EDP for the proper execution of his work."

The EDP is responsible for designing and fabricating a "complete and fully-operational exhibit installation" for costs plus a fixed fee not to exceed \$3 million. His responsibilities include supervising the G.C.'s hoisting installation of cast rockwork panels and placement of exposed gunite surfaces for "compliance with design intent."

The Exhibit Supervisor would receive costs plus a fixed fee not to exceed \$100,000 to review and approve all work of

the EDP, including design work, shop drawings and installations, and all work related to simulated natural habitats performed by the G.C.

Standards for acceptable performance of G.C. work are unclear

Some of the work the G.C. must do in connection with exhibits must be approved by both the EDP and the exhibit supervisor. In some cases, standards for acceptable performance of this work are ambiguous. For example, the specifications inform the G.C. that his gunite work must be satisfactory to both the "trained and untrained eye." In most cases, no standards of any kind are given; work must be "approved by the EDP" or "as directed by the exhibit supervisor" or both. Since the appearance of artificial rocks has not been detailed, and since no guidelines exist to limit the exhibit supervisor's right to require the G.C.'s work to be altered, a considerable amount of the G.C.'s interior exhibit work (over half of the total \$4.2 million) is essentially open-ended as to the time, effort, and even the quantity of materials needed.

The extent of work the G.C. must do in support of the EDP is not defined

The minimum package drawings also lack other information that G.C. bidders need to estimate the extent and cost of the work they would have to do for the EDP. The G.C. is responsible for the EDP's hoisting, for example, but since the planting plans omit plant heights, they give the G.C. little idea of the type and amount of hoisting and hoisting equipment required. Similarly, the minimum package drawings contain only sample sections of rockwork and elevations, making the extent of required rockwork hoisting impossible to esti-

mate accurately. And some of the temporary ramps, chutes, and scaffolding the G.C. must build to install the EDP's work have not yet been fully designed.

The work the G.C. must do
for the EDP cannot yet be
scheduled

Even if G.C. bidders could accurately estimate the total amount of work required to support the EDP, they still would not be able to estimate the cost of that work accurately. The cost of work depends on its scheduling as well as its extent, and the G.C.'s work schedule must dovetail with that of the EDP; but the minimum package documents included no detailed strategies and schedules for either exhibit fabrication or plant acquisition and installation, although the contract clearly required both. As a result, the G.C. bidder will have no basis for determining how he might schedule the hoisting and handling work he must do in unloading, storing, and installing the EDP's rockwork panels, plants, and soil mixtures. He, therefore, will be unable to prepare a closely calculated cost estimate for that work.

Finding 1D.

The Frequency and Cost of
Change Orders Will
Probably Exceed
Normal Levels

Incompleteness of contract
documents will probably
generate extra change
orders

The outline of EDP work requires the EDP contractor to submit "shop drawings of cast rockwork panels showing loca-

tion, size, sequence of erection and typical installation details," and "schematic and final design drawings of all natural exhibit treatment work showing all proposed materials and their location." Had such detailed drawings been prepared as part of the minimum package construction documents, which apparently was the minimum package contract's intent, they would have helped define the EDP contractor's responsibilities, thereby clarifying the work that the G.C. must do in support of the EDP contractor's work.

Because such drawings will not be available for bidders to review, general contractors will have to base their bids on a relatively general understanding of what their responsibilities under the contract will be. But after the G.C. contract is awarded and the EDP work begins, the detailed EDP drawings may define G.C. tasks which the general contractor did not anticipate and include in his bid. At that point, the G.C. can be expected to contest his contractual responsibility to perform such tasks without changes in his contract and additional compensation.

The same is true of the exhibit fabrication and plant acquisition strategies and schedules which were required, but not delivered, under the minimum package contract. When these documents are finally drafted, after the G.C. has bid and been selected, they may generate change orders that could have been avoided had they been available as bidding documents.

MDC's design philosophy will
encourage change orders

In conjunction with the incomplete contract documents which it helped to generate, MDC's stated design philosophy for the pavilion -- design, construct and design sequentially, modifying and revising what has been constructed as aesthetically necessary -- seems likely to generate a larger than normal volume of G.C. change orders. MDC has failed to

demonstrate that a more complete design of the exhibits could not have been provided prior to construction, or that a more complete initial design would necessarily have compromised the exhibits' aesthetic quality. The numerous and costly G.C. change orders that can be expected from MDC's contemplated "build as you go" EDP contract thus seem likely to produce an unjustified waste of public funds.

Conclusion: Proceeding With Construction
As Planned Could Waste Considerable
Public Funds

If the Tropical Forest pavilion is completed as currently planned, considerable public funds seem likely to be wasted. It is not possible to predict precisely how much waste will be produced by the deficiencies we have documented and the following projections of waste should not be misconstrued as an attempt to do so. The purpose of the estimates developed below is to offer an order of magnitude approximation of potential waste as a means of informing the public and public officials of the probable significance of the problems involved.

The EDP budget, its authors acknowledge, was "preliminary," "soft," and largely concerned with ensuring that sufficient money would be available to build all exhibits. In light of this perspective, and given the unsubstantiated and poorly documented character of the EDP budget estimates, as well as the absence of restraints that might keep actual expenditures below the contract budget ceiling, it seems conservative to estimate that expenditures for EDP would exceed needed amounts by at least five percent or \$150,000 (\$3 million x .05).

Authorities on competitive purchasing estimate that competitive bidding achieves savings averaging fifteen percent or more on procurements of materials, equipment, and servi-

ces. Thus, the MDC's desire to bypass the competitive bidding process in procuring EDP materials, supplies, and services (which properly would be budgeted at \$2.85 million) can be expected to cost the Commonwealth some \$427,000 ($\$2.85 \text{ million} \times .15$).

Given the uncertainties that will exist at the time of bidding concerning the definition of the minimum package's EDP-related general contractor work, G.C. bidders are likely to add contingencies to their bids. Although these contingencies could conceivably run quite high, it seems conservative to estimate that they might easily run at least five percent, in which case approximately \$210,000 ($\$4.2 \text{ million in EDP-related G.C. work} \times .05$) would be wasted.

According to DCPO officials, change orders which add anywhere between five to ten percent to a project's bid price are unavoidable and to be expected, even in a project whose construction documents are complete and well formulated. In the EDP project, however, unnecessary demolition and revisions of G.C. work seem likely, given the incompleteness of the minimum package contract documents and MDC's design/build approach. It therefore seems only reasonable to suppose that change orders well over and above what might normally be necessary and expected will be generated. Assuming that these extra change orders would unnecessarily add five percent to the G.C.'s EDP-related work, the extra cost would be \$210,000 ($\$4.2 \text{ million} \times .05$).

Thus, apparently conservative estimates of the waste inherent in MDC's current plans for building the Tropical Forest pavilion's interior exhibits suggest that on the order of \$1 million ($\$427,500 + \$150,000 + \$210,000 + \$210,000 = \$997,500$) could be wasted.

Finding 2.

Issues Fundamental to the Pavilion's Workability Are Unresolved

MDC apparently intends to proceed with minimum package construction as soon as possible after receiving additional capital funding. If funding is not obtained soon, the Commission is considering using funds currently available to construct part of the minimum package. Unless the three issues described below are first resolved, however, public funds expended for additional work on the Tropical Forest pavilion could be partially, even entirely, wasted.

Basic disagreements exist over the exhibits' design approach

In interviews with the Inspector General's staff, Inge Heckel, the present Executive Director of the Boston Zoological Society³ reported that Johnson's designs for the pavilion's educational exhibits are not acceptable to the Society. The exhibits, she said, put too much emphasis on text and not enough emphasis on images to be effective for children and general zoo visitors. Moreover, the exhibits fail to reflect the Africa Today theme, which the BZS has decided should be a major element throughout the entire zoo. In addition, she complained, there is too much electronic equipment, which breaks down frequently and requires high maintenance expenditures. (These are the same objections that the Director's

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Heckel is also director of a new organization, called Metropolitan Boston Zoos, which, according to Heckel, will clarify the BZS and MDC roles in zoo operations. How the new organization will work has yet to be determined, but Heckel said the BZS and MDC hope it will reduce conflicts and strengthen direction concerning zoo work.

predecessor had called to MDC's attention two and one-half years ago.)

In short, the Director stated, major revisions to Johnson's educational exhibit design work "are probably necessary." She also noted that the "final say" regarding exhibits will be a joint venture between MDC and BZS, although she was unable to explain how the "unified management structure" she foresaw between MDC and BZS actually would work. Presently, she added, BZS has hired a biologist to do background research for new animals to be added to the educational exhibits. She said the Society hopes to have a "roughed-out schematic" for the exhibit within three to six months.

BZS' Executive Director and biologist indicate that the Society is not assuming that it can (or should) accommodate the approach it prefers to the designs Jerry Johnson has developed. It will not be clear, until BZS finishes its three to six month design evaluation, how extensively Jerry Johnson's designs would have to be changed in order to accommodate BZS' wishes. But it already is evident that the Society's general desire to increase photograph sizes, decrease text areas, and highlight the Africa Today theme would require, at minimum, a complete reformatting of all the educational panels that Jerry Johnson has composed.

If the Society's analysis concludes that fundamental changes in the types of animals shown in the educational exhibits also are needed, extensive changes in Jerry Johnson's overall exhibit planning and design work could become necessary.

BZS' dissatisfaction with Johnson's design approach, and its perception that design and planning of educational exhibits are still at a fluid stage, suggests that expensive EDP contract amendments and change orders may be required if MDC signs an EDP contract that is based on Johnson's current design approach.

MDC does not know whether
the pavilion's operation
will be financially
feasible

Although MDC has already spent approximately \$11 million on the Tropical Forest pavilion's design and construction, and presently plans to spend approximately \$16 million more to make it usable, the Commission has not yet determined whether the pavilion will be financially feasible to operate.

Activities involved in operating the pavilion will include energy consumption, animal acquisition, animal and plant care and replacement, building maintenance, security, visitor and community educational services, exhibit updates and changes, utility use, and general administration. While BZS is reportedly, at present, preparing a comprehensive operational analysis, BZS would not give the Inspector General a copy of this study as it was described by BZS' Executive Director as being too preliminary. Robert Davidson of MDC also does not have a copy of this preliminary analysis.

Revenues to support the pavilion's costs might come from ticket sales, concessions revenue, BZS funding drives, and MDC's annual budget appropriations. Estimates of how much income could come from each of these sources have not been prepared. Policies concerning how costs should be apportioned among these potential sources have not been developed.

Several particularly significant unresolved issues exist concerning possible costs and projected revenues. For example, one preliminary energy cost estimate, completed by the New England Telephone Company in 1982, estimated the pavilion's energy costs at approximately \$500,000 annually.

On the revenue side, questions about maximum feasible ticket prices have only begun to be addressed. Policies concerning the relationship between ticket prices and the desired demographic characteristics of pavilion visitors have not been settled. In addition, the pavilion's financial prospects have not been related to costs and revenues asso-

ciated with other MDC and BZS programs at Franklin Park and the Stone Zoo.

MDC has not demonstrated
that construction utilizing
only currently available
funds is advisable

When the design of the minimum package was made in the second amendment to Weidlinger's contract, in September 1980, the cost of constructing the entire package was estimated at \$13.5 million, \$3.5 million more than MDC had available. In order to address the possibility that MDC would be unable to obtain additional funding from the Legislature, Weidlinger's amended contract required him not only to develop all construction documents needed to build the entire \$13.5 million minimum package, but also to prepare, as an alternative, a special scaled-down contingency package consisting of construction documents needed to build "agreed upon alternates and/or deletions of construction work" whose total cost would not exceed the funds at hand which MDC had. The amendment to Weidlinger's contract gave the consultant no indication that any of the specific utilities, site work, or exhibit work encompassed by the full minimum package would have to be included in the special contingency package. MDC's lack of direction concerning the content and priorities of the contingency construction package alternatives suggests that the agency had not yet identified possible alternatives or assessed their relative advantages and disadvantages.

Project Manager Davidson states that this is not the case. According to him, MDC has long been aware that utilities must be the first priority, since the completed pavilion shell will be damaged unless utilities are installed. Davidson noted, for example, that some nine months after Weidlinger's contract was amended, MDC had to install electric and oil facilities in the pavilion shell through a construction

change order, in part to ensure that the empty building could be heated in the winter, as this heat was necessary, he explained, to melt snow on the fabric roof which otherwise could collapse under the snow's weight.

Leaving aside what MDC's undocumented priorities may be concerning a construction package that would have to be carried out only with currently available funding, the fact remains that as early as March 1983, according to an interview with Davidson, Weidlinger had not yet submitted the required alternative construction package. Davidson said, however, that two ideas currently being discussed by MDC and BZS are 1) construct all site and utility work but no interior exhibits (this would leave the shell empty and unusable), and 2) construct all exhibits but no utilities (this would make it possible to open the pavilion but not to keep the plants alive).

The quality of these alternatives suggest that careful study and full public disclosure should be insisted upon before construction is allowed to begin on anything less than the full minimum package.

Finding 3.

Questions Concerning Johnson's Past Performance Have Not Been Addressed

Robert Davidson and other MDC officials have made it clear they favor choosing Jerry Johnson as the Tropical Forest pavilion's exhibit designer-producer. Yet there are indications that Johnson's past performance on the zoo design project may have been unsatisfactory in several important respects.

Under the terms of his subcontractor's agreement with Weidlinger Associates, Johnson was expected to provide, and

did submit, three important products: a preliminary cost estimate for all interior exhibits; architectural detailing of educational exhibit panel construction and other exhibit related construction; and specifications outlining the scope and standards of EDP work. According to interviews with Weidlinger Project Manager Kirmani and MDC Project Coordinator Davidson, Johnson's cost projections were completely unreliable, his architectural details did not work, and his specifications did not explain how the EDP contractor and general contractor would interface and coordinate. In each case, according to Kirmani and Davidson, Weidlinger Associates was forced to do Johnson's work over at its own expense. In spite of these problems, both Kirmani and Davidson said that they would have no hesitation recommending Johnson to do exhibit design work, emphasizing that Johnson's design talents are nationally recognized.

Johnson's capacity to meet contract deadlines has also been called into question. BZS' Education Director, who participated with others in a BZS committee that reviewed Johnson's early design work for the pavilion's exhibits, stated that Johnson was often late in meeting submission deadlines, frequently submitted incomplete work, and was essentially inflexible about changing his design approach to accommodate BZS' concerns and perspectives. Moreover, in the delay-plagued early history of the zoo project, Johnson was blamed by the prime architectural design consultant for contributing to the project's failure to meet schedules. In an October 8, 1975 letter to MDC's Chief Construction Engineer Francis Bergin, the Architect stated that Johnson had failed to complete the exhibit design within the 24 weeks specified in his contract. Noting that Johnson's work was supposed to be completed on September 11, 1975, nearly a month earlier, the Architect stated:

"At that time we notified Mr. Johnson that his work was not yet complete and asked him to advise us at his earliest convenience of the anticipated time necessary to complete the work described in

his scope of services to us and the MDC. As of this date, we have not yet had a firm confirmation from Mr. Johnson on the additional time required and during this period our other consultants have reached a point where work cannot efficiently proceed without more detailed information regarding exhibits work that is yet to be issued by Mr. Johnson's office."

None of these alleged instances of poor performance on Johnson's part seem to have been formally called to the Commission's attention by MDC's design consultant or MDC's project coordinator. It is also clear that the Designer Selection Board was not informed of these possible questions and did not discover them when it reviewed Johnson's capabilities and designated the firm as the first-ranked EDP finalist.

Finding 4.

Conflict of Interest Statutes May Be Violated Should MDC Sign a Contract With Jerry Johnson

Chapter 268A provides that no firm or person may:

"...directly or indirectly bid on or be awarded a contract for any construction project if they have participated in the engineering or environmental analysis thereof."

The apparent purpose of this prohibition is to prevent a firm which has planned, designed, analyzed, or otherwise influenced the character, scope, or budget of a public construction project from benefiting financially from that influence by obtaining a contract to construct its own design. Johnson's firm has worked under MDC contract planning and designing the same exhibits which it would be paid to construct were it awarded the EDP contract.

Technically, of course, it could be argued that the conflict of interest prohibition in question does not apply to the EDP contract because the statute uses the word "engineering" rather than "design," whereas Johnson's past contracts with the MDC involved "designing" rather than "engineering" the Tropical Forest exhibits. To evaluate this argument, it would seem prudent to have the State Ethics Commission, which enforces the conflict of interest statutes, rule on whether these statutes apply to the award of the EDP contract.

According to Robert Davidson, Jerry Johnson may be retained by MDC as "exhibit supervisor" in the event he is not selected as the EDP contractor. In light of the purposes of the State's conflict of interest laws, the same apparent conflict of interest that could preclude Jerry Johnson from obtaining the EDP contract would seem also to preclude him from obtaining a contract to supervise the EDP contractor.

Finding 5.

Designer Selection Statutes Will Apparently Be Violated Should MDC Sign a Contract With Any Current EDP Finalist

As explained below, two important provisions of the State's designer selection statutes appear to have been ignored by the Designer Selection Board in reviewing finalists for the exhibit designer-producer contract. Consequently, it is possible that unsuccessful EDP applicants might challenge in the courts any contract MDC signs, potentially delaying completion of the pavilion for an indeterminate period of time.

DSB sanctioned an apparently
legally prohibited firm to
perform design services

Chapter 7, section 30I(d) of the General Laws provides that:

"A designer or programmer appointed to do a feasibility study, master plan or program for a project shall be ineligible for appointment to perform the design services for that project."

The purpose of this prohibition is to prevent a firm which has developed master plans, analyzed feasibility, or produced programs pertaining to a public construction project, and which thereby has influenced the character, scope, or budget of the design contract for that project, from benefiting financially from such influence by obtaining that same design contract. Over the past 11 years, Jerry Johnson's firm has been the principal master planner and programmer for the Franklin Park Zoo's animal and educational exhibits. The DSB exercised jurisdiction over selection of the EDP contractor because, in the Board's view, the EDP work involved design services and, therefore, could not be bid competitively as a construction project. Thus, in selecting Johnson as the first-ranked EDP finalist, the DSB sanctioned an appointment to perform design services which is prohibited by Chapter 7 section 30I(d).

After reviewing a draft of the above paragraph, several of the DSB members who had participated in voting Jerry Johnson the most qualified applicant argued that the report should note that there was absolutely no conscious or deliberate wrongdoing on the Board's part in selecting Johnson. According to these Board members, Johnson's prior involvement as MDC's exhibit designer on the zoo was never disclosed to them and they, therefore, were not aware of that involvement when they voted to designate Johnson's firm as the first-ranked finalist.

However, Johnson's involvement was known, according to these same Board members, by the DSB's Executive Director and by two Board members who reviewed the drawings that Johnson had prepared in his work as exhibit designer on the Tropical Forest pavilion's minimum package contract. In addition, Johnson's master brochure had made Johnson's design involvement clear. (The master brochure is a summary of past experience and current qualifications which each applicant for design work under DSB jurisdiction must submit to the Board.) The Executive Director asserts that the Board reviews each applicant's master brochure carefully in assessing applicants' qualifications and choosing design project finalists. Johnson's brochure states clearly his firm had done exhibit design work for "Franklin Park Zoo/Tropical Forest Pavilion, Phases I and II." The brochure also clearly states that Johnson's scope of design work responsibility on the project included "master plan through preparation of Contract documents."

The Inspector General has found no evidence of conscious or deliberate wrongdoing by any member of the DSB or by its Executive Director. However, four of the six members who voted to designate Jerry Johnson as first-ranked EDP finalist assert or indicate that they 1) had not reviewed the drawings that defined what the EDP project entailed, 2) had either not reviewed Johnson's master brochure or had reviewed it in insufficient depth to notice that Johnson's experience and qualifications included years of prior design work on Franklin Park Zoo exhibits, and 3) had not been informed by their Executive Director or fellow Board members that Johnson's prior design involvement legally disqualified him from being selected as the EDP contractor. These assertions by the Board's members raise serious questions about the adequacy of the Board's current designer review and selection procedures.

DSB failed to explain its
reasons for its ranking
of EDP finalists

A second apparent violation of the designer selection statute concerns Chapter 7, section 30G(c) which requires the Board, in transmitting its list of finalists to the Deputy Commissioner, to:

"...rank the finalists in order of qualification ...and include a written statement explaining the board's reasons for its choice and its ranking of the finalists."

The DSB's letter to the Deputy Commissioner states that Jerry M. Johnson, Inc. was chosen because of its previous related experience and specialization in exhibit design and production. The letter does not explain the Board's reasons for its ranking of the other finalists. As noted in the section that follows below, at least a majority of the Board members who participated in the Board's selection of finalists for the EDP contract believed that not all of the firms selected by the Board were in fact qualified to carry out the EDP work. The Board's decisions might be made more representative of its members' actual views, and more publicly accountable, if the Board complied with its statutory requirement to record its reasons for ranking the finalists it chooses.

Finding 6.

Despite Designer Selection Board Policy
That at Least Three Qualified Finalists
Be Chosen for Each Design Project,
A Majority of the Board Members
Who Participated in Choosing
EDP Finalists Have Indicated
That the Three Finalists
Chosen By the Board Were
Not All Qualified to
Carry Out the EDP Work

Chapter 7, section 30G(b) of the General Laws directs that the Designer Selection Board shall select and transmit to the Deputy Commissioner at least three finalists from among the applicants for each design contract. The same section implies, but does not explicitly state, that the Board -- using written criteria for judging all applicants' qualifications -- must find these three finalists fully qualified to perform the design services in question.

According to its Executive Director, the Designer Selection Board interprets section 30G(b) to require that at least three qualified finalists be chosen for each design contract; if three qualified finalists cannot be found among all applicants for any design contract, the Director added, the Board must readvertise for applications from designers, which it has done on at least one occasion.

The Inspector General's staff interviewed three of the six DSB members who were present at the meeting in which the EDP contract finalists were chosen. All three members said that only Johnson's firm appeared fully qualified to carry out the work.

One of the three members interviewed expressed considerable personal misgivings about the Designer Selection Board's behavior in reviewing applications for the EDP contract. He emphasized that he had spent a great deal of time and effort trying to find "even a shred of evidence" that the two firms

other than Johnson's were qualified, but was unable to do so. This same DSB member also complained that MDC staff members made it clear in responding to the Board's questions that MDC considered only one of the applicant firms -- Jerry Johnson's -- qualified to do the EDP work. In summary, this Board member volunteered, he felt the EDP selection was "an end run" around the Board's procedures.

The third Board member interviewed reported remembering "a lot of pressure on the Board" from both MDC and DCPO.⁴ It was clear, in this member's opinion, that MDC had already made commitments to Johnson; and he said he told MDC officials "it looks like you have already selected someone." Subsequently, this third Board member noted, he came to see the situation differently: he concluded that MDC wanted Johnson simply because no firms even remotely as qualified had applied.⁵

A fourth Board member, who participated in the DSB's review of applicants for the EDP contract, insisted on having DSB's records reflect that he judged one of the three finalist firms (not Johnson's) unqualified.

In short, at least a majority of the Board members who participated in reviewing applicants for the EDP contract have made it clear they believe that the DSB did not choose three fully qualified finalists for the EDP contract. Since a majority of DSB members did not formally express the view that fewer than three qualified firms had applied for the EDP contract, there was no apparent reason for the Board to read-

⁴ DCPO officials state that they exerted no pressure on the Board and cannot recall ever having any opportunity to do so.

⁵ According to Robert Davidson, the MDC made no presentation before the Designer Selection Board other than to answer questions. Davidson further asserts that 1) he was asked whether MDC had a recommendation (he declined to respond), 2) he was asked whether all the applicants were qualified (he replied, without mentioning firms by name, that one firm was qualified, two firms might be qualified, and one firm appeared not qualified), and 3) he was asked, following DSB's deliberations, whether DSB's action satisfied the MDC (he replied that it did).

vertise. However, the three Board members referred to earlier, who told the Inspector General's staff that not all of the Board's three finalists actually were qualified, also said that they felt justified in not readvertising the EDP contract because they believed Johnson was outstandingly qualified. In addition, one of the three Board members interviewed reported that "there definitely was pressure from MDC not to readvertise because of the time pressure" in getting the capital budget request for exhibit fabrication through the Legislature.

Finding 7.

DSB Did Not Advertise the EDP Contract Widely Enough

Chapter 7 section 30E of the General Laws requires that each contract for designer services for projects subject to the Board's jurisdiction be publicly advertised 1) in a newspaper of general circulation in the area in which the project is located, 2) in the Central Register, and 3) "in such places as the board requires by regulation." The DSB advertised the EDP contract in the Central Register, in several Massachusetts newspapers, and in the Dodge Reporter. Since the Board had not promulgated regulations defining any additional requirements, its advertisement of the EDP contract complied with Chapter 7 section 30E. Nevertheless, given the Board members' reservations discussed above, it seems clear that the contract should have been advertised more widely in order to ensure that the required three qualified finalists would be obtained.

The DSB Executive Director recalls Board members discussing whether they should advertise nationally among firms having experience in zoological exhibit design and fabrication, in order to achieve competition among the relatively

small number of firms having the unique experience and highly specialized skills required by the EDP contract. The Director also recalls the Board deciding that they would advertise only in Massachusetts -- their normal practice --but that MDC was free to advertise more widely if it desired. However, MDC officials explained the absence of national advertising by saying that DSB insisted on responsibility for determining how advertising should be handled.

DCPO's General Counsel said he believed he recalls an agreement that MDC would provide DSB with a list of specialized, nationally circulated design and zoological periodicals in which DSB could advertise for EDP contractors. But the DSB's Director said he remembers no such agreement, and explained that DSB did not advertise nationally largely because it did not know how to do so.

None of the DCPO, MDC, or DSB officials who participated in the decision on how widely to advertise the EDP contract could document any discussions concerning that decision.

Finding 8.

DCPO's Decision Not To Exercise Jurisdiction Over the Pavilion Project Has Deprived the Project of the Safeguards That DCPO Was Created To Provide

On July 1, 1981, one year after its enactment, Chapter 579 became effective, making the Division of Capital Planning and Operations responsible for administering State agencies' building projects. Chapter 579 centralized responsibility for building project management in DCPO in order to help ensure professional and objective administration of agencies' capital construction projects.

As of July 1, 1981, the nine year-old Franklin Park Zoo development project had narrowed to design of the minimum package of elements necessary to complete and open the Tropical Forest pavilion. According to consultant progress reports, construction documents for most of the exhibits associated with general construction, and exterior work were between forty and seventy percent complete. A number of critically important issues had not yet been resolved, however.

First, BZS and MDC had not agreed on the exhibit design approach. Second, the two organizations' respective roles and responsibilities for the pavilion's funding, operations, security, and exhibit management had not been clarified. Third, the issue of whether the graphics component of the educational exhibits should be completed as part of the minimum package contract had just been raised. Fourth, the financial feasibility of operating the pavilion had not been determined. Fifth, the feasibility of building the package with the money currently available had not been demonstrated. Sixth, plans concerning subsequent phases of the zoo development project, and their relationships to the Tropical Forest pavilion, were unclear.

Presently, all of these important issues are still unresolved. As a result, considerable waste of public funds is likely should construction proceed as currently contemplated. One other important issue had not been resolved as of July 1, 1981 -- how to contract for fabrication of the pavilion's exhibits. Subsequently, MDC elected to contract for exhibit fabrication by methods which would require neither competitive purchasing of materials nor competitive bidding for fabrication sources.

Had DCPO exercised its jurisdiction over the project, it would have been in a position to resolve the important issues identified above. DCPO also could have insisted that a complete set of construction documents be produced, as the minimum design package contract required. If design issues had

been thus resolved, design work finished, and construction documents completed, it then would have been feasible for DCPO to obtain competitive bids for the exhibits' fabrication.

Instead, however, DCPO elected not to exercise jurisdiction. Its decision was expressed in the previously noted letter from Deputy Commissioner Stuart Lesser to MDC's Contract Administrator, which reads, in part, as follows:

"...please be informed that it is the DCPO's position that we will not exercise any jurisdiction over building projects that were under a design contract executed prior to January 1, 1982, the effective date of the new designer selection procedures mandated by Chapter 579 of the Acts of 1980. The DCPO does not intend to disrupt the administration of any building project that was underway (under design) prior to January 1, 1982."

The DCPO policy expressed in the May 28, 1982 letter was unnecessarily inflexible. DCPO declined to exercise jurisdiction over any project under a design contract. Thus, under this policy, DCPO would not consider the nature of the design contract, the size of the project, the stage of the project's design or problems previously encountered in the project. It clearly seems arguable that DCPO should have exercised jurisdiction over the zoo project in order to remedy the problems identified in this report.

Three additional facts dictated that DCPO consider taking jurisdiction: 1) a contract for constructing the pavilion's interior had yet to be signed; 2) a new design contract for interior exhibits was being sought; and 3) the Tropical Forest pavilion was the first part of a larger zoo development plan which conceivably could entail years of additional construction and expenditures of millions of additional dollars.

At the very least, DCPO should have considered the facts of the case, and assessed the merits and costs of exercising jurisdiction; this would have given DCPO an opportunity to

discover the problems that existed. Instead, DCPO applied an inflexible policy (the letter quoted above applied to all MDC projects) to the zoo project without considering whether, given the facts of the particular case, DCPO's involvement would serve the public interest.

The problems evident on July 1, 1981 have not yet been resolved. Their persistence lends additional weight to the proposition that DCPO should exercise jurisdiction over the project and help ensure its appropriate conclusion.

Finding 9.

MDC Has Largely Failed to Implement the SGH Report's Recommendations

Based on its exhaustively detailed review of the zoo project's prior seven year history, the SGH report made ten general recommendations to MDC concerning future planning, design, and construction work for the zoo. The Commission has acted on some of these recommendations, but its overall response leaves considerable opportunity for improvement. Listed below are the SGH report's ten recommendations, followed by observations made in our review of the pavilion exhibit design effort during the past three years.

SGH Recommendation 1.

"Clearly define the duties, responsibilities, and interaction of all agencies and firms involved in the programming, planning, and design of the project, and insure that all parties understand and follow the agreed-upon arrangement. In particular, we suggest that the MDC and BZS develop a formal, detailed agreement as to their respective roles..."

In a recent interview, Robert Davidson told the Inspector General's staff that "we are right where we were ten years ago" with respect to confusion over the respective

roles and responsibilities of MDC and BZS. Davidson said he had tried repeatedly to get the Commission to develop a formal written agreement with BZS but had been frustrated in his attempts to do so. Davidson stated in one interview that the failure to clarify the two organizations' relationships to one another, and to the zoo's needs and functions, is the most serious obstacle to the Tropical Forest's successful completion.

SGH Recommendation 2.

"Establish and maintain clearly defined, efficient lines of communication between the [the MDC Director of Zoos, the exhibit designer, and the BZS Educational Director.] Regularly scheduled meetings should be held between appropriate individuals. Accurate, detailed records should be maintained of all meetings and important telephone conversations."

Regular meetings between senior BZS and MDC staff were initiated in the fall of 1980, shortly after the SGH report appeared. The meetings stopped about a year after they started, however, when the BZS' Director left and a replacement was not hired. MDC's Project Coordinator kept notes on only a few of the initial meetings. In general, he did not document important disputes and decisions about exhibit design approaches.

SGH Recommendation 3.

Appoint an MDC project manager with the initiative, ability, and authority to direct the project. This individual, reporting to the MDC Chief Engineer and MDC Commissioner, should be the supreme authority in the overall project organization and should be responsible for the overall coordination, communication, scheduling, and programming of the project. He should be supported by adequate staff and facilities and should have the authority to make important design decisions, subject to the general policy established by his supervisors and the Commission. Key to this person's function should be the expediting of the flow of design information and decisions. If the MDC should find that it is unable to provide such an individual and staff, it may wish to consider

the alternate (although probably less desirable) solution of engagement of a project management consultant."

Davidson was appointed project coordinator, reporting to the chief engineer, soon after the SGH report was released. He appears to have been successful, compared to the project's earlier history, in expediting the flow of design information and decisions between MDC and the design team, though less so between those two actors and BZS. He does not seem to have been given the authority to make all important design decisions without the Commission's explicit approval in each case. He was hired as a consultant rather than as a staff member, which the SGH report termed a "probably less desirable" solution. The report did not elaborate on this assessment; it may have stemmed from the fact that having a personal financial interest in a project's expeditious completion could make it difficult for a consultant project manager to strike a prudent balance between program progress and fiscal stewardship.

SGH Recommendation 4. "Document important facts as completely as possible. Do not rely on word-of-mouth. The importance of accurate records of meetings and significant telephone conversations cannot be over-emphasized."

The second amendment to Weidlinger's contract, signed just as the SGH report was released, required Weidlinger to keep a detailed log of contacts, activities, and decisions concerning the zoo design project. It also required Weidlinger to have all subcontractors keep similar logs. These logs were to be submitted to the MDC. None of these things were done, according to both Kirmani and Davidson, because "they did not seem necessary."

More generally, several interviews with Kirmani and Davidson established that documentation on project decisions, design issues, cost estimates, and other important matters

frequently had either not been prepared or could not be located.

SGH Recommendation 5.

"Respond to requests for information or decisions as promptly and as precisely as possible. Insist that other organizations and individuals do the same."

MDC's responsiveness to the design team's requests for information and approvals appears to have improved after the SGH report. Communications between Johnson and Weidlinger did not always seem adequate, however, as illustrated by the example given earlier in which Johnson insisted in writing that he be given a contract and then waited seventeen months before receiving it.

SGH Recommendation 6.

"Constantly monitor the progress of the work of consultants and other contractors. Establish an agreement as to how this is to be accomplished (e.g., progress drawings or reports) before each contract is signed. Document any delays or work stoppages and their causes."

Davidson maintained that he never monitored the work of Johnson "or any other subcontractor." Instead, he said, he held Weidlinger fully accountable and responsible for the entire project. MDC's decision to focus all project responsibility on Weidlinger, and to have Weidlinger report to MDC's project coordinator, clearly reflected the SGH report's emphasis on achieving clear lines of accountability and centralized control.

While this general structure of reporting and monitoring appears appropriate, its quality was, in important respects, questionable. For example, a schedule was established for submitting, reviewing, and approving minimum package design documents, but when key documents -- such as draft EDP specifications and exhibit fabrication timetables -- were not submitted to MDC as scheduled, no action resulted.

MDC's monitoring of Weidlinger's EDP cost estimate was also of questionable quality, in that it ratified, without documentation, a cost projection that everyone admits was soft, enabling that projection to become the official EDP contract ceiling.

In addition to reviewing scheduled submissions, Davidson states that he monitored Weidlinger's progress by reading the firm's monthly progress reports. These reports were fairly general, however, and sometimes omitted important details. One report, for example, observed that exhibit design approaches were being discussed with BZS, but failed to note that BZS was raising serious objections to these approaches. Another report stated that "final working drawings" for exhibits were nearing completion, but gave no indications that the set of drawings was less than what was necessary to construct "complete and operational" exhibits as Weidlinger's contract required.

It would not have been inconsistent with the SGH report's recommendations to have recognized that Johnson's key role (in what was, after all, largely an exhibit design centered project) made him something more than just "another one of Weidlinger's subcontractors," and warranted supplementary monitoring by MDC. Such monitoring need not have blurred or compromised Weidlinger's ultimate responsibility as the design team's coordinator, and might have helped MDC obtain a design product which was more complete and more responsive to the expressed desires of both MDC and BZS.

SGH Recommendation 7.

"Expedite the processing of invoices. This is largely a matter of monitoring the progress of work and establishing prior agreement on format and required backup material for invoice submissions. It is important to take precautions against payments creeping ahead of the scope of work completed to date; on the other hand, excessive conservatism on the part of the MDC in approving payments can cause undue hardship to the consultant and strain relationships."

On August 5, 1981, almost a full year after the above recommendation appeared in the SGH report, Jerry Johnson wrote Kirmani to complain that MDC owed his firm \$112,000 for work done, \$62,000 of which was three months past due, and \$48,000 of which was four months past due. MDC officials agree that the Commission was responsible for this problem but state that the matter has been resolved. We did not delve into the cause of this late payment or the means by which it was resolved, but it is appropriate to observe that late payment of design consultant's legitimate invoices was identified by the SGH report as an important problem that MDC should not permit to recur.

We were not able to obtain other than very general responses to the question of exactly how MDC knew its payments to Johnson and Weidlinger reflected the amount of work actually done up to that point. If the fiscal control problem referred to in the above SGH recommendation has since been remedied, there is little indication of it.

SGH Recommendation 8.

"Handle requests from contractors for additional time and funding as quickly and efficiently as possible. Slow responses result in repeat requests, wasted time, and delays."

MDC appears to have implemented this SGH recommendation more successfully than the others.

SGH Recommendation 9.

"Determine the basis on which construction cost estimates provided by consultants have been made. Verify all estimates used for contractual purposes or as a basis for decisions, or at least determine that they were prepared by competent individuals. Ascertain the assumed start date and duration of construction, assumed inflation rate, the contingencies provided for, allowances for project special conditions, and other assumptions made. Remember that the validity of the estimate depends heavily on the completeness and accuracy of the input information."

As noted earlier, the above recommendation appears not to have been followed in the case of the EDP construction budget.

SGH Recommendation 10.

"Bear in mind the importance of the various design milestones: schematic design, design development, and construction documents. Insure that each phase is adequately developed and that budgets and estimates correlate before approval of initiation of the next phase."

The findings presented earlier in this section indicate that MDC presently plans to proceed to the construction phase of the exhibit project without a fully complete set of construction drawings, specifications, and strategies, without agreement with BZS on basic aspects of the exhibit design's approach, and without knowing whether opening and running the pavilion would be financially feasible. It also is evident, as explained earlier, that MDC decided to proceed with the minimum design package in the fall of 1980 -- just as the SGH report was released -- without assurance that it would be feasible with funds then available to construct the package once the design contract had been completed.

A striking parallel appears between MDC's decision, in the fall of 1980, to proceed with construction documents for the minimum design package, and MDC's decision, in 1974, to prepare construction documents for the entire zoo project even though a) MDC and BZS had not yet agreed on the zoo's educational program, b) necessary information on site conditions and utilities was not yet available, and c) MDC had available only a fraction of the funding it would need to construct that which was about to be designed.

The SGH report singled out this 1974 decision as "a milestone at which the project took a major turn for the worse." That such a serious mistake could be repeated in so

similar a fashion so soon after being called to MDC's attention, suggests that the Commission needs to develop a new internal organizational mechanism for achieving needed improvements in its procedures and project management controls.

PART FOUR
RECOMMENDATIONS

The design of the minimum package has revealed or created problems which could lead to considerable waste of public funds, violation of law, and other undesirable consequences. Recommendations for addressing these problems are given below. The recommendations concern:

- the Designer Selection Board's selection of EDP finalists;
- completion of minimum package construction documents;
- feasibility of proceeding with minimum package construction;
- management of minimum package construction; and
- future design and construction contracts.

Recommendations Concerning
DSB's Selection of
EDP Finalists

Award of the EDP contract to any of the three current finalists could generate legal challenges and protracted project delays.

The Inspector General recommends that:

1. The MDC should notify all three firms selected by the DSB as EDP finalists that the Commission will not negotiate an EDP contract with any of these firms because apparent violations of State statutes could make such a contract invalid.

2. The MDC should ask the State Ethics Commission to provide an advisory opinion as to whether award of the EDP or exhibit supervisor contract to the firm of Jerry M. Johnson Inc. would violate the State's conflict of interest statutes.

Recommendations Concerning
Completion of Minimum
Package Construction
Documents

The construction documents produced under the minimum package design contract are insufficiently complete to permit effective control of construction contract costs and schedules.

The Inspector General recommends that:

3. The MDC should enforce its contract with Weidlinger Associates for all design work required to construct a complete and operational Tropical Forest pavilion. Specifically, the MDC should require Weidlinger to submit, at no further cost to the Commonwealth, the following contracted work products pertaining to the Tropical Forest pavilion exhibits:
 - 3.1 finished original drawings and artwork;
 - 3.2 photographs;
 - 3.3 final copy for educational panels;
 - 3.4 plant heights;
 - 3.5 sufficiently complete drawings of artificial rockwork and supporting scaffolding to fix the general contractor's construction and hoisting responsibilities and to clarify details for the exhibit constructor to bid on;

- 3.6 a written strategy and schedule for exhibit construction with emphasis on pavilion access and moving of materials and equipment within the pavilion;
- 3.7 a written strategy and time schedule for plant acquisition, holding, delivery, planting, and maintenance;
- 3.8 completed specifications for exhibit materials and installations;
- 3.9 samples of exhibit finishes and surfaces where required in order to give prospective exhibit contractors a reasonable idea of the type of work required;
- 3.10 all other work necessary to produce biddable construction documents for "complete and operational exhibits," as required by Amendment II to MDC's contract with Weidlinger Associates.

Recommendations Concerning the
Feasibility of Proceeding
With Minimum Package
Construction

Unresolved issues and missing information raise questions about the feasibility of proceeding with construction of the Tropical Forest pavilion's exhibits at this time.

The Inspector General recommends that:

- 4. The MDC should produce evidence of the feasibility of proceeding with minimum package construction before construction bids are solicited. This evidence should include:
 - 4.1 completed, biddable exhibit fabrication drawings, specifications, and construction strategies (see recommendation 3 above);
 - 4.2 written certification from both MDC and BZS that the design approach embodied in the construction documents is fully satisfactory

to both parties and will require no further changes;

- 4.3 a written agreement between MDC and BZS specifying their respective roles, responsibility, authority, and decision-making procedures with respect to matters affecting the Tropical Forest pavilion and related aspects of the Franklin Park Zoo's operations. The agreement should cover:
- designing and modifying exhibits;
 - funding operating costs;
 - managing the facility;
 - funding capital costs;
 - caring for animals;
 - providing security;
 - managing energy consumption and maintaining energy control systems; and
 - developing and administering educational programs.
- 4.4 reliable cost estimates for all exhibit construction, broken down in sufficient detail to facilitate effective fiscal control over contract negotiations and subsequent contractor payments, change orders, substitutions, and scope changes;
- 4.5 completed studies of the pavilion's operating costs, maintenance budgets, security provisions, and animal management program;
- 4.6 projected funding sources and funding commitments, where possible, for those annual costs;
- 4.7 a definite plan for achieving the project management improvements recommended in the SGH report;
- 4.8 an evaluation of alternative approaches to procuring and managing exhibit fabrication, including recommendations concerning the number of separate exhibit contracts that should be let and methods of managing and

coordinating the work of the exhibit fabricator(s) and general contractor;

- 4.9 an assessment of the minimum package's relationship to current master plans for the zoo's future development;
- 4.10 a study or program as required by Chapter 29 section 7K of the General Laws.

Recommendations Concerning
Management of the Minimum
Package's Construction

Current and future phases of the Franklin Park Zoo development project clearly need the objective professional project management that DCPO was established to provide.

The Inspector General recommends that:

- 5. The Deputy Commissioner should review the Tropical Forest pavilion project and associated zoo development plans, and should determine whether it would be in the public interest for DCPO to exercise jurisdiction as authorized by Chapter 579.
- 6. If the Deputy Commissioner decides that DCPO SHOULD exercise jurisdiction, he should:
 - 6.1 review the feasibility of proceeding with minimum package construction (using the evidence produced by MDC in recommendation 4 above);
 - 6.2 evaluate the costs and consequences of building alternative portions of the minimum package should construction bids plus other costs exceed available funding;
 - 6.3 withhold his approval to proceed with the proposed construction, as authorized by Chapter 29 section 7K of the General Laws, until the assessments of feasibility re-

ferred to in the preceding two paragraphs indicate that construction of the minimum package can be accomplished within the appropriation or authorization for that project;

- 6.4 exercise his other mandated responsibilities for supervision, control, and management of the minimum package construction project as mandated by Chapter 579 of the Acts of 1980.

7. If the Deputy Commissioner decides that DCPO SHOULD NOT exercise jurisdiction over the project, he should:

- 7.1 identify the costs and benefits of exercising jurisdiction over the project versus declining to do so;
- 7.2 explain the considerations which he found to override Chapter 579's emphasis on centralizing capital planning functions in DCPO;
- 7.3 request that the MDC submit the evidence of feasibility referred to in recommendations 4 and 6.2 above;
- 7.4 review and approve the MDC's evidence of feasibility;
- 7.5 prepare a written delegation of authority to MDC for management of the project's future activities;
- 7.6 include in that delegation: a) the broad policy framework under which MDC will be expected to proceed (including use of competitive bidding in procuring exhibit materials, equipment, and services); b) a requirement that DCPO must approve deviations from that policy framework; and c) the Deputy Commissioner's right to revoke the delegation at his discretion.

8. The Legislature should delete that part of MDC's capital outlay request which would exempt fabrication of the Tropical Forest pavilion's exhibits from competitive bidding statutes.

Recommendations Concerning
Future Design and
Construction Contracts

The zoo case study's findings identified problems that also exist in other public design and construction projects. The Inspector General recommends that:

9. The Designer Selection Board should develop, publish, and disseminate written guidelines describing its procedures. The guidelines should encompass all matters that could impact significantly on achieving the designer selection statute's purposes mandated by Chapter 7 section 30B of the General Laws. The guidelines should include, but not be limited to, policies, procedures, and standards for:
 - 9.1 approving extensions and continuations of design services;
 - 9.2 advertising design contracts;
 - 9.3 evaluating applicants and selecting qualified applicants including checking references, measuring past contract performance, assessing financial strength, and evaluating administrative capacity;
 - 9.4 readvertising for applicants when three qualified applicants are not found; and
 - 9.5 documenting the Board's reasons for its choices and rankings of finalists.
10. The MDC should establish an internal contract review unit reporting directly to the Commissioner. The unit would continuously review the Commission's contracting systems, policies and procedures, and would ensure that the controls contained therein are adequately designed and faithfully implemented. The unit would focus on large, complex, or otherwise significant MDC construction contracts.

11. The Deputy Commissioner should decide to exercise full jurisdiction over all projects otherwise subject to Chapter 579, except for projects in which a decision not to exercise jurisdiction is explicitly justified by the analysis and disclosures outlined in recommendations 7.1 and 7.2 above.

APPENDIX A

The following individuals were interviewed, individually, in meetings, or by phone, in connection with the Inspector General's review of exhibit planning and design for Franklin Park Zoo's Tropical Forest pavilion:

Timothy Anderson	Former Executive Director, Boston Zoological Society
George Beaton	Executive Director, Designer Selection Board
Alan Burne	Director, Office of Project Management, Division of Capital Planning and Operations
Robert G. Davidson	Consultant, Metropolitan District Commission Project Manager for design of Tropical Forest pavilion exhibits
Robert Garrity	Chief Counsel, Division of Capital Planning and Operations
Inge Heckel	Executive Director, Boston Zoological Society
Jerry Johnson	President, Jerry M. Johnson, Inc.
Minhaj Kirmani	Weidlinger Associates Project Manager for design of the Tropical Forest pavilion and its exhibits
Lydia Kowalski	Director of Education, Boston Zoological Society
Stuart Lesser	Former Deputy Commissioner of Administration and Finance for Capital Planning and Operations
John Manton	State Purchasing Agent
Richard A. Nylen	Former Commissioner, Metropolitan District Commission

Paul Pritzker	Former Chairman, Designer Selection Board (Registered Engineer)
Eliot Rothman	Former Designer Selection Board member (Registered Architect)
Bernard Spring	Vice Chairman, Designer Selection Board (Registered Architect)
Paddy Wade	Trustee of the Boston Zoological Society and Chairman of its Education Committee

The following individuals reviewed the report, and offered responses which in many cases were incorporated into the final draft:

George Beaton	Executive Director, Designer Selection Board
Stephen Burgay	Assistant to the Commissioner, Metropolitan District Commission
Philip Burne	Designer Selection Board member (Registered Architect)
Robert G. Davidson	Consultant, Metropolitan District Commission Project Manager for design of Tropical Forest pavilion exhibits
Paul Donnelly	Designer Selection Board member (Registered Architect)
Robert Garrity	Chief Counsel, Division of Capital Planning and Operations
William Geary	Commissioner, Metropolitan District Commission
Samuel Hanna	Designer Selection Board member (Public Member)
Inge Heckel	Executive Director, Boston Zoological Society

Richard Leahy	Chairman, Designer Selection Board (Public Member)
Tunney Lee	Deputy Commissioner of Administration and Finance for Capital Planning and Operations
Stuart Lesser	Former Deputy Commissioner of Administration and Finance for Capital Planning and Operations
Paul Martini	Designer Selection Board member (General Contractor)
William Murphy	Designer Selection Board member (Registered Engineer)
Julia O'Brien	Director of Planning, Metropolitan District Commission
Ruth Paven	Legal Counsel, Division of Capital Planning and Operations
Paul Pritzker	Former Chairman, Designer Selection Board (Registered Engineer)
Edward Shooshanian	Designer Selection Board member (Registered Engineer)

APPENDIX B

AGENCY RESPONSES

The Commonwealth of Massachusetts
Metropolitan District Commission
20 Somerset Street, Boston 120

WILLIAM J. GEARY
COMMISSIONER

April 26, 1983

Mr. Joseph Barresi
Inspector General
One Ashburton Place
Boston, MA 02108

Dear Mr. Barresi:

Prior to my becoming Commissioner of the Metropolitan District Commission, your office began and largely completed an investigation into the construction program at Franklin Park Zoo's Tropical Forest Pavilion. Your now final report is of special interest to me for a number of reasons: First, the Dukakis Administration believes that the Tropical Forest Pavilion is a critical and necessary project which must be completed and operational as soon as possible. Second, your report identifies a number of legal, management and construction issues which are of concern to this Administration as well as your office.

While we may not ascribe to all your conclusions, we applaud your efforts and intend to implement many of the sound recommendations embodied in your text. It is my hope that by combining your recommendations with our fresh perspective, we can restore credibility to this worthwhile project and provide the public with an outstanding facility that is long overdue.

I wish to begin this process by endorsing a theme which runs through your entire report and which I have independently examined since my appointment. Notwithstanding any prior policy or statement, the Metropolitan District Commission believes that the Tropical Forest Pavilion's exhibit-fabrication work should NOT be exempt from the competitive bidding process. While, arguably, some of the exhibit work is deserving of no-bid treatment as permitted by law, the bulk of the fabrication is not of such nature as to require a deviation from what must be the rule rather than the exception, to wit, public contracts ought to be awarded to the lowest qualified bidder.

Our independent analyses also lead us to concur on a number of other important issues:

-as stated in Recommendation Number 4, the Metropolitan District Commission and the Boston Zoological Society must

once and for all agree upon a management plan which delineates without question our respective roles and the lines of authority which must be followed during and after the construction of the Zoo;

- the Metropolitan District Commission will begin immediately to draw upon DCPO's expertise in a constructive fashion and in a manner which is agreeable to all parties. Indeed, I have already asked DCPO to make available one of its engineers for on-site inspection of the Tropical Forest Pavilion and I will continue to request this technical assistance as we move forward.
- the Metropolitan District Commission will, consistent with Recommendation Number 2, ask the State Ethics Commission to provide an advisory opinion concerning the propriety of awarding the EDP contract to the firm of Jerry M. Johnson, Inc.
- Consistent with Recommendation Number 10, the Metropolitan District Commission, in 1981, created an internal contract administration and review office which has a direct reporting relationship to the Commissioner. I have already begun an examination of this unit and intend to review its operation and effectiveness.

Your report makes a number of other recommendations which cannot be addressed at the present time. Several of those, such as Recommendations Number 5,6,7 and 9, apply to agencies other than the Metropolitan District Commission and therefore fall beyond our purview. Others involve the Metropolitan District Commission, but require further examination before a formal response is posted. However, be advised that this agency will:

- examine whether it is unlawful to negotiate an EDP contract with any or all of the three finalists as alleged in Recommendation Number 1; and
- instruct its general counsel to pursue Recommendation Number 3 and review our contract with Weidlinger Associates, and require that organization to fulfill all of its contractual commitments vis a vis the design and construction of the Franklin Park Zoo.

I will report our findings on these issues to you in the upcoming weeks and thus reserve my right to reply more formally as your regulations permit.

For now, I would simply restate what must not be forgotten; the Franklin Park Zoo must be completed. Your report, coupled with the Metropolitan District Commission's constructive response, mark the start of this regeneration. The public has reason to expect-and demand- that this process continue until Franklin Park Zoo becomes a reality.

Sincerely,

William J. Geary

FRANK T. KEEFE
SECRETARY

TUNNEY F. LEE
DEPUTY COMMISSIONER

The Commonwealth of Massachusetts

Executive Office for Administration and Finance

Division of Capital Planning and Operations

One Ashburton Place

Boston, Massachusetts 02108

617-727-4050

April 15, 1983

Mr. Joseph Barresi
Inspector General
One Ashburton Place
Boston, MA 02108

Dear Joe:

Attached please find the DCPD's response to the Inspector General's MDC Zoo Report. It is my understanding that the response will be incorporated into the final report.

Thank you for your consideration in this matter.

Very truly yours,

A handwritten signature in dark ink, appearing to read "TUNNEY F. LEE", with a long horizontal flourish extending to the right.

TUNNEY F. LEE
Deputy Commissioner

TFL/RPG/mac

Attachment

cc: Norman Drucker

FRANK T. KEEFE
SECRETARY

TUNNEY F. LEE
DEPUTY COMMISSIONER

The Commonwealth of Massachusetts

Executive Office for Administration and Finance

Division of Capital Planning and Operations

One Ashburton Place

Boston, Massachusetts 02108

617-727-4050

MEMORANDUM

TO: Joseph Barresi, Inspector General
FROM: Tunney F. Lee, Deputy Commissioner
DATE: April 13, 1983
RE: DCPO's Response to the Inspector General's MDC Zoo Report

Introduction

The Inspector General's MDC Zoo Report ("the Report") is somewhat critical of the DCPO's limited involvement on the Zoo project. The DCPO is particularly concerned with the Report's findings and recommendations concerning the DCPO's jurisdiction, or lack thereof, over the MDC Zoo project. The particular sections of the Report with which the DCPO takes issue are found on pages D31A, D31B, D31C, E6, E7, and E8. Since the issues in question revolve solely around the question of DCPO's jurisdiction, the response is best stated in a general narrative format.

DCPO Created By Chapter 579

DCPO was created by Chapter 579 of the Acts of 1980. Most of the provisions of Chapter 579 became effective on July 1, 1981. Those sections of Chapter 579 that expanded the Designer Selection Board's (DSB) jurisdiction over all State building projects, and altered many provisions regarding the designer's contractual responsibilities on state projects, became effective January 1, 1982.

When the DCPO became a legal entity in July 1, 1981, it became apparent that a standard administrative policy was needed to enable the DCPO to implement its jurisdiction to cover all State building projects. That policy had to be consistent with all the provisions of Chapter 579, could not delay or impair the progress of on-going building projects, and should keep contractual disputes to a minimum.

DCPO's Jurisdiction Policy

DCPO promulgated a standard policy providing that if a state agency had a building project under design or construction on January 1, 1982, the DCPO would not exercise any jurisdiction over that project. If a project was only in the study or programming phase on that date, DCPO would exercise jurisdiction over subsequent design and construction. DCPO's policy is clear and succinct. The DCPO either has jurisdiction over an on-going project or doesn't have jurisdiction.

Application of DCPO's Policy

The Report takes the position that the DCPO's policy on exercising jurisdiction was applied too inflexibly and that DCPO should have considered each on-going project on its merits to determine whether to exercise jurisdiction. DCPO's position is that the law does not allow DCPO the leeway to pick and choose those on-going projects over which it may decide to exercise jurisdiction. The final determination regarding jurisdiction on each project was made in accordance with the standards established in the DCPO's policy. Certainly the DCPO would have found itself in a far less defensible position, both practically and legally, in taking over projects of other agencies if it adopted the Report's suggestion of reviewing the unique circumstances of each on-going project, regardless of the project's phase. DCPO's policy has been applied uniformly to all state agencies and state college and university

building authorities. It has been well accepted, it makes sense, and it has worked.

No Exemption Procedure From DCPO Jurisdiction

It is noted that Chapter 579 provides DCPO with no authority to exempt any building project from its jurisdiction, through a delegation to another agency or otherwise. This "no exemption" procedure was a product of the Ward Commission's criticism of the alleged misuse of the BBC's exemption authority to allow certain agencies to avoid safeguards in the prior law as to designer selection procedures. The Report's position, therefore, that the DCPO should review the MDC Zoo project and determine whether it should exercise jurisdiction over the project or delegate the administration of the project back to the MDC is not supported by DCPO's enabling legislation.

DCPO Review of the Zoo Project

Further, the Report takes the position that DCPO should have reviewed the status of the MDC Zoo project to determine if DCPO should have assumed total control over the project. DCPO did review the status of the MDC project in November of 1981. Because a significant portion of the project had been under construction for several years and the design plans for the final phase of work necessary to finish the project were being completed, DCPO's assumption of jurisdiction over the on-going MDC Zoo project was never seriously contemplated.

Future Review and Assistance to MDC

In accordance with our policy, the DCPO would assume jurisdiction over any future building construction work for the design and construction of additional pavilions at Franklin Park. DCPO would be willing to sit down with the MDC to determine whether DCPO involvement in the final phase of the Tropical Forest Pavilion would be of any practical benefit to the success of the Project. DCPO

is also prepared to offer the MDC any assistance or expertise in determining the best method of proceeding with the work necessary to complete the project. However, since the DCPO has no jurisdiction over the project, the decision to involve DCPO would be at the sole discretion of the MDC.

A handwritten signature in dark ink, appearing to read 'Tunney E. Lee', is written over a horizontal line.

TUNNEY E. LEE
Deputy Commissioner

TFL/RPG/mac

The Commonwealth of Massachusetts

Executive Office for Administration and Finance

Department of Administration

Office of the Executive Director

Room 1000, State House

01-77-4040

April 19, 1983

Joseph R. Barresi, Inspector General
Office of the Inspector General
One Ashburton Place, Room 1311
Boston, MA 02108

Dear Inspector General Barresi:

In response to your letter of April 13, 1983, I have requested the Executive Director to provide specific comments to your final draft of the Report on the MDC's Tropical Forest Pavilion project at the Franklin Park Zoo. (Please see the attached 10 pages, plus exhibits)

These comments have been distributed to the Designer Selection Board members but we have not had the occasion as a Board to review all of the details. Our staff has been extremely busy handling the numerous questions and requests for information relating to the 42 items of work that has been advertised. Final date for receipt of applications for 39 of the 42 projects was April 15 and we anticipate action on these projects within the next two months.

As important as this work is, the Board feels that there is at least one major issue in your report that should take precedence, and hopefully will be resolved prior to your publishing the report. Finding 6 on Page D29 of your report is inaccurate.

The statement that "a majority of the Board members who participated in choosing EDP finalists have indicated that the three finalists chosen by the Board were not qualified to carry out the EDP work" has not been resolved. This issue was specifically addressed at the DSB meeting on April 5, 1983 with your staff. According to my conversations with three of the unnamed members, they clearly disputed the alleged quotations in the report.

For instance, Mr. Pritzker did acknowledge being referred to as the second member of the Board interviewed but not in agreement with the statement: "I don't believe any other firms (other than Johnson's) were qualified." Mr. Pritzker's statement was: "I don't believe any other firms (other than Johnson's) were as qualified." At the DSB meeting on April 5, 1983 with your staff, Mr. Pritzker requested that this change be incorporated in the report, which has not been done to date.

The fourth Board member is quoted correctly as being in opposition to one of the finalists as indicated in the Minutes of the DSB Meeting on October 5, 1982.

In an attempt to clarify these inconsistencies, I had previously requested our Executive Director to obtain a copy of "Appendix A" which refers to the individual Board members interviewed by your review team. This request was relayed to Norman Drucker who said it was not available at that time. We still do not have "Appendix A" which apparently is the basis for the above conclusion that "there were not three qualified finalists".

April 19, 1983

It was unfortunate that you were not able to attend the last Designer Selection Board meeting in which members present, personally disagreed with their quotations as stated in the report. The indication that your report may be published without resolving these clear differences of opinion is of grave concern to this Board. There has to be some allowance given to the recognition that an individual on being informally questioned may provide a candid commentary which may not reflect the actual facts of the circumstances under investigation. The apparent repudiation of the unattributed quotations by members of the Board merits, I believe, your personal consideration.

We believe the public letter and record of the vote of the Board's action on this project should be given proper credence rather than "unsubstantiated excerpts" listed in your report, from interviewed members listed in the missing "Appendix A".

In view of the fact that your staff has not resolved this important issue, and since the personal actions of some of the members of the Board have been questioned, we feel that you should personally satisfy yourself as to the accuracy of alleged quotations from your interviewers.

We again respectfully invite you and your staff to attend one of the scheduled meetings to be held on May 10 and May 24 or to resolve these inconsistencies at an informal session prior to these dates.

Please contact myself (495-5511) or the Executive Director, George Beaton at 727-4046 at your convenience with regard to the above.

Very truly yours,

Richard G. Leahy

Richard G. Leahy, Chairman
Designer Selection Board

RGL/GB/ld

Att.

c: Frank Keefe, Commissioner of Administration
Designer Selection Board Members

COMMENTS ON INSPECTOR GENERAL'S REPORT - CASE STUDY: THE TROPICAL FOREST PAVILION

FINDING 5 - PAGE D26

Designer Selection statutes will apparently be violated should MDC sign a contract with any current EDP finalist.

PAGED27

DSB sanctioned an apparently legally prohibited firm to perform design services.

The Inspector General interprets that Chapter 7, Section 30I(d) of the General Laws is an absolute prohibition of a designer or programmer appointed for the study or program to be eligible for any subsequent appointment to perform design services for that project. There is an exception allowed by the statute (see Chapter 7, Section 30J) which permits continued or extended designer services. The following definition of these services is stated in Chapter 7, Section 30B as follows:

"Continued services" means authorization for a designer who has been appointed for one stage of a project to act as the designer for a succeeding stage or stages of the same project.

"Extended services" means authorization for a designer who has been appointed to provide design services for a project to act as designer for work to be done on another project not originally included in that designer's contract.

Therefore, the Board does not agree that Jerry Johnson was by statute an automatic "legally prohibited firm to perform design services" as contended in the Inspector General's Report

The makeup of the Designer Selection Board, when the Board acted on this project, consisted of three registered professional architects, three registered professional engineers, two public members and one contractor. Six of the above members were present and voted. The fact that all the members do not recall in exact detail all of the specifics involved in this one project is understandable when one considers that the Board acted on 150 different projects during their first year of operating under the new statutes, and the fact that they do have individual special areas of expertise. However, it is also this varied background of education and experience that gives the balance necessary to obtain the goals of confidence, openness, participation and integrity in the system as stated

in Chapter 7, Section 30B as follows:

- provide for increased confidence in the procedures followed in the procurement of design and design related services;

- promote consistency in the methods of procurement of design and design related services for all public building projects in the commonwealth;

- foster effective broad-based participation in public work within the design professions;

- provide safeguards for the maintenance of the integrity of the system for procurement of designers' services within the commonwealth;

Another consideration in this case is the fact that the original designer's contract dates back to 1972. Application of the detailed restrictions relating to designer services mandated by Chapter 579 of the Acts of 1980, on a retroactive basis regardless of the current status of a project is not prudent. Termination of all projects under design to determine conformance to the recent adoption of Chapter 579 of 1980 is not practical nor constructive. It appears that each particular project should be evaluated on its present status, extent of completeness, detail and scope of work required including proposed schedules.

Jerry Johnson was a subcontractor to the prime designers, Hugens & Tappe and also to Weidlinger Associates. This information was not readily apparent on their application form other than a reference to see Item #19 on the Master File Brochure which did list the M.D.C. Zoo. His name also appeared as a consultant on the plans that were available for inspection by interested applicants. Sub-contractors to the prime designer have never been automatically excluded from application and participation as a prime for subsequent work. It does take a unique condition for a consultant to become a prime on any project, but the specialty on zoo exhibits is so unique, that this continuity of service was very appropriate when compared to the other two qualified candidates.

If this same project were referred to the Designer Selection Board today, the Designer Selection Board would undoubtedly conform to the "Policy" adopted on November 17, 1982. The method employed to conform to the above policy would be determined by the Board. One alternative could include a two tier process where the DSB could publicly advertise the project in the best interests of the Commonwealth and in accordance with the above stated goals. If the "applications received" as a result of public advertisement indicated that there was a more qualified firm than Jerry Johnson, then the Board would undoubtedly rank that finalist in accordance with Chapter 7, Section 30G. On the other hand, if Jerry Johnson was indeed the most qualified candidate, the DSB would still rank the selected finalists in accordance with Chapter 7, Section 30G, but in addition, the Board would then have to satisfy the requirements of Chapter 7, Section 30I and J and formally approve continued services for said firm.

The DSB ranked Jerry M. Johnson Inc. first in accordance with the provisions of Mass. General Laws, Chapter 7, Section 30G on October 8, 1982 after the standard open advertised procedure to all qualified applicants. The approved "Policy on Employment of Study Consultants for Subsequent Design Projects" was adopted on November 17, 1982. The extent of Jerry Johnson's previous involvement in this project was not known to all the members of the Board. The fact that the Met. Dist. Com. chose not to employ the procedure to extend or continue Mr. Johnson's services as provided by Chapter 7, Section 30J is to their credit. Although this option was available to the Administration, they chose the standard process of public advertisement in accordance with the goals of Chapter 7, Section 30B .

In conclusion, the Board did not consider Jerry Johnson a "legally prohibited firm to perform design services" as the Inspector General states and therefore has not violated the statutes as the Board interprets them

FINDING 5B - PAGE D28

DSB failed to ~~record its final vote and~~ explain its reasons for its ranking of EDP finalists

The DSB letter of October 8, 1982 speaks for itself. The finalists were ranked in order of their qualifications and the letter did state the reason why the Board ranked Jerry M. Johnson first. The Board has not made it a practice to list specific reasons why the Board ranked "firm B" second and why "firmC" was ranked third as it serves no useful purpose to dwell on perceived strengths and weaknesses of the second and third ranked firms. The DSB votes as a body on all selection of finalists in accordance with Chapter 7, Section 30G, and any dissensions are duly noted in the minutes of the meeting as was done in this case.

FINDING 6 - PAGE D29

Despite Designer Selection Board Policy
That at Least Three Qualified Finalists
Be Chosen for Each Design Project
A Majority of the Board Members
Who Participated in Choosing
EDP Finalists Have Indicated
That the Three Finalists
Chosen By the Board Were
Not All Qualified to
Carry Out the
EDP Work

The candid comments by some of the DSB members about imagined or perceived "pressure" relating to the selection of finalists for this project is an indication that the 150 projects that the DSB acted on this past year, that this project was the most ambiguous. It is improbable that all members present (6 in this case) exactly agree on every aspect of each decision. The Board acts as a body and represents the majority opinion on each project. However, any member may exercise his right to abstain or object to the majority vote of the Board. This did in fact happen and the Minutes of the DSB Meeting of October 5, 1982 reflect the fact that a member was opposed to the third ranked firm. Notwithstanding this objection, the majority of the Board did find that there were three qualified finalists and so voted the firms in rank order in accordance with the public letter dated October 5, 1982.

The meeting held on April 5, 1983 with the Designer Selection Board members and staff and Norman Drucker and Michele Dorr from the Inspector General's Office indicated inconsistencies in what the members actually told the I.G.'s Office as compared to quotations in the I.G.'s Report. (e.g. Page D30 4th paragraph)

Mr. Pritzker acknowledges being referred to as the second member of the Board interviewed but not in agreement with the statement: "I don't believe any other firms (other than Johnson's) were qualified." Mr. Pritzker's statement was: "I don't believe any other firms (other than Johnson's) were AS qualified." Mr. Pritzker requested that this change be incorporated in the report.

e.g. PAGE D30 last paragraph states:

"The third Board member interviewed reported remembering "a lot of pressure on the Board" from both the M.D.C. and D.C.P.O. The minutes of the Designer Selection Board meeting on October 5, 1982 does indicate that there were 7 M.D.C. personnel at the meeting. However, this was not considered excessive as the Board ranked finalists on 4 separate M.D.C. projects at this meeting. The fact that there were no D.C.P.O. personnel at this meeting indicates that the reference to "perceived pressures" by one of the members has to be re-examined.

e.g. PAGE D30, of the I.G.'S REPORT STATES:

"In short, at least a majority of the Board members who participated in reviewing applicants for the EDP contract have made it clear that the DSB did not choose three fully qualified finalists for the DSB contract."

This conclusion does not stand up to the facts. The public record letter of October 5, 1982 clearly indicates the Board's position that they did find three fully qualified finalists. In addition, if the necessary corrections are made to the alleged quotations of the Board members in the report, then the "deduction" is faulty to say the least.

FINDING 7 - PAGE D31 - The I.G.'s report states:

DSB did not advertise the EDP contract widely enough

The DSB advertised the EDP contract in the Central Register in several Massachusetts Newspapers, and the Dodge Reporter"

This project along with numerous other projects was advertised in the following newspapers as well as in the Central Register.

Boston Globe
Herald American
Worcester Telegram
F.W. Dodge Corporation (Dodge Bulletin)
Springfield Union
Berkshire Eagle
New Bedford Standard Times
Brockton Enterprise
Quincy Patriot Ledger
Lowell Sun
North Adams Transcript

In addition, complete copies of this Public Notice was furnished to the following professional societies for distribution to their members.

Mass. State Association of Architects
Society of American Registered Architects
Boston Society of Landscape Architects
Consulting Engineers Council of New England
Boston Society of Civil Engineers
Mass. Society of Professional Engineers
MSPE Met. Chapter

A comparison of the above advertisement and distribution of DSB Public Notices with the statute requirements of Chapter 7, Section 30B as listed below indicates that the word several as used in the report is a gross misstatement of facts.

Section 30E. a) Each contract for designer services for a project subject to the jurisdiction of the board shall be publicly advertised by the board in a newspaper of general circulation in the area in which the project is located or to be located, and the central register established under section twenty of chapter nine, and in such places as the board requires by regulation, at least two weeks before the deadline for filing applications.

With regard to the advisability of advertising nationally, to the best of our knowledge, the DSB has never advertised nationally in their 16 years of existence. They have however received applications from numerous out-of-state firms and occasionally some of these firms receive appointments. The Board has no objection to anyone advertising or notifying firms that are qualified to perform the services as publicly advertised, but on the other hand, there is no mandate to advertise nationally which needless to say could be considered as an ineffective use of public funds.

The statement that the "DSB did not advertise nationally largely because it did not know how to do so" is disingenuous if not misleading. A question as to "where else to advertise" is understandable but the process of "knowing how to advertise" is an accomplished fact considering 10 newspapers in which the Board currently advertises.

Page E 7 - Recommendations Concerning Future Design and Construction Contracts

9. THE DESIGNER SELECTION BOARD SHOULD DEVELOP, PUBLISH, AND DISSEMINATE WRITTEN GUIDELINES DESCRIBING ITS PROCEDURES.

Chapter 579 of the Acts of 1980 which became effective for the DSB on January 1, 1982, dramatically expanded jurisdiction of the DSB which also required the board to adopt numerous new policies, procedures and regulations. The DSB was also charged with the responsibility of providing guidelines for designer selection for all cities and towns and approval of exemption procedures for certain other public agencies. The board did adopt formal written criteria for selection of semi-finalists and finalists on November 2, 1982, but obviously that is not to infer that there was no criteria for selection prior to that date.

The DSB has developed, published and disseminated various guidelines, policies and procedures to assist applicants, public agencies, and municipalities in compliance with Chapter 579 of the Acts of 1980. Most, if not all, of the above material will be included in the DSB Annual Report which will also report on the progress made by the DSB during the first year of the new legislation. However, that is not to say that the board has completed all work in this area. Policies, procedures and guidelines have to withstand the test of time and undoubtedly some revisions will be required to facilitate administration and processing. The DSB does comply with their interpretation of Chapter 7, Section 30B through 30P.

Limitations in staff and resources and the fact that all members serve pro-bono somewhat limits the time and resources that can be utilized in this endeavor. In spite of the above limitations our comments on each of the I.G.'s recommendations is as follows:

9. The Designer Selection Board should develop, publish, and disseminate written guidelines describing its procedures. The guidelines should include, but not be limited to, policies, procedures, and standards for:

9.1 approving extension and continuations of design services.

Chapter 7, Section 30J, specifies exact requirements and DSB complies to this statute. Requests for extension and continuation of designer's services are given close scrutiny by the board and require overwhelming reasons before approval. Each member personally votes by affixing his signature and date of the vote. The board examines the scope of services initially authorized and evaluates the new or continued services to determine if the previously appointed designer of record, is in fact qualified to perform the requested extended or continued designer services. The DSB also requests back-up data from the using agency when appropriate and the additional designer's fee expected to result from continued or extended services are stated in the memorandum (see policy adopted 11-17-82).

9.2 advertising design contracts

As noted in our preceeding comments on this subject, we substantially exceed the legislative requirements with respect to this matter (see Chapter 7, Section 30E).

Although we expect to advertise all our projects in the manner and extent now practiced, that is not to say we would not adjust our channels and distribution if new sources appeared on the market and if an isolated project required special considerations.

9.3 evaluating applicants and selecting qualified applicants including checking references, measuring past contract performance, assessing financial strength, and evaluating administrative capacity

Evaluation of designers is mandated by Chapter 579 of the Acts of 1980, with regard to DCPO projects. The DSB has formerly requested this information and we have been informed that an evaluation form has been approved for implementation (see attached letter dated 4-30-82). Obtaining this information will be an ongoing

process, and will be the most important factor in determining award of design contracts.

9.4 readvertising for applicants when three qualified applicants are not found

Chapter 7, Section G(b) states:

"The board shall select at least three finalists from among all the applicants"

Without exception, the Board complies with this requirement. There has been previous occasions when there were not at least three qualified applicants and the DSB has re-advertised.

9.5 documenting the Board's discussions, votes, and reasons for choices and rankings

The DSB always complies to Massachusetts General Laws, Chapter 7, Section 30G, in that the Deputy Commissioner is formally notified by letter, who the selected finalists are, what their ranking is and includes a written statement of the DSB's reasons for its choice. Also included in this public record is the number of applicants who applied, the project number and title, location of project, source of funds, estimated cost of construction along with a description of the authorized designer's services, established set design fees and any other relevant information.

The DSB votes as a body on all selection of finalists in accordance with Chapter 7, Section 30G, and any dissensions are duly noted in the minutes of the meeting.

Policy on Employment of Study Consultants for Subsequent Design Projects

Adopted by the Designer Selection Board on November 17, 1982
(Chapter 7, Sections 30 I & J)

1. A designer or programmer appointed to do a feasibility study, master plan or program for a project, shall be ineligible for subsequent appointment to perform the design services for that project - unless formally approved for continued or extended services as provided for by Chapter 7, Section 30J, as follows:

"The deputy commissioner may appoint a designer to perform continued or extended services if the following conditions are met:

 - (i) a written statement is filed with the board explaining the reasons for the continuation or extension of services;
 - (ii) the program for the design services is filed with the board if one is required by the regulations of the division; and
 - (iii) the board approves the appointment of the designer for continued or extended services and states the reasons therefor."
- A designer, programmer or consultants if not employed as the prime designer in the development of a feasibility study, master plan or program may be subsequently employed by other firms to perform services relating to the project, but may not be appointed to be the prime designer for the design services of that project, unless formally approved in conformance with the provisions of C7, Section 30J, of the General Laws.
- "When the board has required that applicants list consultants which the applicants may employ, in no event shall a consultant be used who is debarred pursuant to section forty-four C of chapter one hundred and forty-nine as amended, and any change in or addition to the consultants named in the application and allowed by the board upon appointment must be approved by the deputy commissioner and reported to the board, along with a written statement by the designer or construction manager of the reasons for the change."

Criteria for Selection of Semi-finalists and Finalists

Adopted by the Designer Selection Board on November 2, 1982
(Chapter 7, Section 30G)

1. Prior similar experience best illustrating current qualifications for this specific project
2. Identity and qualifications of the key persons and consultants who will work on this project
3. Depth of the firm with respect to size and complexity of the project
4. Past performance on public and private projects
5. Quality, clarity, completeness and accuracy of contract documents and design con
6. Effectiveness of meeting established program requirements and function within allotted budget
7. Accuracy of cost estimates including assessment of contractors' requisitions for payment and change order proposals
8. Management ability to meet schedules including submission of design and contract documents and; processing of shop drawings, contractors' requisitions and change orders
9. Coordination and management of consultants
10. Working relationship with contractors, subcontractors, DCPO staff and agency representatives
11. Financial stability - including prompt payment of consultant fees
12. Current workload with DCPO and other public agencies
13. Geographical location of the firm with respect to the proposed project
14. Minority and women owned businesses

The Commonwealth of Massachusetts

Executive Office for Administration and Finance

Division of Capital Planning and Operations

Designer Selection Board

One Ashburton Place

Boston, Massachusetts 02108

617-727-4046

EDWARD J. KING
GOVERNOR

STUART D. LESSER
DEPUTY COMMISSIONER

PAUL E. PRITZKER
CHAIRMAN

November 4, 1982

Mass. State Project MDC82-2
Zoological Exhibits
Tropical Forest Pavilion
Franklin Park Zoo
Boston

Richard A. Nylan, Commissioner
Metropolitan District Commission
20 Somerset Street
Boston, MA 02108

Dear Commissioner Nylan:

On Tuesday, October 5, 1982, the Designer Selection Board, in accordance with the provisions of Massachusetts General Laws, Chapter 7, Section 30G, selected three finalists for the above referenced project per the attached letter of October 8, 1982.

As you are aware, the specific appropriation language to "design build" this project has not been approved by the Legislature. Upon passage of the authorized legislation, the Metropolitan District Commission will negotiate with the finalists for final contract terms to design and build a zoological exhibit for a lump sum negotiated fee not to exceed \$3,000,000. I am therefore enclosing the applications received from the three finalists as well as the project criteria as publicly advertised.

Please notify this Board as to the results of your negotiations.

Very truly yours,

George R. Beaton
George R. Beaton, Executive Director
Designer Selection Board

GRB/ld
Encs.

c: Stuart Lesser
Robert Garrity

EDWARD J. KING
GOVERNOR

STUART D. LESSER
DEPUTY COMMISSIONER

GEORGE R. BEATON
EXECUTIVE DIRECTOR

The Commonwealth of Massachusetts Sd

Executive Office for Administration and Finance

Division of Capital Planning and Operations

Designer Selection Board

One Ashburton Place

Boston, Massachusetts 02108

617-727-4046

April 30, 1982

Re: Evaluating Designers

Stuart D. Lesser, Deputy Commissioner
Division of Capital Planning & Operations
One Ashburton Place
Boston, MA 02108

Dear Stuart:

At recent DSB meetings the board has commented that the absence of your presence was especially noticed when input was requested with respect to the various designers' performances on state projects. The fact that both you and the user agency no longer vote, also limits the Boards feedback as to existing and projected workloads of the numerous applicants. Although I do provide the board with information on recent appointments, in my capacity as a non-voting member, I feel I should limit relaying word of mouth opinions from various project engineers with regard to performances of individual designers as it may be prejudicial.

The DSB has been advised that C579 of the Acts of 1980 does provide that the project manager shall participate as a non-voting member at DSB meetings and he/she shall "assist in the project evaluation including, but not limited to, written evaluations of the performance of the architect, engineers, contractors and other personnel,".....

Attached for your convenience is a copy of duties of a project manager that have been taken from C579-1980. The DSB feels that evaluations of the performance of the architects and engineers on projects under your jurisdiction will be invaluable.

Please inform me if the DSB can be of assistance in developing standard criteria or evaluation forms for the above procedures.

Very truly yours,

George R. Beaton

George R. Beaton, Executive Director
Designer Selection Board

DUTIES OF A PROJECT MANAGER

In accordance with Chapter 579 of 1980 & 42D, a project manager shall oversee all planning, design and construction of the project or provide appropriate assistance to others as enumerated below.

(1) Assist and make recommendations to using agencies as to real property acquisition in anticipation of construction;

(2) Assist by reviewing and making recommendations to using agencies as to the study, programs or other planning documents for the project;

(3) Participate as a non-voting member of the designer selection board panel as provided by section thirty C of chapter seven during the designer selection process for the particular building project to which the project manager has been assigned;

(4) Represent the using agency in the designer selection, design and construction phases of the building project, the project manager having exclusive authority to make decisions in these areas, except as provided in sections forty-two E through forty-two I, inclusive, after consultation with the using agency and consideration, before such decisions are made, of using agency recommendations;

(5) During the design stage of each project to which s/he has been assigned, review and comment on said design or verify that said design has been reviewed by the authorities charged by law with enforcement responsibility, in order to insure that the design complies with all federal and state laws, rules, regulations and codes; insure to the extent feasible that the design is such as to specify a project that (a) can be accomplished within the appropriation or authorization for that project or within the project cost limits specified by the appropriation or authorization, and (b) can be accomplished in accordance with (i) any study or program which must be prepared in accordance with the provisions of section 7X of this chapter or (ii) any other pre-design document which must be prepared in accordance with any other statute, appropriation or authorization or administrative directive consistent therewith; no building project shall be allowed to proceed to the construction stage until such reviews have been accomplished and compliance confirmed or certified;

(6) Insure the preparation of time schedules which shall serve as control standards for monitoring performance of building projects; and

(7) Assist in project evaluation including, but not limited to, written evaluations of the performance of the architect, engineers, contractors and other personnel, and evaluation of construction techniques and procurement mechanisms.

EDWARD J. KING
GOVERNOR

STUART D. LESSER
DEPUTY COMMISSIONER

PAUL E. PRITZKER
CHAIRMAN

The Commonwealth of Massachusetts

Executive Office for Administration and Finance

Division of Capital Planning and Operations

Designer Selection Board

One Ashburton Place

Boston, Massachusetts 02108

617-727-4046

October 8, 1982

4 applicants

Mass. State Project MDC82-2
Zoological Exhibits
Tropical Forest Pavilion
Franklin Park Zoo, Boston
Chapter 578 of 1980
Item 2440-8813 & FY 1983 Capital Outlay
Available Amount: \$3,000,000
List 82-3, Item 10

Stuart D. Lesser, Deputy Commissioner
Division of Capital Planning and Operations
One Ashburton Place
Boston, MA 02108

Dear Sir:

At the 238th meeting on Tuesday, October 5, 1982 and in accordance with the provisions Massachusetts General Laws, Chapter 7, Section 30G, you are hereby notified that the following finalists have been selected from the 4 applicants for the above project. The selected finalists are listed in rank order of qualification, including a written statement of the Designer Selection Board's reasons for its choice.

Jerry M. Johnson, Inc.	35 Newbury Street	Boston, MA 02116
The Landplan Partnership	1776 Mass. Avenue/	Cambridge, MA 02139
	354 Pequot Road /	Southport, CT 06940
Lozano White/David Baskin/Michael Sand	30 Brattle Street	Cambridge, MA 02138

Jerry M. Johnson, Inc. was ranked first for this unique project requiring design, procurement and installation of certain botanical and educational exhibits for the proposed Tropical Forest Pavilion because of this firm's previous related experience. This firm specializes in the design and production of zoological habitats and associated interpretive exhibits which should provide the Commonwealth with a quality professional exhibit.

The services authorized by appropriation is to design and build a zoological exhibit at a lump sum negotiated fee not to exceed \$3,000,000. Finalists will negotiate with the Metropolitan District Commission for final contract terms.

Very truly yours,

George R. Beaton, Executive Director
Designer Selection Board

GRB/ld
c: Public Record File
Project File

[Inspector General Rejoinder to
Designer Selection Board Reply]

The letter from the Chairman of the Designer Selection Board (DSB) states that the three members of the DSB dispute the quotations attributed to them in this report regarding the qualifications of the applicants for the EDP work. The letter implies that Mr. Pritzker denied having stated that no firms other than Johnson's were qualified.

All quotes used in this report are accurate. Mr. Pritzker did not deny stating that no firms other than Johnson's were qualified; rather, Mr. Pritzker stated that he could not clearly remember what he had stated, and he felt that he had meant to state only that other firms were not as qualified as Johnson's firm. The Chairman's letter also states that "[i]t was unfortunate that the [Inspector General was] not able to attend the last Designer Selection Board meeting in which members present, personally disagreed with their quotations as stated in the report." (Emphasis added.) In fact, the two DSB members other than Mr. Pritzker quoted in the report failed to attend the last DSB, in which the report was discussed.

The Chairman's letter also states that the Inspector General failed to provide the DSB with a copy of Appendix A, which the letter states "is [apparently] the basis for the above conclusion that "there were not three qualified finalists." Appendix A is a list of all persons interviewed in preparing this report. Although members of the Inspector General's staff did not provide the DSB with a document entitled Appendix A, they did tell the DSB the names of the three Board members interviewed for this report.

The Chairman's letter also implies that the Inspector General did not give the DSB sufficient time to respond to the report. The Inspector General delivered a draft of this report to the DSB's Executive Director on March 18, 1983. The Inspector General, after granting two extensions, asked for

the Board's response by April 20, 1983. The Board thus had four and one-half weeks to review and respond to the report. During this period, senior members of the Inspector General's staff met twice with DSB representatives to discuss the report: once in a special meeting and once in a full Board meeting. Each meeting lasted approximately two hours.

In all but one instance, the points raised in the 16 pages of material appended to the DSB Chairman's letter are answered in the text of the report. The single possible exception concerns the first three pages of materials, which seem to deny that the DSB has sanctioned a legally prohibited contract. Specifically, the DSB comments note that "there is an exception allowed by the statute (see Chapter 7, Section 30J) which permits continued or extended designer services." This interpretation of the statute is arguable. However, the Board's interpretation of Chapter 7, Section 30J does not validate the actions taken in this case, as the procedures set forth in that section were not followed.