

009308

We have reviewed the impact of converting the current program of the County Law Enforcement and Detention Center which is horizontal to a vertical or high-rise design. The information contained in this letter has been reviewed by Carter-Goble.

The additional cost involved in a high-rise detention facility may be broken down into two categories:

- 1) Capital or construction costs and,
- 2) Operational Costs.

High-rise construction offers savings in construction on some items such as roofing and sitework. Other areas will increase such as elevators, stairwells, the structural system, exterior finish system, etc. In addition, the restrictions placed on the contractors because of lack of storage and working space increases the cost. Additional electronics are usually needed because of interrupted sight lines. Square footages increase because of the inefficiencies of vertical design, i.e., the addition of security vestibules at the added elevators.

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The high-rise design also has a major impact on the outdoor recreation areas. These areas would become "roof-top" spaces which causes problems in the roof/floor design and material. The noise generated from these required exterior spaces can be a problem in an urban location. This type of construction could also limit future expansion. If future expansion has to be vertical over the original facility, the structure becomes much more expensive, disruption during construction will be a problem, elevators may have to be added, etc. The soils situation could force the use of pilings or limit the height of such a facility.

Operationally, vertical design impacts the staffing because of movement restrictions and delays. The transportation or escort staffing will increase 50 - 100% in a high-rise facility. It is possible that other staffing, i.e., food service, might increase. Since this cannot be fully analyzed without schematic design, only escort officers have been included in the operational cost increase.

A downtown location poses other questions which must be reviewed including parking, zoning, utility service, storage areas, easements, etc. For purpose of this review, we have included the cost of a parking garage. The size of this garage is estimated at 300 cars based on the spaces required from the displacement of spaces by the new building, the staffing and visitor spaces required and additional parking for the existing courthouse.

It is our understanding that the existing parking areas are full during periods of high court activity. It may be that the parking garage should be built prior to the construction of the jail. At least one half of the parking spaces would be lost during the construction of the detention center and garage together. If only the parking garage spaces are lost for a relatively short time period, the parking situation would be far less impacted.

Without additional engineering work, we can only assume that no special foundations will be required and that the parking garage can be efficiently and economically placed on the site.

Carter-Goble has been involved in several high-rise institutions. This type of facility has not been recommended and has only been used in situations which the owner has required a "downtown" location.

Below is the breakdown of the two categories of cost. These are estimates based on our best judgement of the scope of the vertical facility.

A. CAPITAL (Construction)

Savings:

Roofing
Sitework

\$(120,000)
(100,000)

TOTAL DEDUCT

\$(220,000)

Additional Costs:

Elevators	160,000
Stairwalls	80,000
Structural	120,000
Exterior Finish System	40,000
Security Electronics	50,000
Outdoor Recreation	30,000
Storage/Working Area Reduction	80,000
Miscellaneous (Cranes, etc.)	160,000
Space Added Through Inefficiency (5%)	<u>415,000</u>
TOTAL ADD	1,135,000
TOTAL DEDUCT	<u>220,000</u>
Net Additional Cost	915,000
Additional Fees	<u>85,000</u>
TOTAL ADDITIONAL BUILDING COSTS	1,000,000
Additional Cost of Parking Garage (300 cars @ \$7,000 per car)	<u>2,100,000</u>
TOTAL CAPITAL COSTS	\$ 3,100,100

B. OPERATIONAL

(Increase in escort staffing - 50-100% range for high-rise facility).

Six additional staff members would be required. Using \$20,000/man/year (including fringes), the operational cost would increase \$120,000 per year, or approximately \$8 million over the next 30 years @ 5% per year inflation.

The construction costs stated above are estimates and are conservative. We believe the actual cost may be higher in a specific situation. No allowance has been made for pilings or other special foundation designs which may be required if soil conditions are below normal. Should the design be altered to a vertical design, the architectural and operational programming would have to be reworked to fit the new requirements. This would, of course, result in additional fees.

As you can see, the cost to build a multi-level design is more expensive in this situation. We recently reviewed a study by a national planning firm which compared an urban site versus a suburban site. In this particular study, the suburban site was approximately 40% less in capital cost. While this is a great deal more than our figures for, it does indicate that our scenario is essentially correct. The operational cost, which is 90% of the total cost of the facility over a 30 year period, is the cost which must be considered with the greater weight.

Transportation costs are not the great expense that many people believe. An attachment is included which reviews these costs. We will be glad to review the situation further with the County if required.