

PROPOSAL FOR A NEW PUBLIC WORKS FACILITY

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Relocation from 201 Bedford Street

About two years ago, there were some quiet discussions about relocating the DPW facility at 201 Bedford Street to a privately owned parcel on Hartwell Avenue with a supermarket to be constructed on the 201 Bedford Street property. Apparently the proposal fell through because of a change in economic conditions for the supermarket and because the proponents were unable to acquire the replacement site, i.e. the privately owned parcel on Hartwell Avenue.

At the time, I questioned how the DPW operation, cramped on the 9.6 acre 201 Bedford Street site, could fit into the @3 acre privately owned parcel on Hartwell Avenue. The answer was that the DPW operation would spill over onto the Town owned Landfill site on Hartwell Avenue.

I recommend we revisit the Hartwell Ave. Landfill location with a different objective and a different perspective. The primary objective now will be to find a location better suited for the DPW facility. Previously we were trying to find a relocation site incidental to the objective of using 201 Bedford Street for private development. The different perspective is to plan the new Public Works facility not as an in kind replacement for 201 Bedford Street but as part of a more coordinated public buildings plan that considers broader Town facility needs.

Need for a New DPW Facility

As a participant in the Town Manager's capital budget team, I have seen a capital budget request for a replacement of the DPW facility every year since the Town Manager revived the departmental capital budgeting process in 1989. The current facility was built in the 1880's as a barn for a horse drawn street railway. The 108+ year old building is ill suited for a modern motor vehicle fleet and related DPW operations.

There are questions as to whether the 9.6 acre site is large enough to allow even the current DPW operation to be conducted efficiently. We should plan for our growth needs over 30-50 years. The 201 Bedford Street site abuts single family homes. What is essentially a truck terminal and an industrial type operation can be a nuisance in a residential area because of its occasional night time and weekend operation.

Consolidation of Operations from Other Departments

In the 90s, the Town is faced with an uncommon coincidence of capital investment decisions that need to be made about certain buildings that have important implications for other buildings. These decisions include: the 201 Bedford Street DPW Facility, Cary Library, the Central Fire Station, the School Administration Building, a new Senior Center and other school buildings in the near term. In the longer term Cary Memorial Hall, the Munroe School, the East Lexington Fire Station, the East Lexington Branch Library need to be addressed.

The recently completed *Lexington Public Buildings Facility Study* prepared by Archetype Architecture, Inc. for the Permanent Building Committee, provides the Town with an analysis of its buildings that is unparalleled. However, the *Study* appears to be largely an inventory on a **building by building** basis. It focuses on the continued use of the existing Town buildings – in the same location to essentially the same degree. The *Study* essentially did not consider the buildings in relation to each other or consider other alternatives based on either programmatic or other choices. The *Study* raised issues without attempting to produce a Coordinated Public Buildings Plan.

In planning for a new Public Works facility, the Town has an opportunity to do some of the coordinated future planning that the term, Coordinated Public Buildings Plan, suggests. There are a number of dispersed or duplicative operations that should be reviewed. Various Town departments (and the schools)¹ service, maintain and repair vehicles and equipment in different buildings and locations. How much of these activities can/should be centralized in one operation?

While this proposal refers to it as a new Public Works Facility, it might also be called the Town of Lexington Central Vehicle and Equipment Maintenance Facility. Vehicles operated by numerous Town (and school) departments could be garaged and maintained there. Similarly, other types of equipment could be maintained or stored there.

THE HARTWELL AVENUE LANDFILL SITE

The principal **advantages** of the Hartwell Avenue Landfill site are:

- 1) **Size.** This @67 acre site has more space than the Town could conceivably need for DPW and other operations. There is ample room for expansion and DPW's outdoor operations and conceivably other Town (and school) activities.
- 2) **Distance from residential areas** A DPW operation is essentially a truck terminal and industrial type activity that should be separated from residential areas.
- 3) **Some existing DPW outdoor operations.** The composting operation and other DPW activities are already located there.
- 4) **Located in commercial zoning district.** The location in a commercial area affords opportunities for joint public/private development of a building or the site.

The principal **disadvantages** of the Hartwell Avenue Landfill site are:

- 1) **Distance from geographic center of town.** The location, on one side of the town makes it more distant from other parts of Lexington. The additional travel time and costs for

¹ The phrase ...(and the schools)... appears in several locations in this proposal. The principal focus of this proposal is coordination within the Town administration. Participation by the School Department is not essential. The parenthetical note indicates that the School Department might participate if it is to the mutual advantage of both the School Department and the Town Administration.

fuel and other operating expenses to reach the more distant (from this location) parts of Lexington need to be evaluated. Presumably those extra costs will be offset by other operating savings and revenue potential.

- 2) **Environmentally sensitive site.** The location in the Tophet Swamp and the 20+ year refuse disposal operations formerly conducted there pose design and operating considerations that will require mitigating measures. That will add to the cost of construction and annual operating expense.
- 3) **Premium foundation costs.** It is technically possible to construct buildings on top of a former landfill. It is more expensive to do so. (See below.)
- 4) **Traffic congestion.** During peak traffic hours, Town vehicles would experience the same delays due to traffic congestion on Hartwell Avenue and Bedford Street as other vehicles. However, DPW operations are spread throughout the day and would be completed before the afternoon peak hour.

Premium Foundation Costs

Much of the former landfill site is not stable enough to permit a building to be constructed in the conventional manner. The refuse deposited in the landfill will be decomposing for decades. There will be continuing problems with differential settlement and emission of methane gas. Those problems have been overcome elsewhere but require special design features for building construction. Two familiar examples of buildings constructed on former landfills are Belmont High School and the University of Massachusetts at Boston.

A building must be constructed on pilings that are driven through the refuse to a suitable bearing strata under it. In effect, the building is perched on stilts. There are few buildings in Lexington that have required construction on pilings but it is a common building practice. Buildings in much of Back Bay Boston and adjacent to the Charles River Basin in Cambridge are constructed on pilings.

Another special design consideration is the need to vent methane gas, created by the decomposition of the refuse, to the atmosphere. In a confined space, methane can be a problem; it is not when vented to the air. A typical methane emission system operates analogous, but opposite, to the drainage system on a flat roofed building that collects storm water and channels it **down** into drains. The methane emission system collects the gas under the building and channels it **up** to vent to the open air.

Construction on pilings is more cost effective with a multi-story building on a compact building footprint. A DPW facility is likely to be the opposite – a sprawling one story building.

Construction of parking areas and other open air uses is easier than that for buildings but they also requires special treatment. To accelerate the compaction of the refuse material, the area needs to be weighted down (what engineers call "surcharged") usually by layers of gravel or similar material. Periodic regrading of the surface of the reclaimed refuse area is necessary to maintain it in usable condition for athletic fields, parking or similar uses. Lincoln Field is an example of the need for periodic maintenance.

While I was Director of Planning and Community Development for the City of Cambridge, I was involved in the reclamation of the former City Dump between Concord and Rindge Avenues and behind the Fresh Pond Shopping Center.. That was @55 foot deep former clay pit that was not properly layered with gravel and compacted as the Hartwell Avenue site was. About 14 feet of material was placed on top of the Cambridge Dump for more than a year before it could be reclaimed for athletic fields. Cambridge's consulting engineer during my tenure was Tom Liu of Haley and Aldrich and a resident of Audubon Road who is an expert in foundation design.

The timing is ripe for construction at Hartwell Avenue. As part of the Big Dig in Boston, millions of cubic yards of material will be excavated. Disposal sites will be needed with bargain prices for the fill. Cambridge benefitted because MBTA was constructing the Red Line subway extension at the time and paid all the costs of moving material to the City Dump site.

Mixed Use, Joint Development

I thought of a "mixed use building and joint development" because of the desirability of a multi-story building, to spread the premium costs of a pile driven foundation (compared to a conventional foundation).

The site, and the building, is potentially large enough so that the site could be graded to provide two, or even three, "ground level" entrances. For example, the DPW operation could be accessed from a lower level on one side of the building and a different activity could be accessed from another level, created by grading the site, on the opposite side. The site is large enough that the different activities could be separated, by the design of the access driveways and landscaping, so that they are not in any conflict. Under some design scenarios, the various activities would be barely aware of the existence of the others.

One approach would be to construct the building with room for expansion of Town activities. The expansion space could be used initially by private companies or by other public activities. A related objective would be to generate revenue to help pay for the building.

There are numerous private (and other public or institutional) uses that might share a new building. Let me suggest a few. Some users require a large one level floor space requiring a great deal of parking; they include: a supermarket, certain types of retail operations, or an automobile dealership. I have been approached by several developers looking for space for a large supermarket to serve the Lexington market. Although we did have a previous inquiry, the 201 Bedford Street site may not be big enough for their needs.

Uses that are complementary to other commercial activity on Hartwell Avenue might include a restaurant, a conference or functions center, a motel and even a day care center for employees in the area. If the market were stronger, private uses might be more of the same type of office and R&D space now on Hartwell Avenue.

In addition to providing some revenue to help finance the building, this large site might offer

some opportunity for commercial development and expansion of the tax base. Those are difficult objectives to meet because there are few locations in Lexington that are:

- 1) in an existing commercial zoning district and either vacant or with much development potential remaining; or
- 2) in a residential zoning district that Town Meeting would approve for rezoning for commercial development.

Real Estate, Financial Considerations

There are a number of ways the real estate relationship between the Town and private development can be structured. One would have the private development as a tenant of the Town. Another would be a condominium relationship with the private development and the Town each owning floor space. Another may be a ground lease from the Town to the developer with the Town leasing back the space it needs for its use from the private developer/owner. In any of these contexts, the Town operates as partner with one or more private developers/operators, each seeking mutually advantageous financial benefits. That is different from the Town's traditional role as regulator or taxpayer.

By whatever relationship, the Town should be able to earn revenue more than normal real estate taxes. That may be from a regular rental income stream the Town would receive as the owner of the building. Or the revenue from the developer may be dedicated as an offset to the Town's financing the building and site development. In any event the objective should be to reduce the amount the Town would have to pay out of the real estate tax levy to construct the new facility.

The existing DPW site at 201 Bedford Street has a value and may be a consideration in the construction of a new DPW Facility.

Next Steps

As a Town facility alone, this proposal would be the most complicated construction project that the Town has done (that I can think of) because of the fierce design and environmental problems the site presents. Add to that the Town has never done a "development" project in which it has joint ventured with private development interests. There are a lot of questions and few answers at this time. A number of technical studies would need to be done and the proposal would undoubtedly be adjusted and revised numerous times as data becomes available and the real estate development potential of the proposal is fully examined.

Among the needed studies are:

- 1) **Building program:**
How much floor space and adjacent outdoor space is needed:
 - a. to replace 201 Bedford Street in kind?
 - b. to provide a modern public works facility with a 30 to 50 year life?
 - c. to provide a Central Vehicle and Equipment Maintenance Facility serving practically all Town (and school) departments that have vehicles or equipment that could be more effectively maintained there?
 - d. to accommodate other Town (and some school) operations beyond vehicles and

equipment as part of a Coordinated Public Buildings Plan? (I include here general space for training activities, storage and supply, printing, office space or specific activities, such as a firing range to alleviate crowding in the Police Station.)

2) **Site limitations:**

- a. What parts of the site are more, or less, suitable for building construction? other site activities such as parking, access roads, other DPW outdoor operations?
- b. What special limitations may exist, and what mitigating measures are available, to deal with site development that might impact the aquifer on which the Town of Bedford relies, in part, for public water supply?
- c. How deep is a suitable bearing strata to support a building constructed on pilings?

3) **Architectural tradeoffs**

How does data on the site limitations affect:

- a. the size of the building footprint?
- b. the number of stories in the building?

There should be an optimum cost correlation between the building floor plan and the number of stories. Does the foundation design and the location of pilings affect the column spacing that, in turn, affects the types of uses that can locate in the building? How does the column spacing for vehicular storage for DPW purposes affect the types of uses that can locate in the building?

4) **Real estate considerations**

What types of commercial activities might be interested in a joint venture with the Town? Under what financial and contractual terms?

5) **Land use considerations**

Which of the types of commercial activities, that might be part of a joint venture with the Town, would be acceptable from the broader land use perspective of the Hartwell Avenue/Bedford Street area?

Resources

Resources to pursue this proposal will be needed. Some of those are on board already. Some parts of the program planning can be addressed by the existing DPW and the new Superintendent. There is potential interdepartmental coordination, e.g. the other public uses, that the Town administration can address. Building Commissioner Steve Frederickson is a structural engineer, and is more knowledgeable about building design than I am. Town Engineer Frank Fields and the other registered professional engineers on his staff may be able to contribute. George Smith in the Health Department can help with some of the environmental issues. Town Assessor Janet Vacon may be able to help with some of the real estate features of the proposal. When we get into the real estate arrangements, Palmer & Dodge should be able to help.

Inevitably, this proposal will soon confront some tough technical issues beyond the capacity of

Town staff or citizen volunteers for initial concept development or oversight. Test borings, environmental studies and detailed architectural and site design evaluations will be needed. We will need to contract for those skills and will need money for feasibility and other design studies.

Lexington, and other towns, often appoint a citizen committee to develop a proposal. There are Lexington residents who are knowledgeable or expert in some of the fields involved in this proposal. However, this proposal has too many technical questions and is too complicated to ask a volunteer, part time citizen committee to tackle. Prior to being employed by the Town, I contributed my professional skills as a volunteer to the Town. Nevertheless, I believe there is a line between advice and professional work. We will need to pay for professional work if the proposal is to progress.

201 Bedford Street Site

I have avoided discussing the disposition of the present DPW facility. Its value may be an important part of the financing of a new DPW Facility. Nevertheless the primary focus needs to be on the new DPW Facility. We should not leave ourselves open to the criticism that we are only relocating the DPW to make money on the present site. I recommend that issue be deferred until we have addressed many of the questions outlined above.

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