Memorandum City of Lawrence Public Works

TO: Charles Soules Public Works Director
FROM: Mike Perkins Street Division Manager, Tammy Bennett Assistant Public Works Director, Robert Aaron Fleet Division Manager, Kathy Richardson Solid Waste Division Manager
DATE: March 23, 2017
RE: Combined Operations Complex

Background Issues

The current Public Works structure has six (6) operational work groups working out of nine (9) separate facilities with material storage at another four (4) remote sites. This operational structure is inefficient and leads to project delays and duplication of resources. Three (3) of the facilities at the 11th & Haskell location are built in the floodway of Burroughs Creek with no possibility for facility structure upgrades or improvements (see Exhibit 1). Summarized below are estimated needs for all divisions to co-locate in a central campus setting on a minimum of 39 acres (rounded to 40 acres).

Street/Traffic Division Current Facility Challenges

The Street and Traffic Divisions are made up of six (6) unique work groups: Administration, Streets, Storm Water and Levee, Signs and Markings, Traffic Operations Center/Signals, and Fiber. These work groups consist of 50 employees including supervisors and operating staff. The facility needs for this group include administrative and supervisory work space, crew meeting areas, locker room facilities, heated crew workshop areas and specialized equipment parking. The Traffic group needs – but does not have – a technology-driven work area to house the Traffic Operations Center along with climate controlled environments to accommodate a signal and sign shop. With well over 200 pieces of motorized and non-motorized equipment, both indoor and outdoor storage is a prime concern.

Currently, the Street/Traffic work group stores equipment at three off-site locations; much of the equipment is stored out in the weather increasing the deterioration factor. Material storage continues to be problematic, with the bulk of the annual salt storage in the bulk warehouse at Venture Park. Due to current facility inadequacies, salt must be trucked to distribution sites causing this material to be handled three to four times. Storm Water and Street crews have to store materials at the Wakarusa Service Center ("West 40") as well as the location at 11th and Haskell. Crew work areas are inadequate and made up of sheds and lean-to add-ons that have been enclosed. The "Red Barn" at 11th and Haskell is the only heated equipment maintenance area and it has structural problems and is inadequate to accommodate modern equipment. Equipment that is temperature sensitive needs to be winterized daily during winter months to avoid damage from freezing conditions. All snow and ice control equipment is stored outside, causing delays in crew response during snow and ice events. Not only do these types of deficiencies create an inefficient work flow, they also create unsafe work environments for employees.

The following photographs depict a few of the facility concerns at the Public Works maintenance yard, located at 1120 Haskell (11th and Haskell).



Summary of Street/Traffic Division Space and Facility Requirements	
Administrative and supervisor space including rest room facilities	7000 sq. ft.
Crew room, heated workspace and storage, training/meeting facilities	14000 sq. ft.
Traffic Operation Center	2400 sq. ft.
Sign shop, production and storage	3500 sq. ft.
Signal shop and diagnostic area	3000 sq. ft.
Climate controlled warehouse storage	6000 sq. ft.
Enclosed material warehouse storage	10000 sq. ft.
Enclosed vehicle storage	28000 sq. ft.
De-icing materials (salt, sand, mix material)	20000 sq. ft.
Total estimated building structure needs	93,900 sq. ft.
Estimated land area needed for Street/Traffic Division	22 20100
(including employee parking and equipment parking)	ZZ acres

Central Maintenance Garage

Central Maintenance is faced with a growing fleet and increasing service level to keep the equipment and vehicle fleet operational. The fleet size has outgrown the capacity of the Central Maintenance Garage both in size of units and in quantity of units/service levels. Lack of storage capabilities has led to the need for several storage containers to house large parts, fluids, metal, and tooling for repairs. These multiple storage needs and inadequate in-house configuration taxes Central Maintenance to remain compliant with KDHE, EPA, and OSHA regulations. The lack of an overhead crane system causes technicians to perform lifting tasks using motorized equipment, often requiring the need for two technicians and reducing efficiencies. Inadequate vehicle bay size is a significant inefficiency and presents safety issues. Limited bay width leaves less than adequate work space between vehicles. Additionally, inadequate bay depth limits type and quantity of vehicle combinations that can be moved into the shop area for repair, often leaving technicians to work outdoors and in the elements.

The current facility configuration has additional safety concerns. The entrance is not efficiently located for city staff to drop off vehicles, often city staff ends up entering through the shop facility. This is a safety concern

related to eye and hearing protection. On many occasions, the public or sales persons have entered through the shop area. This configuration causes unique challenges to restricting access to the shop floor to only shop personnel.

The wash bay is another major issue with the Central Maintenance Facility. It is Located in an exposed area which leads to the lack of proper cleaning of equipment, especially on cold weather days, which decreases service life and increases repair costs. Due to its open bay construction, removal of highly corrosive debris, such as salt and brine, can wait for days.

The Central Maintenance site has little to no room for expansion. This aging infrastructure will soon require roof repairs, bay door upgrades, lighting upgrades, and heating considerations. As city growth continues, the need for equipment and vehicles to meet growing demand for services will increase. This facility offers no room to add vehicle work space or maintenance staff. The Central Maintenance facility is inadequate to meet current needs and future needs.

A modern Central Maintenance Garage would include adequate exhaust system handling, air management and monitoring, CNG compliance for vehicle repairs, a fluid management system to accurately account for high cost fluids, an adequate storage and fluid dispensing system to meet SPCC compliance, an overhead crane system to safely handle heavy repairs, adequate parts storage to keep fleet operations functioning with minimal and acceptable downtime, efficient tire storage and tire maintenance shop, waste fluid management, training room, a functional space for personnel including shower, locker, and break room, and functional space for administration and support staff. Additionally this facility would include functional space for machine shop fabrication and metal storage. The current machine shop is located in a confined space and is difficult to use when working on large repair projects.

Increased efficiencies could be obtained at this juncture by restructuring staff descriptions and responsibilities. Facility design could allow technician staff to specialize in specific areas of vehicle repairs. The complexity of modern equipment and vehicles could be addressed by allowing a light vehicle repair space and a heavy vehicle repair space that allow technicians to specialize in repair needs. A functional facility would also allow the expansion of an equipment installation technician space that could ultimately decrease city costs by maintaining and installing specialty emergency equipment.

The following photographs depict a few of the facility concerns at the Public Works Central Maintenance Garage, located at 1141 Haskell (11th and Haskell).





Summary of Central Maintenance Garage Space and Facility Requirements	
Vehicle repair and storage	50,000 sq. ft.
Fuel Island and containment	10,000 sq. ft.
Total estimated building structure needs	60,000 sq. ft.
Estimated land area needed for Central Maintenance Garage Facility (including equipment parking)	7 acres

Solid Waste Division

The Solid Waste Division currently works out of four (4) different work areas to preform six (6) unique operations: Administration and Billing, Compost and Reduction, Container Maintenance, Recycling, Household Hazardous Waste, and Trash and Refuse removal. Also currently located at 11th & Haskell and in the floodway, this division has the same inherent problems as the other divisions within Public Works, including poor storage, multiple work areas, unsafe work environments, and a lack of adequate space to house and train the more than 90 employees staffing the Division. With work groups split between multiple locations, inefficiencies have become part of daily operations. A facility study to address the Division's needs was completed and construction plans have been developed for the Kresge Rd facility. This plan addresses the current operational deficiencies and would provide for continuity of the Division's operations. Interior space needs include adequate and functional space for administration, training, locker rooms and interior storage. Outdoor space needs include adequate space for container maintenance, supplies and welding, enclosed storage for carts and materials and large equipment storage.

The following photographs depict a few of the facility concerns at the Public Works Central Maintenance Garage, located at 1120 Haskell (11th and Haskell).



Summary of Solid Waste Division Space and Facility Requirements	
Administrative, training, locker rooms, interior storage	12,500 sq. ft.
Container maintenance supplies and welding shop	6,700 sq. ft.
Enclosed storage for carts and materials	3,000 sq. ft.

<u>Summary</u>

Public Works estimates the need for approximately 40 acres of land as part of a Maintenance Operations Campus. This would include land used for all complex parking, including employees and visitors. The building structure needs would likely approach 194,100 sq. ft. of climate controlled and non-climate controlled space.

Exhibit 1 Flood Hazard Map for Public Works Facilities Located at 1120 and 1141 Haskell

