

TOWN COUNCIL
Town of Trumbull
CONNECTICUT
www.trumbull-ct.gov

TOWN HALL
Trumbull

TELEPHONE
(203) 452-5000



AGENDA No. 764

- I CALL TO ORDER
- II MOMENT OF SILENCE
- III PLEDGE OF ALLEGIANCE
- IV ROLL CALL
- V PUBLIC COMMENT
- VI APPROVAL OF MINUTES
- VII NEW BUSINESS

DATE: January 5, 2017
TIME: 8:00 p.m.
PLACE: Town Hall

NOTICE is hereby given that the Town Council of the Town of Trumbull, Connecticut will its meeting on January 5, 2017 at 8:00 p.m. at the Town Hall, 5866 Main Street, Trumbull, CT for the following purpose(s):

DISCUSSION ITEM: Pension Board Update

1. RESOLUTION TC26-91: To consider and act upon a resolution which would approve the reappointment by the First Selectman of Mark MacKeil of 27 Edgewood Avenue as a member of the Inland Wetlands & Watercourses Commission for a term extending to the first Monday of December 2019. (R&R)
2. RESOLUTION TC26-92: To consider and act upon a resolution which would approve the reappointment by the First Selectman of Andrew Lubin of 55 Killian Avenue as an alternate member of the Inland Wetlands & Watercourses Commission for a term extending to the first Monday of December 2019. (R&R)
3. RESOLUTION TC26-93: To consider and act upon a resolution which would approve the appointment by the First Selectman of Philip Pitocco of 27 Regency Circle as a member of the Golf Commission for a term extending to the first Monday of December 2019. (Turk) (R&R)
4. RESOLUTION TC26-94: To consider and act upon a resolution which would approve the reappointment by the First Selectman of Julie Jenkins of 9 Woodfield Drive as a member of the Golf Commission for a term extending to the first Monday of December 2019. (R&R)

5. RESOLUTION TC26-95: To consider and act upon a resolution which would approve the reappointment by the First Selectman of Diane Wheeler of 184 Hilltop Circle as a member of the Golf Commission for a term extending to the first Monday of December 2019. (R&R)
6. RESOLUTION TC26-96: To consider and act upon a resolution which would approve the recommendation of the First Selectman to appoint of Sami Bal of 57 Primrose Drive as a member of the Ethics Commission for a term extending to the first Monday of December 2021. (Gross) *(Two-thirds Town Council Vote Required)* (R&R)
7. RESOLUTION TC26-97: To consider and act upon a resolution which would approve the reappointment of James Lavin of 71 Arden Road as a member of the Pension Board for a term extending to the first Monday of December 2020. (R&R)
8. RESOLUTION TC26-98: To consider and act upon a resolution which would approve the reappointment of Don Scinto of 65 Hedgehog Circle as an alternate member of the Planning & Zoning Commission for a term extending to the first Monday of December 2019. (R&R)
9. RESOLUTION TC26-99: To consider and act upon a resolution which would approve the reappointment of Brian Reilly of 125 Plymouth Avenue as an alternate member of the Zoning Boards of Appeals Commission for a term extending to the first Monday of December 2021. (R&R)
10. RESOLUTION TC26-100: To consider and act upon a resolution which would amend Chapter 5, Buildings & Building Regulations, Article 1-In General, Section 5.5 Demolition Permits of the Trumbull Municipal Code (Finance) *(Public Hearing January 5, 2017 Town Council)*
11. RESOLUTION TC26-101: To consider and act upon a resolution entitled "RESOLUTION APPROPRIATING \$13,500,000 FOR THE TRUMBULL (TOWN) CAPITAL IMPROVEMENT PLAN 2017-2018 AND AUTHORIZING THE ISSUE OF \$13,500,000 BONDS OF THE TOWN TO MEET SAID APPROPRIATION AND PENDING THE ISSUANCE THEREOF THE MAKING OF TEMPORARY BORROWINGS FOR SUCH PURPOSE". (Finance)

VIII ADJOURNMENT
COPY OF THE RESOLUTION ATTACHED HERETO
Carl A. Massaro, Jr., Chairman Trumbull Town Council

RESOLUTIONS

1. RESOLUTION TC26-91: BE IT RESOLVED, That the reappointment by the First Selectman of Mark MacKeil of 27 Edgewood Avenue, be and the same, is hereby approved as a member of the Inland Wetlands & Watercourses Commission for a term extending to the first Monday of December 2019.
2. RESOLUTION TC26-92: BE IT RESOLVED, That the reappointment by the First Selectman of Andrew Lubin of 55 Killian Avenue, be and the same, is hereby approved as an alternate member of the Inland Wetlands & Watercourses Commission for a term extending to the first Monday of December 2019.
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6. RESOLUTION TC26-96: BE IT RESOLVED, That the recommendation of the First Selectman to appoint Sami Bal of 57 Primrose Drive, be and the same, is hereby approved as a member of the Ethics Commission for a term extending to the first Monday of December 2021. *(Two-thirds Town Council Vote Required)*
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9. RESOLUTION TC26-99: BE IT RESOLVED, That the reappointment of Brian Reilly of 125 Plymouth Avenue, be and the same, is hereby approved as an alternate member of the Zoning Boards of Appeals Commission for a term extending to the first Monday of December 2021.
10. RESOLUTION TC26-100: BE IT RESOLVED AND ORDAINED, That Chapter 5, Buildings & Building Regulations, Article 1-In General, Section 5.5, Demolition Permits of the Trumbull Municipal Code is hereby amended. (Amendment Attached)

11. RESOLUTION TC26-101: "RESOLUTION APPROPRIATING \$13,500,000 FOR THE TRUMBULL (TOWN) CAPITAL IMPROVEMENT PLAN 2017-2018 AND AUTHORIZING THE ISSUE OF \$13,500,000 BONDS OF THE TOWN TO MEET SAID APPROPRIATION AND PENDING THE ISSUANCE THEREOF THE MAKING OF TEMPORARY BORROWINGS FOR SUCH PURPOSE" (Full Resolution Attached)

RESOLUTION APPROPRIATING \$13,500,000 FOR THE TRUMBULL (TOWN) CAPITAL IMPROVEMENT PLAN 2017-2018 AND AUTHORIZING THE ISSUE OF \$13,500,000 BONDS OF THE TOWN TO MEET SAID APPROPRIATION AND PENDING THE ISSUANCE THEREOF THE MAKING OF TEMPORARY BORROWINGS FOR SUCH PURPOSE

Section 1. The sum of \$13,500,000 is appropriated for the planning, acquisition and construction of the Trumbull (Town) Capital Improvement Plan 2017-2018, as adopted and amended by the Town Council from time to time, and consisting of: (i) roadways; (ii) Public Facilities including the Trumbull Library, Town Hall, Police Headquarters, public works yard and communications, EMS Building and health department; (iii) Parks improvements, (iv) fleet and equipment; (v) other projects, consisting of economic development and various road and drainage projects; and (vi) enterprise (WPCA and Tashua Knolls) including road repair, and for appurtenances, equipment and services related thereto, or for so much thereof or such additional improvements as may be accomplished within said appropriation, and for administrative, advertising, printing, legal and financing costs to the extent paid therefrom. Said appropriation shall be inclusive of grant funding and in addition to all prior appropriations for said purpose. The Town Council may by resolution transfer funding herein among authorized projects within the 2017-2018 Town CIP, and the First Selectman's office may transfer among projects amounts not exceeding 10% of the CIP funding by purpose as last approved by the Town Council.

Section 2. To meet said appropriation \$13,500,000 bonds of the Town or so much thereof as shall be necessary for such purpose, shall be issued, maturing not later than the twentieth year after their date. Said bonds may be issued in one or more series as determined by the First Selectman and the Town Treasurer (hereafter the Town Officials), and the amount of bonds of each series to be issued shall be fixed by the Town Officials. Said bonds shall be issued in the amount necessary to meet the Town's share of the cost of the project determined after considering the estimated amount of the State and Federal grants-in-aid of the project, or the actual amount thereof if this be ascertainable, and the anticipated times of the receipt of the proceeds thereof, provided that the total amount of bonds to be issued shall not be less than an amount which will provide funds sufficient with other funds available for such purpose to pay the principal of and the interest on all temporary borrowings in anticipation of the receipt of the proceeds of said bonds outstanding at the time of the issuance thereof, and to pay for the administrative, printing and legal costs of issuing the bonds. Capital project revenues, including bid premiums and investment income derived from investment of bond proceeds (and net investment income derived from note proceeds) are authorized to be credited by the Director of Finance to the project account and expended to pay project expenses customarily paid therefrom. The remaining appropriation and bond authorization shall be reduced by the amount of capital project revenues so credited. The bonds shall be in the denomination of \$1,000 or a whole multiple thereof, or, be combined with other bonds of the Town and such combined issue shall be in the denomination per aggregate maturity of \$1,000 or a whole multiple thereof, be issued in bearer form or in fully registered form, be executed in the name and on behalf of the Town by the manual or facsimile signatures of the Town Officials, bear the Town seal or a facsimile thereof, be certified by a bank or trust company

designated by the Town Officials, which bank or trust company may be designated the registrar and transfer agent, be payable at a bank or trust company designated by the Town Officials, and be approved as to their legality by Joseph Fasi LLC, Attorneys-at-law, Bond Counsel of Hartford. They shall bear such rate or rates of interest as shall be determined by the Town Officials. The bonds shall be general obligations of the Town and each of the bonds shall recite that every requirement of law relating to its issue has been duly complied with, that such bond is within every debt and other limit prescribed by law, that the full faith and credit of the Town are pledged to the payment of the principal thereof and the interest thereon and will be paid from property taxation to the extent not paid from other sources. The aggregate principal amount of the bonds to be issued, the annual installments of principal, redemption provisions, if any, the date, time of issue and sale and other terms, details and particulars of such bonds, shall be determined by the Town Officials, in accordance with the General Statutes of the State of Connecticut, as amended.

Section 3. Said bonds shall be sold by the Town Officials, in a competitive offering or by negotiation, in their discretion. If sold at competitive offering, the bonds shall be sold upon sealed proposals, auction, or similar competitive process at not less than par and accrued interest on the basis of the lowest net or true interest cost to the Town. A notice of sale or a summary thereof describing the bonds and setting forth the terms and conditions of the sale shall be published at least five days in advance of the sale in a recognized publication carrying municipal bond notices and devoted primarily to financial news and the subject of state and municipal bonds. If the bonds are sold by negotiation, the provisions of purchase agreement shall be approved by the Town Officials.

Section 4. The Town Officials, are authorized to make temporary borrowings in anticipation of the receipt of the proceeds of said bonds. Notes evidencing such borrowings shall be executed in the name and on behalf of the Town by the manual or facsimile signatures of the Town Officials, bear the Town seal or a facsimile thereof, be payable at a bank or trust company designated by the Town Officials, be approved as to their legality by Joseph Fasi LLC, Attorneys-at-law, Bond Counsel of Hartford, and be certified by a bank or trust company designated by the Town Officials, pursuant to Section 7-373 of the General Statutes of Connecticut, as amended. They shall be issued with maturity dates which comply with the provisions of the General Statutes governing the issuance of such notes, as the same may be amended from time to time. The notes shall be general obligations of the Town and each of the notes shall recite that every requirement of law relating to its issue has been duly complied with, that such note is within every debt and other limit prescribed by law, that the full faith and credit of the Town are pledged to the payment of the principal thereof and the interest thereon and will be paid from property taxation to the extent not paid from other sources. The net interest cost on such notes, including renewals thereof, and the expense of preparing, issuing and marketing them, to the extent paid from the proceeds of such renewals or said bonds, shall be included as a cost of the project. Upon the sale of said bonds, the proceeds thereof, to the extent required, shall be applied forthwith to the payment of the principal of and the interest on any such notes then outstanding or shall be deposited with a bank or trust company in trust for such purpose.

Section 5. Resolution of Official Intent to Reimburse Expenditures with Borrowings. The Town (the "Issuer") hereby expresses its official intent pursuant to §1.150-2 of the Federal Income Tax Regulations, Title 26 (the "Regulations"), to reimburse expenditures paid sixty days prior to

and after the date of passage of this ordinance in the maximum amount and for the capital project defined in Section 1 with the proceeds of bonds, notes, or other obligations ("Bonds") authorized to be issued by the Issuer. The Bonds shall be issued to reimburse such expenditures not later than 18 months after the later of the date of the expenditure or the substantial completion of the project, or such later date the Regulations may authorize. The Issuer hereby certifies that the intention to reimburse as expressed herein is based upon its reasonable expectations as of this date. The Director of Finance or his designee is authorized to pay project expenses in accordance herewith pending the issuance of reimbursement bonds, and to amend this declaration.

Section 6. The Town Officials, are hereby authorized to exercise all powers conferred by section 3-20e of the general statutes with respect to secondary market disclosure and to provide annual information and notices of material events as enumerated in Securities and Exchange Commission Exchange Act Rule 15c2-12, as amended, as may be necessary, appropriate or desirable to effect the sale of the bonds and notes authorized by this resolution.

Section 7. It is hereby found and determined that it is in public interest to issue all, or a portion of, the Bonds, Notes or other obligations of the Town as qualified private activity bonds, or with interest that is includable in gross income of the holders thereof for purposes of federal income taxation. The Town Officials are hereby authorized to issue and utilize without further approval any financing alternative currently or hereafter available to municipal governments pursuant to law including but not limited to any "tax credit bonds" or "Build America Bonds" including Direct Payment and Tax Credit versions.

- **Sec. 5-5. - Demolition permits.**

(1)

No permit for the demolition of any building, structure, or part thereof which is five hundred (500) square feet or larger and constructed prior to 1940 shall be issued until an application for a demolition permit has been filed with the Building Department to include the following information:

Name, address, description, previous use, age and square footage of the structure for which demolition is being applied for.

Name and address of owner and firm undertaking demolition.

Reason for demolition and date upon which demolition is proposed to begin.

Names and addresses of all property owners abutting the property on which the structure(s) to be demolished is located in accordance with an attached copy of a current Town of Trumbull Assessor's Map.

(2)

The Building Department shall publish a notice of the demolition permit application in the Connecticut Post. The notice shall be published within seven (7) days following the filing of the demolition permit application.

(3)

The applicant shall provide proof of notification of the planned demolition by certified or registered mail, within seven (7) days following the filing of the demolition permit application, to the owners of all properties abutting or across a public right-of-way from the property on which the structure(s) to be demolished is located.

(4)

Within seven (7) days following the filing of the demolition permit application, the demolition applicant shall post a sign at least twenty-four (24) inches by thirty-six (36) inches which shall be provided by the Building Department in a conspicuous location visible from the nearest public street or access way adjoining the property. If the property is bounded by more than one (1) road, the sign shall be placed on the more heavily traveled road. Such sign shall include a copy of the legal notice and shall contain the word "DEMOLITION" in capital letters no less than three (3) inches in height. This sign shall remain on site until the demolition has taken place or the application for demolition has been withdrawn.

(5)

Within seven (7) days of receipt of an application for demolition, the Building Department shall alert the Planning and Zoning Department, the Trumbull Historical Society, the Wetlands Commission and a list of interested parties compiled by the Planning and Zoning Department of the application.

(6)

A Demolition Review Committee shall be created composed of three (3) members, including a Planning and Zoning Department staff member and two (2) officials recommended by the Trumbull Historical Society and appointed by the First Selectman. The two (2) officials appointed by the First Selectman to this committee shall not include more than one (1) member of any particular party and shall have demonstrated knowledge of historic preservation, architecture and Trumbull history. They should serve staggered two-year terms.

(7)

The Demolition Review Committee shall make a determination within thirty (30) days after a **written notice of intent to demolish has been received by the Building Department**, or an application has been filed for a demolition, regarding whether that property may have historic, architectural or cultural significance to the Town of Trumbull. In making this determination, they should follow well established standards for historic significance used by the National Trust for Historic Preservation and Connecticut Trust for Historic Preservation. If the committee determines that a property for which demolition has been requested does not have historic, architectural or cultural significance to the Town of Trumbull, demolition may proceed after thirty (30) days from the date on which the application for a demolition permit was filed.

(8)

If a determination is made by the Demolition Review Committee that a property for which demolition has been requested may have historic, architectural or cultural significance to the Town of Trumbull, demolition shall not proceed until ninety (90) days after a determination by the Demolition Review Committee of potential significance. This 90-day period shall be called the Demolition Delay Review Period.

(9)

During the 90-day Demolition Delay Review Period, the Planning and Zoning Department and other Town Departments, Town Officials and/or members of the Trumbull Historical Society shall meet with the applicant for demolition to determine whether there is potential to prevent the demolition by allowing a new use for the structure, move the structure, save and preserve portions of the structure or save and preserve objects in the structure that may be of significance to the Town of Trumbull.

(10)

An administrative fee of two hundred fifty dollars (\$250.00) shall be charged to cover costs for noticing and providing a demolition sign.

(11)

Demolition of a structure without a permit shall subject the violator to all applicable penalties under the law, including a fine of the greater of one thousand dollars (\$1,000.00) or one (1) percent of assessed value of the structure demolished.

(12)

Any demolition permit shall be valid for a period of six (6) months.

(13)

The provisions of this section shall not apply to orders issued by the Health Department or Building Department for emergency demolition due to threat to public health or safety.

(Res. No. TC22-210, 7-10-09)

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(Res. No. TC22-210, 7-10-09)

**2017 BONDING NEEDS
CAPITAL IMPROVEMENT PLAN
NARRATIVE**

Summaries are listed below. See attached Exhibits for additional information regarding requests.

STANDARD DEFINITION FOR CAPITAL IMPROVEMENT

- Any acquisition or lease of land
- Purchase of major equipment or vehicles in excess of \$10,000 with life expectancy 5+ years
- Construction of new building facilities with cost in excess of \$10,000
- Major building improvements with a cost in excess of \$10,000
- Major equipment or furnishings in excess of \$10,000

ROADWAYS

Streets were prioritized based on wear, safety, and usage. Cost includes much needed drainage repairs where indicated due to severe deterioration, asphalt, tack, catch basin, manholes, curbing as needed, grading/compacting, loading and trucking of excess material, in addition to an estimate for shoulder restoration charges that will be incurred. Video Inspection was also included for each year. Estimates based on current pricing for milling/reclaiming and asphalt. An additional line item was added each year to cover the cost of any additional drainage repairs that may be required as a result of video inspection findings.

PUBLIC FACILITIES

Costs are based on professional estimates from a report prepared by Antinozzi Associates, which was revised on September 30, 2010. Projects were reviewed and updated as necessary. Projects will be bid as required by Charter and costs are subject to change. See Exhibit A.

Trumbull Library

The Library Board recently received a space assessment from Berger Association. From this report the Board's first priority is to expand parking by approximately 35 spaces. The second priority is to add an addition that would square off the community room. Exhibit A-1

Town Hall

Adjacencies Construction - Renovation of Town Hall space to promote functional flow of services provided to the public. Currently the design has been funded. The design work will provide a cost estimate for the project. The project estimate is \$950,000.

Telephone System - The current phone system is out of date and subject to numerous issues. A few years back an upgrade of the system was looked into and now a consultant has been hired to prepare a plan for the conversion to VOIP for both the BOE and the Town. Once the scope is

defined, the project will be publicly bid. The estimate is \$930,700 of which \$391,700 is for the Town and \$539,000 is for the BOE. Exhibit A-10

Police Headquarters:

Paving - Repaving of existing lot. Currently an additional lot is being added to the front of building. Estimate \$200,000.

Fan Exhaust System for Firing Range - Cost estimated and necessary to address environmental and OSHA requirements for safety and ventilation. Design has been approved and cost will be finalized prior to funding. The project estimate is \$245,000. Exhibit A-2

Locker Room Renovations - Expansion of locker room needed to accommodate increased personnel and equipment needs. The project estimate is \$475,000. Exhibit A-3

Public Works Yard:

Continuation of replacement of old and outdated structures. Costs are estimates. Exhibit A-4

High Frequency Radio System required for long range communications and interoperability with Emergency Management systems. The project estimate is \$256,000. Exhibit A-5

EMS Building:

Site Construction - The design for the expansion of EMS is currently underway. Costs are estimated for the next phase of development. Final cost estimates are available. Schematic design portion estimate is \$100,000. Exhibit A-6

Health Department:

Roof Replacement - The renovation did not include a new roof. The roof was scheduled per the original Antinozzi report for replacement in 2018. Public Facilities Director has confirmed the need for the replacement. The project estimate is \$50,000. Exhibit A-8

Transfer Station:

Repairs and road widening required for safety and traffic remediation. Estimated cost is \$250,000.

PARK IMPROVEMENTS

Artificial Athletic Turf - Trumbull High School Soccer Field (\$1,200,000) Exhibit B-5

Adding additional Synthetic Turf Athletic Fields (SAT) to the Town's inventory is a stated goal of the Parks and Recreation Department and THS Athletic Department and is supported by the community athletic organizations representing thousands of Trumbull youth athletes. SAT fields offer several advantages over traditional natural turf fields. The SAT virtually eliminates cancellation of games and practice due to weather. The quality playing surface is not compromised by overuse allowing for a much greater intensity of scheduling particularly when compared to a

varsity facility in which insuring the quality of a grass surface leads to significant restrictions in scheduling. This makes the Soccer field at THS the top priority for conversion due to the existing lights. And as an offset to the higher construction costs, SAT fields require a minimum of maintenance reducing labor, materials costs and emission of greenhouse gases associated with small engine maintenance equipment such as lawn mowers.

The pricing represents the latest generation of SAT using a shock absorption mat and GeoFill, a fill material made of natural fibers, thereby eliminating the use of rubber tire infill.

Artificial Athletic Turf Carpet Replacement at Indian Ledge Park (\$625,000) Exhibit B-5

The Synthetic Athletic Turf requires a carpet replacement. The turf is in more than 12 years old and beyond the anticipated 10 year life when the field was installed. As the fibers break down from wear and tear and the effects of UV rays the fiber carpet deteriorates. The carpet is showing signs of that deterioration.

Pricing includes removal and disposal of the existing carpet and rubber infill as well as replacement with the shock absorption mat and GeoFill as described above. Pricing based on recent similar bids in Fairfield County.

Rest Room Upgrades (\$56,000)

The Parks and Recreation Department intends to begin a four year program designed to upgrade the interior of the public restrooms (2 per year) within the park system. Replacement of plumbing fixtures with automatic flush meters, exhaust fans and lights on motions sensors and timers will improve sanitary conditions and odor control while reducing utility costs and making the restrooms more welcoming for guests. Project pricing includes roof replacement. Estimate of cost is provided by Parks Department based on scope of work.

Indian Ledge Drainage Repairs/Rail/removal of Material (\$330,000) /Indian Ledge Paving (\$254,100)

This project is to stabilize and maintain the parking lot adjacent to the athletic field overlooking the dog park at Indian Ledge. Last winter the Highway/Parks Department undertook work to stabilize the embankment and parking area. The next phase is to install drainage to prevent further erosion, install a safety rail at the top of the slope, remove and replace unsuitable materials from the parking lot, and install new asphalt pavement. Cost estimates were provided by the Engineering Division based unit pricing and recent bid experience. Project Estimate attached. See Exhibit B-1 and B-2,

Unity Park Drainage/Paving (\$300,000)

The asphalt paved parking lots and roadways within Unity Park are well over thirty years old and are in need of replacement. The area is prone to flooding and flood damage has scoured away all of the original paving on the lower parking areas requiring costly annual patching with reclaimed millings to maintain a functioning parking lot. Uneven and broken pavement presents potential for trip and fall incidents in one of the town's most heavily utilized facilities.

Prior to repaving the lots, a full review of the drainage components will be conducted with appropriate repairs and renovations to the storm water drainage systems which are no longer functioning effectively. The underground culverts are in a significant state of decay and the storm drain head walls are deteriorating and no longer properly direct water flow resulting in a negative impact on the adjacent natural resources. This is a necessary infrastructure maintenance project to improve the asset, and to ensure proper storm water management and public safety impacting park users and neighboring residents.

The project is to be funded over 3 years (approved CY 2016, \$190,500). Project Estimate attached. See Exhibit B-3.

Twin Brooks Design/Drainage 250,000

Twin Brooks is situated at the confluence of two water ways, the Pequannock and the Old Saw Mill. As such, Twin Brooks functions as a major flood plain in Town. Periodic flooding over the past generation has eroded the river banks resulting in destabilization of areas of the internal roadway. Underground culverts have decayed and in some cases have filled in and no longer function properly, further causing damage within the Park even in moderate storm events.

A design review of the storm water drainage systems will be conducted with necessary repairs performed in preparation for repaving the roadways and parking area within the park. This is a necessary infrastructure maintenance project to improve the asset and ensure proper storm water management and public safety impacting park users and neighboring residents.

The project is to be funded over 5 years (approved CY 2016, \$200,000). Project Estimate attached. See Exhibit B-4.

See Exhibit B for supporting documentation on Parks projects.

FLEET & EQUIPMENT

The Highway Department replaces equipment based on usage and condition. The vehicle may have rust and erosion due to road or work conditions that require replacement sooner than the recommended useful life. The general rule is to replace this equipment every 15 to 20 years. Highway is also seeking authorization for the purchase of a new Backhoe. A quote is attached in the Exhibit.

Cost estimate for Snowplow/Sander is based on State Contract pricing in effect and Caterpillar Backhoe cost is based on current estimate. See Exhibit C-1 and C-2 for photos and cost estimates.

ECONOMIC DEVELOPMENT

The continuation of Rails to Trails project funding is coordinated with the State Department of Transportation and Connecticut Metropolitan Council of Governments (formerly Greater Bridgeport Regional Planning).

See attached Exhibit D regarding the Trumbull Center and Long Hill Green project requests.

ENGINEERING

Lake Avenue Sediment - Removal of sediment in the channel that flows south from the culvert under Lake Avenue at the corner on Main Street. The capacity of the channel has diminished greatly impacting the flow of storm water away from residences. Exhibit E-1.

Daniels Farm Road Drainage - Drainage improvements to Daniels Farm Road after Sanitary Sewer Repairs and prior to reclaiming and repaving Daniels Farm Road. Exhibit E-2.

:

Spring Hill Road Bridge - This project is being established to design the repairs identified by structure inspection of the Bridge. Exhibit E-4.

Brock Street Bridge - Design of the repairs identified by structure inspection of the Bridge. Exhibit E-5.

Old Town Road - Preliminary design to reconstruct Old Town Road. Exhibit E-6.

See Exhibit F for cost details.

ENTERPRISE

WPCA projects are provided by Town Engineer for various town wide repairs.

Various Roads – Town Wide Repairs – This project is proposed to initiate improvements to various areas of the sanitary sewer system. The WPCA funds pipe video inspections and the funds associated with this item is proposed to repair these areas on an as-needed basis.

Town Wide – Flow Discharge Alternative – This project is proposed to continue the design analysis to re-direct sewage flow from Trumbull's main discharge point to potentially a different jurisdiction. The amount proposed reflects design costs for 2017. Additional funds for this task will be requested in out years.

:

Old Town Road Pump Station – Replace Generator – This project is proposed to replace an existing generator at the Old Town Road Pump Station.

|

Park Ave Pump Station-Pump Station Rehabilitation – There have been numerous repairs to the pumps over the last three years. The proposed project is for replacement of the pumps.

| See Exhibit G for further details on all WPCA projects:

Golf Course project information is provided by the Director of Parks and Recreation.

Electrical Service Upgrade:

Electrical service into the park is not reliable resulting in frequent full or partial outages. Outages have caused damage to pumps and equipment related to the golf course, pool, and golf facilities. UI has planned replacement of the main service with the Town responsible for the cost of excavation and installation of the secondary service feeds to the individual facilities. The Parks Department will perform the excavation and restoration required. This project amount listed on the Capital Plan will be used for installation of the secondary service feeds by a licensed electrician. Cost estimates were provided by a licensed electrician.

UI Project Description - Tashua Knolls Recreation Area is site with combined Golf Course, Swimming Pool, Tennis and Basketball Courts. The existing power is fed by UI owned direct buried 3 phase primary to 4-3 phase transformer on UI owned foundations. Existing secondary and entry equipment are owned by the customer. The project goal is for the customer to trench and install new equipment (mostly provided by UI) to improve reliability to customer site.

Exhibit A

(Public Facilities)

Received
6/13/16

Exhibit A-1

TO: Maria T. Pires, Director of Finance
FROM: Arthur A. Kukla, Treasurer, Library Board of Trustees
RE: Five-Year Capital Plan
DATE: June 13, 2016

Attached is information requesting the construction of additional parking for the Trumbull Library located on Quality Street. This project was previously requested in 2011. Since then our lack of adequate parking for our patrons and activities has become more serious.

If you have any questions or need additional information, please contact me at 203 375-5117 or Jeannine Stauder at 203 268-3001.

Justifying the need for additional parking spaces:

When the library was built in 1974 parking was barely adequate. Since 1974, a new children's wing has been added, community room usage has increased so that there is now a shortage of available times for individuals wanting to use the room. As the population of the town has grown the library has constantly reorganized to meet the needs of the Citizens of Trumbull. A technology center with up to date computers is available, a teen area to recognize their needs, study areas, reading areas and space for the increase in printed material from technology to the best sellers. The interior of the library is constantly being reorganized to serve the changing needs of our patrons. Recently the library hosted focus groups to discuss the future of the library system. The major complaint of those attending was the severe lack of parking. Patrons have to park on street between the library and the town hall, in the town hall parking area and across the street in the Stop & Shop parking area. In 2011, the Board worked with the Public Works Dept. and other interested groups to develop a plan for an additional 35 spaces. The project was put out to bid in May 2011. Nine proposals were received. A decision by the Administration was made to reject the proposal. Since then the need for additional parking has become more acute.

Once again the Library Board is requesting funds for additional parking. There is no change in the 2011 plans. If approved the additional parking should become available during the second half of 2016.

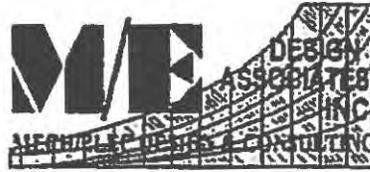
**TOWN OF TOWN TRUMBULL
BID RESULTS**

Exhibit A-1

RFQ/P 5893 PAVING OF LIBRARY PARKING LOT DUE: 05/24/11

COMPANY	TOTAL PROPOSE
D&P Construction	196,500.00
G. PIC	113,750.00
Deering Construction	106,700.00
Cherry Hill Construction	126,684.00
R. S. Site & Septic	86,625.00
Guerrera Construction	119,000.00
B&W Paving	106,204.00
Reliable Excavating	98,914.26
Dalling Construction	134,850.00

R. Chimini, Purchasing Agent



Division of The Salamone Group, LLC

Exhibit A-2

Trumbull Police Department

**158 Edison Road
Trumbull, Connecticut 06611**

Evaluation of the Existing Firing Range Ventilation System



December, 2015



Exhibit A-2

Division of The Salamone Group, LLC

116 North Plains Industrial Rd • Wallingford • CT • 06492 • Phone (203) 271-3787 • Fax (203) 287-8728

TABLE OF CONTENTS

- I. INTRODUCTION
- II. EVALUATION OF THE EXISTING VENTILATION SYSTEM
- III. RECOMMENDATIONS
- IV. ESTIMATED HVAC BUDGET



Exhibit A-2

Division of The Salamone Group, LLC

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SECTION I – INTRODUCTION

ME Design Associates Inc. has been retained by the Trumbull Police Department to provide an evaluation of the existing ventilation system at the indoor firing range located at the Trumbull Police Department 158 Edison Road, Trumbull Connecticut.

The purpose of this evaluation is to review the existing conditions for the indoor firing range built in the 1980's, and provide recommendations as to future upgrades. The findings within this evaluation were based on industry guidelines and regulatory requirements, feasibility, construction cost, and overall system performance.

It is understood that the assessments of the existing conditions were limited to components accessible.

This evaluation is not intended to serve as a specification for remedial and/or construction of said components.



Exhibit A-2

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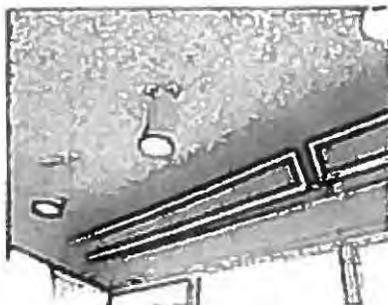
SECTION II – EVALUATION OF THE EXISTING VENTILATION SYSTEM



The office located adjacent the range has two (2) ceiling mounted diffusers. The diffusers appeared to be original to the building and have debris located within. One (1) diffuser did not appear to have airflow.



The on/off switch for the ventilation system is located behind the filing cabinets located near the office entry.



Two (2) supply air grilles area located above the entrance to the range. Each grille is directed towards the shooters area and provides a total of 1,800 CFM. The grilles appeared to be operational and original to the building.



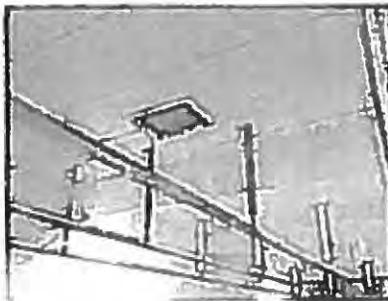
Exhibit A-2

Division of The Salamone Group, LLC

116 North Plains Industrial Rd • Wallingford • CT • 06492 • Phone (203) 271-3787 • Fax (203) 287-8728



Three (3) ceiling mounted blower units are located in front of the shooter area. Each unit is manufactured by the Broan Company and appeared to be original to the building.



A ceiling mounted exhaust grille is located within the range. The exhaust grille provides 450 CFM and appeared to be original to the building. Debris can be found within the grille.



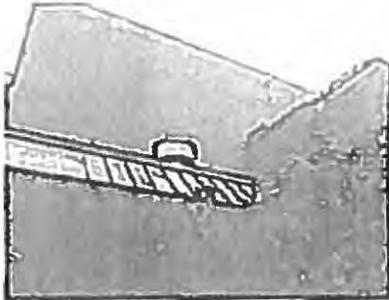
Two (2) ceiling mounted exhaust grilles are located behind the bullet trap. The grilles provide a total of 1,350 CFM and appeared to be original to the building. Debris can be found within the grille.



Exhibit A-2

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Exhaust for the range is provided by a roof mounted upblast fan. The fan appeared to be original to the building and in poor condition.



Exhibit A-2

Division of The Salamone Group, LLC

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SECTION III – RECOMMENDATIONS

The existing ventilation system appears to have the following limitations with respect to the current design standards. Proposed ventilation systems for indoor firing ranges include the following items to which the current facility does not appear to have at the capacities noted.

- Significant increase of supply air at appropriate velocities. (approx. 8,000-10,000 CFM)
- Exhaust system capacity must be at least 7-10% higher than the supply air system. (approx. 8,800-11,000 CFM exhaust)
- Uniform air flow distribution across the firing stations.
- HEPA and high MERV filtration systems for supply/exhaust air.
- Direct digital control system to monitor proper operation of the ventilation systems and alert operators if systems are not operating as intended.

Our office recommends removing the existing ventilation and supply air system in it's entirely due its limitations/age. Proposed ventilation/supply air system would include the following items:

- Custom air handling unit for supply and exhaust air systems.
- New ductwork, grilles, filtration for supply and exhaust system.
- Direct digital control system to monitor systems and alert personnel as required.



Exhibit A-2

Division of The Salamone Group, LLC

116 North Plains Industrial Rd • Wallingford • CT • 06492 • Phone (203) 271-3787 • Fax (203) 287-8728

SECTION IV – ESTIMATED HVAC BUDGET

Proposed Svstems:

- Remove existing ventilation system: \$5,000.00
- Provide custom air handling unit with filtration system: \$130,000.00 **E**
- Provide new ductwork distribution and diffusers/grilles. \$25,000.00
- Provide direct digital control system: \$40,000.00
- Contingency: \$20,000.00
- Overhead and Profit: \$22,000.00
- Total: \$242,000.00
- **Say:** \$245,000.00

*Items listed above do not include hazardous material, structural and architectural costs.



**Town of Trumbull Police Department
Locker Room Renovations
158 Edison Rd.
Trumbull, Ct.
Master Control Budget**

September 27th 2016

I. CONSTRUCTION COSTS (HARD COSTS) Total Sq. Ft.

	Units	Cost
CONSTRUCTION COST (2 locker rooms)		\$ 595,745
Subtotal Construction Costs		\$ 595,745
9 Excess Liability 0.000%		\$ -
10. State of Ct. Permit Fee 0.17%		\$ 1,013
11. Building Permit Fees 0.08%		\$ -
12. Construction Management Field Staff & Reimbursables		\$ 5,000
14. Bonds 1.200%		\$ 7,149
15. Design Build Fee 8.00%		\$ 47,660
Pre Construction Fee (architectural/engineering/pre con)		\$ 72,000
16. Construction Contingency 5.00%		\$ 29,787
17. Owners Contingency 5.00%		\$ 29,787
SUBTOTAL OF CAPITAL CONSTRUCTION		\$ 788,141

II. OTHER CAPITAL COSTS

1. Furniture		\$ -
2. IT / computers		\$ -
SUBTOTAL OF OTHER CAPITAL COSTS		\$ -

III. EXPENSES (SOFT COSTS)

4. Testing Lab		-
5. Special Inspections		-
SUBTOTAL OF EXPENSES ABOVE		\$ -
TOTAL PROJECT SUBTOTAL		\$ 788,141

Exhibit A-3

Town of Trumbull
Police toilets and locker rooms
Trumbull, Ct.

Date: 9/21/2016



DATED September 21, 2016
BISMARK CONSTRUCTION COMPANY
280 - 876 - 8339

1,800 square ft

DESCRIPTION	Schedule SUBTOTALS	CD Estimate SUBTOTALS	CF cost
10 00 00 GENERAL CONDITIONS	\$ 34,418.00	\$	
Relocate Excavator equipment	\$ 3,000.00		
Relocate 800lb evidence storage	\$ 2,300.00		
Fencing to support evidence storage (6Magr)	\$ 2,300.00		
Men's Trailer Toilet/showers (portable waste tank)	\$ 600.00		
3000 month	\$ 18,000.00		
Elect wire key in trailers	\$ 1,300.00		
weekly pump out 250 week	\$ 8,000.00		
Women's Trailer Toilet/showers	\$ 18,000.00		
3000 month	\$ 1,300.00		
Relocate Lin lock (franchise)	\$		
02 00 00 SELECTIVE DEMOLITION	\$ 41,540.00	\$	16.62
03 00 00 CONCRETE WORK	\$ 4,000.00	\$	1.50
04 00 00 MASONRY	\$ 22,200.00	\$	8.50
05 00 00 METALS	\$ 22,000.00	\$	8.50
06 00 00 WOOD, PLASTIC, AND COMPOSITES	\$ 2,500.00	\$	1.00
07 00 00 THERMAL AND MOISTURE PROTECTION	\$ 4,000.00	\$	1.50
08 00 00 DOORS AND WINDOWS	\$ 8,340.00	\$	3.23
09 00 00 FINISHES	\$ 77,370.00	\$	30.25
10 00 00 SPECIALTIES	\$ 17,200.00	\$	6.50
11 00 00 LOCKERS	\$ 142,000.00	\$	55.00
22 00 00 PLUMBING	\$ 62,000.00	\$	24.00
23 00 00 HVAC	\$ 37,500.00	\$	14.50
24 00 00 ELECTRICAL	\$ 75,000.00	\$	29.00
SUBTOTAL:	\$ 993,700.00	\$	383.00

Exhibit A-4

Project : Town Yard

Date 6/23/2016

Estimate By: FMS

Checked By: _____

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	Fence	lf	200	27.00	\$ 5,400.00
	Culvert installation	lf	150	300.00	\$ 45,000.00
	Restoration/Pave driveway area	ls	1	40000.00	\$ 40,000.00
					\$ -
UNIT PRICE SUBTOTAL =					\$ 90,400.00

ALLOWANCES

Pipe Video Inspection	ALLOWANCE	\$	-
Drainage repairs	ALLOWANCE	\$	-
		\$	-
		\$	-
		\$	-
ALLOWANCE SUBTOTAL =		\$	-

UNIT PRICE + ALLOWANCE = \$ 90,400.00

LUMP SUM ITEMS

Design	\$	35,000.00
Inspection		
Permit	\$	5,000.00
LUMP SUM SUBTOTAL =		\$ 40,000.00

SUBTOTAL - UNIT PRICE + ALLOWANCES + LUMP SUM = \$ 130,400.00

CONTINGENCY AND INCIDENTALS

Contingency & Incidentals (15% x (Unit Price + Allowances + Lump Sum))	\$	19,560.00
TOTAL =		\$ 149,960.00

ADD 3% ESCALATION PER YEAR - IF COMPLETED IN 2018 = \$ 154,459.00

Unit Cost		\$/SY
		\$/SF

NORTHEASTERN Communications Inc.

661 Brentwood Road
Orange, Connecticut 06477

Phone (203) 568-8937 • Fax (203) 568-8910
Main Office 1-800-223-9008

May 4, 2016

Exhibit A-5

Tom Baldwin
Trumbull Department
366 Church Hill Road
Trumbull, CT 06611

Re: New Radio System – Budgetary Quote

Dear Mr. Baldwin,

Northeastern Communications, Inc. is currently designing a new UHF digital radio system with GPS featuring no re occurring cost and the capability of utilizing a smart phone for radio access. The system quote which should be ready in late May will be priced in accordance with Connecticut State Contract 14PSX0073.

The system is going to consist of:

- ① • Two UHF Motorola SLR8000 Digital Repeaters – one unit at Trumbull PD and on unit at the Daniels Farm Fire House. Budgetary Cost: \$ 60,000.00
- ② • One Hundred Motorola 40 Watt UHF Mobiles – ninety two units to be installed in Trumbull fleet and eight spare units. Budgetary Cost: \$ 145,000.00
- ③ • Control Stations to interface with the GPS and Police Console. Budgetary Cost: \$ 16,000.00
- ④ • CTI Software to provide GPS and Smart Phone Voice Access. Budgetary Cost: \$ 35,000.00

Please feel free to call me with any questions you may have.

Sincerely yours,

Soft Copy

Scott Harrison
Area Sales Manager

① \$ 60,000
② \$ 145,000
③ \$ 16,000
④ \$ 35,000
\$ 256,000 TOTAL



CERTIFIED SERVICE CENTER
www.motorolasolutions.com



MOTOROLA SOLUTIONS

Radio Solutions Channel Partner



DECARLO
& DOLL, INC.

ARCHITECTS
ENGINEERS
SURVEYORS
PLANNERS
CONSTRUCTION
MANAGERS

September 23, 2016

Mr. John Marsillo
Public Works Director
Trumbull Public Works Department
366 Church Hill Street
Trumbull, CT 06611

Exhibit A-6

RE: Emergency Medical Services Building - Preliminary Project Cost Estimate

Dear Mr. Marsillo,

Per your request, attached are Preliminary Project Costs Budget Estimate for the Proposed EMS Building Renovation, Addition and Site Improvements.

To date, we have not performed Feasibility Studies or Programming, therefore, the cost estimates attached are ballpark numbers, strictly for the Town's Preliminary Budget purposes.

Our cost assumptions are based on the following:

1. The Existing Facility Is 5000 SF (Fact)
2. Existing Facility would require 67% or 3,300 SF of Upgrades and Renovations.
3. Existing Facility would receive a new EPDM Roof to replace existing
4. New addition would be a separate and detached One Story Building on same site.
This New Addition would be limited to 2500 SF.
5. Other Site Costs and Professional Fees are also Preliminary Budget Estimates based on similar projects.

Please contact us at your earliest convenience should you have any questions. We look forward to continuing our professional relationship with you and the Town of Trumbull.

Very truly yours,
DeCARLO & DOLL, Inc.

Emanuel Machado
Sr. Project Manager

Cc: Ron Nault
Allen White
File



DECARLO & DOLL, INC.

Exhibit A-6

Emergency Medical Services Preliminary Project Cost Budget Estimate

1.0	SITE IMPROVEMENTS.....	\$125,000.00
2.0	UTILITIES / STORM DRAINAGE.....	\$50,000.00
3.0	RENOVATIONS at EXISTING FACILITY (3,300 SF – Does not include existing garage area)	\$495,000.00
4.0	EXISTING ROOF REPLACEMENT.....	\$30,000.00
5.0	NEW 2,500 sf ADDITION (of similar Construction Type)	\$625,000.00
6.0	FURNITURE, FURNISHINGS and EQUIPMENT.	\$80,000.00
7.0	DATA, TELCOM, SPECIALIZED COMMUNICATIONS EQUIPT.....	\$70,000.00
8.0	PROFESSIONAL FEES / OTHER OWNER COSTS.....	\$175,000.00
<hr/>		
	<u>ESTIMATED PROJECT SUBTOTAL.....</u>	<u>\$1,650,000.00</u>
9.0	CONTINGENCIES (10% of SUBTOTAL ABOVE)	\$165,000.00
	 <u>ESTIMATED PROJECT COSTS TOTAL.....</u>	 <u>\$1,815,000.00</u>

schematic design only \$100,000⁰⁰

DECARLO & DOLL, INC.

Exhibit A-8

**Health Department
Roof Replacement
CIP'17 Estimate**

Estimate from DeCarlo & Doll, per Allen based on sq footage:

32,000.00	Roof Replacement
6,000.00	Architect Fees
2,000.00	Contingencies
10,000.00	Miscellaneous
50,000.00	Total Estimated Project Cost

Maria Pires

From: William B. Chin
Sent: Thursday, November 10, 2016 9:49 AM
To: Maria Pires
Subject: FW: updated cost estimate for new phone system

Exhibit A-10

Here's the cost estimate and quick summary of Peter's email (see below for more detail):

Premise System (equipment in Town facilities)

Using the high end of the range, the total estimated cost of the new system should be:

System \$830,000
Cabling \$ 50,700
Switches \$ 50,000
Total \$930,700

Hosted System (equipment at a telephone vendor)

You will need to add the same cabling and network switches to the estimate, which is approximately \$100,700, and which is not included in the table below.

A rough estimate of the monthly and annual operating costs are as follows:

	Capital Outlay	Monthly Operating Costs	Annual Operating Costs
Town	\$21,825 - \$29,100	\$5,820 - \$7,275	\$69,840 - \$87,300
Board of Education	\$40,425 - \$53,900	\$10,780 - \$13,475	\$129,360 - \$161,700
Total	\$62,250 - \$83,000	\$16,600 - \$20,750	\$199,200 - \$249,000

Total of the three columns: \$278,050 – \$456,500

Add the cabling (\$50,700) and switches (\$50,000) and the hosted system cost estimate becomes: \$378,750 - \$557,200 for the first year.

Bill

From: Peter Berry (mailto:pberry6103@gmail.com)
Sent: Thursday, November 10, 2016 9:31 AM
To: William B. Chin <wchin@trumbull-ct.gov>; Hackett, Jeffrey <HackettJ@trumbullps.org>
Subject: updated cost estimate for new phone system

Bill and Jeff, As we discussed, I updated the cost estimate to include cabling at 7 schools plus a placeholder for 20 new switches.

Premise-Based System

For a premise-based system, where the Town will buy and own the system and all components, the range of costs should fall between \$800 to \$1,000 per user or telephone. The estimates are based on recent quotes received from local vendors for systems of similar size and complexity. The estimates include all parts and labor (including voicemail and voicemail-to-email functionality), software, configuration, integration with public safety systems, installation and a one year parts and labor warranty. Additional charges will apply for post-warranty support after the 1st year.

A-10

The set counts are 291 for Town sites, and 539 for school sites. The 539 number includes approximately 150 existing sets in high school classrooms that are part of the high school Nortel BCM system. A rough estimate of the capital outlay for the premise-based system is as follows:

- Town 291 stations - \$232,800 to \$291,000 (L)
- BoE 539 stations - \$431,200 to \$539,000 ✓
- Totals 830 stations - \$664,000 to \$830,000

In addition, we are including costs for:

1. Cabling at 5 elementary schools and 2 middle schools. There are approximately 169 cable drops required to serve the telephones at these locations. Each will run approximately \$300 per drop, for a total of \$50,700.
2. Network switches - This number should be considered as a placeholder, since a more detailed network assessment is required to determine which existing switches are adequate to support VoIP. If we assume that 20 new switches are required, at an average cost of \$2,500, this number is \$50,000.

Using the high end of the range, the total estimated cost of the new system should be:

System	\$830,000
Cabling	\$ 50,700
Switches	\$ 50,000
Total	\$930,700

Annual maintenance costs will vary widely, after the minimum one year warranty expires, since there are several options, including:

- Whether the Town prefers 24x7 maintenance versus business day coverage. You will be able to negotiate a hybrid approach, with public safety having 24x7 coverage, and business day only for others, as an example.
- the Town's ability and willingness to assume responsibility for the day-to-day maintenance and troubleshooting, with appropriate staff levels, trained and certified staff on the new system
- Whether the Town elects to pay maintenance costs for every telephone set ~ a less expensive option is to purchase a pool of spare telephone sets. When a phone has repair problems, it can simply be swapped out for one of the spare sets. The phones needing to be repaired can then be returned to the vendor to be fixed, and the pool of spare sets can be restored on a regular/annual basis as needed.
- Whether the Town prefers to include the costs for regular system software upgrades as part of the maintenance agreement, or to pay for these separately as they occur. The Town and BoE require maintenance agreements for software and hardware agreements to insure that systems remain current over the life time of the product. The RFP should therefore include the cost(s) of all maintenance/service agreements for hardware, software updates/patches/enhancements.

A-10

For budgeting purposes, we expect annual maintenance costs to fall between 7 – 10% of the system capital cost, again depending on the maintenance options selected.

Ongoing operational costs will also include the cost of outside telephone lines. We suggest using SIP trunks, which provide greater flexibility and are typically significantly less expensive than traditional trunking methods. Further, long distance costs are usually included in the cost of SIP trunks, so no additional usage costs will apply.

Hosted System

For a hosted system, the costs will consist of a monthly rate for each user. Rates vary based on the "level" of user (basic/classroom users, standard office users, power users, etc.) Based on recent discussions and estimates provided by local providers of hosted systems, the Town should expect to pay from \$20 - \$25 per user per month, assuming a typical split of different levels of users.

The capital outlay for a hosted system will be substantially lower than for the premise-based system, since the Town will not be buying the system components (other than possibly the telephone sets). The capital outlay for a hosted system is estimated at \$75 - \$100 per station, and consists primarily of design, installation, configuration and project management services for the initial implementation. You will need to add the same cabling and network switches to the estimate, which is approximately \$100,700, and which is not included in the table below.

A rough estimate of the monthly and annual operating costs are as follows:

	Capital Outlay	Monthly Operating Costs	Annual Operating Costs
Town	\$21,825 - \$29,100	\$5,820 - \$7,275	\$69,840 - \$87,300
Board of Education	\$40,425 - \$53,900	\$10,780 - \$13,475	\$129,360 - \$161,700
Total	\$62,250 - \$83,000	\$16,600 - \$20,750	\$199,200 - \$249,000

These rates include all services, including the system, all features (including voicemail and voicemail-to-email functionality), telephone sets, maintenance, regular system upgrades, and all usage/long distance costs. These rates apply for the life of the agreement, typically 5 years.

Assumptions for all estimates:

1. This is a very high level estimate based solely on existing set counts per Telserv's inventory.
2. These estimates are for a one-for-one replacement of existing telephone sets per Telserv's inventory. Any additional sets, such as sets in classrooms other than the high school, will need to be added at the unit rates identified above.

Peter

Exhibit B

(Parks & Improvement)

**TOWN OF TRUMBULL
ENGINEERING DEPARTMENT
— OPINION OF PROBABLE COST —**

Exhibit B-1

Project: Indian Lake Park
Drainage Project - 2017

Date: 5/24/2016
Estimate By: WCM
Checked By: _____

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	Pavement Excavation & Disposal (53471 sf)	SY			
	Process Aggregate (4")	CY			
	Blinder Course (2") 9029 sy)	Tons			
	Wear Course (2") (9029 sy)	Tons			
	Grass Restoration	SY			
	ADA Signs	EA			
	Parking Stall Line Striping	EA			
	ADA Stalls	LF			
	Cross Walks & Stop Bars	EA			
	Une Striping	LF			
					\$ -
UNIT PRICE SUBTOTAL =					\$ -

ALLOWANCES

Pipe Video Inspection	ALLOWANCE	\$ 10,000.00
Drainage repairs	ALLOWANCE	\$ 760,000.00
CB Tops	EA	
Reset manhole tops	EA	
		\$ -
ALLOWANCE SUBTOTAL =		\$ 770,000.00

UNIT PRICE + ALLOWANCE = \$ 270,000.00

LUMP SUM ITEMS

Design	\$ 5,000.00	
Inspection	\$ 7,500.00	
Layout	\$ 4,456.00	
LUMP SUM SUBTOTAL =		\$ 16,956.00

SUBTOTAL - UNIT PRICE + ALLOWANCES + LUMP SUM = \$ 286,956.00

CONTINGENCY AND INCIDENTALS

Contingency & Incidents (15% x (Unit Price + Allowances + Lump Sum))	\$ 43,044.00	
TOTAL =		\$ 330,000.00

ADD 3% ESCALATION PER YEAR - IF COMPLETED IN 2018 = \$ 339,900.00

Unit Cost	\$ / SY
	\$ / SF

Exhibit B-2

TOWN OF TRUMBULL ENGINEERING DEPARTMENT — OPINION OF PROBABLE COST —

Project : Indian Lakes Park
Paving Restoration Project - 2017

Date: 5/24/2016
Estimate By: WCM
Checked By: _____

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	Pavement Excavation & Disposal (53471 sf)	SY	5,941	1.00	\$ 5,941.22
	Process Aggregate (4")	CY	659	25.00	\$ 16,475.00
	Binder Course (2") 5025 sy)	Tons	713	110.00	\$ 78,430.00
	Wear Course (2") 9029 sy)	Tons	713	110.00	\$ 78,430.00
	Grass Restoration	SY	1600	7.00	\$ 11,200.00
	ADA Signage	EA	20	200.00	\$ 4,000.00
	Parking Stall Line Striping	EA	170	12.51	\$ 2,126.70
	ADA Stalls	LF	10	80.00	\$ 800.00
	Cross Walks & Stop Bars	EA	2	126.87	\$ 253.74
	Line Striping	LF	3000	1.10	\$ 3,300.00
					\$ -
UNIT PRICE SUBTOTAL =					\$ 200,956.66

ALLOWANCES

	ALLOWANCE	
Pipe Video Inspection		
Drainage repairs		
CB Tops	EA	
Reset manhole tops	EA	
		\$ -
ALLOWANCE SUBTOTAL =		\$ -

UNIT PRICE + ALLOWANCE = \$ 200,956.66

LUMP SUM ITEMS

Design	\$ 7,000.00
Inspection	\$ 8,000.00
Layout	\$ 5,000.00
LUMP SUM SUBTOTAL = \$ 20,000.00	

SUBTOTAL -UNIT PRICE + ALLOWANCES+ LUMP SUM = \$ 220,956.66

CONTINGENCY AND INCIDENTALS

Contingency & Incidentals (15% x (Unit Price + Allowances + Lump Sum))	\$ 33,143.00
TOTAL =	\$ 254,099.66

ADD 3% ESCALATION PER YEAR - IF COMPLETED IN 2018 = \$ 261,723.00

Unit Cost	42.77	\$/SY
	4.75	\$/SF

TOWN OF TRUMBULL
ENGINEERING DEPARTMENT
— OPINION OF PROBABLE COST —

Project : Unity Park
Drainage Restoration Project - 2017

Date: 5/24/2016
Estimate By: WCM
Checked By: _____

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	Pavement Excavation & Disposal (176763U)	SY			
	Process Aggregate (4")	CY			
	Blinder Course (2") (19640 sy)	Tons			
	Wear Course (2") (9029 sy)	Tons			
	Grass Restoration	SY			
	ADA Signage	EA			
	Parking Stall Line Striping	EA			
	ADA Stalls	LF			
	Cross Walks & Stop Bars	EA			
	Line Striping	LF			
					\$ -
UNIT PRICE SUBTOTAL =					\$ -

ALLOWANCES

Pipe Video Inspection		ALLOWANCE		\$	10,000.00
Drainage repairs		ALLOWANCE		\$	190,000.00
CB Tops	EA	6	600.00	\$	4,500.00
Reset manhole tops	EA	4	500.00	\$	2,000.00
				\$	-
ALLOWANCE SUBTOTAL =					\$ 206,500.00

UNIT PRICE + ALLOWANCE = \$ 206,500.00

LUMP SUM ITEMS

Design		\$	24,500.00
Inspection		\$	24,000.00
Layout		\$	5,870.00
LUMP SUM SUBTOTAL =			\$ 54,370.00

SUBTOTAL - UNIT PRICE + ALLOWANCES + LUMP SUM = \$ 260,870.00

CONTINGENCY AND INCIDENTALS

Contingency & Incidents (15% x (Unit Price + Allowances + Lump Sum))	\$	39,130.00
TOTAL =		\$ 300,000.00

ADD 3% ESCALATION PER YEAR - IF COMPLETED IN 2018 = \$ 309,000.00

Unit Cost		\$/SY
		\$/SF

Exhibit B-4

TOWN OF TRUMBULL
ENGINEERING DEPARTMENT
— OPINION OF PROBABLE COST —

Project : Twin Brooks Park
Drainage Restoration Project -2017

Date: 5/24/2016
Estimate By: WCM
Checked By: _____

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	Pavement Excavation & Disposal (173548 sf)	SY			
	Process Aggregate (4")	CY			
	Binder Course (2") (19283 sy)	Tons			
	Wear Course (2") (19283 sy)	Tons			
	Grass Restoration	SY			
	ADA Signage	EA			
	Parking Stall Line Striping	EA			
	ADA Stalls	LF			
	Cross Walks & Stop Bars	EA			
	Line Striping	LF			
				UNIT PRICE SUBTOTAL =	\$ -

ALLOWANCES

Pipe Video Inspection		ALLOWANCE	\$	10,000.00
Drainage repairs		ALLOWANCE	\$	100,000.00
CB Tops	EA			
Reset manhole tops	EA			
			\$	-
			ALLOWANCE SUBTOTAL =	\$ 110,000.00

UNIT PRICE + ALLOWANCE = \$ 110,000.00

LUMP SUM ITEMS

Design		\$	75,000.00
inspection		\$	27,391.00
Layout		\$	5,000.00
		LUMP SUM SUBTOTAL =	\$ 107,391.00

SUBTOTAL -UNIT PRICE + ALLOWANCES+ LUMP SUM = \$ 217,391.00

CONTINGENCY AND INCIDENTALS

Contingency & Incidents (15% x (Unit Price + Allowances + Lump Sum))	\$	32,609.00
		TOTAL = \$ 250,000.00

ADD 3% ESCALATION PER YEAR - IF COMPLETED IN 2017 = \$ 257,500.00

Unit Cost		\$/SY
		\$/SF

CIP Capital Improvement Plan 2017

Artificial Athletic Turf – Trumbull High School Soccer Field (\$1,200,000)

The Parks and Recreation Department and THS Athletic Department are proposing installing synthetic athletic turf (SAT) field in the site currently known as the varsity soccer field. The new field would be installed over a shock pad and utilize Geofill natural alternative infill in place of the rubber infill used in the previous generation of SAT installations.

Why SAT?

Synthetic Athletic Turf has proven to be a great asset to any athletic program. SAT fields offer several advantages over traditional natural turf fields. The SAT virtually eliminates cancellation of games and practice due to weather. First and foremost, the SAT provides a superior playing surface. A visit to any school or athletic facility which has both SAT and grass fields will show that the SAT fields are the first requested. Side by side the SAT field will always be selected first by players, coaches and administrators. The quality playing surface is not compromised by overuse allowing for a much greater intensity of scheduling, particularly when compared to a varsity facility in which insuring the quality of a grass surface leads to significant restrictions in allowable use.

Why Geofill?

The proposal includes the installation of a shock pad and a Geofill infill system. The shock pad provides the shock absorption necessary to protect the athletes from falls by maintaining a low (safe) g-max rating. The infill system provides the performance characteristics necessary. The Geofill is a natural infill consisting primarily of coconut fibers which is used in place of the rubber infill used in previous generations of SAT. The Geofill presents none of the environmental issues related to the crumb rubber infill. While many of these environmental issues have not been proven, the Geofill provides an alternative that eliminated those concerns. Additionally the Geofill is proven to be substantially cooler in warm weather than fields with the traditional rubber infill. The Geofill product is natural, it performs, it's cooler and it is environmentally friendly.

Are there any down sides to the Geofill?

The Geofill system costs more than crumb rubber infill. Because of the need for the shock pad and the cost of the Geofill the initial construction cost is higher by approx. \$2 per sq. ft. (Note the shock pad is estimated to last far longer than the turf carpet reducing the replacement cost at the end of the life cycle). Additionally, because the fiber is a natural material it is subject to degradation and requires top dressing every 2-3 years. A field maintenance budget should therefore include an estimated \$3,000 annually for infill replacement.

Are there alternatives to the Geofill?

There are several alternatives on the market. The recommendation is to avoid traditional crumb rubber infill in these installations. There is a current examination of crumb rubber and the potential adverse health issues related to the use of crumb rubber. While there is no proof that the material poses a risk there is ongoing research and it is recommend that the Town pursue alternatives that do not carry that potential risk.

There is a virgin rubber infill alternative (EPDM) which may be considered. EPDM infill would be approximately \$1.00 per sq ft (\$80,000) saving over the Geofill. PDM does not result in the temperature

reduction associated with the Geofill and is still a manufactured product as opposed to the organic Geofill.

Are there other cost considerations?

SAT fields once installed require a minimum of maintenance. Grooming the fields 6-10 times a year will provide a premier surface. Compare that to a grass field which requires mowing as many as 45 times per year. Additionally savings on field preparation, lining, fertilizer, pesticides, repairs, resodding, etc. will add up to in thousands of dollars of reduced operation costs annually for the life of the field.

What is the expected life of the field?

Manufacturers warranty the carpet for 8 years with an anticipated life expectancy of 12 years. Depending on the use and climate many fields in this area exceed the 12 years.

Why choose the High School Varsity Soccer Field?

This is perhaps the easiest decision. Because the field has existing lights it is absolutely the best location to install the SAT. Currently due to the need to keep the grass in playable condition the use of the lights is severely limited. SAT in combination with sports lighting will more than double the available use of that facility. This is the place to get the most "Bang for your Buck".

Where does the cost estimate come from?

The cost estimate is based on recent installations in Fairfield County using CT Prevailing wage rates. Much of the information is provided by Shaw Sports turf who recently replaced the SAT at the THS McDougal Stadium. Shaw recently completed a turf replacement at Wilton High School as well as new field installation at Masuk High School in Monroe.

What is included in the cost estimate?

- Site engineering and contract supervision.
- Site preparation:
 - Strip and remove of top soil
 - Grade to proposed subgrade
 - Removal of existing Irrigation
 - Installation of drainage pipe and stone
- Installation of Shock Pad, sand, carpet and Infill
- Site improvements including seating and handicap access improvements
- Project contingency

Adding additional Synthetic Turf Athletic Fields (SAT) to the Town's inventory is a stated goal of the Parks and Recreation Department and THS Athletic Department and is supported by the community athletic organizations representing thousands of Trumbull youth athletes.

Artificial Athletic Turf Carpet Replacement at Indian Ledge Park (\$625,000)

The Synthetic Athletic Turf requires a carpet replacement. The turf is in more than 12 years old and beyond the anticipated 10 year life when the field was installed. As the fibers break down as a result of wear and tear and the effects of the UV rays the fiber carpet deteriorates. The carpet is showing signs of that deterioration.

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Pricing includes removal and disposal of the existing carpet and the rubber infill, laser grading of base material and installation of the shock absorption mat and GeoFill as described above. Pricing based on recent similar bids in Fairfield County.



Additional Information related to the Installation of Synthetic Athletic Turf (SAT) at Trumbull High School

Advantages of SAT

SAT has proven to be the most desirable surface for a variety of sports. The most significant advantage is the consistency of the playing surface. Even the finest maintained grass field will deteriorate as a result of over use of play during inclement weather. SAT provides a uniform surface and allows play to continue in any weather.

Ball sports, such as, field hockey, lacrosse and to a lesser degree, soccer find the SAT more desirable than even a well maintained grass surface as a result of faster more uniform roll. Trumbull High School currently transports the field hockey team to Indian Ledge turf when the High School Turf field is unavailable to take advantage of the premium conditions and avoid playing on grass.

SAT allows an intensity of use that far exceeds a grass playing surface. This is a critical factor when considering installing SAT at the High School Varsity grass field. The Town has invested in the installation of lights at this location, yet the lights are not fully utilized as efforts are made to reduce use to maintain an acceptable quality of grass. The combination of SAT with lights allows the field to be scheduled as much as 3 times that of a grass field with no lights.

Why Geofill

The recommendation to install the Geofill product is based on several factors. The Parks and Recreation Department and Athletic Director have researched the various playing surface alternatives and visited a variety of local facilities with an assortment of playing surfaces. We are recommending the Shaw Sport turf product based on several criteria.

- **Safety** – The Shaw installation utilizes a shock pad below the playing surface to assure a guaranteed G-max rating for the life of the field. This eliminates the variation in infill material as a factor in this important safety factor for a multi-sport facility.
- **Environmentally Friendly** – Geofill is an organic product (90% Coconut fiber and 10% cork) that eliminates the environmental concerns that have arisen regarding the use of crumb rubber.
- **Temperature** – Geofill fields are proven to be considerably cooler than rubber infill fields. This makes the fields safer and more comfortable to play in particularly during the summer months in the local environment.

- Performance – Geofill provides a minimal infill splash compared to crumb rubber, provides a controlled ball roll best suited to field hockey and lacrosse and performs under foot more like natural grass.
- Proven product - while relatively new in this area Geofill has been used since 2005 and there are currently over 500 fields in use. Locally Wilton High School and Masuk High School in Monroe have recently installed Geofill fields.

What Alternatives were Considered

The standard for many years in the SAT industry has been crumb rubber from recycled tires. There has been considerable debate on the potential environmental and health issues posed by the use of this product in these applications. Given that the science in this area is still being debated and the existence of proven alternatives we do not recommend this product at this time.

The other most common alternative available is a post industrial rubber infill that is represented as avoiding the environmental issues related to the previous generation of crumb rubber. While this is a viable alternative it still relies on black crumb rubber and does not have the advantage of the cooler playing surface of Geofill.

Estimated Construction Cost

Based on 87,00 sq/ft

Turf	5.90/sq.ft	513,300.00
Site Work	5.50/sq.ft	478,500.00
Engineering and Construction Supervision		45,000.00
Access and Site Amenities		70,000.00
Sub total		1,106,800.00
Contingency		110,680.00
Project Estimate		1,217,480.00

Maintenance and Life Cycle Cost

SAT is relatively maintenance free, with approximately 20 hours of grooming annually required to maintain the surface. The Geofill product does require periodic replacement estimated at \$3,000 per year. Based on an anticipated 12 year life the maintenance cost per field is estimated at approx. \$51,600 over the life of the field. (A relatively small additional cost may be incurred for field lining based on the exact use of the field.) Including replacement cost the lifecycle cost (not including the initial installation) is estimated at approx. \$675,000.

The estimated cost of maintaining a first class grass field including mowing, painting, annual turf maintenance, irrigation repairs and annual field renovations and at least one major renovation over the same 12 year period is estimated at over \$500,000.

Life Cycle Cost Analysis

	Grass	SAT
Materials (Annual)		
Paint	3,000	300
Seed, Fertilizer, Pesticides	750	
Renovations	3,000	3,000
Irrigation Repair	100	
Total Materials	\$6,850	\$3,300
Labor Hours (Annual)		
Marking	300	30
Mowing	104	
Turf Maintenance	40	20
Renovations	100	
Irrigation Repair	20	
Total Hours	564	50
Total Labor @ \$20/hr	\$11,280	\$1,000
Misc - Mowing equipment (replacement, repairs, gasoline), Irrigation (replacement, water)	\$3,000	
Total Annual Maintenance Cost	\$21,130	\$4,300
12 year Maintenance Cost	\$253,560	\$51,600
Major Renovation	\$250,000	
Cost of Replacement		\$625,000
Total Life Cycle Cost	\$503,560	\$676,600

Scheduling and Revenue Generation

The Parks and Recreation Department and the Trumbull High School Athletic Department work cooperatively on field schedules and assignments. Trumbull High School is the priority user of the fields and it is anticipated this field will be utilized by all of the field sports teams (field hockey, boys and girls soccer, boys and girls lacrosse, football) as well as the THS Marching Band. The additional SAT surface will address current scheduling conflicts, eliminate the need to transport teams to Indian Ledge and provide upgraded field quality opportunities for sub varsity teams and address any inequities in field scheduling related to Title 9 opportunities.

The Parks and Recreation Department will make the field available on a priority basis to Trumbull Youth Sports Organizations. These organizations including Trumbull United, Trumbull Youth Lacrosse, Trumbull Field Hockey, AYSO and Pop Warner Football serve thousands of youth sports participants in the community. The addition of a lighted SAT field will serve this community which is restricted to playing after 5pm during the primary spring and fall seasons.

Additional opportunity to utilize the SAT fields will also result in an improved quality of the town's grass field inventory as the demand to play on the field in bad weather is reduced.

Additionally, the increased inventory of a premium lighted athletic field may potentially result in revenue opportunities related to field rentals at off peak hours.

Additional Information

Additional promotional material on the Geofill product provided by Shaw Sports Turf are attached.

Prepared S. McCarthy

11/13/16

// FAQs



What is GeoFill?

GeoFill is an environmentally-friendly alternative infill for synthetic turf systems.

How long has GeoFill infill been used and how many GeoFill fields have been installed?

GeoFill has been used since 2005. Over 500 GeoFill fields have been installed world-wide. (Reference List Available)

What is the make-up of the GeoFill?

GeoFill is 90% coconut and 10% cork.

Where is the source for the coconut raw material?

The coconut for our GeoFill systems comes from Sri Lanka or India.

Is there any performance data for a FIFA 2 Star recommended product which includes GeoFill?

GeoFill Product Performance Properties

PROPERTY	FIFA 2 STAR LIMITS	ELITE GEO 45P	ELITE GEO 45G	ELITE GEO 2.5
g-max		98	100	118
Force Red (%)	60-70%	65	65	66
Vertical Deformation (mm)	4-11 mm	9.0	9.6	10.0
Rotational Resistance (NM)	30-45 NM	40	40	36
Vertical Ball Rebound (m)	0.6-0.85 m	0.75	0.71	0.82
Ball Roll (m)	4-8 m	5.0	5.0	5.1

How does the infill splash (fly) of GeoFill compare to fields with crumb rubber infill?

A properly maintained GeoFill system has little to no infill splash or fly.

Do GeoFill systems require a pad?

All 100% GeoFill systems require a shock pad. A system containing a combination of GeoFill and SBR crumb rubber can be installed without a pad.

What is the warranty of a Shaw Sports Turf synthetic turf field with the GeoFill infill mixture?

Shaw Sports Turf systems with the GeoFill infill mixture carry the same standard 8 year warranty as all other Shaw Sports Turf systems.

// FAQs



Does it require a watering source and what is the optimum moisture percentage?

The watering requirements for the GeoFill system are directly related to the amount and frequency of rainfall and the relative humidity at a given location. The optimal level of moisture in the GeoFill system is between 30% and 40%. If an installation is located where occasional precipitation and humidity is in the 30-50% range, less mechanical irrigation is required. However, the system's moisture content should be monitored at least twice a week when no precipitation has taken place to naturally add. If the system drops below a 30% moisture reading, approximately 3,200 gallons of water should be added to an 80,000 square foot field (5 oz per square foot). Typically, during a dry period this would not have to be done more than two times per week. Cloud cover and sunlight will affect the evaporation of the water from the system, and need to be monitored with the other variables noted above.

What happens in drought conditions when watering restrictions are in effect, and the system cannot be watered?

If the proper moisture content is not maintained, the system can become dusty, more splash can be seen, and the playing speed can be slower. Under these conditions, additional GeoFill may need to be added more frequently (dry GeoFill breaks down more quickly than properly maintained GeoFill).

How is the moisture content of the GeoFill system measured?

Moisture content can be measured by using a meter such as the Extech MO210 Moisture Meter.

What is the moisture content when the GeoFill is shipped?

The moisture content at shipping is generally around 20%.

What routine maintenance is required?

The synthetic turf system with GeoFill should be maintained in accordance with the Shaw Sports Turf Maintenance Manual as written for routine maintenance. If larger issues arise that are not covered in the maintenance manual, a solution would be developed on a case by case basis.

Is there any additional yearly maintenance required?

Shaw Sports Turf GeoFill systems should be de-compacted on yearly bases by a Shaw Sports Turf crew or a Shaw Sports Turf certified maintenance crew. This is typically a one-and-a-half to two-day process.

Can the customer do their own yearly decompaction?

With the proper equipment and training, a customer could do their own yearly decompaction, however, we would prefer that a properly trained Shaw Sports Turf crew or a Shaw Sports Turf certified maintenance crew do the yearly maintenance.

// FAQs



When does the system need to be topped off, and how much?

If the moisture content of the GeoFill is maintained correctly, approximately 10% of the GeoFill will need to be replenished every 2-3 years. Based on an 80,000 square foot field requiring 1.5 lbs. of GeoFill per square foot, 12,000 lbs. (or 7 bags) would need to be added every two to three years. This process will include a decompaction, the addition of the new GeoFill, and a final grooming. This process will take two to three days.

Does the degradation of the GeoFill over time affect the drainage properties?

Experience with these fields has not shown drainage to be negatively affected.

Will dry GeoFill blow away?

Dry GeoFill will not typically blow away; however, if the proper moisture content is not maintained, the dry system can become somewhat dusty.

Are there any limits to hours of play on a GeoFill system?

No, there are no limits on hours of play. However, higher usage will require more frequent routine maintenance. As with any Shaw Sports Turf system, all high use areas should be monitored frequently for proper infill depth. If the infill depth is low in any area, it should be brought up to the proper depth immediately.

Does the GeoFill system freeze or get hard in the winter?

The system typically contains moisture, so without any type of treatment it stands to reason that some freeze/thaw will take place. We recommend a pre-winter treatment with a salt solution of 0.2 lbs. salt/sq. ft. mixed into the GeoFill infill system. While this will decrease the freezing potential, GeoFill, like natural grass and traditional synthetic turf fields, will become harder during freezing weather.

Will heavy rain affect the playability or drainage of the field?

During heavy rains the GeoFill may become saturated, but the drainage and playability should not be affected.

Do weeds grow in the system, if so, how are they treated?

While this does not happen in most environments, some environments have led to weed growth. The system has been treated with a herbicide (that is naturally washed out of the system) to effectively kill the weeds. A pre-emergent has also been used to further control weed growth in those areas.

Will GeoFill be more likely to harbor bad bacteria such as MRSA than traditional synthetic turf systems?

There is no documented proof of this being the case. With respect to our systems (GeoFill/Sand) and the benefits of sunlight/UV, these systems will closely match natural grass fields as it pertains to harboring any contaminants. Coconut, or Coir, fibers are completely natural and biodegradable. They are used as a growing medium in greenhouses because it retains moisture very well and is free of bacterial and fungal spores.

// FAQs



Are birds and animals attracted to GeoFill more than traditional synthetic turf?

GeoFill is not a food source, so there has been no evidence that this is the case.

Will the GeoFill system pass synthetic turf flammability tests?

A properly maintained (proper moisture content) GeoFill Field will pass ASTM D9859 (pill burn test) and ISO 11925-2 (fliter paper test).

How is the GeoFill delivered to the field?

GeoFill comes in 1784 lb. super sacks loaded on a flatbed truck. Typically 22 bags/truck.

How is GeoFill Installed?

GeoFill is installed with the same equipment and the same techniques as standard infill. GeoFill cannot be installed when the field is wet or when it is raining.

Can game lines be painted on a GeoFill system?

Yes.

If a GeoFill field is painted and then groomed, is there any impact on the aesthetics of the field?

The grooming process should not affect the overall aesthetics of the painted game lines.

Are people with peanut allergies at risk on a GeoFill field?

No. Coconut is not a nut or a legume (like peanuts). Coconuts are part of the palm tree family.

Explain the cooling effect of GeoFill.

The excellent moisture retention capabilities of GeoFill allows the infill system to absorb water which is released when sunlight warms the field. The release of water removes heat from the field by evaporative cooling. The surface will remain cooler as long as there is water present in the system. When compared to crumb rubber infilled fields, GeoFill fields have been seen to be 40 degrees F cooler than traditional synthetic turf fields. Test results are available upon request.

Can GeoFill be recycled or re-used?

A large percentage of the existing GeoFill can be removed from the synthetic turf system and the mix is perfect for top-dressing of natural grass fields or landscaped area. Coconut or Coir fibers are completely natural and biodegradable. It is used as a growing medium in greenhouses because it retains moisture very well and is free of bacterial and fungal spores.

How do you remove snow and ice from the GeoFill system?

Refer to the Shaw Sports Turf Maintenance Manual for the recommended guidelines for snow removal. If these recommendations are followed, there should be no adverse effect to the GeoFill system. It is important to point out that no removal method should dig into, or gouge the surface.

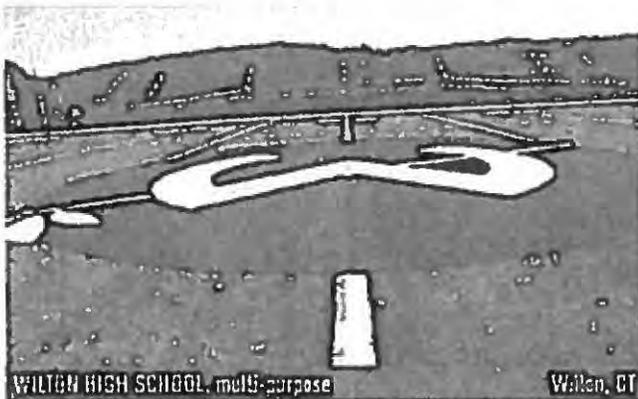
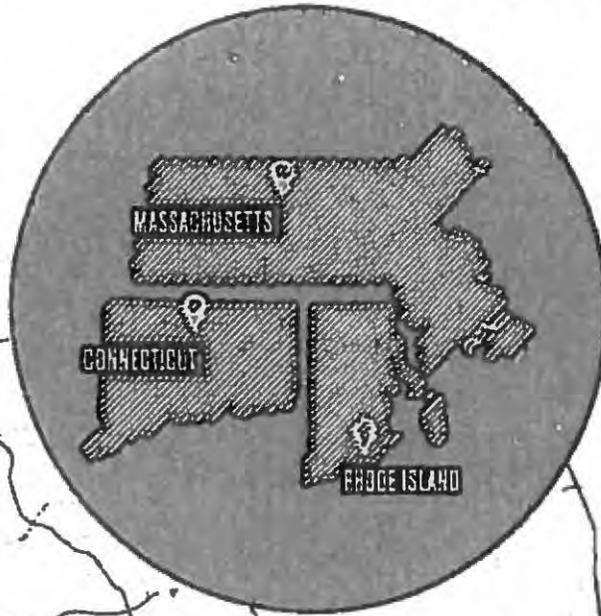
We do not recommend breaking up ice from the surface and removing as infill may be stuck in the ice.

THIS IS CONSIDERED A GENERAL GUIDELINE. IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT YOUR SHAW SPORTS TURF REPRESENTATIVE, AND WE WOULD BE MORE THAN HAPPY TO ADDRESS ANY QUESTIONS YOU MAY HAVE.

REGIONAL PROJECTS

shaw
SPORTS TURF

JOE KACEVICH
508.365.7486
joe.kacevich@shawinc.com



WILTON HIGH SCHOOL, multi-purpose
Wilton, CT
Product: Momentum Pro with GeoRD SQFT: 88,000 Year: 2016



CHESHIRE ACADEMY, multi-purpose
Cheshire, CT
Product: PowerBlade HP SQFT: 89,446 Year: 2011



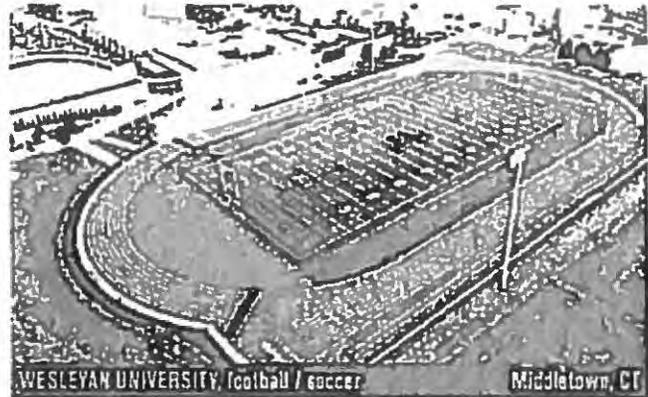
ENDICOTT COLLEGE, multi-purpose
Beverly, MA
Product: Legion HP SQFT: 123,312 Year: 2012



WORCESTER POLYTECHNIC INSTITUTE, multi-purpose
Worcester, MA
Product: Legion HP SQFT: 135,000 Year: 2013



PROVIDENCE COLLEGE Providence, RI
Product: Legion HP SQFT: 96,700 Year: 2013



WESLEYAN UNIVERSITY, football / soccer Middletown, CT
Product: Momentum HP SQFT: 90,942 Year: 2013



IN THE SUMMER OF 2013 WESLEYAN ATHLETICS INSTALLED SHAW'S MOMENTUM 51 FOR PRIMARY USE FOR OUR FOOTBALL AND MEN'S LACROSSE TEAMS. OVER THE PAST TWO SEASONS WE HAVE SEEN A SIGNIFICANT REDUCTION IN REPORTED CONCUSSIONS BY MEMBERS OF THE FOOTBALL TEAM. I AM VERY SATISFIED WITH THIS PRODUCT. IN ADDITION TO OFFERING CONTACT SPORTS AN OPTIMAL LEVEL OF SHOCK ATTENUATION, WHAT IMPRESSED ME THE MOST ABOUT THE COMPANY WAS THEIR OUTSTANDING PRODUCT PRESENTATION AND THEIR ATTENTION TO DETAIL DURING THE INSTALLATION.

MIKE VITALE, DIRECTOR OF ATHLETICS HEAD FOOTBALL COACH WESLEYAN UNIVERSITY

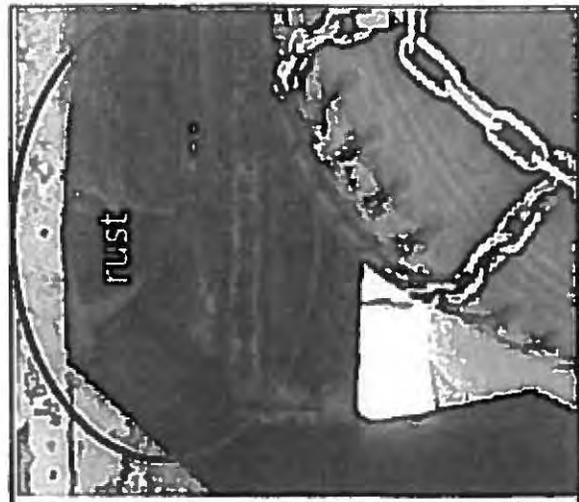
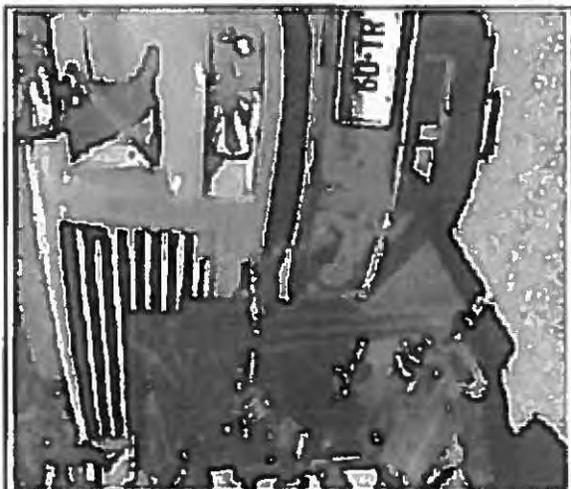
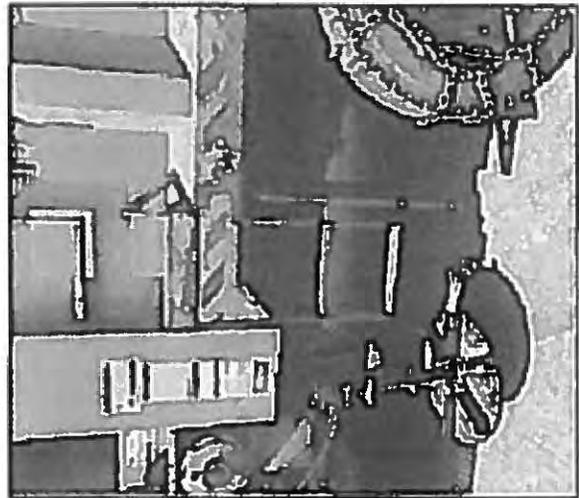
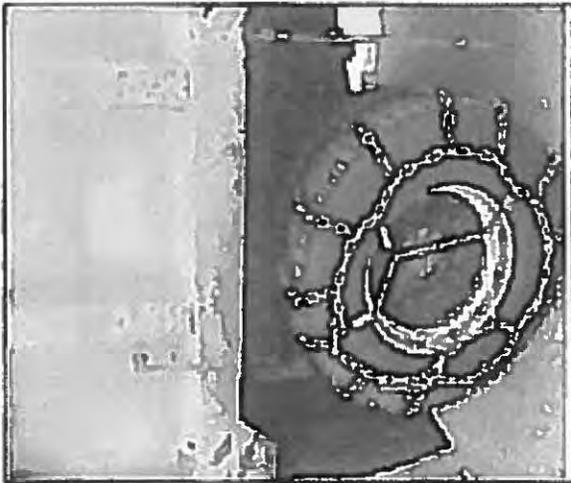
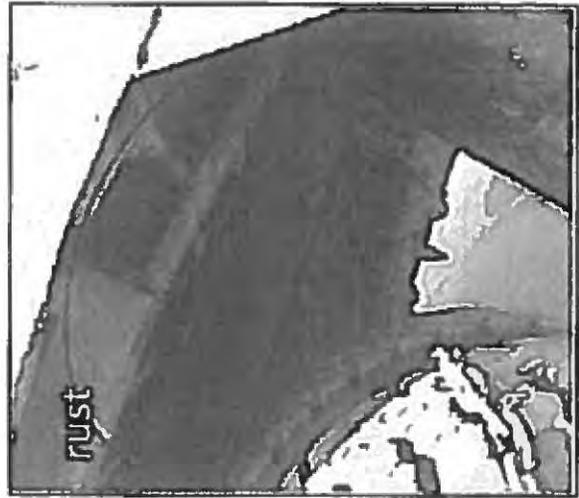
OTHER INSTALLATIONS

INSTALLATION	CITY	STATE	PRODUCT	SQFT	AGE
Simmons College	Boston	MA	Momentum HP with Geofill	89,168	2016
Simmons College	Boston	MA	Legion HP with Geofill	87,665	2016
Thayer Academy	Braintree	MA	Legion HP with Geofill	153,200	2016
Tantasqua Regional High School	Fiskdale	MA	Legion HP with Geofill	166,300	2016
Lawalton Hall	Millford	CT	Legion HP	100,786	2015
Pomperaug High School	Southbury	CT	Legion HP	83,000	2015
The Loomis Chaffee School	Windsor	CT	Momentum HP	84,096	2015
Noira Dame High School	West Haven	CT	PowerBlade HP	89,749	2014
Brunswick School	Greenwich	CT	PowerBlade HP	63,984	2014
Assumption College	Worcester	MA	Legion HP	111,137	2015
University of Massachusetts-Garber Field	Amherst	MA	Momentum HP	84,915	2015
Beaver Country Day School	Brookline	MA	Legion HP	141,340	2014
Blue Hills Regional High School	Canton	MA	PowerBlade HP	77,774	2014
Clark University	Worcester	MA	Legion HP	96,942	2014
College of the Holy Cross	Worcester	MA	PowerBlade HP	89,100	2014
Georgetown High School	Georgetown	MA	Legion HP	119,531	2014
Nobadeer Farms	Nanucket	MA	PowerBlade HP	99,450	2014
Peabody High School	Peabody	MA	Legion HP	88,548	2014
Williams College	Williamstown	MA	VictoryTurf HP	63,951	2014
Providence College - Anderson Stadium	Providence	RI	Legion Pro	99,251	2015

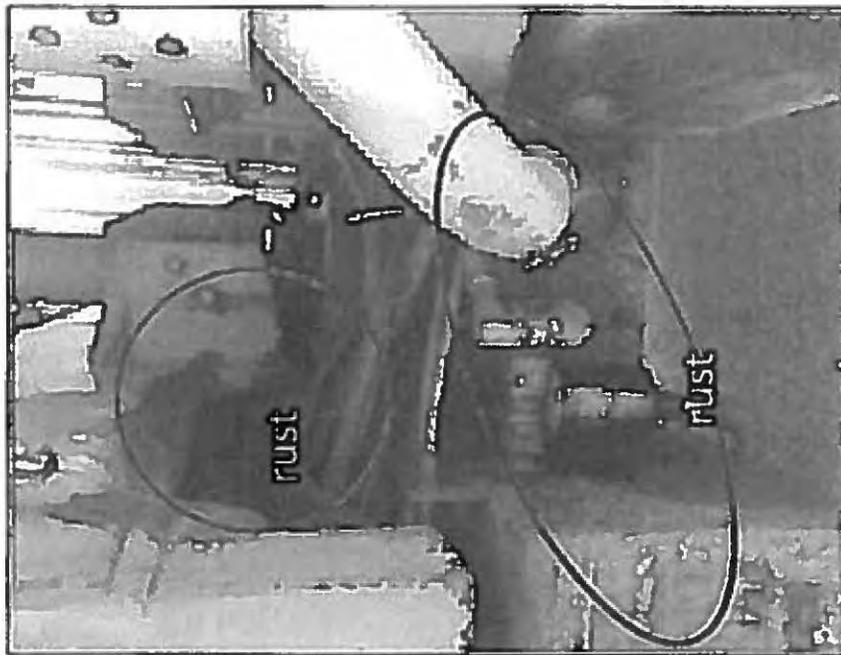
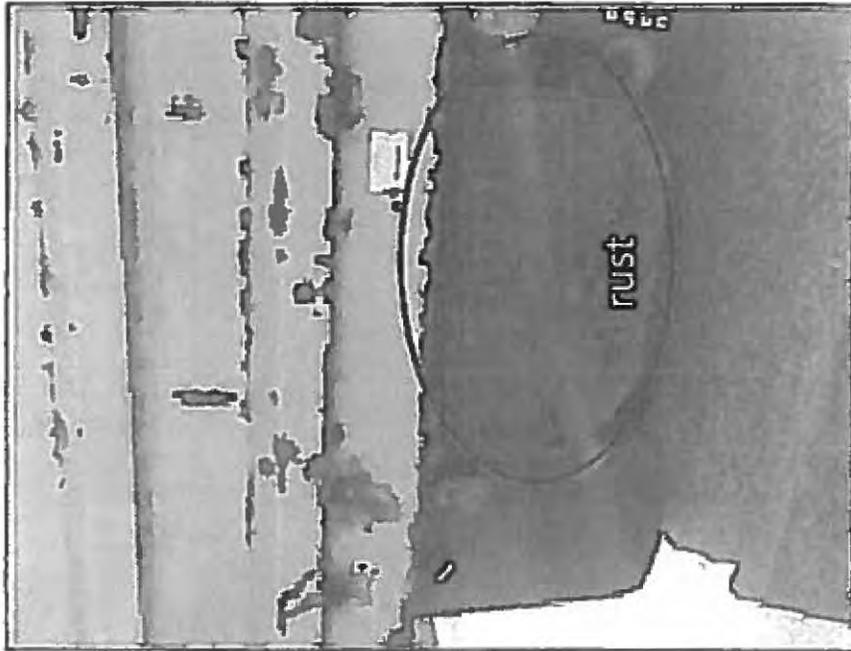
Exhibit C

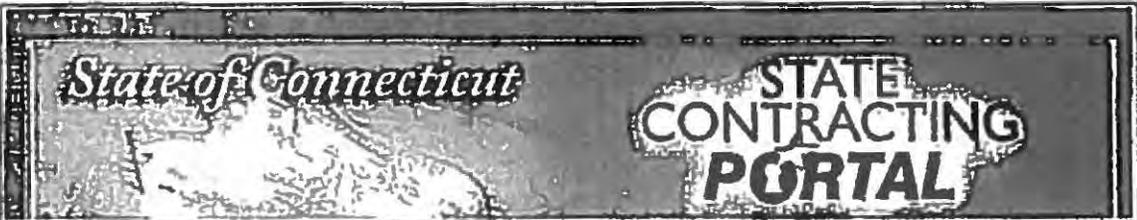
(Fleet & Equipment)

Fleet - Exhibit C-1



Fleet - Exhibit C-1





C-1

Current User: Home Biznet Menu Log In/Out
 Search Search Results Results Detail Solicitation Detail

SCT Contract Details

State Contracting Portal Contract Results

Administrative Services, Department of
 Contract Detail Info For # 14PSX0239

Dates

Award Date	Start Date	End Date
03/03/2015	03/04/2015	08/31/2020

Description

Snow and Ice Plow Trucks in 41,000lb, 62,000lb, and 72,000lb. GVWR

Comments

Restrictions

Set Aside	Qualified Partnership	DBE	Political Subdivisions	Agencies	CT Recovery
No	No	No	Yes	Yes	No

Contact(s)

Contact	Telephone	FAX	E-Mail
Patrick DeConti	(860) 713-5061	(860) 622-2943	Pat.deconti@ct.gov

Common Documents

Date	Description
3/17/2016 3:27:49 PM	14PSX0239.pdf Supplement and Contract Documents

1 Vendor(s)

Contract #	Cert	Vendor	Contact	Catalog
14PSX0239AA Start: 03/04/2015 End: 08/31/2020	No	Freightliner of Hartford, Inc. 222 Roberts Street East Hartford, CT 06108 Core Vendor ID: 0000010831	Kevin Biglazzi Phone: (860) 289-0201 FAX: (860) 610-6242 <u>E-Mail</u>	No

Administered by:
 The Department of Administrative Services - Business Network. [Review our Privacy Policy](#)
 Need to contact us? Send e-mail to [DAS Web Design](#)
 All State [disclosures and restrictions](#) apply.
 The Contract # 14PSX0239

CONTRACT SUPPLEMENT
SAJ7 - Rev 4/28/14
Prev Rev 3/12/14

Patrick DeConti
Contract Specialist
860-713-5261
Telephone Number

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES
PROCUREMENT DIVISION
165 Capitol Avenue, 5th Floor South
HARTFORD, CT 06106-1659

CONTRACT AWARD NO: 14PS0239
Contract Award Date: 4 March 2015
SUPPLEMENT DATE: 18 March 2016

C-1

CONTRACT AWARD SUPPLEMENT #1
IMPORTANT: THIS IS NOT A PURCHASE ORDER. DO NOT PRODUCE OR SHIP WITHOUT AN AGENCY PURCHASE ORDER

DESCRIPTION: Sevier Service Snow and Ice Flow Trucks in 41,000, 62,000 and 72,000 GVWR for Maintaining the State Roadways

FOR
Department of Administrative Services, Department of
Transportation, All Using State Agencies, and Political
Subdivisions

TERM OF CONTRACT:
March 4, 2015 through August 31, 2020

AGENCY REQUISITION NUMBER: 000009566

CHANGE TO IN STATE (NON-SB) CONTRACT VALUE	CHANGE TO DAS CARRIED SMALL BUSINESS CONTRACT VALUE	CHANGE TO OUT OF STATE CONTRACT VALUE	CHANGE TO TOTAL CONTRACT AWARD VALUE
n/a	n/a	n/a	n/a

NOTICE TO CONTRACTORS: This notice is not an order to ship. Purchase Orders against contracts will be furnished by the using agency or agencies on whose behalf the contract is made. INVOICE SHALL BE RENDERED DIRECT TO THE ORDERING AGENCY

NOTE: Dollar amounts listed next to each contractor are possible award amounts, however, they do not reflect any expected purchase amounts (actual or implied). They are for CFO use only

NOTICE TO AGENCIES: A complete explanatory report shall be furnished promptly to the Procurement Manager concerning items delivered and/or services rendered on orders placed against awards listed herein which are found not to comply with the specifications or which are otherwise unsatisfactory from the agency's viewpoint, as well as failure of the contractor to deliver within a reasonable period of time specified. Please issue orders and process invoices promptly

CASH DISCOUNTS: Cash discounts, if any, shall be given **SPECIAL ATTENTION**, but such cash discount shall not be taken unless payment is made within the discount period.

FREE BASIS: Unless otherwise noted, prices include delivery and transportation charges fully prepaid f.o.b. agency. No extra charges to be made for packing or packages.

CONTRACTOR INFORMATION:

REFER TO THE CONTRACT ON THE DAS PROCUREMENT WEB PAGE FOR BUSINESS CREDIT INFORMATION (http://das.ct.gov/procurement)

Company Name: Freightliner of Hartford, Inc.
Company Address: 222 Roberts Street East Hartford, CT 06108
Tel No: (860) 289-0201 ext. 1208 Fax No: (860) 610-6242 Contract Value: est. \$110,000,000.00
Contact Person: Kevin Biglazzi Delivery: 180 days AFD
Contact Person email: kevinbiglazzi@freightlinerofhartford.com
Company Web Site: www.freightlinerofhartford.com
Certification Type (None): Agrees to Supply Political Subdivisions Yes Prompt Payment Terms: 0% 00 Net 45

PLEASE NOTE

The State of Connecticut has approved a price increase for the 2017 Model year trucks and equipment.
Please refer to the attached Exhibit B Price Schedule for current pricing.

All terms and conditions not otherwise affected by this supplement remain unchanged and in full force and effect.

DEPARTMENT OF ADMINISTRATIVE SERVICES

By: _____
(Original Signature on Document in Procurement File)
Name: PATRICK DECONTI
Title: Contract Specialist
Date:

C-1

CONTRACTOR NAME: Freightliner of Hartford, Inc.	DOT ID # 1543572
DELIVER: 180 DAYS AFD	PROMPT PAYMENT TERMS: N/A

ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES	UNIT OF MEASURE	TOTAL PRICE
1.	<u>41,000 GVWR Single Axle Dump Trucks with Plows</u>		
1a.	41,000 GVWR CONVENTIONAL CAB, SINGLE AXLE CHASSIS WITH MANUAL TRANSMISSION, PURSUANT TO SPECIFICATION CT-5-15. Make: Freightliner Model: I14SD	Each	<u>1a. \$91,900.00</u>
1b.	41,000 GVWR CONVENTIONAL CAB, SINGLE AXLE CHASSIS WITH AUTOMATIC TRANSMISSION PURSUANT TO SPECIFICATION CT-5-15. Make: Freightliner Model: I14SD	Each	<u>1b. \$84,350.00</u>
1c.	41,000 GVWR CONVENTIONAL CAB, SINGLE AXLE CHASSIS WITH AUTOMATED MANUAL TRANSMISSION, PURSUANT TO SPECIFICATION CT-5-15. Make: Freightliner Model: I14SD	Each	<u>1c. \$87,600.00</u>
1d.	STEEL 10 ft. 6 CUBIC YARD SEVERE DUTY DUMP BODY AND FRONT PLOW HITCH INSTALLED PURSUANT TO SPECIFICATION CT-5-15. Make: Viking Model: PL 1011 SD	Each	<u>1d. \$43,070.52</u>
1e.	STAINLESS STEEL 10 ft. 6 CUBIC YARD SEVERE DUTY DUMP BODY AND FRONT PLOW HITCH INSTALLED PURSUANT TO SPECIFICATION CT-5-15 Make: Viking Model: PL 1011 SD SS	Each	<u>1e. \$45,807.18</u>
1f.	COMPLETE HYDRAULIC SYSTEM AND CONTROLLER INSTALLED PURSUANT TO SPECIFICATION CT-5-15. Make: Cirrus Model: ConnDOT closed system	Each	<u>1f. \$17,789.82</u>
1g.	TARPING SYSTEM OPTION INSTALLED PURSUANT TO SPECIFICATION CT-5-15. Make: Roll Rite Model: Tarp Master 400	Each	<u>1g. \$1,928.82</u>

1b. \$84,350.00 *Plow Truck*

CONTRACTOR NAME: Freightliner of Hartford, Inc.		DOT ID # 1343572	
DELIVERY: 180 DAYS ARO		PROMPT PAYMENT TERMS: N/A	
ITEM #	DESCRIPTION OF COMMODITY AND/OR SERVICES	UNIT OF MEASURE	TOTAL PRICE
1h.	POWER ANGLE 11' SNOWPLOW WITH POSITIVE LOCKING PAWL & INTEGRAL EXTENDED MOLDBOARD, METRO FULL TRIP MOLDBOARD. Make: Viking Model: PRR1 113645 FE	Each	<u>1h. \$6,765.66</u>
1i.	PERCENTAGE DISCOUNT OFF MSRP FOR CHASSIS OPTIONS.	% off	<u>1i. 25% off</u> <i>Options</i>
1j.	PERCENTAGE DISCOUNT OFF MSRP FOR UP FITTING OEM REPAIR PARTS.	% off	<u>1j. 30% off</u>
1k.	PERCENTAGE DISCOUNT OFF MSRP FOR ALL ALLIED EQUIPMENT.	% off	<u>1k. 30% off</u> - <i>Chassis Body</i>
1l.	HOURLY SHOP LABOR RATE.	Hour	<u>1l. \$98.00</u>

New England Truck Equipment uc

C-1

4 Barker Drive Wallingford CT. 06492
Phone (203) 284-1657 Fax (203) 284-3802

Quote Number: 20160004	Date: 3/8/2016	Subject: Dump Body
------------------------	----------------	--------------------

To: Town of Trumbull
366 Churchill Rd
Trumbull CT 06611

Attn: Joe Mitri
Phone: 203-673-6049
Fax:
Cell:

Email:

Ship Via:	F.O.B. Point	Terms
Best Way	Wallingford CT	Purchase Order/Net 30

QTY	Description	List Price	Unit
	<u>We hereby submit the following quote for you review and approval:</u>		
1	New Monroe DTS all season body, hoist, hitch, air controls, electronic spreader controls, load sense hydraulics, 3/4" rear pintle plate w/30 ton pintle hook, Custom halogen plow lights Hot shift PTO Additional remote grease station Grip strut body steps and pull out body access ladder 3/16" Cab shield w/45 degree angle Whelen strobe boxes TR3 side lights Stainless steel tailgate linkage Stainless steel underbody cross members Stainless steel spinner and chute assembly Stainless steel bracket upgrade includes mud flap & mfg. brackets AR450 205,000 PSI floor in lieu of AR400 180,000 PSI Body side board pockets Full 304 stainless steel construction Full 3/16" tailgate 80 Gallon head board mounted poly liquid tank Stainless steel return manifold 1 MPR39-39-11-ISCT Snow Plow Complete, installed and painted on customer supplied new cab/chassis We would like to thank you for the opportunity to quote you on your needs and look forward to your most valued order Respectfully submitted; Ron Burr New England Truck Equipment	\$ 122,025.67	\$ 85,417.96

Shirley
on 3/11/16

Exhibit C-2

Exhibit C-2

May 25, 2018
 TOWN OF TRUMBULL
 568 MAIN ST
 TRUMBULL, Connecticut 06811

Rich Infante,

Thank you for this opportunity to quote Caterpillar products for your business needs. We are pleased to quote the following for your purchase consideration.

One (1) New CATERPILLAR INC Model 323F-TC Excavator with all standard equipment in addition to the additional specifications listed below:

STOCK NUMBER: SERIAL NUMBER: YEAR: 2018 SMU: 4

We appreciate your interest in H O Penn Machinery Co Inc. and Caterpillar products for your business needs. This quotation is valid for 30 days, and is subject to prior sale. If there are any questions, please do not hesitate to contact me.

Regards,

Joe Glisano
 Machine Sales Representative
 jglisano@hopenn.com
 (800) 803-0078

One (1) New CATERPILLAR INC Model: 323F-TC Excavator with all standard equipment in addition to the additional specifications listed below:

next
→

MACHINE SPECIFICATIONS	
323F LHXE HEAVY CTWT	\$205,000.00 (Machine price only)
ALARM TRAVEL	
LINKS-00, ROPS STCK	
LINKAGE, EXT-01 W/LEFT EYE	
RADIO, 24V AMEM	
SUN SCREEN (2005)	

Exhibit C-2

- CONTROL, FINE SWING
- LIGHT, BOOM RIGHT SIDE
- GUARD, TRACK GUIDING SEGMENTED
- CHANGER, HAND CTRL. 2-WAY (ANSI)
- LINES-HP, REACH BOOM
- LINES-HP, 96" STICK
- TRACK, 31" TG HD
- W/PER-RADIAL, 7030 W/RO LOWER
- BOOM, 18' 8" HD CGC
- CAS-ROPS, 7030 W/WANDAL-G BOSS
- FRAME, SWING, HEAVY DUTY
- CAT GRADE CTRL. DEPTH & SLOPE
- AIR CLEANER, STANDARD CGC
- FRONT LINES, PIN GRABBER QC
- COLD WEATHER PKG READY
- PRODUCT LINK, CELLULAR PLM1
- COUNTERWEIGHT, 11,790 LBS
- STICK, R36" THUMB READY CGC
- COMBINED CIR STP PKG
- GUARD, CYLINDER COVER, CGC
- BUCKET-SD, 38" 1 00 YD3
- BUCKET-SD, 48" 1 50 YD3
- BUCKET, 60" 1 12 YD3 (DC-TILT)
- TIP, PENETRATION PLUS
- SIDECUTTERS, HEAVY DUTY
- PIN GROUP, SPARE
- COUPLER, HYDRAULIC PIN GRABBER
- LINES, CONNECTOR, PIN GRABBER
- RIPPER, PENETRATION 43"
- THUMB GP
- CONNECTOR LINES, THUMB
- H120E S HAMMER
- TOOL-MOIL H120E S
- BRACKET, MOUNTING
- LINES, CONNECTOR
- CVP110 COMPACTOR PLATE
- BRACKET, MOUNTING
- LINES, CONNECTING

MACHINE TOTAL

205,000.00

ORDER TOGETHER
ADD: 48,869

\$ 253,869

ORDER TOGETHER
ADD: 14,416

\$ 262,497

\$ 276,913

ORDER TOGETHER
ADD: 64,169

ORDER TOGETHER
ADD: 26,333

AUTO GREASE

F.O.B. TERMS: Corporate

NEW CATERPILLAR
BACKHOE

Exhibit C-2

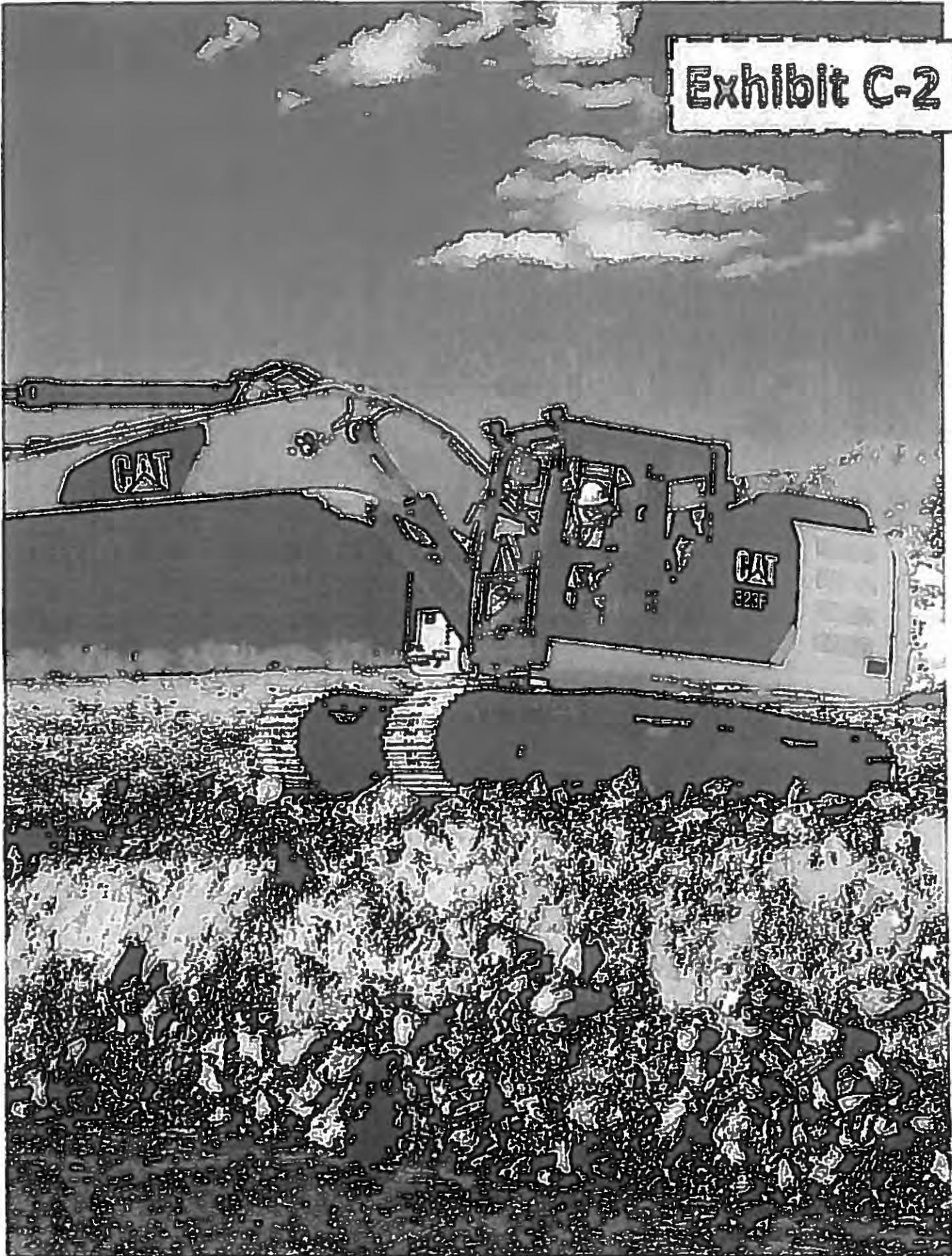


Exhibit C-2 323F L Hydraulic Excavator Specifications

Engine

Engine Model	Cat C7.1 ACERT	
Net Power - ISO 9249	120 kW	163 PS
Power - ISO 14396	122 kW	166 PS
Engine rpm		
Operation	1,500 rpm	
Travel	1,800 rpm	
Bore	105 mm	
Stroke	135 mm	
Displacement	7.1 L	

- The 323F L meets Stage IV emission standards.
- No engine power derating required below 3000 m altitude.

Track

Track Options	600, 700, 790 mm	
Number of Shoes (each side)	49	
Number of Track Rollers (each side)	8	
Number of Carrier Rollers (each side)	2	

Swing Mechanism

Swing Speed	11.0 rpm
Swing Torque	61.8 kN·m

Drive

Gradeability	30°/70%
Maximum Travel Speed	5.5 km/h
Maximum Drawbar Pull	205 kN

Hydraulic System

Main System	
Maximum Flow (2 pumps)	2 × 212 L/min
Maximum Pressure - Equipment/Travel	35 000 kPa
Maximum Pressure - Equipment - Heavy Lift Mode	38 000 kPa
Maximum Pressure - Swing	25 500 kPa
Pilot System Maximum Flow for Implement	20 L/min
Pilot System Maximum Pressure	3920 kPa
Boom Cylinder - Bore	120 mm
Boom Cylinder - Stroke	1260 mm
Stick Cylinder - Bore	140 mm
Stick Cylinder - Stroke	1504 mm
Bucket Cylinder - Bore	120 mm
Bucket Cylinder - Stroke	1104 mm

Service Refill Capacities

Fuel Tank Capacity	410 L
Cooling System	30 L
Engine Oil	25 L
Swing Drive (each)	8 L
Final Drive (each)	8 L
Hydraulic System (including tank)	260 L
Hydraulic Tank	159 L
DEF Tank	20 L

Sound Performance

Exterior Sound Power Level (ISO 6395)	100 dB(A)
Interior Sound Pressure Level (ISO 6396)	68 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANS/SAE J1166 OCT98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

Standards

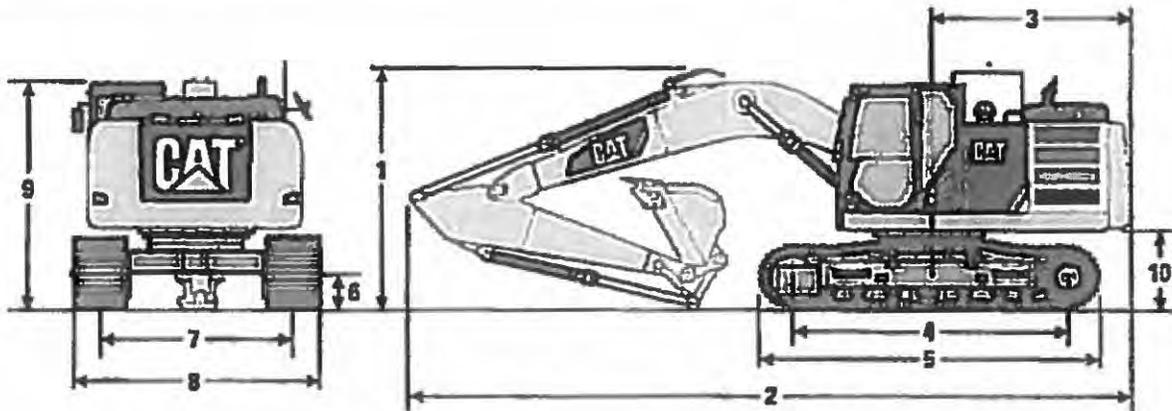
Brakes	ISO 10265 2008
Cab/FOGS	ISO 10262 1998
Cab/ROPS	ISO 12117-2 2008

323F L Hydraulic Excavator Specifications

Exhibit C-2

Dimensions

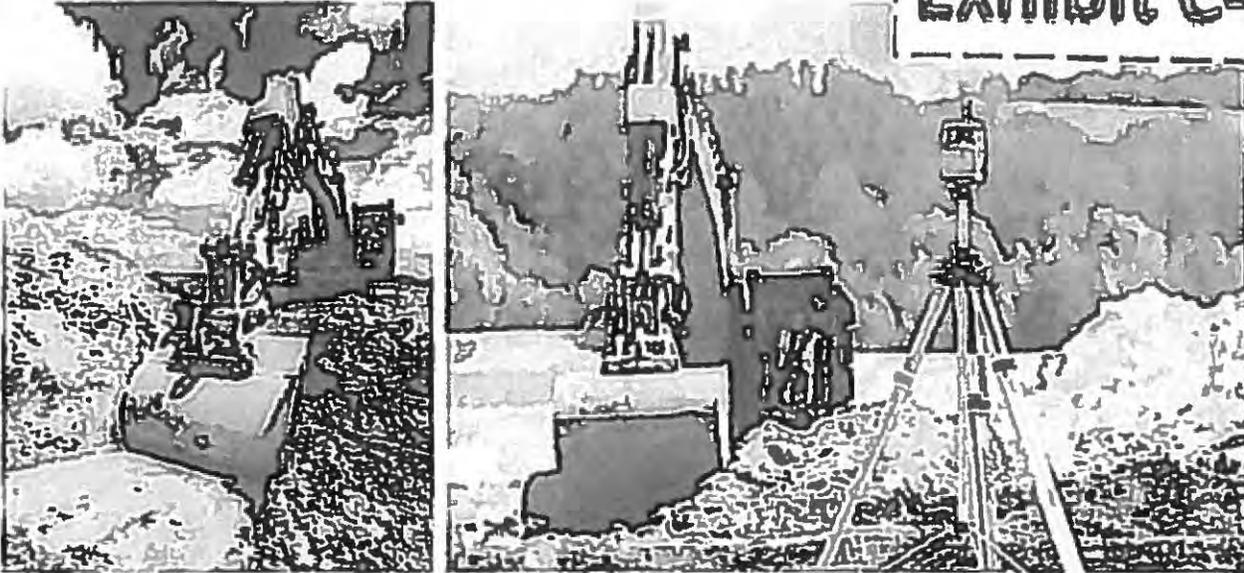
All dimensions are approximate.



Boom Options	HD Reach Boom 6.7 m		Variable Angle Boom 2.4 m Stub 3.3 m Fore		Super Long Reach 8.85 m
Stick Options	R2.9	R2.5	R2.9	R2.5	SLR 8.28 m
1 Shipping Height	3130 mm	3050 mm	3010 mm	3020 mm	3210 mm
2 Shipping Length	9540 mm	9450 mm	9780 mm	9820 mm	12 750 mm
3 Tail Swing Radius	2830 mm	2830 mm	2830 mm	2830 mm	2830 mm
4 Length to Center of Rollers - Long Undercarriage	3650 mm	3650 mm	3650 mm	3650 mm	3650 mm
5 Track Length - Long Undercarriage	4460 mm	4460 mm	4460 mm	4460 mm	4460 mm
6 Ground Clearance	450 mm	450 mm	450 mm	450 mm	450 mm
7 Track Gauge - Long Undercarriage (shipping)	2380 mm	2380 mm	2380 mm	2380 mm	2380 mm
8 Transport Width - Long Undercarriage					
600 mm Shoes	2960 mm	2980 mm	2980 mm	2980 mm	2980 mm
700 mm Shoes	3080 mm	3080 mm	3080 mm	3080 mm	3080 mm
790 mm Shoes	3170 mm	3170 mm	3170 mm	3170 mm	3170 mm
9 Handrail Height	3010 mm	3010 mm	3010 mm	3010 mm	3010 mm
10 Counterweight Clearance	1020 mm	1020 mm	1020 mm	1020 mm	1020 mm
Bucket Type	GD	GD	GD	GD	GD
Bucket Capacity	1.30 m ³	1.30 m ³	1.30 m ³	1.30 m ³	0.53 m ³
Bucket Tip Radius	1560 mm	1560 mm	1560 mm	1560 mm	1230 mm

Dimensions may vary depending on bucket selection.

Exhibit C-2



Integrated Technologies

Monitor, manage, and enhance your job site operations

Cat CONNECT makes smart use of technology and services to improve your job site efficiency. Using the data from technology-equipped machines, you'll get more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:



EQUIPMENT
MANAGEMENT

Equipment Management – Increase uptime and reduce operating costs.



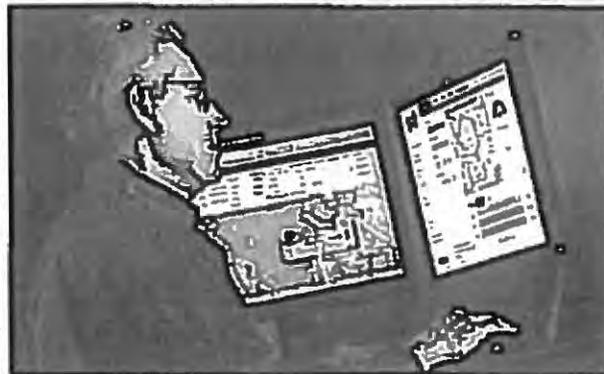
PRODUCTIVITY

Productivity – monitor production and manage job site efficiency.



SAFETY

Safety – enhance job site awareness to keep your people and equipment safe.



LINK Technologies

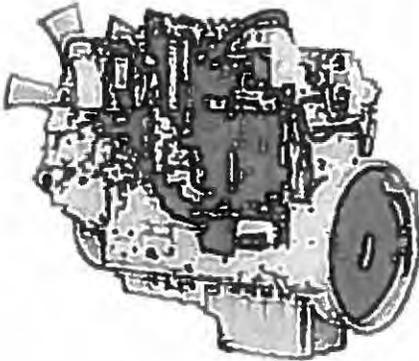
LINK technologies like Product Link™ are deeply integrated into your machine and wirelessly communicate key information, including location, hours, fuel usage, idle time, and event codes.

Product Link/VisionLink®

Easy access to Product Link data via the online VisionLink user interface can help you see how your machine or fleet is performing. You can use this information to make timely, fact-based decisions that can boost job site efficiency and productivity and lower costs.

Fuel Efficient

Powerful and fuel efficient to meet your expectations



Proven Technology

Every Stage IV ACERT engine is equipped with a combination of proven electronic, fuel, air, and aftertreatment components. Applying these time-tested technologies lets us meet your high expectations for productivity, fuel efficiency, reliability, and service life. Following are the results you can expect:

- Improved fuel efficiency of up to 6% over Stage IIIB products, including Diesel Exhaust Fluid (DEF) consumption.
- High performance across a variety of applications.
- Enhanced reliability through commonality and simplicity of design.
- Maximized uptime and reduced cost with world-class Cat dealer support.
- Minimalized impact on emission systems – with no operator interaction required.
- Durability with long service life.
- Better fuel economy with minimized maintenance costs.
- Same great power and response.

Cat NO_x Reduction System

The Cat NO_x Reduction System captures and cools a small quantity of exhaust gas and then routes it back into the combustion chamber to drive down temperatures and reduce NO_x emissions. The result of more than a decade of Caterpillar engineering research into this technology is the most reliable system of its type.

Diesel Exhaust Fluid (DEF)

Cat engines equipped with an SCR system inject DEF into the exhaust to reduce NO_x emissions. DEF is a precisely mixed solution of 32.5% high purity chemical grade urea and 67.5% de-ionized water. DEF used in Cat SCR systems must meet the requirements outlined in the International Organization for Standardization (ISO) standard 22241-1. ISO 22241-1 requirements are met by many brands of DEF, including those that carry the AdBlue or API certifications.

Fuel Savers That Add Up

The 323F L consumes up to 10% less fuel than the previous series model, and lowering engine speed without impacting production is one of the key contributors. Automatic engine speed control also contributes by lowering rpm when the machine doesn't need it for work. Automatic engine idle shutdown turns the engine off when it's been idling for more than a specified amount of time that you can set through the monitor. Plus you have a choice of three power modes – high power, standard power, and eco mode. Simply change between modes through the console switch panel to meet the work needs in front of you. Collectively, all of these benefits add up to reduced fuel consumption, reduced exhaust and sound emissions, reduced repair and maintenance costs, and increased engine life for you.

A Cool Design For Any Temperature

A side-by-side cooling system allows you to put the machine to work in extremely hot and cold conditions. The system is completely separated from the engine compartment to reduce noise and heat. Plus it features easy-to-clean cores and a variable-speed fan that runs only when needed to ensure maximum efficiency.

Biodiesel Not A Problem

The C7.1 ACERT engine can run on up to B20 biodiesel that meets ASTM 6751 standards – all to give you more potential fuel-saving flexibility.

Exhibit C-2

Serviceable

Designed to make your maintenance quick and easy

Safe, Convenient Access

You can reach most routine maintenance items like fluid taps and grease points from the safety and convenience of ground level. You will also find filters banked together for higher service efficiency. Compartments feature wide service doors designed to help prevent debris entry, and they also securely latch in place to help make your service work simpler.

A Cool Design

The high-ambient cooling system features a fuel-saving variable-speed fan and a side-by-side-mounted radiator and oil and air coolers for easy cleaning. Wider clearance between the two makes blowing off debris easy for you, which can help improve your machine's reliability and performance.

A Fresh Idea

When you select ventilation inside the cab, outside air enters through the fresh air filter. The filter is conveniently located on the side of the cab to make it easy to reach and replace, and it is protected by a lockable door that can be opened with the engine key.

More Service Benefits

Filters are banked together to enhance service efficiency. The fuel tank's drain cock makes it easy and simple for you to remove water and sediment during routine maintenance. Plus an integrated fuel level indicator pops up to help you reduce the possibility of fuel tank overfilling.

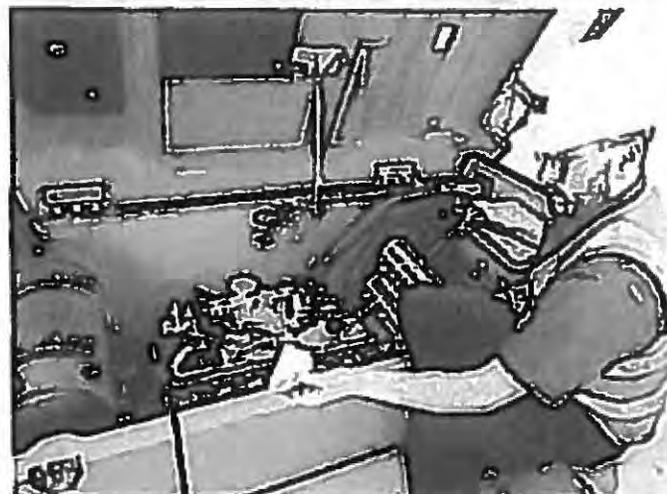
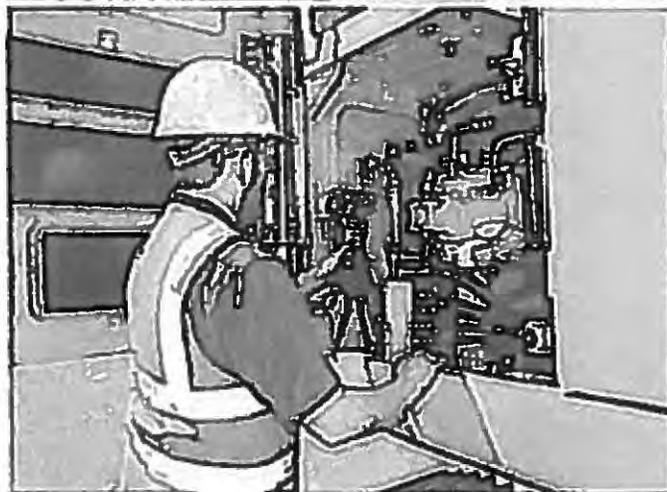
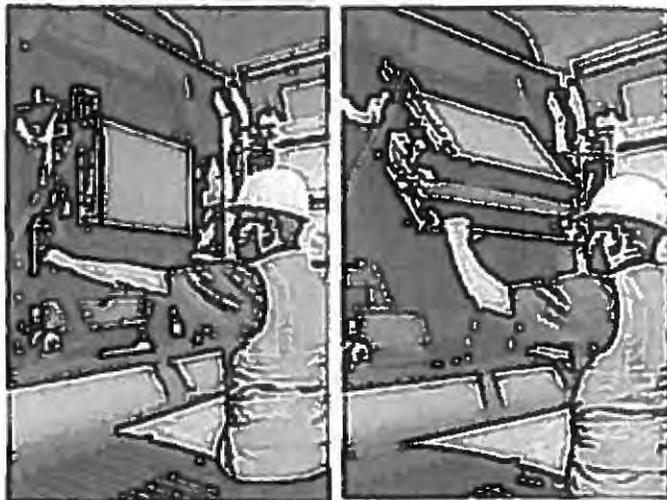


Exhibit C-2

Safe Work Environment

Features to help protect you day in and day out



A Safe, Quiet Cab

The ROPS cab provides you with a safe working environment when properly seated and belted. It also contributes to your comfort because it's attached to a reinforced frame with special viscous mounts that limit vibration and unnecessary sound. Add in special roof lining and sealing and you have a cab that's as quiet inside as any of today's top pickup trucks.

Secure Contact Points

Multiple large steps get you into the cab as well as a leg up to the compartments. Extended hand and guard rails allow you to safely climb to the upper deck. Anti-skid plates reduce your slipping hazards in all types of weather conditions, and they can be removed for cleaning.

Great Views

Ample glass gives you excellent visibility out front and to the side, and the standard rearview camera gives you a clear field of view behind the machine through the cab monitor. The available split-configuration windshield features an upper window with handles that make it easy to slide and store above you and a lower window that can be removed and stored on the inside wall of the cab. The large skylight also serves as an emergency exit and provides you with enhanced overhead visibility.

Smart Lighting

Halogen lights provide plenty of illumination, and the cab and boom lights can be programmed to stay on for up to 90 seconds after the engine has been turned off to help you safely exit the machine.

Exhibit D

(Economic Development)

Maria Pires

From: Rina Bakalar
Sent: Monday, September 26, 2016 6:18 PM
To: Maria Pires; Dawn Savo
Cc: Timothy M. Herbst; Lynn Amow, John Marsilio
Subject: 1 Year Bonding--Economic Development

Dear Maria and Dawn,

I would like to request the following in the one year Bond request:

\$30,000- Long Hill Green Modernization/Master Planning

Estimate based on discussions with Tighe and Bond. Would allow for more detailed plan for the area to address walkability, safety, aesthetics, potential Village expansion, parking, green space connections, etc...

\$12,000- Long Hill Green Utility Study

Estimate based on UI experience and input for specialized consultant. This is required by regulatory agencies for any potential undergrounding or moving of utilities in the Long Hill Green area. This is important in order to consider some of the improvements to the Main Street and Whitney intersection and for other (including aesthetic) improvements.

\$125,000- Trumbull Center Boulevard Project

This request would require a second allocation in the same amount the following year to complete the study, design and develop specifications to potentially Boulevard Trumbull Center. This type of structural change could potentially reinvigorate and transform the area. I consulted Public Works for an initial estimate based on their experience. Once completed, we will approach the State, Regional Planning and other complete streets funding sources to implement the project.

Please let me know if you require additional information to move forward or if you have any concerns.

Thank you,

Rina Bakalar
Economic and Community Development Director
Trumbull Town Hall
5866 Main Street, 06611
(203) 610-3899 – cell
(203) 452-5043 - office

Exhibit D

Town of Trumbull

Request for Projects

Department- Economic Development

Narrative to describe and justify the requested project:

What existing facilities or conditions will be affected by the project? How will this project improve these?

Trumbull Center is in need of significant revitalization in order to serve as a vibrant commercial corridor and gathering place. Numerous businesses have closed in recent years. The current construct of the Center makes pedestrian and bike access challenging. Traffic moves through the area at a high rate of speed. Driving structural change to the corridor can help bring about positive transformation of the area by slowing traffic, making the corridor more accessible for cars, bikes and pedestrian traffic and have appeal for current and potential tenants.

Will this project necessitate staffing increases?

no

What is the general plan and timeline for completion?

If funds were bonded in 2017 a consultant could be engaged to complete the schematic plan to present to MetroCOG. If approved, we will proceed to design development in 2018. Project implementation funding would follow in subsequent years.

Are there any outside funding sources, grants?

We will pursue implementation grants through DOT and CTMetroCOG

Project Description	CY 2017	CY 2018	CY 2019	CY 2020	CY2012	Total
Trumbull Center – Study, Design and Specifications for TC Boulevard Project.	125,000	125,000				

Study costs are estimated based on input from Public Facilities and prior experience with study and design on similar scope projects.

Exhibit D

Town of Trumbull

Request for Projects

Department- Economic Development

Narrative to describe and justify the requested project:

What existing facilities or conditions will be affected by the project? How will this project improve these?

There is currently no detailed plan for Long Hill Green. Improvements to date have been basic. A comprehensive Master Plan for the area is needed to guide improvements and position the town to access grant funding to support improvements and access matching funds.

Will this project necessitate staffing increases?

no

What is the general plan and timeline for completion?

The study can be completed within 12 months.

Are there any outside funding sources, grants?

Main Street Innovation Funds, STEAP, Small Cities funding and other regional, State and Federal funds will be pursued for improvements.

Project Description	CY 2017	CY 2018	CY 2019	CY 2020	CY2012	Total
Modernization Plan for Long Hill Green	30,000	450,000				

Study costs are estimated based on input from Public Facilities and prior experience with study and design on similar scope projects.

Exhibit D

Town of Trumbull

Request for Projects

Department- Economic Development

Narrative to describe and justify the requested project:

What existing facilities or conditions will be affected by the project? How will this project improve these?

In order to consider aesthetically improving Long Hill Green by burying utility wires, by statute a specific utility study is required. The study will help provide options and associated costs.

Will this project necessitate staffing increases?

no

What is the general plan and timeline for completion?

The study can be completed within 18 months.

Are there any outside funding sources, grants?

UI has indicated a willingness to cost share for the utility study in the amount of \$5,000.

Project Description	CY 2017	CY 2018	CY 2019	CY 2020	CY2012	Total
Long Hill Green Utility Study	12,000	1,500,000				

Study costs are estimated based on input from UI.

Exhibit E

(Engineering)

Engineering – 2017 Capital Plan Descriptions

Lake Avenue Sediment

This proposed project is to removal of sediment in the channel that flows south from the culvert under Lake Avenue at the corner on Main Street. The capacity of the channel has diminished greatly impacting the flow of stormwater away from residences.

Daniels Farm Road Drainage

This project is proposed to make drainage improvements to Daniels Farm Road after Sanitary Sewer Repairs and prior to reclaiming and repaving Daniels Farm Road.

Spring Hill Road Bridge

This project is to design the repairs identified by structure inspection of the Bridge.

Brock Street Bridge

This project is too design the repairs identified by structure inspection of the Bridge.

Old Town Road

This project is for preliminary design to reconstruct Old Town Road.

TOWN OF TRUMBULL
ENGINEERING DEPARTMENT
— OPINION OF PROBABLE COST —

Exhibit E-1

Project: Lake Avenue Channel 2017
Restoration

Date: 3/24/2018
Estimate By: WCM
Checked By: _____

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
	Earth Excavation and Disposal	CY	2,100	\$25.00	\$52,500
	Cold Bituminous Concrete Pavement	LF	0	\$2.00	\$0
	Structure Excavation - Earth	CY	0	\$40.00	\$0
	Structure Excavation - Rock	CY	0	\$150.00	\$0
	Formation of Subgrade	SY	0	\$1.50	\$0
	Cold Reclaimed Asphalt Pavement	SY	0	\$2.50	\$0
	Handling Cold Reclaimed Asphalt Pavement	SY	0	\$2.00	\$0
	Material for Tack Coat	Gal	0	\$5.00	\$0
	99MA S D.375"	Ton	0	\$130.00	\$0
	1/4" Rap Channels	LF	350	\$50.00	\$17,500
	Cut Bituminous Concrete Pavement	LF	0	\$2.00	\$0
	Retaining Wall Stone Veneer Facing	SF	0	\$20.00	\$0
	Collateral and Dewatering	LS	1	\$40,000.00	\$40,000
	Stone Veneer Facing	SF	500	\$0.00	\$0
	Cast-in Place Concrete, Class "A"	CY	50	\$0.00	\$0
	Re-bar drainage pipe	LF	30	\$0.00	\$0
	Removal of Existing Masonry	CY	50	\$200.00	\$10,000
	Water for Dust Control	M Gal	1,433	\$2.00	\$2,866
	Furnishing and Placing of Topsoil	SY	2,500	\$6.00	\$15,000
	Wetland S Plans Restoration	SY	2,000	\$25.00	\$50,000
	Grow Existing Culverts	LS	0	\$5,000.00	\$0
	Metal Beam Rail	LF	0	\$50.00	\$0
	4" White Epoxy Resin Pavement Marking	LF	0	\$1.00	\$0
				UNIT PRICE SUBTOTAL =	\$187,866

ALLOWANCES

Mobilization	ALLOWANCE	\$	45,000.00
Permitting	ALLOWANCE	\$	50,000.00
		\$	-
		ALLOWANCE SUBTOTAL =	\$ 95,000.00

UNIT PRICE + ALLOWANCE = \$ 282,866.00

LUMP SUM ITEMS

Design	\$	31,489.00	
Inspection	\$	40,000.00	
Layout	\$	8,200.00	
		LUMP SUM SUBTOTAL =	\$ 81,489.00

SUBTOTAL - UNIT PRICE + ALLOWANCES + LUMP SUM = \$ 369,565.00

CONTINGENCY AND INCIDENTALS

Contingency & Incidentals (15% x [Unit Price + Allowances + Lump Sum])	\$	55,435.00	
		TOTAL =	\$ 425,000.00

ADD 3% ESCALATION PER YEAR - IF NOT COMPLETED IN 2018 = \$ 437,750.00

Tighe & Bond

Consulting Engineers
Environmental Specialists

Prep'd Date: 5/24/2018
 Cr'd Date:
 Town of: Trumbull, CT
 Funds:
 Town No.:
 Project No.:
 Sheet No.: 1 of 1

Exhibit E-2

Opinion of Probable Cost
for the Construction of
Dankle Farm Road
Trumbull, CT

Project Description

FROM STA
A LENGTH

Drainage Improvements

TO STA

FEET AS SHOWN ON THE PLANS

Item	Est. Quant.	Unit	Unit Price	Total
Pavement, Reclaim	0	SY	\$ 12.00	
Pavement, Milling 10'-4", 541.2'	0	SY	\$ 2.50	
Pavement, HMA (300-3120) 3"	0	Ton	\$ 105.00	
Pavement, HMA (300-3120) 4" Temporary	1,900	Ton	\$ 120.00	\$ 228,000
Manholes Concrete Sidewalk (5' width, 2' depth)	0	SY	\$ 58.00	
Drainage, Total Pavement Area "All Near" (Suburban \$2.00 - CBD \$3.00)	0	SF	\$ 3.80	
Drainage, Total Pavement Area "Upgrades" (BI 75)	0	SF	\$ 0.75	
Subbase (300CY/350' 500-2000CY/325' + 2000CY/330' 12" for 10% of area for existing)	0	CY	\$ 50.00	
Pavement, Full Depth Patching	0	SY	\$ 30.00	
Drainage, Pipe (12" - 16" - 24" - 48") (300/325/350/390)	7,500	LF	\$ 45.00	\$ 337,500
Drainage, Catch Basins (32500)	64	EA	\$ 2,800.00	\$ 180,800
Drainage, Double Catch Basins (11000-12000)	0	EA	\$ 4,000.00	
Drainage, New Catch Basin Top (11,000)	0	EA	\$ 1,000.00	
Drainage, Road Catch Basins (3300-5600) including M/C's	0	EA	\$ 600.00	
Drainage, 6" underdrain	1,115	LF	\$ 25.00	\$ 27,875
Drainage, Culvert Ends (1200-3100)	0	EA	\$ 4,000.00	
Curb, S/C/C (32-50-38-00)	0	LF	\$ 4.00	
Curb, Add 1 foot strip of pavement x length	0	SF	\$ 4.63	
Curb, 6" Form Concrete (317)	0	LF	\$ 12.00	
Curb, Granite (223 Est % of total quantity for replacement)	0	LF	\$ 25.00	
Earth Exp. (<500CY/148' 500-2500CY/133' 2500-5000CY/123' >5000CY/120' 1' depth)	0	CY	\$ 10.00	
Rock Exp. (454CY/137' 531-634CY/134' 654CY/133')	0	CY	\$ 67.30	
Gravel (<54/118' 854-8540312' 854/108' 50)	0	CY	\$ 19.00	
Guide Rails, R-2 or 3 Cable (32-311)	0	LF	\$ 28.00	
Guide Rails, R-2 (298) (312-318)	0	LF	\$ 18.00	
Guide Rails, System 2-RA (334-370)	0	LF	\$ 85.00	
Guide Rails, Anchors (3300-3-800)	0	EA	\$ 850.00	
Invert Adjuster (Type B - Madson/Gore)	0	EA	\$ 25,000.00	
Precast Concrete Barrier curb (16" x 32')	0	LF	\$ 42.00	
Precast Concrete Barrier curb (24" x 32')	0	LF	\$ 48.00	
Concrete Driveway Ramp (287 total length)	0	SF	\$ 14.00	
Concrete Sidewalk (17 total length, 8 curbs x 6" w/60)	0	SF	\$ 14.00	
Reinforcing Driveway (325-329)	0	SY	\$ 20.00	
Turf Establishment	0	SY	\$ 8.00	
Interconnection, Steel optic cable and 3" R.M.C.	0	LF	\$ 20.00	
Sedimentation Control (32-33)	1	LS	\$ 48,511.00	\$ 48,511
System Interception L.S.	0	LS	\$ 25,000.00	
Emergency vehicle preemption	0	EA	\$ 5,000.00	
Traffic Signals, New Size Signal (6100,000-1120,000/intersection)	0	EA	\$ 250,000.00	
Traffic Signals, Motor Modification (300,000/intersection)	0	EA	\$ 80,000.00	
Traffic Signals, Motor Modification (130,000/intersection)	0	EA	\$ 30,000.00	
Retaining Wall, Double Wall & Reinforcing Earth (351 11-136)	0	SF	\$ 58.00	
Retaining Wall, Cast-In-Place Concrete (348 40-120)	0	SF	\$ 100.00	
Loop Detector Saw Cut	0	LF	\$ 15.00	
				SUBTOTAL \$ 708,534
Traffic Items (4%)		0%		
Miscel Items (0-25%) (Preservation 10%) (Rehabilitation 15%) (Full Depth Reconstruction 25%)		10%		\$ 70,854
				SUBTOTAL \$ 779,388
Contract Items				
Clearing and Grubbing Roadway		0%		
Main & Protection of Traffic		7%	\$ 54,557	
Trafficperson (size of town officer = \$75/hr)	721	HR	\$ 75.00	\$ 54,075
Construction Observation = \$125/hr)	721	HR	\$ 105.00	\$ 75,705
Stabilization (7.5%)		7.5%	\$ 58,454	
Construction Staking (1%)		3%	\$ 18,483	
Inflation Factor (3% per year)		0%		
				CONSTRUCTION TOTALS \$ 1,941,898
CONTINGENCIES (<\$3,000 000/10%) (>\$3,000 000/5%)		15%	\$ 158,250	
INCIDENTALS (<1 million/20%) (1-3 million/25%) (3-10 million/21%) (over 10 million/15%)		15%	\$ 158,250	
UTILITIES (Overhead)		2%	\$ 20,826	
UTILITIES (Underground)		0%	\$ 82,500	
Engineering Design		0%	\$ 82,500	
				Sub-TOTAL ESTIMATED COST \$ 1,960,000
Estimated by				
Checked by				
Date of Estimate 5/24/2018				TOTAL ESTIMATED COST \$ 1,960,000

Exhibit G

(WPCA)

WPCA – 2017 Capital Plan Descriptions

Various Roads – Town Wide Repairs - \$150,000

This project is proposed to initiate improvements to various areas of sanitary sewer system. The WPCA funds pipe video inspection and the funds associated with this item is proposed to repair these areas on an as-needed basis.

Town Wide – Flow Discharge Alternative - \$150,000

This project is proposed to continue the design analysis to re-direct sewage flow from Trumbull's main discharge point to potentially a different jurisdiction. The amount proposed reflects design costs for 2017. Additional funds for this task will be requested in out years.

Old Town Road Pump Station – Replace Generator - \$65,000

This project is proposed to replace an existing generator at the Old Town Road Pump Station.

Park Avenue Pump Station – Rehabilitation - \$200,000

This project is proposed to replace the pumps at the Park Avenue Pump Station. There have been numerous repairs to the pumps over the last 3 years.

Maria Pires

From: Frank Smeriglio
Sent: Monday, November 21, 2016 4:16 PM
To: Maria Pires
Cc: John Marsilio
Subject: Pavement Management
Attachments: Trumbull Report of Findings.pdf

Maria

Attached is a draft report of the Pavement Management Study. The Engineering Department is currently reviewing it.

The report depicts roadway condition ratings as of summer 2016. Roads paved in the last 5 years were excluded from review. Cost estimates do not include drainage repairs.

In prioritizing the projects, the software program will prioritize improvements based on the "Repair Methods," by "Benefit Value of the road to the Town" and by "Geographical location"

"Repair Methods" – suggests a repair method for roadway conditions

"Benefit Value of the road to the Town" – Benefit Value is the formula developed to prioritize pavement investment. It incorporates observed pavement condition and adds traffic loads to offer a method of maximizing the benefit of pavement investment. Again drainage repairs are not included in the formula.

"Geographical Location" calls for selecting a program of roads within a geographic area to maximum work efficiencies and minimize mobilization costs.

Hope this is helpful, please do not hesitate to call if you have further questions.

Frank Smeriglio, PE
Town Engineer
Town of Trumbull

Pavement Management Study

Town of Trumbull, CT

PREPARED FOR

Town of Trumbull
5866 Main Street
Trumbull, CT 06611

PREPARED BY



Vanasse Hangen Brustlin, Inc.
100 Great Meadow Road; Suite 200
Wethersfield, CT 06109
860-807-4300

11/21/2016

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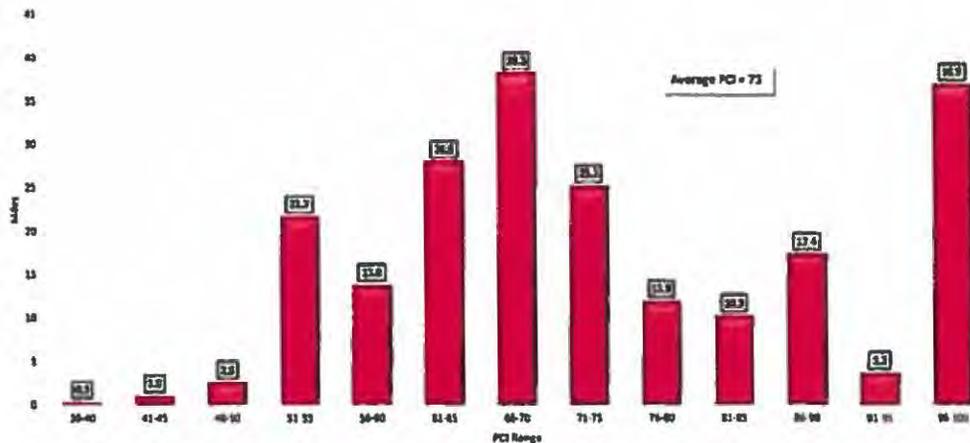
Executive Summary

The Town of Trumbull retained Vanasse Hangen Brustlin, Inc (VHB) in the spring of 2016 to implement a pavement management system in order to create a benchmark of current pavement conditions throughout the Town, determine paving budget needs, and to assist with prioritizing pavement maintenance and rehabilitation needs.

VHB defines pavement management as the practice of planning for pavement maintenance and rehabilitation with the goal of maximizing the value and life of a pavement network. This is otherwise known as, "Getting the Biggest Bang for Your Buck."

VHB conducted the field evaluation of pavement conditions in April of 2016. For each pavement management section, the severity and extent of nine pavement distresses were recorded, then entered into a weighted formula to arrive at a Pavement Condition Index (PCI). PCI is measured on a scale of one hundred to zero, with one hundred representing a pavement in perfect condition and zero describing a road in impassable condition. The average PCI for Trumbull's road network at the time of the survey was 73.

The following chart shows the distribution of miles of roadway in groups of 5 PCI point increments.



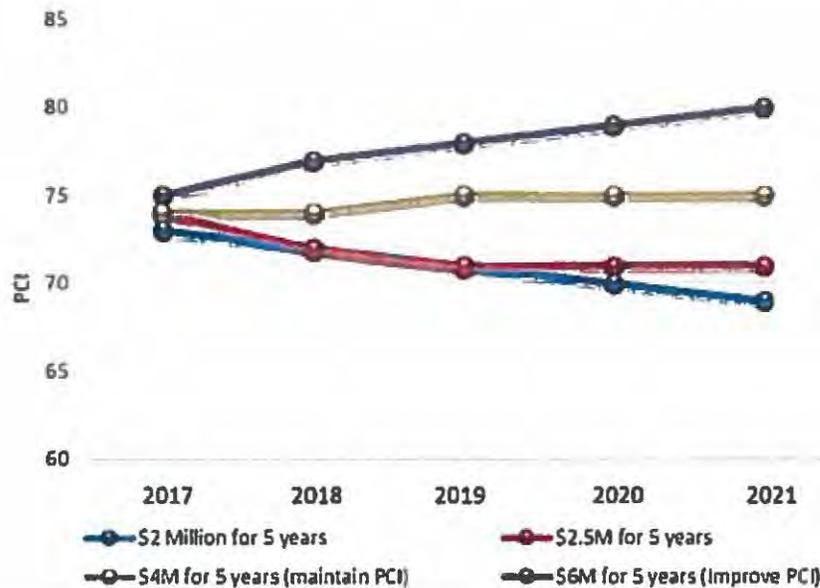
VHB's RoadManager™ software uses broad ranges to group the individual repair types into five major treatment bands. Treatment bands are a useful tool to summarize data on a Town-wide basis. Applying these treatment bands and the unit costs associated with them to Trumbull's road network, the following table was developed. This table



details the miles and dollars associated with each treatment band for the conditions at the time of the evaluation.

Treatment Band	Dollar Value	Miles
Do Nothing	\$ -	40.6
Routine Maintenance	\$ 226,000	28.5
Preventive Maintenance	\$ 3,541,000	23.0
Structural Improvement	\$ 21,147,000	81.9
Base Rehabilitation	\$ 25,118,000	37.1
Grand Total	\$ 50,032,000	211.1

Given the backlog of work shown above, VHB compared the predicted effects of 4 potential funding scenarios. The figure below shows these projections over a 5 year study period.



The Trumbull pavement management system gives Town decision-makers a picture of existing roadway infrastructure conditions and a dollar estimate to improve streets in poor condition while protecting those pavements already in good condition. To get the greatest value from the available funding, it is important that the Town of Trumbull consider the following:

- The Town should continue to include crack sealing and patching in its annual road program.
- The Town should provide funding sufficient to reach the Town's pavement condition goals.



- Roadway improvement projects should be prioritized in a way that provides a maximum benefit for the residents of Trumbull. The calculated *benefit value* can be used as a tool to prioritize heavily traveled roads and lower cost maintenance treatments.



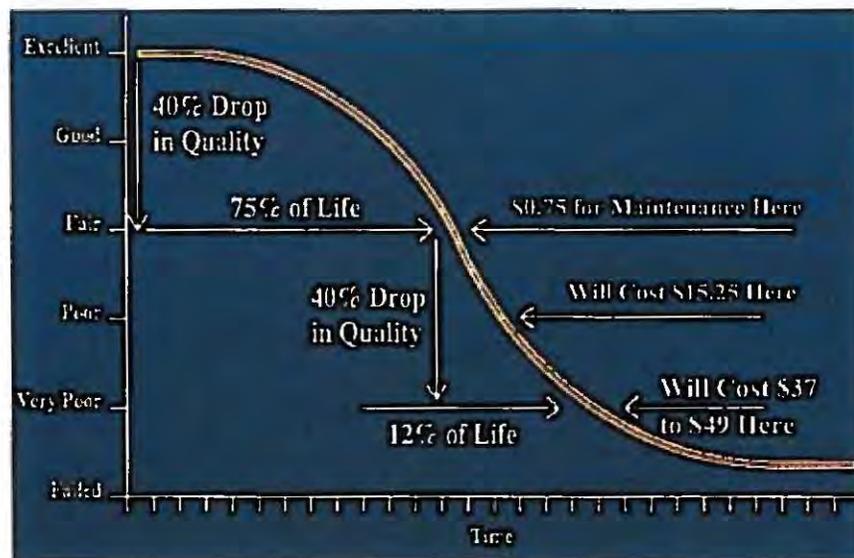
Introduction

The Town of Trumbull retained Vanasse Hangen Brustlin, Inc (VHB) in the spring of 2016 to implement a pavement management system in order to create a benchmark of current pavement conditions throughout the Town, determine paving budget needs, and to assist with prioritizing pavement maintenance and rehabilitation needs.

Under the scope of this project, VHB performed a detailed inspection of the condition of the pavement on approximately 175 miles of Town maintained roads. VHB did not inspect the 36 miles of Town maintained roads that were paved from 2011 to 2016. VHB then created a database of this information, as well as the 36 miles of Town maintained roads that were not inspected, which can be viewed, edited and analyzed using VHB's RoadManager™ software. VHB will deliver this software to staff in the Public Works Department as part of the scope of the project. The data is linked to the Town's Geographic Information System (GIS), so that thematic maps can be created to display any of the information in the database.

What is Pavement Management?

We define pavement management as the practice of planning for pavement maintenance and rehabilitation with the goal of maximizing the value and life of a pavement network. This is otherwise known as, "Getting the Biggest Bang for Your Buck."



This report describes the steps taken in this project, the results of the field evaluations, and also compares the results of some potential roadway funding scenarios.



The major sections of this report are:

- > Pavement Management Methodology
- > Current Pavement Conditions
- > Funding Scenarios
- > Concluding Remarks

Pavement Management Methodology

VHB performed a detailed evaluation of the condition of 175 miles of roads maintained by the Town of Trumbull. As mentioned above, the 36 miles of Town maintained roads that have been paved from 2011 to 2016 were not evaluated. VHB then built a pavement management system incorporating all 211 miles of Town maintained roads. The complete process of identifying the Town road network, evaluating pavement conditions, configuring the database for analysis purposes and finally, the analysis of future funding scenarios is described below.

Network Identification

Network Identification builds an inventory of streets that describe the municipality's complete roadway network. The direction of travel, street length, width, one-way status, ownership, classification, zone and pavement type are among the items identified at this initial phase in the pavement management process. This integral step ensures the streets surveyed are the definitive set to be analyzed.

Pavement Management Section Identification

Once the Network Identification is complete, the field work begins. Each street contains one or more pavement management sections. A pavement management section defines the limits of previous construction or maintenance activities within each street. Segments are defined by having the same width, typical distresses, one-way status, functional class, etc. The goal is to set up homogenous areas of pavement to aid in assigning the appropriate repair. A street may be one section, or it may be comprised of several pavement management sections, depending on its construction history.



Surface Distress Assessment

For each pavement management section, the severity and extent of nine pavement distresses are recorded, then entered into a weighted formula to arrive at a Pavement Condition Index (PCI). The distresses are categorized as base related or surface related distresses. Base related distresses indicate that the subsurface soil strength is inadequate for the existing traffic load. Streets that show significant base related distresses may need to have the subsurface soils fortified with stone to strengthen the structure and/or the street may need a significantly thicker layer of pavement. Surface related distresses are caused by age and weathering of the pavement. Streets that have predominantly surface related distresses are excellent candidates for maintenance sealing to inhibit further pavement oxidization (the main effect of aging). Streets with more of the base related distresses will most likely need some full depth patching, structural overlays or reclamation/reconstruction.

The four base related distresses are:

- potholes and non-utility patches
- alligator cracking
- rutting
- distortions

The five surface related distresses are:

- block cracking
- transverse or longitudinal cracking
- bleeding or polished aggregate
- surface wear or raveling
- corrugations, shoving, and slippage

PCI Defined

A PCI was generated for each inventoried pavement management section in Trumbull using the surface distress data collected by VHB. PCI is measured on a scale of one hundred to zero, with one hundred representing a pavement in perfect condition and zero describing a road in impassable condition. Each type of observed pavement distress is assigned a deduct value based on the type, severity and extent of the defect. A more severe distress type, such as non-utility patching, has a higher deduct point value than a lesser distress such as transverse cracking. A weighted sum of the deduct points is then subtracted from the perfect "one hundred" road in order to generate a PCI for each roadway segment. In general, base related (pavement foundation) distresses are weighted more heavily than surface related distresses. Please note, a PCI value of 100 was assigned to those roads paved between the years 2011 and 2016.

The Five Treatment Bands

VHB's RoadManager™ software uses broad ranges to group the individual repair types into five major treatment bands. Treatment bands are a useful tool to summarize data on a Town-wide basis. An individual road segment will fall into a particular category based on the strategy table's output of repair types and will vary due to functional



classification. The goal is to gain a broad understanding of the existing conditions in simple yet meaningful terms.

Table 1 Treatment Band Descriptions

TREATMENT BAND	PCI*	Unit Cost (\$/SY)	Description
Do Nothing	93-100	\$0	In need of no immediate maintenance.
Routine Maintenance	86-92	\$0.75	May be in need of crack sealing or minor localized repair.
Preventive Maintenance	73-85	\$6.50	Treatments vary, should be determined using project level analysis.
Structural Improvement	61-72	\$15.25	Pavement surface structure in need of added strength for existing traffic. Typical repairs are overlay with or without milling.
Base Rehabilitation	0-60	\$37.00 (local) \$49.00 (art/coll)	In need of base improvement. Typical repairs are reclamation or full depth reconstruction.

* These are general PCI ranges for reference purposes, and represent only one pavement type. There are several fields considered by the strategy table when assigning repair types to each individual street.

Please note, the unit costs shown in Table 1 do not include drainage improvements.

Do Nothing

The do nothing category exhibits roads which are in need of no immediate maintenance. These roads are in excellent condition and existing distresses generally do not need to be addressed.



Blackhouse Road, PCI 100



Routine Maintenance

Routine maintenance activities are those which are taken to correct a specific pavement distress. Routine maintenance usually addresses localized pavement defects and includes activities such as crack sealing.



Old Farm Road, PCI: 88

Preventive Maintenance

Preventive Maintenance may include of a number of different treatments. A project level analysis is recommended for each roadway to determine which treatment is most appropriate. In Trumbull, these projects can include more extensive crack sealing and patching or mill and overlay. In some cases, it may be best to postpone treatment until the pavement segment is ready for a mill and overlay.



Brookbend Road, PCI: 77



Structural Improvement

Structural improvement includes the work necessary to restore the pavement to a condition that will allow it to perform satisfactorily for several years. Generally a structural improvement will consist of milling the existing pavement down and applying a new Hot Mix Asphalt overlay allowing existing grades to be maintained. When the existing grade can be raised a new Hot Mix Asphalt course can simply be placed upon the existing surface.

Structural improvements also include the work necessary to prepare the pavement for an overlay, either with or without milling. The major activities involved in the preparation process are:

- Partial depth patching;
- Full depth patching;
- Crack sealing;
- Hot Mix Asphalt Leveling course.



Pine Street, PCI - 63

Base Rehabilitation

Base rehabilitation utilizes one of two methods:

- Reclamation;
- Reconstruction.

Typically in Trumbull, reclamation will be used. On a project by project basis, reconstruction may be used. Reclamation is the process of rehabilitating existing deteriorated pavements. The existing pavement and base, subbase, and possibly subgrade are pulverized and blended to create a homogenous pavement base. This reclaimed pavement base is then paved with a new Hot Mix Asphalt surface.



Eddie Road, PCI 46

Project Prioritization

Roadway improvement projects should be prioritized in a way that provides a maximum benefit to the residents of Trumbull. To achieve this, the *benefit value* can be used as a prioritization tool. The benefit value is calculated using the average daily traffic (ADT), estimated life of the proposed treatment, unit cost, and PCI value, as shown in the formula below:

$$\text{Benefit Value} = \frac{\text{ADT} \times \text{Expected Life}}{\text{PCI} \times \text{Unit Cost}}$$

The effect of using the benefit value as a prioritization tool is that the more heavily used roads in Town are prioritized above the lightly used roads, and lower cost treatments are prioritized ahead of expensive treatments. The benefit value is used as a general prioritization tool; however, it does not consider other factors such as coordination with utility work or the geographical grouping of projects within a neighborhood. It is important to balance these factors along with the benefit value when developing roadway improvement programs.



Current Pavement Conditions

VHB conducted the field evaluation of pavement conditions in April of 2016. The average PCI for Trumbull's road network at the time of the survey was 73.

The Town's average of 73 is made up of a road network of individual roads in all levels of condition. The following chart shows the distribution of miles of roadway in groups of 5 PCI point increments.

Figure 1 Current PCI Distribution

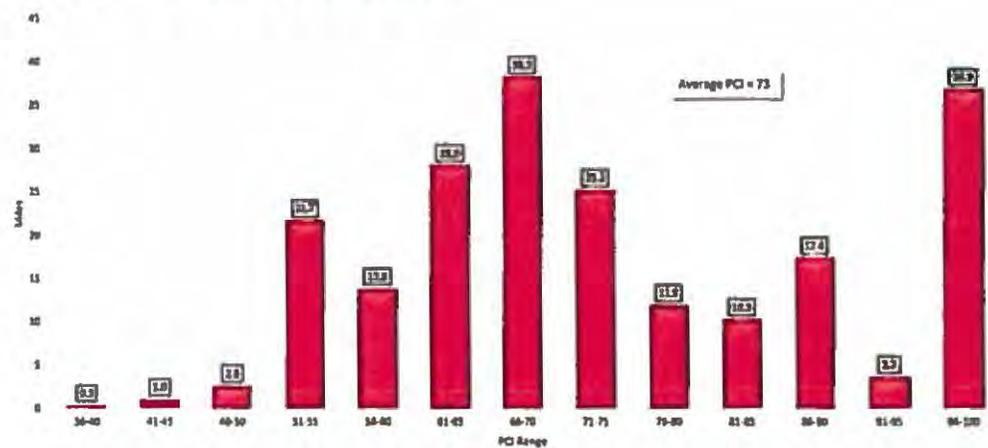
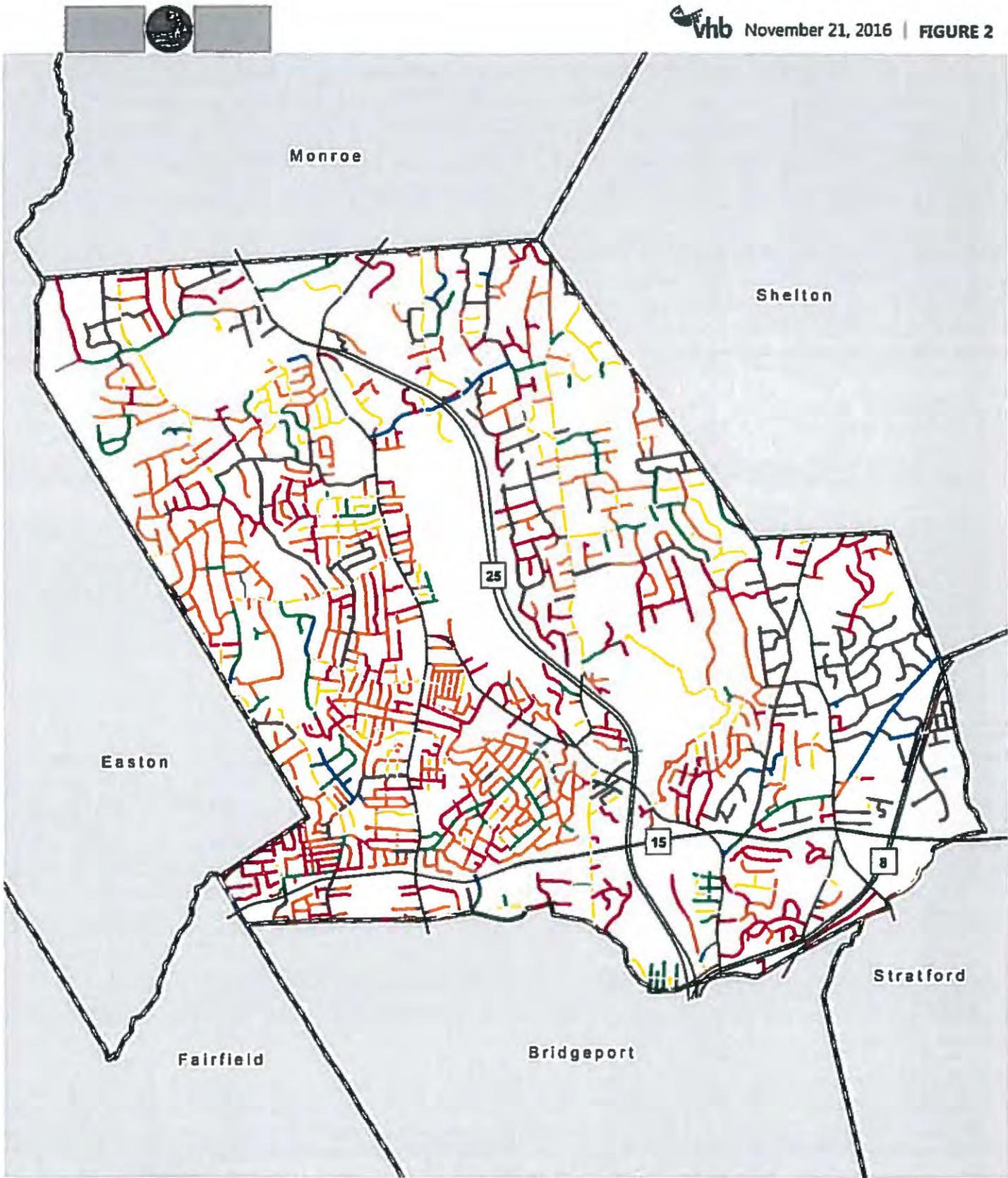


Figure 1 shows that the Town has roads in a wide variety of conditions. One of the largest grouping of PCI's is between 61 and 72, indicating that a number of roads will require structural improvement. There is also a fair distribution of roads in the lower PCI bands, meaning a variety of roads may require base rehabilitation.

The following page is a map of the current pavement condition for Town maintained roads. As previously mentioned, VHB did not inspect the 36 miles of Town maintained roads that were paved from 2011 to 2016, these miles are displayed in gray.



↑
0 0.25 0.5 1 Miles
- State Centerline
- Town Line

PCI
- 35-60
- 61-72
- 73-85
- 86-92
- 93-100
- Not Assessed

Pavement Condition Index Map | Trumbull, Connecticut



Backlog of Work

Applying the five treatment bands described above and the unit costs shown in Table 1 to Trumbull's road network, the following table was developed. This table details the miles and dollars associated with each treatment band for the conditions at the time of the evaluation.

Table 2 Current Backlog of Needs by Treatment Band

Treatment Band	Dollar Value	Miles
Do Nothing	-	40.6
Routine Maintenance	226,000	28.5
Preventive Maintenance	3,541,000	23.0
Structural Improvement	21,147,000	81.9
Base Rehabilitation	25,118,000	37.1
Grand Total	\$ 50,032,000	211.1

Figures 3 and 4 on the following page show that while base rehabilitation represents 17% of the outstanding work by mileage, it represents 50% of the total backlog of outstanding work by cost. Base rehabilitation is the most expensive category of street repair. Also of note that approximately 39% of the Town's miles are in need of structural improvement, which represents 42% of the total backlog of outstanding work by cost.



Figure 3 Backlog of Outstanding Work by Mileage

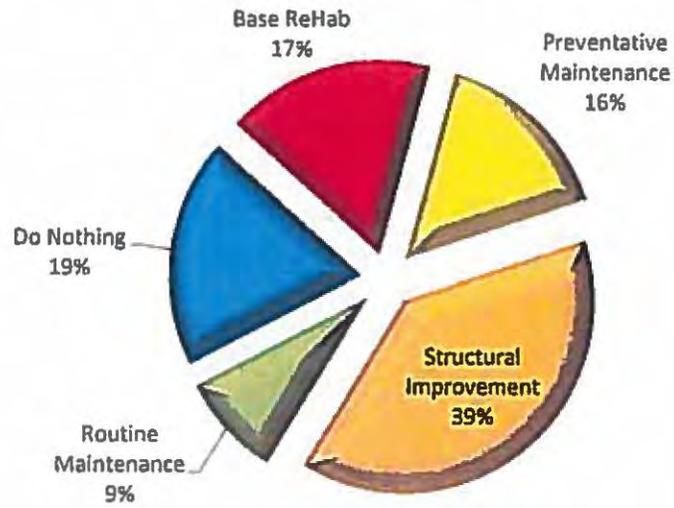
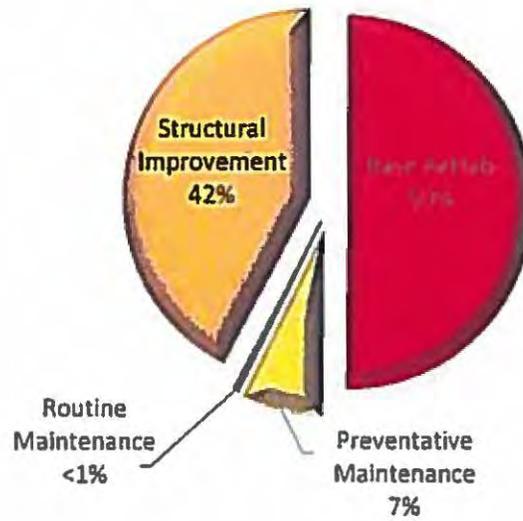


Figure 4 Backlog of Outstanding Work by Cost





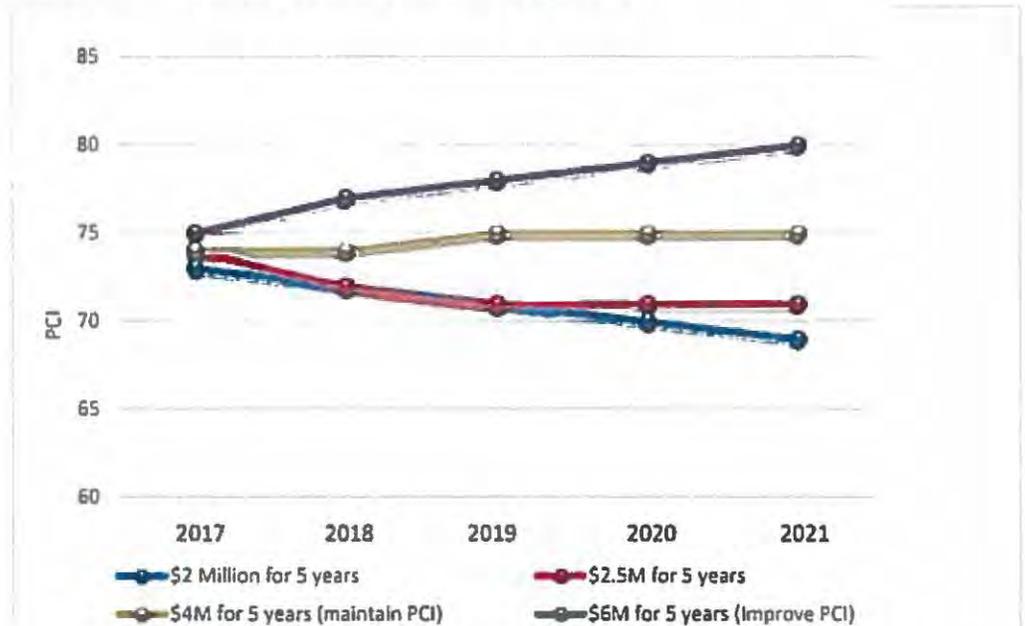
Funding Scenarios Explored

VHB compared the predicted effects of the 4 funding scenarios below:

- **\$2 Million per Year** – Investing \$2 million every year for five years results in a decrease in the average PCI level.
- **\$2.5 Million per Year** – Investing \$2.5 million every year for five years also results in a decrease in the average PCI level.
- **\$4 Million per Year** – Investing \$4 million every year increases the average PCI level to 75 over five years.
- **\$6 Million per Year** – Investing \$6 million every year increases the average PCI level to 80 over five years.

Figure 5 below shows these projections over the 5 year study period.

Figure 5 Future Pavement Condition Projections



After completing the analysis, it was clear that many local and dead end roads in Trumbull were being targeted for reclamation. It is possible that Trumbull is able to save funds by conducting more mill and overlay and less reclamation. VHB performed a second analysis after adjusting the PCI targets for base rehabilitation and structural improvement on local and dead end roads. The updated targets for each treatment band can be found in the table on the following page. The PCI targets for arterial and collector roads have not been adjusted.



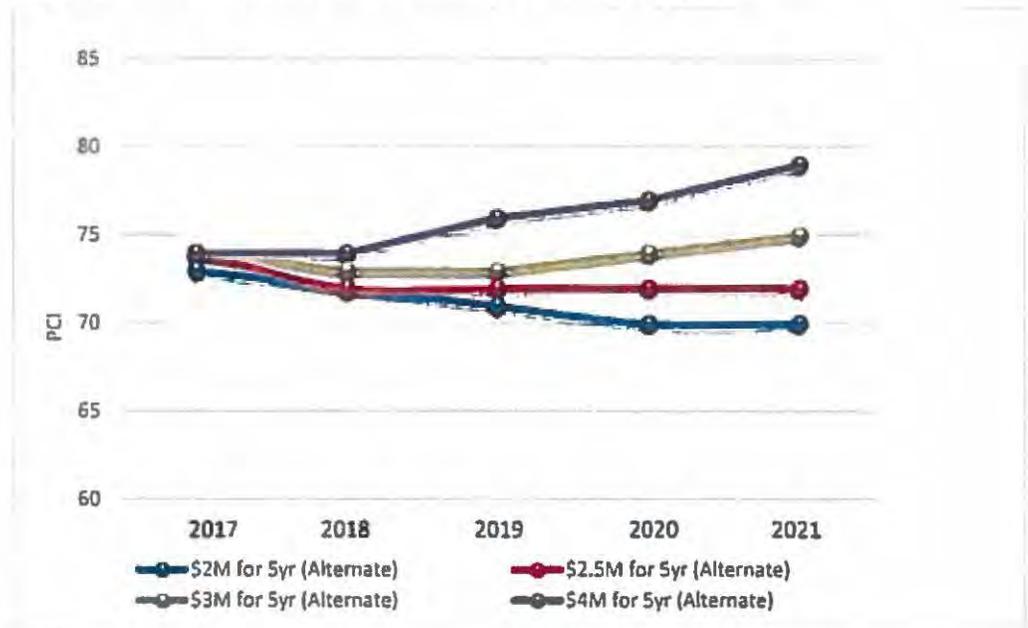
Table 3 Alternative Treatment Band Descriptions

TREATMENT BAND	PCI*	Description
Do Nothing	93-100	In need of no immediate maintenance.
Routine Maintenance	86-92	May be in need of crack sealing or minor localized repair.
Preventive Maintenance	73-85	Pavement surface may be in need of surface sealing, full depth patch and/or crack sealing.
Structural Improvement (Arterial & Collector)	<u>61-72</u>	Pavement surface structure in need of added strength for existing traffic. Typical repairs are overlay with or without milling.
Base Rehabilitation (Arterial & Collector)	<u>0-60</u>	In need of base improvement. Typical repairs are reclamation or full depth reconstruction.
Structural Improvement (Local & Dead End)	<u>51-72</u>	Pavement surface structure in need of added strength for existing traffic. Typical repairs are overlay with or without milling.
Base Rehabilitation (Local & Dead End)	<u>0-50</u>	In need of base improvement. Typical repairs are reclamation or full depth reconstruction.

* These are general PCI ranges for reference purposes, and represent only one pavement type. There are several fields considered by the strategy table when assigning repair types to each individual road

After applying these new targets, VHB has projected four new potential funding scenarios over the five year study period. The results are displayed in the figure on the following page.

Figure 6 Alternative Future Pavement Condition Projections





It is clear that conducting more structural improvement and less reclamation has a significant impact on the total cost of work required. With the adjusted PCI targets, an investment of \$2.5 million per year for five years would almost maintain the current average PCI.

Concluding Remarks

The Trumbull pavement management system gives Town decision-makers a picture of existing roadway infrastructure conditions and a dollar estimate to improve streets in poor condition while protecting those pavements already in good condition. This also allows Town staff to logically and systematically integrate results of this plan with other critical master plans in Town. To get the greatest value from the available funding, it is important that the Town of Trumbull consider the following:

- The Town should continue to include crack sealing and patching in its annual road program.
- The Town should provide funding sufficient to reach the Town's pavement condition goals.
- Roads with a PCI of 72 or less generally require structural improvement; however, with a surface inspection alone it can be difficult to separate those that should be treated with mill and overlay and those that require base rehabilitation. It is always recommended to perform some subsurface sampling and testing and conduct an actual pavement design to determine whether mill and overlay or reclamation is the best choice on a project by project basis.
- Roadway improvement projects should be prioritized in a way that provides a maximum benefit for the residents of Trumbull. To achieve this, the calculated *benefit value* can be used as a tool to prioritize heavily traveled roads and lower cost maintenance treatments.

The Pavement Management System being implemented by the Town is a planning tool, with primary functions of determining the funding levels required to achieve Town wide condition goals, and to identify candidate road projects to achieve those goals. Any project list generated by the system needs to be reviewed by the Town Public Works staff and adjusted based on numerous factors, including coordination with utility work, and geographic grouping, for instance within neighborhoods.

Recommendations – Pavement Management



- Budget adequate funds to achieve pavement condition goals
- Make timely maintenance repairs
- Repair localized base problems before applying an overlay
- Address major rehabilitation needs as funding allows
- Develop multi-year road programs
- Coordinate with local utilities to perform upgrades and repairs in advance of projected construction projects
- Perform project level testing prior to major rehabilitation projects to ensure proper life of new pavement
- Provide for construction inspection at the plant and in the field to ensure quality material is provided and quality work is being performed
- Update database to reflect work that is done (maintains accuracy of system)
- Update pavement conditions at a minimum of every 4 years or 25% per year
- Track specific and overall conditions periodically
- Evaluate funding levels periodically

Proposal for the Renovation of the Trumbull Library Main Branch

Background and Reasoning

Earlier this year, the Library System presented the new Strategic Plan to the public which was the product of several months of public meetings, surveys, focus groups and interactions with all relevant local stakeholders. It included 1,483 local participants. The public highlighted these top concerns for what they felt the Library System needed for the physical building:

- Repurpose our 42-year-old main library so it better meets modern and future community needs
- Respond more actively to the needs of teens and others who may not now use the library, or use it sparingly, with an expanded, separate Teen Room
- Expand access to technology
- Provide additional small group-meetings and quiet study space

The strategic plan also included a space analysis that also emphasized several of these recommendations. Specifically, the space analysis pointed to several areas where improvements could be made to accommodate community needs without a complete overhaul of the library. The report reveals that several, low-cost adaptations should be possible given the existing structure of the building that will maximize the usability of the space.

Proposed changes

In reviewing these recommendations, the Board of Trustees requests the funding to study and plan for renovating the existing building in order to better serve the community. Five specific concepts that we wish to review are:

1. **Study Rooms** – Essentially small, 2-6 person rooms which could be used for individual or group projects. These would be quiet spaces with electrical sockets for laptops and other study aids.
 - a. The library regularly receives requests for study rooms that are able to accommodate teenagers and adults who need small quiet spaces to meet together or use privately. The uses include tutoring, class projects, and the gathering of small committees.
 - b. Currently, our facility only has two rooms available to the public – the community room that accommodates around 100 people and the Boardroom for 15 people. While we have made arrangements for small group use we currently cannot meet demand for both the needs of these smaller study groups and the larger events and organizations that require the space.
2. **Technology Lab** – A medium sized room that will serve as a digital learning center for the public. At present, the idea for the room will include laptops and tablets for patrons to use and explore as well as other multimedia aids that will assist in learning.
 - a. It goes without saying that the pace of technological change is outpacing the ability of many in the public to keep up. The transition to digital services means that the library staff spends a great deal of time demonstrating and teaching the public how to use the

- new online services. In addition, patrons come in daily with requests for guidance on how to write a resume, fill out online forms, or simply how to use their smart phone.
- b. Having a dedicated space in the library would enable the staff to have direct one-on-one training capabilities that simply are not feasible in the middle of the library floor. This becomes even more important given the time it requires to train a single person while other people may be waiting for service.
3. **Local History/Genealogy Room** – A medium sized room that will house the library’s current collection of historical books and documents that relate to the Town of Trumbull and provides learning resources for people interested in genealogy.
 - a. The library is the only place in Trumbull that the public can access these documents seven days a week. Dedicating a specific are of the library will highlight the importance of Trumbull’s legacy and provide for community interaction regarding the shared history of the town. The library serves as a reflection of its community and in no way would that be more evident than in hosting historic archives of the town available to all.
 - b. Potential partnership with the Trumbull Historical Society would enable the library to be the resource that their experts could take advantage of to better further their goal of preserving and promoting Trumbull’s past.
 4. **Café and expanded Lobby** – We would like to build a café in the front lobby that will be open and accessible to the public along with the library.
 - a. Currently, the library lobby is barely furnished, does not have heat or A/C, and serves mostly as a place where people pass through on their way in or out. Given the size of the space, we feel that it could be repurposed with even minor modifications into a function, welcoming community area where patrons can talk and read. Adding a café would provide town center with the only one in a five-minute radius and would complement the atmosphere of the town green.
 5. **Teen Area** – Ideally, a large separate room that with furnished and outfitted with technology and other engaging elements where teens could interact and learn without fear of being too loud.
 - a. At present, the current area for the teens is off to the side in the main collection room. This causes tension due to their proximity to the information desk and other adults that might be studying or working. Furthermore, the kinds of activities and games that would make the area more enticing area for teens to go to is not possible given the special and noise concerns. The teen collection (books, manga, graphic novels) are all placed at the end of the adult non-fiction collection which makes them obscure from the main floor.
 - b. Creating a dedicated space, or perhaps repurposing an existing area, would allow for the expansion of teen services and to have a unique environment for them to enjoy and use.

Possible areas under review

The board believes that there are feasible, cost-effective means to achieve these goals by:

1. Reviewing the present structural integrity of the mezzanine to see if it can be expanded outwards to make for additional space on that floor.
2. Examining the main collection area for places where rooms could be added and what form they would take.
3. Expanding the lobby out to the present wall of the staff offices and fitting the ceiling with returns for A/C and heating to make it more environmentally welcoming.
4. Studying the current design of the courtyard to see if it could be a viable teen center if it was roofed and remodeled.

Final note

While we understand that the community center will have meeting spaces available for the public, we feel the services that the library will create or expand through the proposed changes do not duplicate what the new building is intended to address. In fact, it is important to stress how the library is not the same as the planned community center. Our mission is: "The Trumbull Library is the community's primary information, cultural, and civic destination." We believe in enriching the Town of Trumbull by promoting literacy in its many forms, fostering personal and professional learning and growth, and introducing patrons to new experiences that will deepen and enhance their understanding. The five recommendations listed above will improve our existing ability to meet those goals, particularly given the current challenges of building designed in 1974. Considerations for computers, study rooms, and even teens were not an original part of the plan for the building and the community response to the strategic plan has highlighted how important they have become to the community.

The changes we are proposing are not to duplicate what the community center may do in the future but build and improve on the resources and services we already provide to the Town of Trumbull. In fact, we strongly believe that these new changes will better compliment the intended design of the community center given the larger proposed scale of their rooms. Given this explanation, we hope that the town has a better understanding of our intentions and the public need for these improvements.

A Strategic Plan to
*Reimagine,
Repurpose,
& Renew*.....

Trumbull Library
2016-19

February 2016



TRUMBULL
LIBRARY SYSTEM

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Planning for the *Future*

The Trumbull Library is planning for the future. Based on our record of more than 40 years of achievement and high-quality services and resources in our Main Library and more than 90 years in Fairchild-Nichols Library, we started our planning project to guide the Library's growth, allocate its resources, and shape its thinking about the future.

At the beginning of this process, the library involved as many residents as possible to learn about their interests. At the same time, town leaders were publicly discussing the future role of the library. Our new plan—Reimagine, Repurpose, and Renew—reflects our thoughts about the world today and the role our library, facility, staff, and supporters play in it.



Conversations with local residents, along with library staff and trustees, shaped this plan. Further, 1,500 people participated in our survey or in a focus group, providing us with valuable feedback about our facility, programs, and policies.

Strategic Priorities

After reviewing the collected information, as well as the usage and demographic trends, library planners identified these strategic issues to consider:

Services for all residents

The library serves four generations, children, teens and young adults, working adults, and older adults, each with their own unique needs. Every day, the staff balances the demands of each of these groups and provides resources, targeted services, and space to satisfy their needs. Changes in the way each generation uses and interacts with the library reflects the need to continually evaluate and adjust the library's service program.

The Trumbull Library space needs to reflect the enthusiasm and vibrancy of the community's children and families. Both current and future space needs a cohesive theme that fosters interactive and imaginative play and provides comfortable areas for reading, schoolwork, and technology. The Library's collection, services, and programs are designed to ensure that young children enter school ready to learn. Resources for older children will help them explore topics of personal interest, satisfy their curiosity, inspire a life-long love of reading, and support their schoolwork.

The combination of excellent resources, exceptional programs, and inspiring spaces will ensure that every child has a superior library experience that leads them to become life-long library users and supporters.

Trumbull preteens and teens are valued customers and are the future generation of library supporters. Consistent programming and a staff dedicated to providing leadership and engagement opportunities for this age group is a key component of a successful library service program. A dedicated and contemporary space for teens, including space for homework help, gaming, and opportunities for social engagement will ensure that the library becomes a destination for this group.



Working age adults with limited free time lead complicated lives, trying their best to balance the demands of work, growing families, aging parents, and other personal issues. The library needs to accommodate this group by extending hours, promoting its digital content, targeting programs of interest, and finding new ways to encourage community engagement.

Trumbull's older adult population is growing, a reflection of baby boomers' aging; the 60+ population is expected to increase not only in Trumbull, but also in many neighboring communities. Although a large number of people will relocate during their retirement years, a significant number are choosing to "age in place" and will remain in Trumbull or move to Trumbull from other Fairfield County locales. The library will need to accommodate them in an active way by offering expanded programming and opportunities.

Digital Literacy

Digital content and new distribution channels have transformed libraries. As a result, library users are increasingly relying on staff to provide one-on-one instruction and coaching on how to use their devices and access library content. Demand for this type of assistance grows each year. Comments from the library survey support this trend, one that will have significant impact on the library collection, space, and staff in the future. The library will need to balance the needs of traditional print readers versus those who seek digital content.

Community Engagement

As a public institution, the Trumbull Library faces a unique challenge in reminding residents of its mission, role, resources, and relevance. This includes the opportunity to help the community reimagine what the library means to them and how it can be more central to their lives. The Library staff can make strategic use of digital marketing and communication tools like the weekly e-newsletter, Facebook, Twitter, Instagram, and other social media to reach existing and new audiences and encourage greater engagement.

Refreshed Spaces

Changes in use, new technologies, and the increasing demand for more small and medium-size gathering and collaborative workspace requires the library to continually evaluate its policies, programs, and facility, especially as the Main Library is 42 years old. As digital content becomes more prevalent, certain print collections need to be reduced in favor of community gathering and learning space and places for individual or group work. Some areas are prime candidates for minor refreshing to meet community expectations.

Staff Development

Sufficient engaged and knowledgeable staff results in great service. Providing the service level expected by the community and helping staff develop new skills is an important investment for the library.

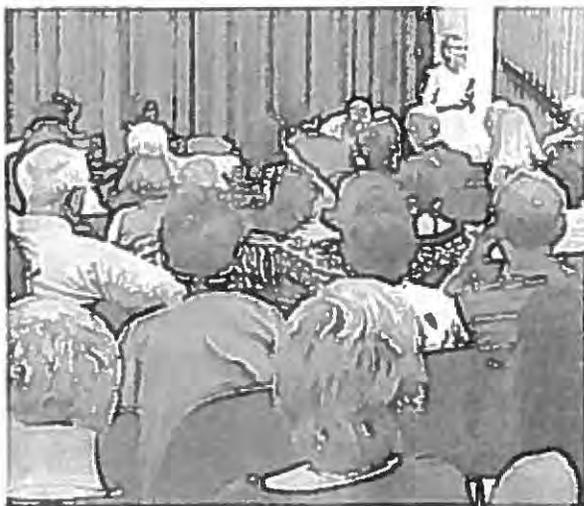
Sustainability

The Trumbull Library depends primarily on tax support. Residents and local government have been reliable supporters. While the library has demonstrated thoughtful financial stewardship, increased demand may impel exploring other revenue streams. A revitalized Trumbull Library Foundation or Friends of the Library can play an important role in exploring fundraising strategies that will secure the resources needed to support the priorities in this plan.



We Listened!

We continue to learn from local residents every time we ask for suggestions and ideas for the future. We spoke with 195 people and staff in focus groups and 1,288 people through an online and print survey. We heard about the library's need to:



- Repurpose our 42-year-old main library so it better meets modern and future community needs
- Refresh collections with more new print titles and digital content
- Respond more actively to the needs of teens and others who may not now use the library, or use it sparingly, with an expanded, separate Teen Room, deeper, more current collections, and up-to-date mobile computing devices, including gaming resources
- Respond to changes in the town's demographics, such as increasing numbers of younger, dual

income families and a more diverse population, with services and programs that address their needs

- Expand access to technology
- Provide additional small and group-meeting and quiet study space
- Address issues related to parking
- Encourage more community engagement by connecting residents with each other through conversation and discussion
- Promote the library as the cultural, social, and intellectual front porch of the community
- Increase awareness of the Library's mission, collection, program, and facility needs

[†] Results from the Survey and focus groups are available in a document entitled *Community Comments*, which is available in the library at the Reference Desk

Accomplishments

The following are select achievements at the Trumbull Library over the past three years:

- Mounted the Great Minds Art Exhibit and reinforced the library's important role in defending First Amendment rights
- Launched Hoopla, a digital video download service
- Engaged the community through the successful "OneBook/One Town" community-wide read
- Re-designed the website
- Added an ongoing used book sale inside the library
- Established the Creator's Corner in the Fairchild branch along with educational classes
- Established a weekly email newsletter
- Launched the library Facebook and Twitter feed
- Expanded the library's digital content with the addition of 1,368 ebook titles
- Reorganized library space to provide more seating and study options for patrons
- Added eight powered study carrels at the Main Library
- Initiated a successful Fall and Spring Lifelong Learning Lecture Series
- Began Homebound Delivery service
- Introduced an "Adopt a Shelf" program



Our Vision for The

Trumbull Library

The Trumbull Library
is the place where
our community
comes to meet,
read, learn and
discover the world.

Our
Mission.....

The Trumbull Library is
the community's
primary information,
cultural, and
civic destination.



Our Shared Values

- We embrace change and respond to community needs
- We offer welcoming, accessible facilities that are a destination for all residents
- We provide a wide variety of programs that enlighten, inspire, and entertain
- We foster an environment of partnerships with other public and private organizations
- We hire and train staff who are eager to learn and provide every visitor with friendly and knowledgeable service
- We respect diversity of opinion and backgrounds and are tolerant of minority viewpoints



Goals.....

Four goals will guide the Library's work from 2016-2019.

GOAL ONE

Reimagine

the Trumbull Library to meet residents' needs

.....

GOAL TWO

Repurpose

current space to respond to changing community expectations

.....

GOAL THREE

Renew and refresh

library collections and resources

.....

GOAL FOUR

Create

the Trumbull Library of the future by securing sustainable funding and renewing outreach necessary to implement this plan





Reimagine the Trumbull Library to meet residents' needs

Objective 1:

Make the Trumbull Library the preferred local forum for thoughtful engagement and discussion

Objective 2:

Position and promote the Trumbull Library as the place for learning and personal growth for all residents

Objective 3:

Integrate digital services in all that the library does

2

Repurpose current space to respond to changing community expectations

Objective 1:

Plan for repurposing space to accommodate community needs

Objective 2:

Provide a dynamic and interactive library experience for all



3



Renew and refresh library collections and all resources

Objective 1:

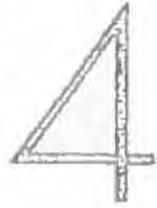
Implement new methods for delivering content, collections, and all resources

Objective 2:

Deliver convenient library services that respond to changing community needs

Objective 3:

Develop a staffing plan that supports new spaces, programs and collections



Create the Trumbull Library of the future by securing **sustainable funding and renewing outreach** necessary to implement this plan



Objective 1:

Develop a plan to ensure the financial future of the Trumbull Library

Objective 2:

Reposition and grow the Trumbull Library based on its reputation of achievement and new challenges





TRUMBULL LIBRARY SYSTEM
Main Library-Quality Street
Space Analysis

Leslie Burger
Alan Burger
Library Development Solutions
Princeton, NJ
January 2016

A. Project Overview

Trumbull Library retained Library Development Solutions in 2015 to complete a strategic plan and evaluate and recommend facility improvements at the Main Library on Quality Street. The impetus for both projects was the Library Trustees' desire to anticipate future service delivery needs. In addition, ongoing conversations in Trumbull pertaining to potentially building a senior center/library campus in a new location further informed these plans.

Built in 1974, the Trumbull Library covers 30,440 square feet primarily on one main level and a mezzanine. An expansion in 2000 added a new children's wing, and regular modifications to the original 1974 space have included space to accommodate public computing, a teen area, and more seating. Aside from the children's area, there has been no major expansion of the building since 1974.

Library buildings are typically planned for a 25-year lifespan. Those constructed during the late 1960s and early 1970s reflect the service approach that was current at the time. In 1974, libraries were built to accommodate growing collections of books and other contemporary formats, research and study, and day-to-day transactions like checkout and return of library material. Most planners could not have foreseen the technological changes that have occurred in the 41 years since the Trumbull Library first opened.

The Trumbull Library staff, supported by its Board of Trustees, has done an admirable job of adapting its building to incorporate technological change, but it's now time to consider major modifications to keep up with the community's demand for changing services. In every library's life cycle there comes a time when planners—trustees, staff, community and municipal leaders—need to assess the building's capacity to support the next 25 years; now is that time for the Trumbull Library.

This facilities assessment is based on several observations:

- 1) The changing nature of library service and collections;
- 2) Community ideas and suggestions pertaining to the Trumbull Library obtained through survey responses, focus groups, and a town meeting;
- 3) An onsite evaluation of the Main Library by the consultants;
- 4) Recommendations in the strategic plan that will impact the library facility; and
- 5) A comparison of the Main Library to neighboring and other libraries to determine space and design deficits.

Based on each of these factors, Library Development Solutions recommends the following with regard to the library's physical plant; each option is explained in more detail in this report:

Option 1: Keep the Main Library in its current location. The combination of the town hall, library, and shopping center make this location the town center. The library is conveniently located for residents from all parts of town.

Option 2: Reconfigure the library/town hall campus to expand parking, improve traffic flow, and provide space for modest library growth.

Expand the existing library along the "western" elevation to provide additional space for community meetings, small group meetings, additional seating and collaboration space, an enlarged teen area, and improved collection display.

Repurpose and reconfigure the existing space to make it more welcoming, modern, and functional. This includes:

- Redesign of the checkout and return area;
- A redesigned entrance and lobby with a café and small used book store;
- Redesign of the first floor large print browsing and new book areas;
- New service desks; and
- A smaller, consolidated collection, preferably all on one level

Option 3: Assess the potential to remove the mezzanine and raise the roof to add a fully functional second story.

Option 4: Demolish the 1974 building and build a new one at the existing location.

B. The Evaluation Process

Leslie and Alan Burger toured the Trumbull Library on several occasions to observe customer interaction and use of the space, evaluate facility conditions, and develop short- and long-term recommendations for improving the library. The results of this assessment are detailed in this report.

Libraries Have Changed

Libraries have changed significantly in the last five years, prompted in part by the growing availability of digital content and the affordability of related devices. Almost everyone has access to a computer in his or her pocket or pocketbook, in their school or library. Information has become ubiquitous and reference is no longer the centerpiece of library service.

People are reading in different ways, consuming both print and digital content in almost equal numbers. Ten years ago, almost everyone on a commuter train carried newspapers; today, most everyone consumes their daily news via their smart phone or tablet. Libraries are no longer warehouses or storage facilities for print materials, but

instead dynamic community centers and intergenerational gathering spots that provide popular collections of material, programming to satisfy all interests and engage people in new ways, centers for digital learning and technology, and communal spaces that invite people to find a comfortable reading or work spot.

The 2008 recession also accelerated changes for libraries since many people who lost their jobs never returned to the traditional workforce, choosing instead to start home-based businesses, or become freelancers. Today's workforce is more mobile, untethered to a company or desk, and without a traditional office, what better place could there be but a library for someone who needs space to think and create?

Social media has made us less social in some ways. The ability to be in touch with a friend or relative any time and any place is wonderful, and at the same time people are increasingly seeking face-to-face opportunities to explore ideas, have conversations, and form friendships. Libraries, schools, and other public institutions have an increasingly important role to play in community engagement.

The patron relationship with staff has changed as well. Customers prefer to find their way around the library on their own, but may want personal assistance from a staff member to be readily available. The staff member is no longer the sole source of information expertise, but instead has become a partner in learning and discovery, a guide to information that cannot be seen and may not be easily found online. Large service desks are a thing of the past, replaced instead by approachable, small-scale desks that are welcoming to all.

All of these changes have immediate implications for the design of library space.

- Space previously allocated for extensive reference collections can be reduced and repurposed. Much of this information is freely available online or through digital subscription databases licensed to the library.
- Dense stack cores that accommodated growing collections of books can be reduced or eliminated. Collection size can be reduced to remain fresh, and reflective of community needs and interests. Face-out book displays and a more user-friendly collection will help customers find what they need.
- Service desks can shrink to enable more collaboration between staff and customers; hip-to-hip service becomes the new norm.
- The number of desktop personal computers can be reduced as the library provides mobile devices—laptops, chrome books, tablets—that enable people to work anywhere thanks to a robust, fast wireless connection.
- Technology instruction will remain an important part of the library's service program as library staff and outside instructors provide group classes and

individual assistance with personal devices, as well as in the use of the library's digital content.

- Institutional furniture can be replaced with more comfortable chairs, living-room-style seating, and mobile furnishings. Table seating can be supplemented with collaborative workspaces, small meeting rooms, and co-working spaces. Library space moves from immobile to mobile and flexible.
- Quiet space is in great demand. Creating a "quiet only" zone with comfortable tables and seating will attract those seeking space to support their work and study needs.
- Café service will become the norm as libraries recognize the need to provide coffee, tea and other snacks to meet the community's need for a place to meet a friend, have a conversation, or get a bite to eat when a study break is needed.
- Librarians will increasingly harness the power of technology to deal with routine transactions so staff can provide more one-on-one service. Self-check kiosks, self-service hold pick-ups, and mobile apps that enable customers to customize reading lists or find a specific shelf location will become the norm.
- Programming for all ages will attract new audiences to the library and provide new opportunities for engagement. The library will play an essential role in community building and civic engagement.
- Technology access and instruction, both for groups and one-on-one, will be an important driver in the design of library space. Libraries can be the first place the patrons stop when they want to learn how to use a new app, need assistance applying for work using an online interface, or want to increase their computer proficiency.
- Children and teens are the future of public libraries. The positive experiences that children and their parents have in the library will ensure that they remain lifelong library supporters. Engaging teens in meaningful programs and providing them with dedicated space is another way to build leadership skills and prepare them for the future. Providing engaging, age-appropriate programs for children and teens is an essential part of every library's service objective.
- Outdoor, pedestrian-friendly space is also important to the overall library experience. The ability to host a program outside, stage a large event, and increase visibility to those passing by will generate excitement about the library.
- Revenue-producing space is also an important consideration in today's libraries. Supplemental income that augments tax support is increasingly important to many libraries. A well-designed and carefully curated used book sale can

generate thousands of dollars each year. A small retail shop that sells reading-related gifts could be co-located near the checkout desk.

C. Community Feedback about the Trumbull Library

A series of focus groups, a town meeting, and community-wide survey in 2015 provided useful information to consider when planning space improvements to the Trumbull Library.

515 of the 1,288 people who responded to the community survey indicated that they visit other libraries on a regular basis, ranked below in order of their popularity.

- Fairfield Public Library (38%)
- Wheeler Memorial Library, Monroe (27%)
- Bridgeport Public Library (18%)
- Westport Library (18%)
- Stratford Public Library (14%)
- Easton Public Library (8%)

Among the reasons cited for those visits were:

- Availability of cooking and art lessons
- Free DVD rentals
- A beautiful facility (Monroe)
- Better Wi-Fi
- Author visits (Westport)
- Better availability of desired books with a shorter wait list

Focus group and town meeting participants offered the following suggestions:

- Improve parking
- Expand the library's top level so it encompasses the entire space, make it a true second floor
- Remove ramps and install elevators
- Offer more space for elementary and middle school children
- Create a makers' space along with dedicated space for tutoring
- Offer more modern furniture, including more comfortable chairs and tables
- Designate space for quiet study
- Make the interior spaces lighter and brighter
- Create small meeting rooms to support collaborative work
- Open a cafe
- Expand the community room and improve performance space
- Create a catering kitchen to support events
- Design an outdoor reading patio

- Improve the teen area

D. Trumbull Library Space Assessment Recommendations

I. General Considerations

The Trumbull Library is centrally located. Although the town lacks a traditional "Main Street", the library's proximity to the town hall, a major shopping area, and the post office make it a convenient stop while people go about their daily routines.

Although library parking is adequate it is often limited due to overflow from the municipal building. Parking could be expanded for the library and town offices by rethinking the on-site traffic flow; parking municipal vehicles in another adjacent location or even building a small garage that would provide increased capacity.

The library is welcoming and attractive with seasonal plantings and a beautifully landscaped site that provides a lovely setting upon approaching the building and great window views for those working inside.

It isn't until one enters the library that it is apparent that the building was constructed for a different era of library service.

2. Recommendations for Building Improvements

The consultants offer several options regarding the Trumbull Library. We believe that a combination of Options 1 and 2 provides a reasonable path to creating a functional, attractive, and welcoming library to serve Trumbull residents. Option 3 requires additional study and cost analysis as does Option 4.

Option 1: Keep the Main Library in its current location

The combination of the town hall, library, and shopping center make Quality Street the *de facto* town center. The library is conveniently located and easy for residents from all parts of town to reach. It appears that there is ample acreage to redesign the campus to accommodate an enlarged library, expanded parking, and improved traffic flow that will meet the functional needs of both facilities. The Town and Library should engage the services of a traffic consultant to assess current campus conditions and develop recommendations that will meet the community's needs for the next 25 years.

Option 2: Reconfigure, expand, and repurpose the library at its current location to make it more welcoming, modern, and functional

Though the 1974 library has been well maintained over the years, it needs to be renovated to accommodate the way in which people use libraries today. This means additional meeting space: an enlarged community room, small collaboration rooms

to accommodate 2-6 people, conference rooms that can be used for in-house meetings or offered for rental, and a new technology training center. Added new space along the existing building's western facade would accommodate these needs and enable the library staff to gain additional space by rearranging the collection along the interior perimeter.

In addition, existing space on the main and mezzanine levels should be renovated and reconfigured to provide for more seating, a dedicated space for teens, a technology center, a new quiet reading area, and a new service desk.

The consultants recommend a large addition along the entire side of the library's western facade, updating all mechanical systems to improve energy efficiency, and an evaluation of the building structure to identify other needed structural improvements.

The Library Trustees should engage an architect and an engineer to conduct a feasibility study on what renovations can be supported given the structural limitations of the existing building and changes in building codes.

Option 3: Remove the mezzanine level and add a fully functional second story

Conceptually this would seem like an easy way to solve the library's space problem, but before considering this option the Library Board would need an architect to determine whether this is structurally possible. Previous studies indicate that the mezzanine and the stacks below provide structural integrity to the building. If an engineer determines that is the case and no modification is possible, then serious consideration should be given to removing both floors of the mezzanine and stack area and then rebuilding and expanding west of that space. Continuing to work around the poorly designed stack core will limit the library's space options.

Option 4: Demolish the 1974 building and rebuild a new library at the existing location

This may seem drastic, but after considering the costs of renovation and expansion and bringing an old facility up to current building code, it may be less expensive to demolish and rebuild a new library, plus the new facility can be adapted for many uses.

3 Recommendations to Improve the Library's Existing Space

The following recommendations can be considered in combination with the expansion and renovation option detailed in Option 2 or as a separate project. Some are low-cost, high-impact solutions that would begin to demonstrate what the Library Trustees and staff hope to achieve with a larger, full-scale renovation/expansion project.

3.1 Exterior Entrance, Lobby and Community Room

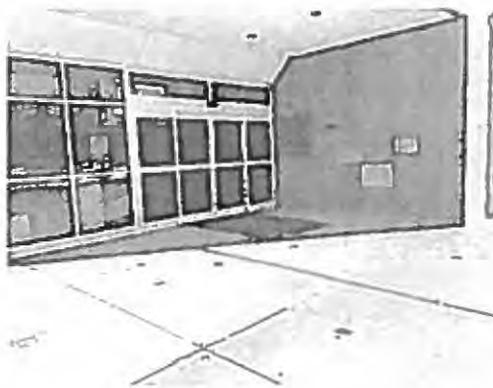
Automatic doors create an easy entry into a small lobby that provides a transition from the outside to the library's interior. The lobby has a few seats, but is not the type of space where a patron would spend time since it is not climate controlled. A small display case showcases changing exhibits and a bulletin board announces upcoming events both in the library and the community.

The public restrooms are in the lobby. Although clean, the restrooms need to be modernized, including new tile; new self-flushing, water-saving toilets; new sinks and counters with low-flow faucets; and environmentally friendly and dryers. These restrooms must serve both the library and the Hawley Community Meeting Room and are undersized.

The lobby should incorporate a better display area for giveaways and library promotional material.



- 3.1.a Bump out the entrance to create more usable lobby space and a better transition into the library. There appears to be ample room to extend the entrance out to the sidewalk edge. An enlarged, climate-controlled lobby could then be redesigned to provide space for a café and casual seating. Café services should be provided through a contractual arrangement with a local vendor.



The lobby should also function as a gathering and transition space for those attending events in the meeting room.

- 3.1.b Restrooms should be redesigned and renovated to accommodate additional usage and incorporate self-flushing toilets, automatic faucets and soap dispensers, and environmental friendly hand dryers.
- 3.1.c Digital displays in the newly renovated lobby can be easily programmed and updated to provide up-to-the-minute information about what is going on in the library each day.
- 3.1.d The Library's Hawley Community Meeting Room is too small and often filled to capacity. Enlarging the room to accommodate 200-225 people would provide much-needed space for library programs and other community events.

3.2 Redesign the Interior Library Entrance and Areas for Large Print, New Books, Checkouts, and Returns

A second set of doors (sliders) provides access to the interior library space. Upon entering, there is a sense of spaciousness and openness; upon further inspection, however, one sees that the space lacks visual appeal and any merchandising that can be used to engage patrons.

A large reading area to the left accommodates the large print collection on perimeter shelving. Table seating is scattered throughout the space, but the area lacks a focal point that would invite someone to spend time. This area provides limited display space for new books and an in-house used books sale.

A coin-operated coffee machine is convenient, but doesn't provide the ambiance of a full service café or the aroma of brewing coffee. This is prime library real estate, the place where first impressions are formed. It could and should be much more dynamic.



New books, which are typically the highest-circulating collection and are what most people want to see when they come into the library, are displayed on wall shelving on the other side of the checkout desk. Although the new book collection is great, lack of merchandising, display fixtures or any spot lighting make it look less than exciting. The current space limits the size of the new book collection and is also awkward because one has to turn a corner to continue browsing the new non-fiction collection. There is no place to sit; thus, an area that should be exciting is not.



The checkout and return area, which is the central service point for this entire area, is oversized for the amount of transactions being handled. All transactions are handled by staff, which promotes good customer relationships, but doesn't allow for self-checkout or self-service holds, services that Trumbull residents may experience at other neighboring libraries.



- 3.2.a Swap the locations of the new books to the area and the large print collection. Purchase new display units that enable the new fiction and non-fiction collection to be displayed on free-standing shelving and display tables similar to a bookstore. Franklin Fixtures (www.franklinfixtures.com) offers moderately priced retail and library fixtures that could enhance this space.
- 3.2.b Add several lounge seats or benches in this area that invite customers to stay and read in the library or engage in conversation. A small grouping of chairs and/or benches could also be used for informal book chats. Nienkamper (www.nienkamper.com) or Davis (www.davisfurniture.com) offers the best options. You can also work directly with a furniture jobber like BFI (www.bfionline.com) or an interior designer to help select the best pieces based on your budget. Space permitting, add a counter and counter-height stools for laptop users.
- 3.2.c Relocate the in-house used book sale
Work with the Friends to determine the scope and size of the daily book sale. Many libraries realize significant income from their daily and annual used book sales; however, to do so requires significant volunteer time to sort through donations and determine what has sale value. The outcome of that discussion will help determine the location for the sale. If it is to be expanded, the used books need to be marketed and displayed in a high-traffic area of the library to maximize sales. Ideally the sale would be located in close proximity to the new book collection and checkout desk.
- 3.2.d Relocate the large print collection to the area now occupied by the new fiction and non-fiction.
- 3.2.e Redesign the checkout desk to incorporate self-check kiosks.

3.3 Reimagine the Reference, Magazine, Technology, Adult Collection, and Teen Spaces

A series of ramps and stairs leads to the lower-level area that accommodates the reference desk, technology center, magazine reading area, reference and non-fiction collection, seating for individual and group study, and teen area.

The double-height space is complemented by natural light from large windows around the perimeter, but one is immediately struck by the inefficiency of the space. In the middle of this large space is the stack core: heavy and dense metal shelving in a color that immediately says "1974", built to house a larger and different type of collection. It is

the dominant feature of the space. The mezzanine level floats in the space providing little usable space for patrons.

The library staff is carefully evaluating and reducing the collection to remove infrequently used or outdated titles, but more is needed, particularly with reference titles and multiple copies of older fiction. Access to digital content through subscription databases and free content on the internet enables library staff to provide excellent reference advice without the burden of managing and housing an expensive physical collection. The stack core's structural function limits the ability to alter the library's existing space in a way that will make it more usable for patrons.

Study space and seating is pushed to the perimeter of the lower level. This prevents library staff from creating distinct work zones that would support the functionality needed in today's library. Library customers are seeking space where they can work quietly and individually, as well as space that enables them to work collaboratively. It may be possible to find furniture solutions that would create new work zones in the existing space.

3.3.a Consolidate the magazine collection.

The magazine reading area provides beautiful and comfortable space for library patrons. There is an opportunity to rethink this space, particularly with the move from print to digital magazines. All magazines should be together in one space; there is currently a small overflow space for magazines on the other side of the lower level. The current subscription list should be evaluated to determine which could be eliminated. Incorporate all magazines into one area, evaluate the current subscription list and retention policy for back issues, and promote Zinio. Replace current seating with more comfortable chairs.



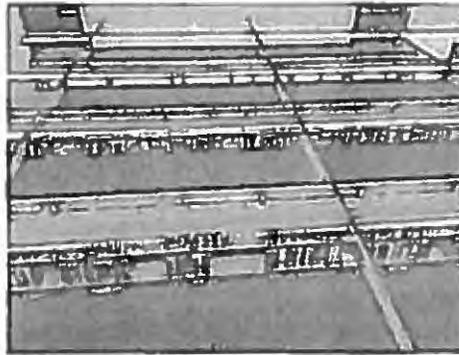
3.3.b Relocate the service desk.

Move the service desk to where the overflow magazine collection is currently housed. This would create a defined space for the staff and free up the existing space for seating.



3.3.c Repaint the existing shelving.

Repainting the shelving a calm gray or beige will neutralize the color and make it less of a focal point. Work with a library shelving company to identify inserts or custom options to make it more functional.



3.3.d Reduce the size of the reference collection.

The library's reference collection is too large given the changing nature of today's libraries. Information contained in large, multivolume sets is available through online subscriptions. Government information is readily available for free on the Internet. After the staff reduces the collection size, reclaimed space can be repurposed to showcase popular collections—travel, cookbooks, etc. Depending on the scope of the reduction, consolidate this collection on the lower level.



- 3.3.e Repurpose the mezzanine. If structurally feasible and remove some of the stacks after the collection has been reduced to create small group study areas or collaboration space for library patrons.



- 3.3.f Replace existing study carrels with updated furniture that accommodates technology, and provide task lighting. Explore portable power solutions that run under the carpet now available from Steelcase; their Thread product can bring power and data to locations inaccessible to wall outlets. This would enable furniture to "float" in the space.



- 3.3.g Create a collaboration zone with sofas and tables that encourage people to interact informally.
- 3.3.h Create a focal point for and reduce the footprint of the DVD and CD collection by utilizing better display units.
- 3.3.i Redesign the teen area to include more mobile furniture and add low, portable walls to define the space in its current location. Consider the possible relocation of the teen area to the mezzanine and the addition of a Teen librarian. Loan laptops to qualified teen patrons via a laptop cart.



3.4 Update the Children's Room
This newly added space is attractive and colorful and would benefit from minor improvements to make it more of a destination and more child- and family-friendly.

The large room adjacent to the story time and craft room seems to be underutilized. Fit out this area for toddlers and preschoolers so it becomes a "playroom" and destination for younger children and their parents. The Burgeon Group (burgeongroup.com/literacy-nooks.html) has options for creating imaginative play space. Activity tables from 3Branch (3branch.com/discovery.html) provide opportunities for free play with LEGOs. Set up a preschool technology area with iPads loaded

with an app of the day. Refresh the Story Room so it is more child-friendly.

D. Conclusion

The Trumbull Library's Main Library is a much-loved and well-utilized facility. The ability to grow the library's service program and help people reimagine what a public library can be is limited by the existing physical plant, which needs updating and expansion to meet the community's needs for the next 25 years. Now is the time to begin planning for the future. An investment in creating great library space will go a long way toward helping the library achieve the goals and objectives outlined in its strategic plan.



Until the library engages the services of an architect to complete a feasibility study for expansion and renovation it is too early to offer a cost estimate for these changes. Library Development Solutions would be pleased to work with you to identify and select qualified architects, develop a request for proposals and evaluate the submissions.