

City of Stamford Budget Presentation FY 2016-2017

Engineering Department

April 14, 2016





ENGINEERING DEPARTMENT

- **Programs** (Refer to Mayor's Operating Budget Book Page 137)
 - **Engineering Administrative Program** (Referred to as "Engineering" in Budget Book. Cost Center 2200)
 - **Construction Management Program** (Cost Center 2201)
 - **Regulatory Program** (Cost Center 2202)



ENGINEERING DEPARTMENT

■ **Mission**

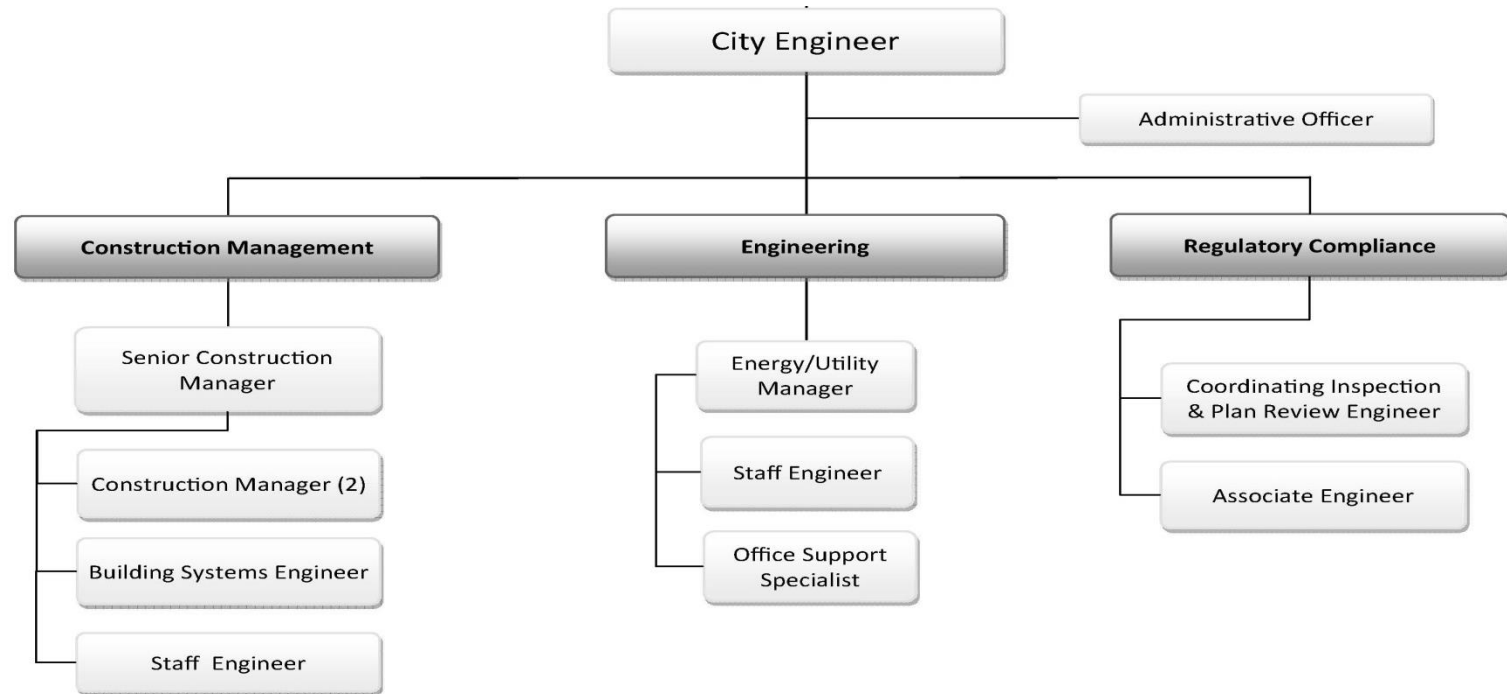
- To deliver municipal design and construction projects in an expeditious, cost-effective manner while maintaining a high degree of architectural, engineering, and construction quality.
- Provide guidance to public and respond to referral agencies in a timely and consistent manner.
- Perform community outreach to inform the general public about project goals and priorities.
- Offer technical assistance and guidance to outside agencies including public utilities.

Services Provided during FY14/15

(to citizens or departments)

Program	Services Provided (include Volume - if applicable)
Engineering Admin.	Completed 1,291 roadway light repairs
	Replaced 126 manholes / catch basins.
	Received and responded to 1,564 walk-in inquiries.
Construction Mgmt.	Issued 12 RFPs/RFQs and 24 bids.
	Paved 31 roads total of 10 lane miles with \$5M budget. Reconstructed 7 sidewalks with \$1M budget. Crack sealed 93 road sections total of 44 miles with \$165K budget.
Regulatory	Issued 662 street opening permits, generating \$165,500 in revenue. Issued 122 street use permits, generating \$14,800 in revenue.
	Reviewed 298 site plans for other agencies, i.e. EPB, Zoning Board and ZBA and performed 131 as-built construction inspections.
	Issued 17 new house numbers, including resolving addressing in & around the new hospital.

Department Organization, Personnel and Resources



Contract positions include :

- 3 non-union pay plan employees working on SUT project and
- 10 Clerk of Works contracted to perform capital project oversight and inspection.
- The department also utilized professional consulting architects and engineers.



2015-16 Highlights

What are the most significant accomplishments made or challenges faced by the department in the last FY?

- Improving service delivery
 - Develop and manage project schedules. Manage multiple priorities at the same time. Balance priorities.
- Improving customer satisfaction (citizens and/or internal customers)
 - Review regulatory accomplishments on prior page.
- New services that were added. Eliminated unneeded or unnecessary work
 - Reviewed need for improved and more efficient control of documents with goal of eliminate unnecessary work and improve access to record documents to general public.



2015-16 Highlights (Cont.)

What are the most significant accomplishments made or challenges faced by the department in the last FY?

- **Reducing spending**

- Perform cost control on all projects. Negotiate contracts and scrutinize invoices.

- **Increasing revenues**

- Reviewing excavation permit ordinance with administration and public utility companies.

- **Other Highlights**

- Initiated several large projects into design and construction including new school on Strawberry Hill Avenue.
- Assisted Legal Department and WPCA in successful litigation to dismiss 15 lawsuits related to flooding.
- Complete many projects to address public safety.



2015-16 Highlights

Cost saving measures :

- ✓ Negotiate consultant contracts to reduce fees
- ✓ Negotiate change orders to lower fees
- ✓ Advocate for sub-contractors in order to get them paid by engaging bonding companies and enforced liquidated damages
- ✓ Quickly respond to emergencies before costs and major disruptions are incurred. Examples include work in unoccupied facilities, replacement of water line that have been compromised, response to potential road collapses, boiler change outs which have reached end of life or experience service problems
- ✓ Hold consultants to scope of work expressed in contracts
- ✓ Fund projects with short term payback to reduce energy costs
- ✓ Represent the City when lawsuits arise and have succeeded to win cases where large claims were at stake in the city's favor
- ✓ Participate in dispute resolution to mitigate claims
- ✓ Proactively negotiate infrastructure repairs and improvements at no cost to city with utility companies



2015-16 Highlights (Cont.)

Citizen services :

- ✓ Report out to press when questioned
- ✓ Act rapidly to correct defects when reported
- ✓ Investigate claims when reported
- ✓ Serve the community at large during walk-ins
- ✓ Respond to emergencies
- ✓ Manage multiple of priorities on a daily basis across many departments, including concerns raised by outside parties
- ✓ Report out on all jobs at internal manager meetings
- ✓ Meet directly with residents, Reps and community at large to review concerns even during off hours and weekends
- ✓ Conduct public information meetings on a regular basis
- ✓ Create complex and meaningful presentations to better inform community on a regular basis
- ✓ Led large building committees to reach consensus in a timely manner on several large projects
- ✓ Design projects that are aesthetic within the context of the site and budgetary constraints



2015-16 Highlights (Cont.)

Completed June Road Bridge Rehabilitation Project

Construction costs of \$1.5 million. Completed Spring, 2015



Before



After

June Road Bridge Replacement project received an Engineering Excellence Award from the American Council of Engineering Companies of Connecticut (ACEC/CT) on 1/25/2016.



2015-16 Highlights (Cont.)

**Completed Salt Barn and Office Shed Upgrade at Scofield Yard
without impacting current operations**





2015-16 Highlights (Cont.)

Scofield Yard and Park Landfill Capping

Construction costs of \$6.9 million. Expected to be substantially completed this Spring, 2016.



Present Condition (March, 2016)

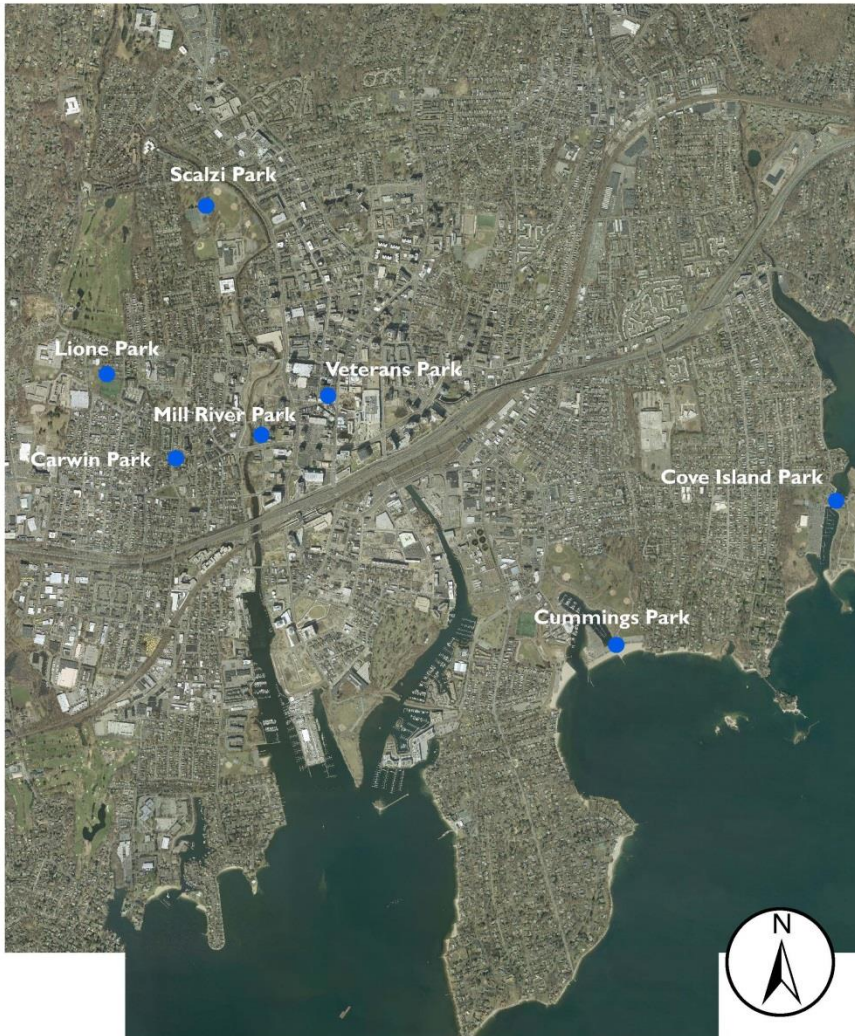


Rendering of Site at Project Completion

2015-16 Highlights (Cont.)

Blue Light Emergency Phone Installation at 7 Park Locations

Expected to be substantially completed this Spring, 2016



Present Condition at Lione Park
(March, 2016)

2015-16 Highlights (Cont.)

Kosciusko Park Shoreline Stabilization after Storm Sandy

Construction costs of \$286K. Expected to be completed in April, 2016.



Condition After Sandy Storm



Present Condition
(March, 2016)

2015-16 Highlights (Cont.)

Stamford High School Brick Restoration (Phase 1)

Construction costs of \$ 600K. Emergency repair of Courtyard is completed. Phase 2 has been designed and out to bid (masonry only) for remainder of 1927 building. Funding as requested in 16/17 capital budget request.



Structurally Unstable Column.
Exposed & repaired once
brick façade was removed.

Before



Structurally Unstable Parapet Wall at
Northeast Corner of the 1927 Building



After

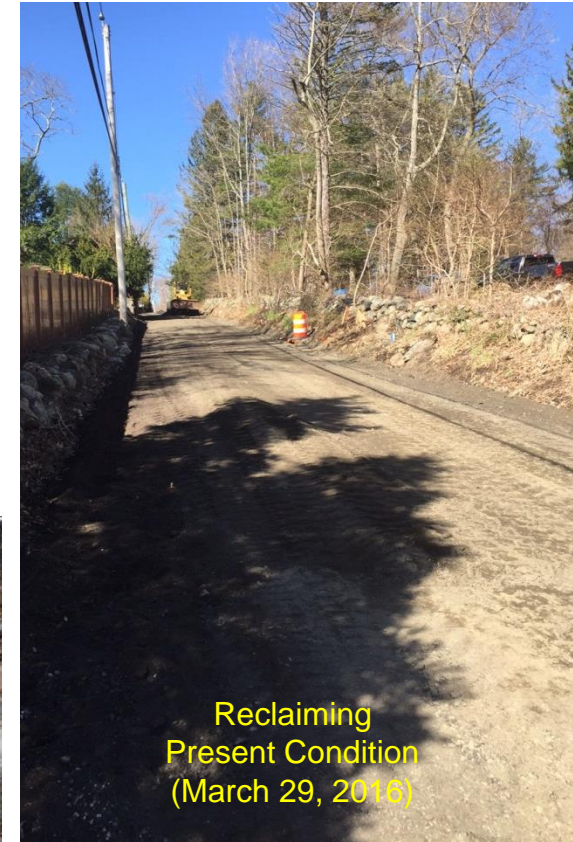


2015-16 Highlights (Cont.)

Skymeadow Drive Drainage Improvement (east side)

Phase 1 from Skyline Lane to High Ridge Road. Construction costs of \$785K. Expected to be completed in April, 2016.

Phase 2 has been designed and requires funding requested in 16/17 capital project request.



2015-16 Highlights (Cont.)

Lione Park Lighting Project paid for by State Grants

Project is underway. Anticipated to be completed by Spring, 2016.

During
Construction



Present Condition (March, 2016)



2016-2017 Goals

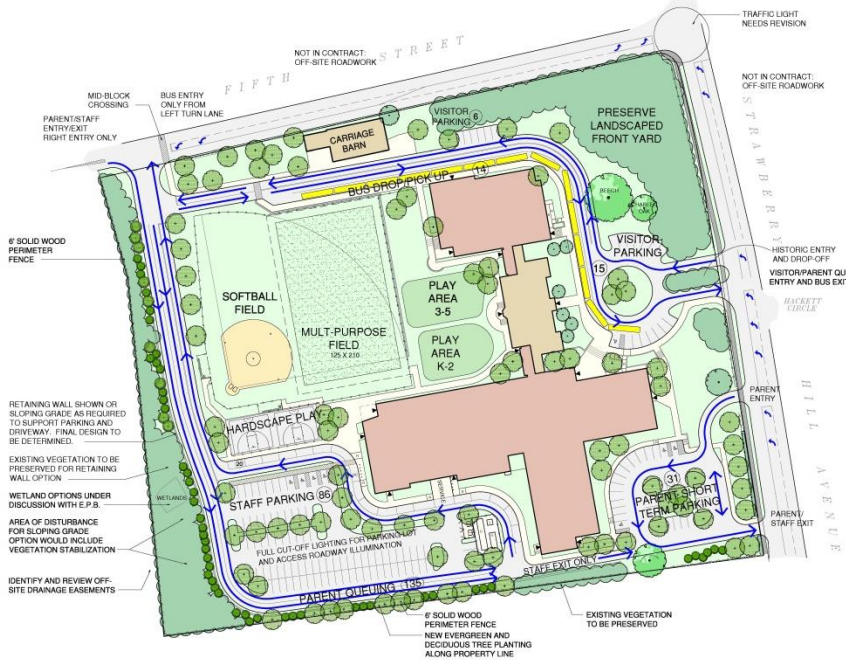
What are the goals and plans that you have for your department this year?

- Major goals for your department in 2016-17
- Provide a detailed description on how you plan to achieve them
- What obstacles will you need to overcome?
- How will you measure your success?



2016-2017 Goals

Construction and Like-New Renovation Rogers Inter-District Magnet Extension at 200 Strawberry Hill Avenue (128,703 sq.ft. with existing barn area)



STAMFORD NEW
INTRA-DISTRICT K-8
MAGNET SCHOOL
CONCEPT PLAN
Richard Kruger Inc.
FEB 24, 2016

Estimated Construction Costs of \$54.5 million.
Expected Completion Dates are as follows

- Light Renovations Phase – Fall, 2016
- Addition Phase – Fall, 2018
- Like-new renovations & additions – Fall, 2019

2016-2017 Goals

Mill River Carousel Pavillion and Canopy

Construction Costs of \$4.7 million. Expected Completion Date of Fall, 2016



Present Condition (March, 2016)



Rendering of Site at Project Completion

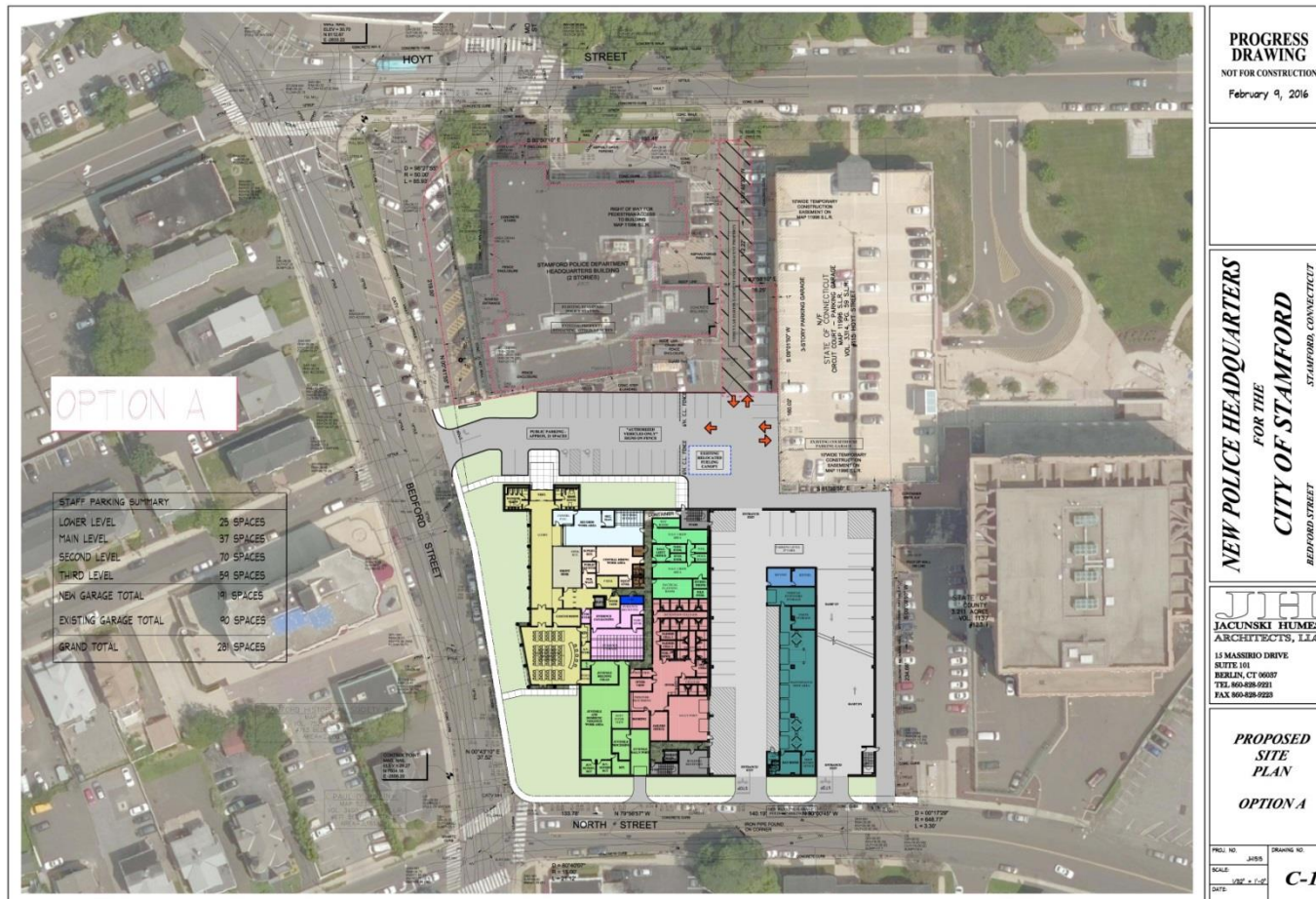


2016-2017 Goals

Construction of New Police Headquarters (94,245 sq.ft.)

Estimated Construction Costs of \$50 million. Expected Completion Date of Summer, 2018.

Requires relocation of Hoyt Barnum House in 2016 and relocation of PD Vehicle Maintenance prior to and during construction of new PD Headquarters.





2016-2017 Goals

Stamford High School Brick Restoration (Phase 2)

Restore the remaining façade of 1927 building is expected to be completed 6 months after availability of 16/17 capital request for funding. Estimated construction costs of \$3 million.

Existing Conditions



Crumbling Limestone Façade, Auditorium Main Entrance



Interior Concrete Head of Masonry Opening Above (with structural cracking)



Existing Brick Façade Pulling Away From Back-up Structure



Failing Foundation Wall in the North Interior Courtyard



Failing Foundation Wall at Loading Dock



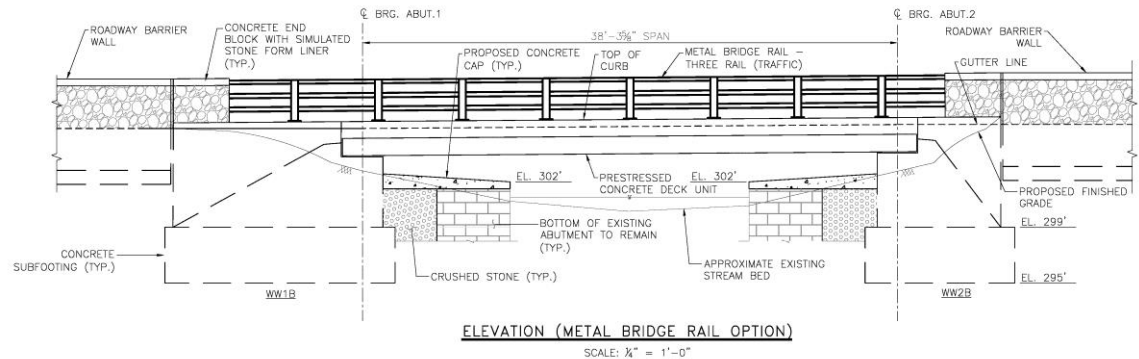
2016-2017 Goals

Hunting Ridge Road Bridge Rehabilitation

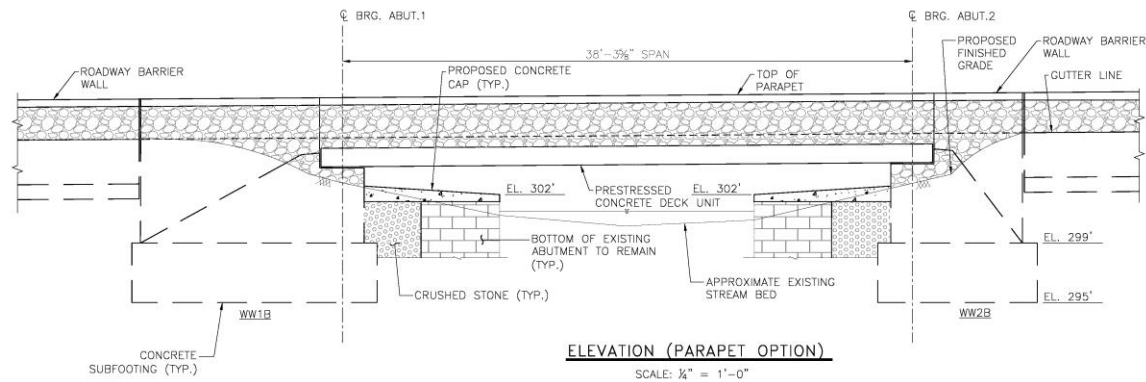
Estimated Construction Costs of \$2 million. Expected Completion Date by end of 2017 depending on permits.



Existing



Proposed Elevation

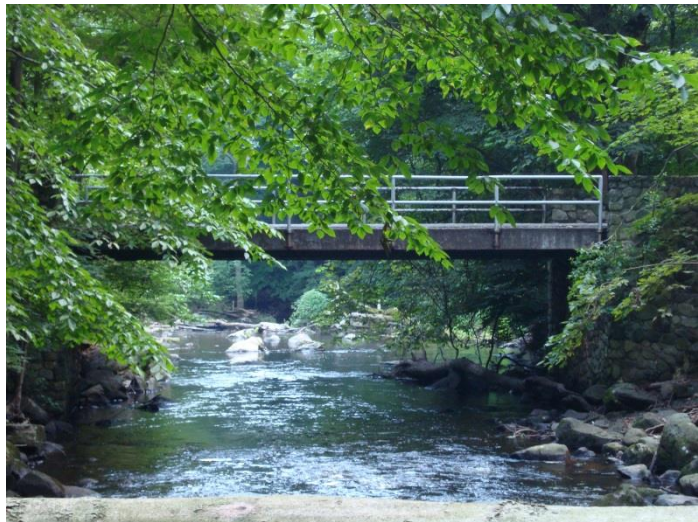




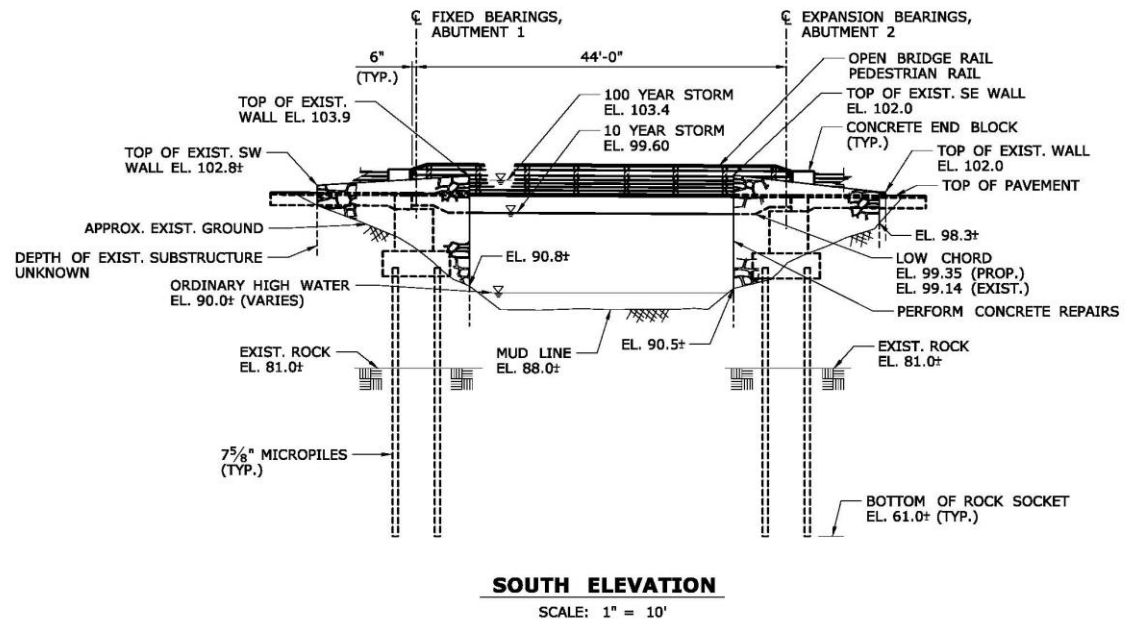
2016-2017 Goals

Merriebrook Lane Bridge Rehabilitation

Estimated Construction Costs of \$800K. Expected Completion Date of November, 2016.



Existing



Proposed Elevation



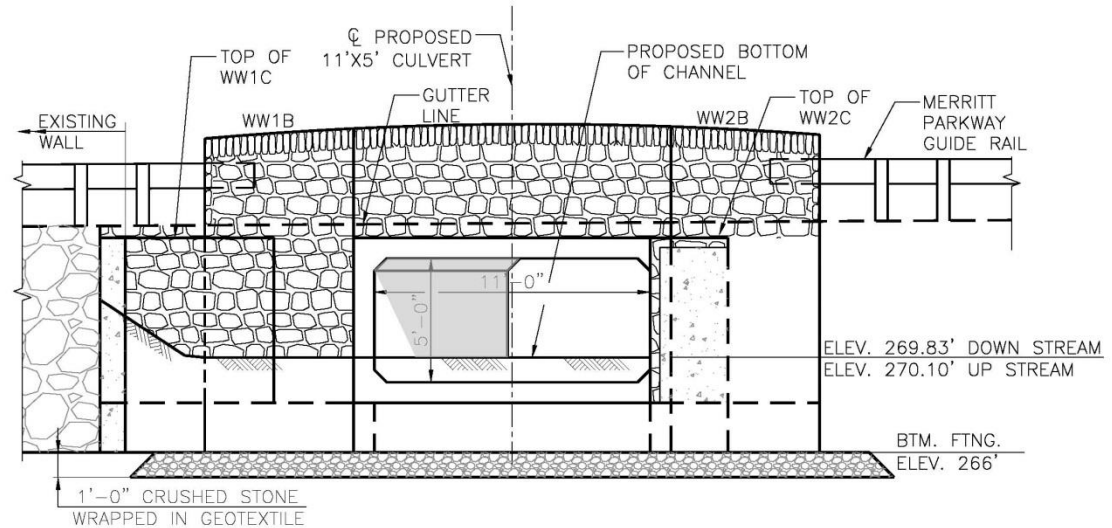
2016-2017 Goals

Riverbank Road Bridge Rehabilitation

Estimated Construction Costs of \$1.1million. Expected Completion Date by end of 2017 depending on permits.



Existing



OUTLET ELEVATION

SCALE: 1/4" = 1'-0"

Proposed Elevation



2016-2017 Goals

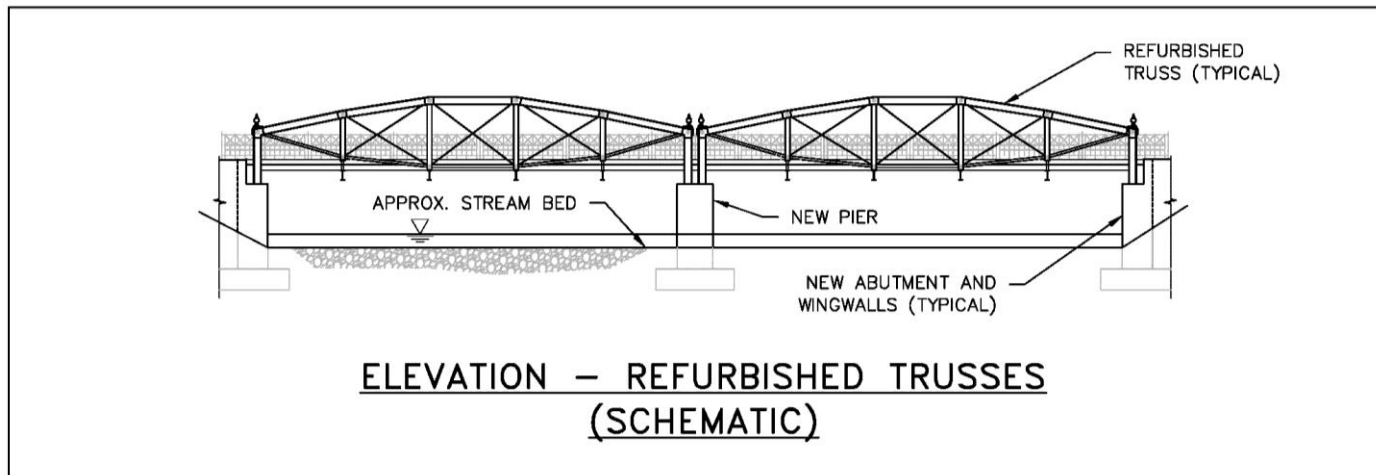
West Main Street Bridge Replacement

Estimated Construction Costs of \$5.7 million. Expected Completion Date of end of 2019.

Scoping project with ConnDOT in 2016.



Existing





Performance Measures

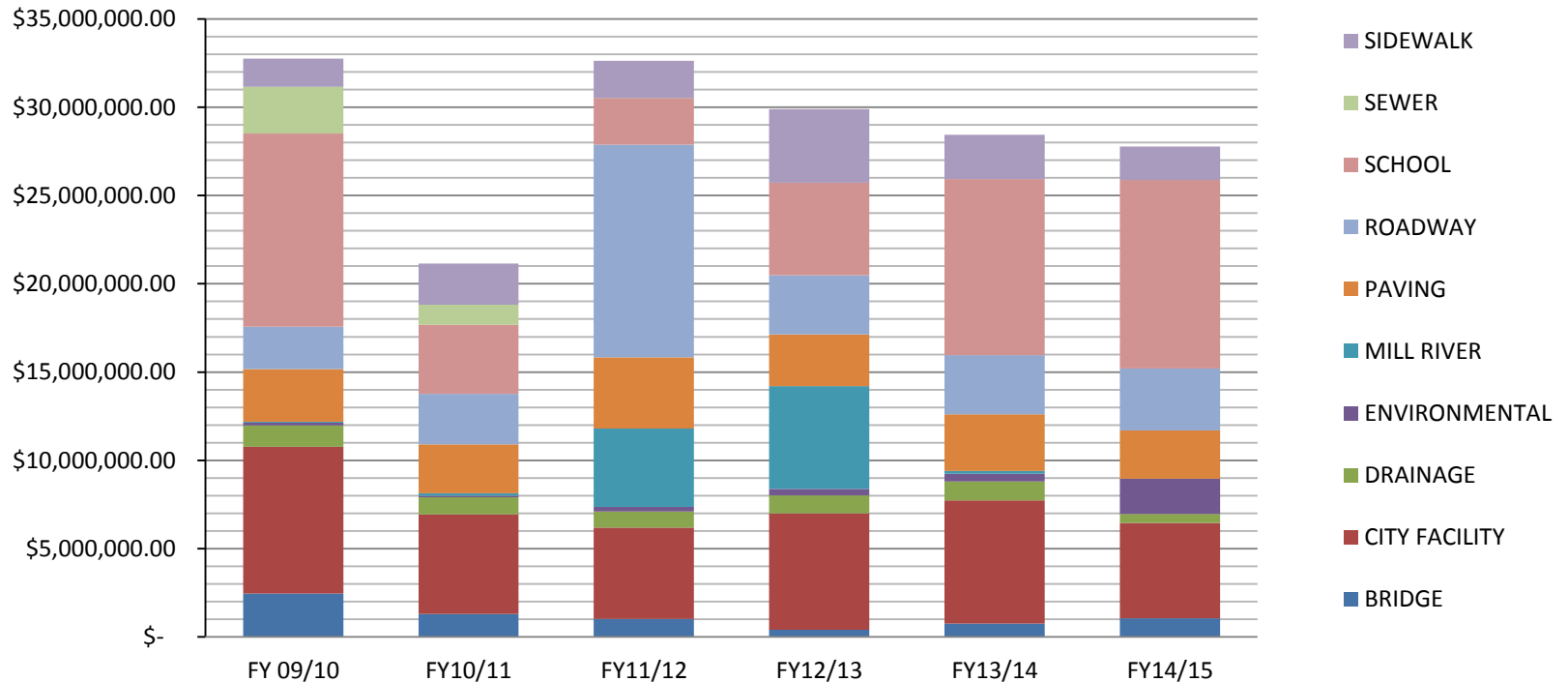
How are you measuring the effectiveness your department is having on the individuals (community) and other departments it serves (performance indicators)? These should be quantified in a chart (see examples in last year's budget book under Fire, Solid Waste or Technology).



Performance Measures

➤ Construction Management Program

Engineering Capital Spending By Category Over 6 Years





Performance Measures

➤ Construction Management Program (cont.)

Sum of NET AMOUNT	Category										
Fiscal Year	BRIDGE	CITY FACILITY	DRAINAGE	ENVIRONMENTAL	MILL RIVER	PAVING	ROADWAY	SCHOOL	SEWER	SIDEWALK	Grand Total
FY 09/10	\$ 2,454,204.59	\$ 8,314,665.08	\$ 1,214,085.38	\$ 154,405.69	\$ 51,038.20	\$ 2,973,038.44	\$ 2,415,818.23	\$ 10,936,604.07	\$ 2,643,743.40	\$ 1,601,442.75	\$ 32,759,045.83
FY10/11	\$ 1,289,875.07	\$ 5,649,838.53	\$ 964,267.20	\$ 97,962.89	\$ 133,616.83	\$ 2,773,221.55	\$ 2,850,093.54	\$ 3,911,463.35	\$ 1,149,632.81	\$ 2,336,714.80	\$ 21,156,686.57
FY11/12	\$ 1,012,527.23	\$ 5,180,931.19	\$ 902,198.68	\$ 268,673.80	\$ 4,434,532.89	\$ 4,027,277.98	\$ 12,060,100.22	\$ 2,649,605.93	\$ 19.90	\$ 2,109,167.11	\$ 32,645,034.93
FY12/13	\$ 395,285.38	\$ 6,591,981.54	\$ 1,021,846.71	\$ 376,634.67	\$ 5,824,580.75	\$ 2,919,062.29	\$ 3,346,690.73	\$ 5,251,598.26		\$ 4,181,104.02	\$ 29,908,784.35
FY13/14	\$ 748,076.97	\$ 6,986,239.74	\$ 1,073,327.19	\$ 423,063.99	\$ 166,962.35	\$ 3,215,791.92	\$ 3,351,644.70	\$ 9,973,484.31		\$ 2,511,979.65	\$ 28,450,570.82
FY14/15	\$ 1,048,832.82	\$ 5,407,556.58	\$ 497,626.68	\$ 2,000,478.19		\$ 2,742,820.83	\$ 3,501,962.37	\$ 10,693,426.76		\$ 1,891,880.93	\$ 27,784,585.16
Grand Total	\$ 6,948,802.06	\$ 38,131,212.66	\$ 5,673,351.84	\$ 3,321,219.23	\$ 10,610,731.02	\$ 18,651,213.01	\$ 27,526,309.79	\$ 43,416,182.68	\$ 3,793,396.11	\$ 14,632,289.26	\$ 172,704,707.66

- Department spent approx. \$30M a year on capital projects. Over the past 2 FYs, majority of capital spending was in school construction and city facility improvements i.e. Scofield Landfill, CLC Lockwood Ave., Scalzi Park, etc.
- Department sought and received \$3 million in federal funding to maximize reimbursement on Riverbank Road Bridge Replacement Project.
- June Road Bridge Replacement project received an Engineering Excellence Award from the American Council of Engineering Companies of Connecticut (ACEC/CT) on 1/25/2016.

Major Capital Spending Outlook

FY15/16	FY16/17			FY17/18				FY18/19					
Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
New PD Total Spending \$48M from 10/2016 to 7/2018													
New School at 200 Strawberry Hill Ave. Total Spending \$67M from 11/2015 to 9/2019. \$3.5M of \$67M will be spent from 11/2015 to 9/2016													



➤ Construction Management Program (cont.)

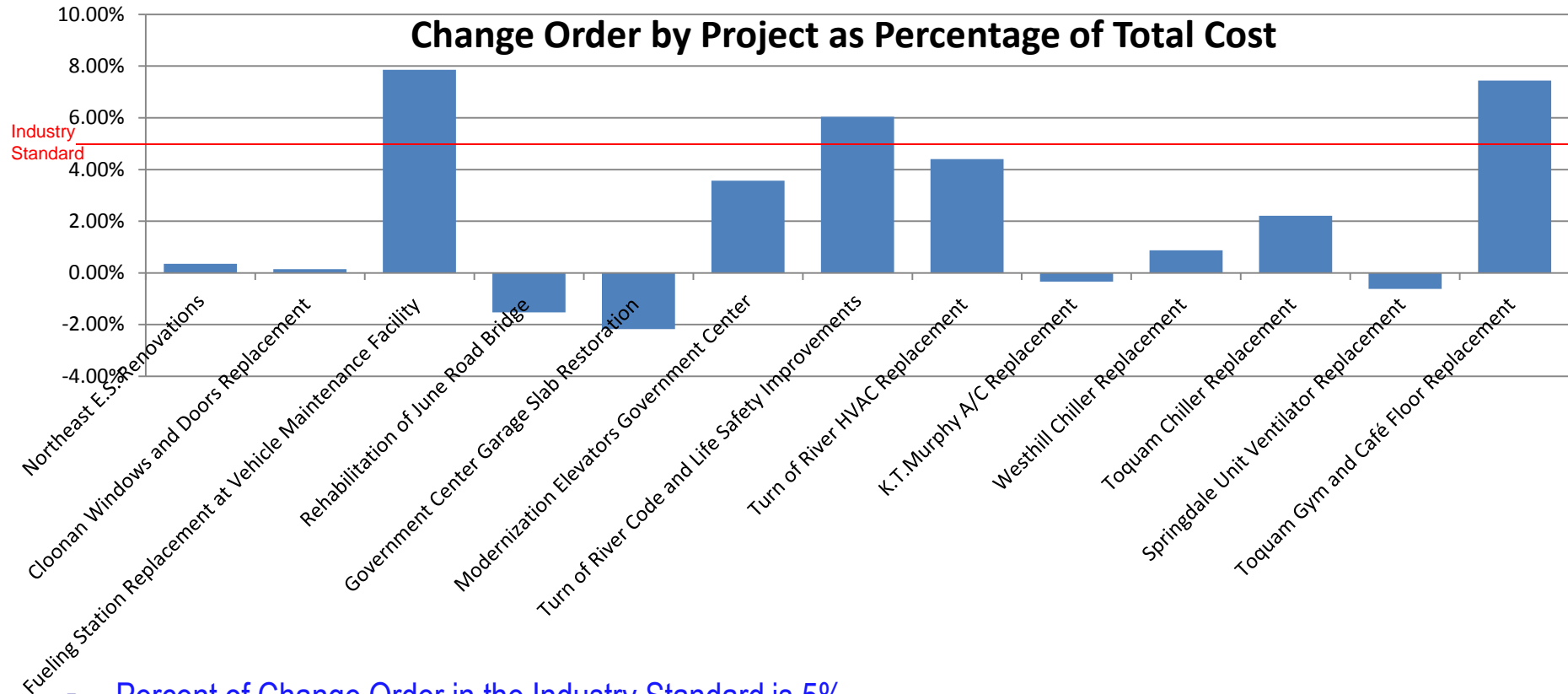
- Utilize experienced Clerk of Works on capital projects to oversee capital construction, check conformance between bid documents and actual construction, reduce cost for outside inspection services which carry a higher hourly rate.

CP No.	Project	Capital Monies Spent in FY14/15	Clerk of Works Costs for Each Project in FY14/15	Percentage of Clerk of Works Costs Compared to Project Costs
C5B629	Dolan School Renovations	\$ 2,031,968.21	\$ 3,699.94	0.18%
CPB691	Turn of River Code Work	\$ 1,698,898.01	\$ 16,771.21	0.99%
CPB500	District Wide Indoor Air Quality	\$ 1,694,798.74	\$ 30,967.52	1.83%
C56182	Street Patch Resurface	\$ 3,839,763.23	\$ 94,503.32	2.46%
CP2220	Major Bridge Repairs	\$ 796,679.28	\$ 23,528.88	2.95%
C36589	Springdale Expansion/Code Work	\$ 992,634.90	\$ 40,345.09	4.06%
C16012	Citywide Storm Drains	\$ 209,045.82	\$ 8,520.59	4.08%
CP4009	Lockwood/Maple Ave K-Wing	\$ 1,719,230.77	\$ 72,735.32	4.23%
C56123	Citywide Sidewalks	\$ 1,458,311.16	\$ 63,911.85	4.38%
CPB690	Northeast E.S. Renovations	\$ 463,005.69	\$ 10,958.15	2.37%

- Cost of outside inspection is 2.5 times the hourly rate approximately \$90/hour. Currently Clerk of Works average rate is \$36/hour.
- Percent of Inspector Cost varies from project to project depending on complexity and size. CTDOT uses 15% Inspection Costs for budgeting purposes.
- City's projects that utilized 3rd Party Inspector are bridge projects and SUT projects.
 - June Road Bridge Rehabilitation's 3rd Party Inspector cost was 16.65%
 - Cold Spring Road Bridge Rehabilitation's 3rd Party Inspector cost was 12.3%
 - SUT Phase 1's 3rd Party Inspector cost was 14.88%
 - SUT Phase 2's 3rd Party Inspector cost was 13.11%



➤ Construction Management Program (cont.)



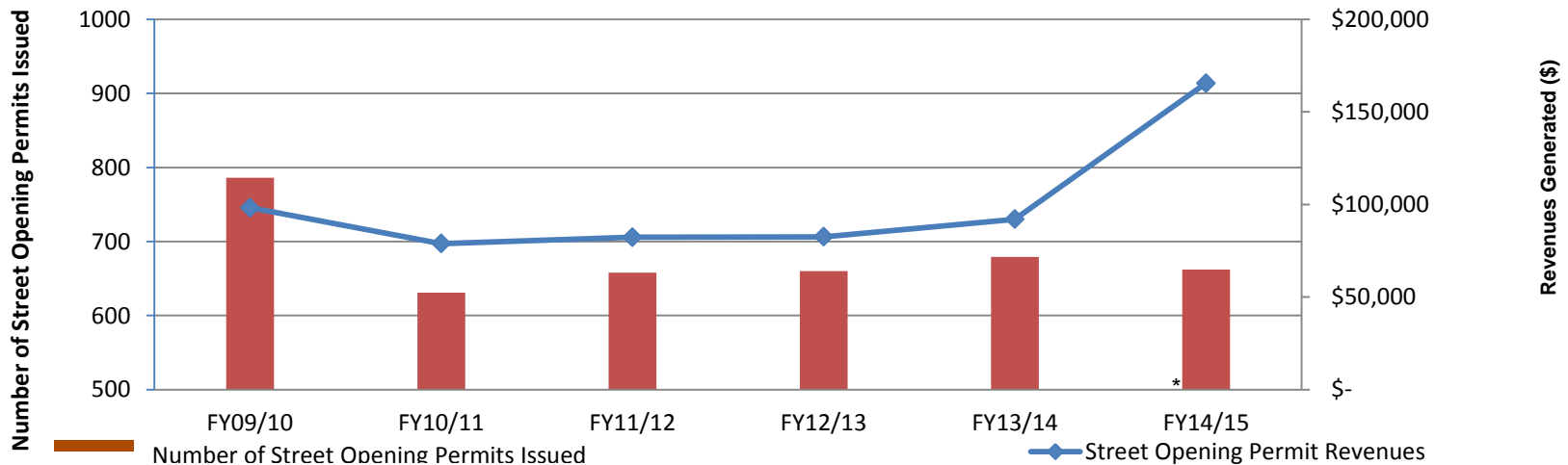
- Percent of Change Order in the Industry Standard is 5%
- Based on the list of projects completed above, the average change orders managed by Engineering Department is 1.73%
- Toquam floor replacement change order at 7.44% due to unknown concrete floor slab that required leveling
- Fueling Station change order at 7.86% due to additional contaminated soil removal and high ground water

Performance Measures

➤ Regulatory Compliance Program

- Issued 662 street opening permits, generating \$165,500 in revenue.

Number of Street Opening Permits Issued and Revenues Generated Over Past 6 Years



*Revenues increased by 80% in FY14/15 due to the approved ordinance to increase permit fees from \$125 to \$250. This amount of increases could potentially fund for a street opening inspector position.

- Also issued 122 street use permits, generating \$14,800 in revenue



Performance Measures

- Perform quality assurance and quality control during the design and construction process to safeguard the value of the City's investment providing the assurance that the project is being built according to specifications.
- No major failures or overruns.
- Undertake projects that improve quality of life.
- Complete projects that improve public safety such as flood control, improvements to the public way, structure's that are compliant with building codes including ADA.

Summary of Operating Budget

Refer to Page 138 – 145 of Mayor's Proposed Operating Budget Book

Line Category	FY15/16 Projected				FY 16/17 Mayor's Proposed				Variance 15/16 Projected VS Mayor's				
	Admin	CM	Reg	Total	Admin	CM	Reg	Total	Admin	CM	Reg	Total	% Var
Full Time Salary	490,262	552,641	188,992	1,231,895	513,962	568,404	186,083	1,268,449	23,700	15,763	(2,909)	36,554	3.0%
Overtime	750	5,800	600	7,150	750	5,800	600	7,150	-	-	-	-	0.0%
Employee Benefits	125,472	154,073	41,038	320,583	131,736	185,548	41,990	359,274	6,264	31,475	952	38,691	12.1%
Retiree Benefits	259,071	130,897	46,115	436,083	62,829	93,819	15,431	172,079	(196,242)	(37,078)	(30,684)	(264,004)	-60.5%
Payments to Insurance Fund	7,113	8,892	3,557	19,562	8,785	8,785	3,514	21,084	1,672	(107)	(43)	1,522	7.8%
Purchased Other Services	604	747	239	1,590	436	490	164	1,090	(168)	(257)	(75)	(500)	-31.4%
Purchased Property Services	29,926	3,619	1,156	34,701	67,546	3,619	1,156	72,322	37,620	-	-	37,621	108.4%
Utilities & Commodities	791,750	8,860	1,363	801,973	791,500	8,860	1,363	801,723	(250)	-	-	(250)	0.0%
Supplies	6,580	11,639	2,207	20,426	4,880	11,639	2,206	18,725	(1,700)	-	(1)	(1,701)	-8.3%
Conference & Training	1,083	1,340	428	2,851	285	1,340	428	2,053	(798)	-	-	(798)	-28.0%
Total	1,712,611	878,508	285,695	2,876,814	1,582,709	888,304	252,935	2,723,949	(129,902)	9,796	(32,760)	(152,865)	-5.3%

Overall **\$152K or 5.3% reduction** in FY16/17 Mayor's Proposed Budget versus FY15/16 Projected Budget

Increases

- \$36K increase in Full Time Salary due to a transfer of 1 OSS position from Traffic Engineering
- \$38K increase in Employee Benefits such as Active Medical and Life Insurance and Social Security
- \$1,522 increase in Payment to Insurance Funds
- \$37K increase in Property Services due to proposed procurement of Electronic Document Management System (see next page)

Decreases

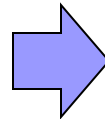
- 264K reduction in Retirement Benefits such as Retiree Medical & Life and Classified Pension Fund
- \$500 reduction in Postage
- \$250 reduction in Telephone
- \$1,701 reduction in Vehicle Maintenance
- \$798 reduction in Dues and Fees

Proposed Electronic Document Management System

Proposed costs of Back File Conversion and Information Management Platform of 105,000 pages \$3,185/month for 60 months. City of Palo Alto, CA also adopted this system for their use.



Existing

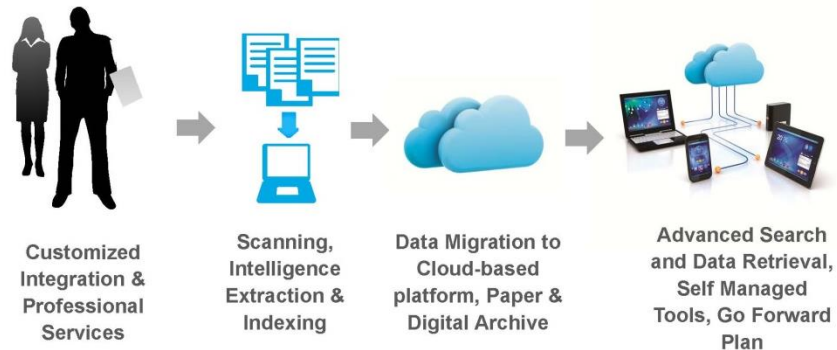


- ✓ Archival, retrieval and security of data
- ✓ Changes moral
- ✓ Improves efficiency in case of City of Palo Alto staff spent 1/3 of workday looking for information. Cuts down time to address public requests.

Process Objectives

- Protect and preserve the documentation from previous projects
- Maintain the security and confidentiality of sensitive information
- Reclaim Physical space
- Provide Easy Retrieval of Stored information
- Provide an easy platform to share documentation with others

Turnkey Information Management Solution



Summary of Capital Budget

Refer to Page 73 - 87 of Mayor's Proposed Capital Budget Book

	Project Name	H.T.E. Bal. as of 3/1/16	Bond Bal. as of 2/4/16	Department Request	Planning Board	Mayor's Proposed
CP3220	Major Bridge Replacement	\$998,983.57	\$365,233.57	4,300,000	2,300,000	1,700,030
CP0231	Citywide Dredging	\$1,857,564.38	\$1,857,564.38	1,500,000	1,500,000	1,500,000
CP1075	Skymeadow Drive Drainage Improvement	\$236.01	\$236.01	1,400,000	1,400,000	1,400,000
C10036	Environmental Compliance/Stormwater Mgmt	\$316,197.11	\$316,197.11	750,000	750,000	750,000
CP0093	Scofieldtown Park Design And Remediation	\$194,077.39	\$194,077.39	1,500,000	500,000	500,000
CP2220	Major Bridge Repairs And Design	\$1,084,537.75	\$1,087,637.75	400,000	400,000	400,000
C54007	Holly Pond Seawall Repairs	\$158,874.95	\$273,874.95	250,000	250,000	250,000
C16012	City Wide Storm Drains	\$533,869.33	\$537,219.33	150,000	150,000	150,000
NEW	Mill Road Drainage Improvement			50,000	50,000	50,000
				10,300,000	7,300,000	6,700,030

Changes and Challenges

- ***Major changes planned (if applicable)***
 - Include new or improved services the department will provide to citizens or to other City departments or personnel
 - What management is doing to reduce department costs....services to be discontinued

- ***Key Program Challenges (exclude staffing level impact)***
 - Include what drives program costs
 - Include factors that might impact productivity

Changes and Challenges

- *Engineering Administrative Program*

- **Document Archival System** - To seek a qualified vendor to perform Document Imaging, Electronic Storage, and Information Management Service that is searchable by various criteria. In order to reduce space consumed by document storage, sustain document workflow through the reduction of paper, and improve process efficiencies through adoption of available technologies. The total hard copy document count of various plans and as-built drawings is approximately 105,000 records.
- **EID** – Assist Energy Improvement District in assessment of their project goals.

- *Construction Management Program*

- **Alliance Grants** - \$2.68 million Alliance Grant was received. A collaboration between Engineering, BOE and BOE Facilities to complete 91 projects by June, 2017.

- *Regulatory Compliance Program*

- **Street Opening Permit Fees** – Review potential changes to ordinance to address the concerns with poor patches on higher volume roads. The department reviewed the current permit requirements, researched, made comparison of neighboring cities and proposed the use of hot asphalt to requirements to achieve the most effective restoration at the economical costs to permit applicants. Require utility coordination effort. Change in the inspection process by using Highway Department.