

**AGENDA FOR THE
ENGLEWOOD CITY COUNCIL
STUDY SESSION
MONDAY, JUNE 2, 2014
COMMUNITY ROOM
6:00 P.M.**

- I. Pawn Broker & Regulation of Pawn Shops/Purchaser of Valuable Articles**
Police Commander Tim Englert and Finance & Administrative Services Director Frank Gryglewicz will discuss pawn broker ordinance and regulation of pawn shops/purchaser of valuable articles.
- II. IGA with DRCOG for Traffic Signal System - 6:15 p.m.**
Public Works Director Rick Kahm and Traffic Engineer Ladd Vostry will discuss an IGA with DRCOG concerning the traffic signal system.
- III. Fire Department Follow-up - 6:30 p.m.**
Fire Chief Andy Marsh will provide information concerning the Fire Department discussion on April 14, 2014 Study Session.
- IV. City Council Technical Allowance/Discretionary Funds - 7:15 p.m.**
City Council will discuss their technical allowance and their discretionary funds.
- V. City Manager's Choice**
 - A. Dartmouth Bridge Update
 - B. Board and Commission Appreciation Celebration
- VI. City Attorney's Choice.**

DRAFT

COUNCIL COMMUNICATION

Date: June 2, 2014	Agenda Item:	Subject: Update EMC section 5-15-4:G-9 requiring submission of transaction information to the Police Department
Initiated By: Police Department		Staff Source: Commander Tim Englert

COUNCIL GOAL AND PREVIOUS COUNCIL ACTION

The current ordinance related to EMC 5-15-4: Special Conditions and Restrictions of the License, came before Council: (Ord. 97-46; Ord. 99-17; Ord. 00-43; Ord. 08-5, § 3; Ord. 09-10, § 1)

RECOMMENDED ACTION

The Police Department is recommending that City Council approve a bill for an ordinance authorizing an amendment to section 5-15-4:G-9 of the Englewood Municipal Code to require electronic submission of transaction information to the Police Department.

BACKGROUND, ANALYSIS, AND ALTERNATIVES IDENTIFIED

Pawnbrokers are required to provide information regarding transactions to the Englewood Police Department. Historically this information has been delivered on a weekly basis on paper pawn tickets. The Police Department has provided a means for the Pawnbrokers to submit this information electronically.

The Police Department has contracted with Leads on Line to provide the software for pawnbrokers to submit electronic transaction information to the Police Department. The software and employee training is provided by the vendor to the pawnbrokers. Web cameras are also provided to the pawnbrokers to capture the image of the customer making the transaction. Currently the four major pawnshops in the City have voluntarily complied with the Police Departments request to participate in this program. Compliance in submitting photographs has been sporadic.

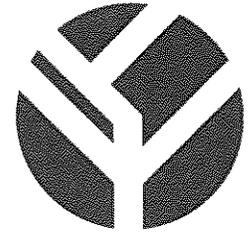
Electronic submission of the transaction information is also transmitted to CCIC and NCIC by the system. This system greatly enhances the ability of the Police to investigate property crimes and burglaries. The paper tickets often were entered 2 to 3 weeks after the transactions due to staffing issues at the Police Department. With the electronic submission Detectives can see the transactions within 24 hours. Numerous other local departments including Lakewood are currently using the software provided by this vendor.

DRAFT

FINANCIAL IMPACT

The requested change in the ordinance has no financial impact on the licensed pawnbrokers. The Police Department will see a reduction in required staff hours for data entry, and the previously mentioned greatly enhanced efficiency in the investigation of property crimes.

MEMORANDUM



TO: City Council

THROUGH: Gary Sears, City Manager

THROUGH: Rick Kahm, Director of Public Works ✓

FROM: Ladd Vostry, Traffic Engineer ✓

DATE: May 21, 2014

SUBJECT: 2014 MISCELLANEOUS EQUIPMENT PURCHASE

Denver Regional Council of Governments (DRCOG) administers traffic programs, such as the Miscellaneous Equipment Purchase Program (MEPP), to assist local municipalities in improving their traffic system controls. **Staff will attend the June 2nd Study Session to discuss this topic.**

Several years ago, the City of Englewood submitted an application to DRCOG to upgrade the Englewood traffic signal system (*icons*), and received federal funds from the Traffic Signal System Improvement Program (TSSIP) to purchase an advanced traffic signal system. However, as indicated in a Memorandum dated November 7, 2013; due to unique circumstances, we were not able to secure the federal funds for this project.

Earlier this year, staff took another opportunity to apply for federal funds to upgrade the existing traffic signal system. **The request was made for 2014 Miscellaneous Equipment Purchase Program (MEPP) funds, and the City of Englewood has been awarded \$129,000 towards procuring the advanced traffic management system. The allocation for this traffic signal system is 100 percent federal funds with no local match required.** There are no financial obligations for the City other than providing funds up front for the purchase, which will be later reimbursed to the City. Adequate funds are available in the Transportation System Upgrade PIF account, and will be credited back to this account with reimbursement of federal funds by DRCOG. Please note that our existing system (*icons*), purchased in 1999, was also procured using the MEPP federal funds, and also with no local match needed.

Note that since the City of Littleton also applied for and received funds for a new traffic system during this funding cycle, staff plans to coordinate with Littleton staff during the system purchase process. If both cities were to select traffic systems from the same vendor, it could provide a unique opportunity to establish a connection between both systems, potentially expanding the systems' functionality (allowing sharing of systems monitoring as well as traffic data, etc.).

Staff plans to bring a recommendation to adopt a Bill for an Ordinance to enter into an Intergovernmental Agreement (IGA) with DRCOG for FY14 MEPP at a future Council meeting.



Memorandum

Englewood Fire Department

TO: Mayor and City Council

FROM: Andrew Marsh, Fire Chief

THROUGH: Gary Sears, City Manager

DATE: May 28, 2014

SUBJECT: Comparison with South Metro Fire Rescue Authority Contract Proposal

At the Study Session on April 14, 2014, staff provided City Council with a plan for sustaining our municipal fire department. The proposed plan was comprised of four key areas:

- Infrastructure
- Apparatus and Capital Equipment
- Human Resources, Safety and Training
- Emergency Response Coverage and Services

At the conclusion of the presentation, City Council directed staff to prepare a comparison with the current contract proposal from South Metro Fire Rescue Authority (SMFRA) dated January 30, 2014.

Attached is a comparison of the SMFRA contract proposal with the City of Englewood Fire Department based on the elements of the contract proposal and including the four key areas noted above (Exhibit A). A basic comparison of the operating costs at the end of Exhibit A indicates that--after several years of start-up expenses with the SMFRA proposal--the costs are similar by Year 4, excluding any new Englewood Fire Department initiatives with programs or services such as reinstating the Training Officer position or establishing an alternative medical response vehicle. It is important to note that the on-duty shift staffing levels are lower in the City with the SMFRA contract (12 instead of 14) due to the proposed closure of the Tejon Fire Station and the proposed discontinuation of the three Battalion Chiefs (shift commanders) located with the City. Total shift staffing is also lower with the SMFRA proposal (37.75 instead of 51) because Englewood Fire Department needs to maintain three additional Firefighter positions per shift to ensure minimum staffing levels. SMFRA would absorb these positions within their larger organization along with the command and administrative staff of the Englewood Fire Department.

A comparison of the capital costs at the end of Exhibit A shows that all of them, except for the remodel and/or replacement of the fire stations, are included in the SMFRA base contract proposal. Current unbudgeted one-time capital costs for the Englewood Fire Department range from \$749,900 to \$846,200, and unbudgeted annual capital costs for vehicles and equipment are \$307,000 per year. These direct capital costs would be avoided with the SMFRA contract proposal. Additionally, attached is a memorandum from Support Chief Kraig Stovall regarding an analysis over a ten-year period (Exhibit B). This comparison also shows similar expenses during the period for annual operating costs and an advantage with the contract proposal for capital costs.

Both comparisons indicate that most of the long-term benefits of contracting services occur with capital expenses for infrastructure, communications and equipment. Additionally, the various support functions provided to the fire department by other City departments such as Police Dispatch, Public Works, Information Technology, Human Resources, and Legal would no longer be required. Disadvantages of the SMFRA contract proposal include longer response times to the northwest section of the City without the Tejon Fire Station and loss of direct governance of municipal fire services.

Finally, attached is an updated comparison of mill levies in the metro Denver area that now includes sales tax rates for municipalities (Exhibit C). In May 2014, while voters approved a 4.5 mill increase for the Wheat Ridge Fire Protection District (Exhibit D), they defeated a 3 mill increase for West Metro Fire Protection District (including Lakewood) and a 4 mill increase for Fairmount Fire Protection District (near Golden). In November 2013, voters approved a 5.6 mill increase for the South Adams Fire Protection District (Commerce City), and in November 2014 voters will be asked to approve a 3.5 mill increase for the North Metro Fire Protection District (Northglenn and Broomfield). The City of Englewood's general operations mill levy is 5.88, plus a Community Center Bond Fund mill levy of 2.444 (expiring in 2023), for a total current mill levy of 8.124. One mill in the City generates approximately \$4,914,966, and a one-half percent sales tax increase generates approximately \$3,347,682.

In the meantime, staff is preparing the 2015 budget request and is proceeding with a study regarding station locations that is critical to decisions that need to be made regarding remodeling and/or rebuilding our fire facilities and the related costs. With City Council direction, staff will request an updated contract proposal from SMFRA to include the additional costs for the options of operating two and maintaining three fire stations in the City. SMFRA has stated that the terms of the contract proposal are negotiable.

Staff proposes that City Council participate in tours of our fire facilities, the new SMFRA fire station in Cherry Hills Village that is a joint facility with the police department, and the METCOM Fire Communications Center in Centennial. Monday, July 7 has been suggested as a possible date for the tour in lieu of the regular Study Session.

Exhibits

- A. Comparison of South Metro Fire Rescue Authority Contract Proposal with the City of Englewood Fire Department
- B. Memo from Support Chief Kraig Stovall regarding a 10-year comparison
- C. Metro Denver Comparison of Mill Levies and Sales Tax Rates
- D. Denver Post article dated 5/19/14 regarding passage of a 4.5 mill levy increase for Wheat Ridge Fire Protection District

**Comparison of South Metro Fire Rescue Authority Contract Proposal with the
City of Englewood Fire Department**

	South Metro Fire Rescue Authority	City of Englewood Fire Department
Governance		
Governing Body	Fire Authority Board (Plans call for the South Metro and Parker Fire Protection Districts, which comprise the Authority, to merge into a single fire protection district with a 7-member board as of January 2016)	Mayor and City Council 7-member board
Representation	Each board member will represent a director district that is of approximately equal population (28,000). The Englewood board member would represent the 30,000 residents of the City and have a non-voting advisory role on the board. (Subsequent to the contract proposal, SMFRA has expressed a willingness to consider the possibility of a voting seat for the City.)	4 members are elected by district and 3 members are elected at-large
Emergency Services		
Facilities	1 Fire Station	3 Fire Stations
Fire Companies	1 Engine & 1 - 100' Tower (aerial)	2 Engines & 1 - 65' Squirt (aerial)
Fire Company Staffing	4 Firefighters each unit	3 Firefighters each unit
Ambulance Companies	2 Medic Units	2 Medic Units
Ambulance Company Staffing	2 Firefighters, including 1 certified as a Paramedic	2 Firefighters, including 1 certified as a Paramedic
Total on-duty staffing in City	12 (Excluding a Battalion Chief covering the City who is assigned to a station outside the City)	14 (Including a Battalion Chief)
On-duty Staffing by Fire Station	<u>Option 1</u> Jefferson Station – 12 Acoma Station – 0 Tejon Station – 0 <u>Option 2</u>	<u>Option 1 (current)</u> Jefferson Station – 6 Acoma Station – 5 Tejon Station – 3 <u>Option 2</u>

	Jefferson Station – 6 Acoma Station – 6 Tejon Station - 0	Jefferson Station – 9 Acoma Station – 5 Tejon Station - 0
Total Firefighter FTEs assigned to the City	37.75 (Excluding 3 Battalion Chiefs and the Firefighter positions required for leave impact to maintain minimum staffing)	51 (Including 3 Battalion Chiefs and 9 Firefighter positions for leave impact to maintain minimum staffing)
Community Safety Services (Fire Marshal’s Office)	5 – Fire Marshal, Assistant Fire Marshal, 2 Fire Inspectors (new), & Public Educator (new)	2 – Fire Marshal & Assistant Fire Marshal
Fire Dispatch		
Join the regional Fire Computer Aided Dispatch (CAD) system	Included in contract proposal	<u>Option 1</u> – Contract fire dispatch with METCOM at \$182,648/year <u>Option 2</u> – Upgrade the Englewood Police/Fire Dispatch Center by connecting to the regional Fire CAD with a one-time capital cost of \$200,000 and additional personnel cost of \$208,000 to \$270,000/year
Replace mobile and portable fire radios	Included in contract proposal	\$247,200 (the disposition of a FEMA Assistance to Firefighters Grant request is pending)
Replace the dispatch alerting systems in the fire stations	Included in contract proposal	\$162,000 (\$54,000/fire station)
Acquire mobile data terminals (MDTs) for vehicles	Included in contract proposal	\$42,000 (this expense may be eligible for funding from the Arapahoe County E-911 Authority Board during 2015)
Automatic Vehicle Location (AVL) responses for closest unit response	Included in contract proposal	\$25,270 for AVL software and services under Dispatch Option 2 above
Records Management System (RMS)	Included in contract proposal (same RMS as Englewood’s)	\$9,975 for RMS interface and services under Dispatch Option 2 above
Dispatcher certifications in Emergency Medical Dispatch and Emergency Fire Dispatch	Included in contract proposal	Available for additional cost under dispatch Option 2 above

Fire Stations		
Jefferson Station	<p><u>Option 1</u> – Construction of a new fire station at \$5,000,000, plus land acquisition for a new location in the vicinity of Hampden and Broadway. (All Englewood fire facilities may be disposed of as the City sees fit.)</p> <p><u>Option 2</u> – Use of existing stations will require a reevaluation of operating costs for operation and maintenance.</p>	<p><u>Option 1</u> – Construction of a new fire station at \$3,500,000 to \$7,500,000 plus possible land acquisition for expansion or a new location</p> <p><u>Option 2</u> – Remodel of the existing station at \$1,105,000 to \$1,530,000, plus land acquisition for expansion</p>
Acoma Station	<p><u>Option 1</u> - Not included in contract proposal</p> <p><u>Option 2</u> - Use of existing stations will require a reevaluation of operating costs for operation and maintenance. (Subsequent to the contract proposal, SMFRA has indicated that Littleton Fire Rescue may not agree to cover the south end of Englewood, which would necessitate the continued operation of the Acoma Station.)</p>	<p><u>Option 1</u> – Construction of a new fire station at \$1,300,000 to \$2,700,000 plus land acquisition cost of \$200,000 to \$400,000</p> <p><u>Option 2</u> – Remodel of existing fire station at \$601,900 to \$833,400, plus land acquisition for expansion at \$200,000 to \$400,000.</p>
Tejon Station	<p><u>Option 1</u> - Not included in contract proposal</p> <p><u>Option 2</u> - Use of existing stations will require a reevaluation of operating costs for operation and maintenance. (Without the Tejon Station, response times to the northwest part of the City will be longer.)</p>	<p><u>Option 1</u> – Construction of a new fire station at \$1,300,000 to \$2,700,000</p> <p><u>Option 2</u> – Remodel of existing fire station at \$630,630 to \$873,180.</p>
Facility Maintenance	Included in contract proposal	<p>Provided by the Building Services Division of the Public Works Department</p> <p>(\$60,100/year is budgeted for building maintenance and \$27,181/year is budgeted for utilities)</p>

Fire Training Facility		
Annual assessment as an operational partner with Littleton Fire Rescue	All training--including use of the South Metro Fire Training Facility in Parker--is included in the contract proposal	\$30,000/year (included in 2014 approved budget)
Returning the Burn Building to operational status	Not included in contract proposal	<u>Option 1</u> – Repair and upgrade the existing burn building at an approximate cost of \$57,400 split with Littleton <u>Option 2</u> – Replace the burn building with a new modular burn building at an approximate cost of \$180,000 to \$250,000 split with Littleton <u>Option 3</u> – Continue to contract for the use of another agency’s burn building at a cost of \$4,500 per year)
Implement a storm water management plan for the site including landscape screening and fencing	Not included in contract proposal	\$140,000 split with Littleton
Apparatus and Equipment		
Apparatus Replacement	Included in contract proposal (All Englewood fire department vehicles may be disposed of as the City sees fit.)	Approximately \$200,000/year (not currently budgeted) (In immediate need of replacement are the aerial truck at \$1,100,000, an ambulance at \$185,000, battalion chief/command vehicle at \$70,000, and several staff/command vehicles at \$84,000. Some of the smaller vehicles are included in the Capital Equipment Replacement Fund [CERF] and are in the 2014 approved budget.)
Fleet Maintenance	Included in contract proposal	Provided by the ServiCenter of the Public Works Department (\$202,012/year is budgeted for vehicle maintenance and \$51,957 is budgeted for the CERF)
Equipment Replacement	Included in contract proposal	\$107,000/year

Human Resources, Safety and Training		
Positions	Included in base contract proposal (Excess staffing costs are an additional charge at \$457,785/year maximum that would decrease through attrition and terminate in 3 years)	Included in 2014 approved budget
Add 2 Fire Inspectors	Included in contract proposal (needed to provide fire prevention services to the City since SMFRA does not use shift firefighters for fire inspections)	\$182,000/year (salary and benefits) (would be needed if Englewood discontinues its practice of shift firefighters performing fire inspections)
Add 1 Public Educator	Included in contract proposal (needed to provide fire prevention services to the City)	\$91,000/year (salary and benefits) (some of the duties are performed by the newly hired Assistant Fire Marshal)
Salaries and Wages	Included in contract proposal	Positions not in the union (MSC) at the rank of Battalion Chief and above have base salaries that are 19-26% lower, a total difference of about \$132,536. Positions in the union (EPPA) up through the rank of Lieutenant have base wages similar to SMFRA. The compensation for the MSC positions will be reviewed later this year during the bi-annual salary survey. The EPPA positions will be reviewed during the bi-annual firefighter contract negotiations during spring 2015.
Rank and Seniority	Retained in contract proposal	Retained
Retirement (FPPA)	Retained in contract proposal with a 12% Employer Match by SMFRA	Retained with an 8% Employer Match (8% employee match will increase if passed in the FPPA election in June 2014)
Pension Obligations for Old Hire and Volunteer Personnel	Not included in contract proposal	\$244,066/year (this is an obligation that is in the approved budget and the City will continue to pay)
Retiree Assistance	Not included in contract proposal	\$45,500/year (this is an obligation that is in the approved budget and the City will continue to pay)
Tuition Reimbursement	\$4,000/year maximum	\$2,000/year maximum

Shift Schedule	Rotation of 48 hours on, 96 hours off	Rotation of 24 hours on, 24 hours off, 24 hours on, 24 hours off, 24 hours on, 96 hours off
Human Resources services	Included in contract proposal	Provided by the Human Resources Department (\$77,070/year is budgeted for property and liability insurance)
Information Technology services	Included in contract proposal	Provided by the Information Technology Department
Financial services	Included in contract proposal	Provided by the Finance and Administration Department
Advanced Resource Medic (ARM) Car	Included in contract proposal (if the pilot program is successful)	May be provided at unknown additional cost net of EMS reimbursements
Emergency Preparedness	Included in contract proposal (for the Fire Department function, but not for the City-specific emergency management function)	Provided by the Emergency Management Coordinator in the Fire Department through a grant-funded position
Emergency Response Coverage and Services		
ISO Rating	3	3
Standards of Cover, Deployment and Risk Assessment Study	Included in contract proposal	Key to the decision regarding station locations and required for accreditation
Strategic Plan	Included in contract proposal	Key to determining the future of the organization and required for accreditation
Accreditation	Included in contract proposal	Initial Application Fee of \$5,750, plus approximately \$7,500 for costs of on-site peer assessor visit. Thereafter, the annual accreditation maintenance fee is \$1,150.

Comparison of Operating Costs

	South Metro Fire Rescue Authority	City of Englewood Fire Department
Year 1	\$6,496,146 - Base Contract \$ 457,785 - Excess Positions (1) \$ 450,010 – Start-up Costs (2) \$7,403,941 - Total	\$6,608,605 (net of revenue sources and excluding the Building Division)
Year 2	\$6,691,030 – Base Contract (3) \$ 457,785 – Excess Positions \$7,148,815 - Total	\$6,806,863 (3)
Year 3	\$6,891,761 – Base Contract \$ 457,785 – Excess Positions \$7,349,546 - Total	\$7,011,069
Year 4	\$7,098,514 – Base Contract	\$7,221,401
Year 5	\$7,311,470 – Base Contract	\$7,438,043

Notes:

- (1) Decreases through attrition, terminates in 3 years, and includes Fire Chief, Deputy Fire Chief (DROP retirement date of 9/18/16), Executive Assistant, and 8 Driver Operator Engineers' (DOEs) differential above Firefighters' wages (3 DOEs have DROP retirement dates of 1/3/15, 7/3/16, and 7/1/17)
- (2) Costs for installing network infrastructure, uniform changes, etc.
- (3) Base costs are increased 3% per year for illustration

**Comparison of Capital Costs
(not including fire stations)**

	South Metro Fire Rescue Authority	City of Englewood Fire Department
Fire Dispatch		
Join Regional Fire CAD System	Included in contract proposal	\$200,000
Replace mobile and fire radios	Included in contract proposal	\$247,200
Replace the dispatch alerting systems in the fire stations	Included in contract proposal	\$162,000 (\$54,000/fire station)
Acquire MDTs	Included in contract proposal	\$42,000
Fire Dispatch Total		\$651,200
Fire Training Facility		
Burn Building	Included in contract proposal (through the use of the South Metro Training Facility in Parker)	<u>Option 1</u> - \$57,400 for the repair and upgrade of burn building (cost split with Littleton @ \$28,700 each) <u>Option 2</u> - \$180,000-\$250,000 for replacement of the burn building (cost split with Littleton @ \$90,000-\$125,000 each)
Storm Water Management Plan	N/A	\$140,000 (cost split with Littleton @ \$70,000 each)
Fire Training Facility Total		\$98,700 - \$320,000
Total One-time Capital Costs	Included in contract proposal	\$749,900 - \$846,200
Annual Apparatus Cost	Included in contract proposal	\$200,000/year
Annual Equipment Cost	Included in contract proposal	\$107,000/year
Total Annual Capital Costs	Included in contract proposal	\$307,000/year



Memorandum

Englewood Fire Department

TO: Andrew Marsh, Fire Chief
 FROM: Kraig Stovall, Support Chief
 DATE: 4/25/2014
 SUBJECT: Independent Fire Department vs. SMFRA Contract Comparison

Per City Council’s request, I have formulated the following comparison over a ten year timeframe based on the proposal SMFRA delivered to the city in January of this year. Following the study-session on the 7th, it seems clear that a key issue council is wrestling with in making a decision whether to keep the fire department or contract out is making a clear comparison of SMFRA’s offer vs. remaining a stand-alone department. I would like to offer the following the key points to consider in this decision. I hope this may help.

First, if the premise is accepted that the status quo is unacceptable going forward, then what factors should be considered in retaining a stand-alone department versus contracting for fire service. Key factors in the decision include future cost avoidance, governance/control, and service levels. So I don’t mislead in any way, I am in the camp that believes the fire department cannot continue with the current administrative staffing we now have, and we will need to plan to address infrastructure and future major equipment needs through the budget process if we remain independent.

At present, the fire department budget is approximately 7.3 million annually; this does not include the building division. SMFRA is proposing a contract for 6.5 million plus startup costs which include the construction of a new centralized fire station to staff 12 personnel, an engine company, truck company, and two fire medic units. They project the cost of this facility to be approximately 5 million, not including the price of the land. They also request Englewood to cover startup costs including the additional payroll of excess staff for three years at approximately \$460,000 annually. This is primarily to cover the salaries of the current chief, deputy fire chief, training chief, EMS Coordinator and the Driver/Operator/Engineers who would not be assigned to duties within their current classification until positions became available via attrition. Three of these personnel will be retired by the end of 2016. Additional startup costs for uniforms, protective gear, etc. will be approximately \$260,000.00 – this would be a one-time cost. SMFRA projects the annual amortization of the consolidation costs over 5 years to be approximately 1.2 million, over 7 years \$900,000, or 10 years \$670,000. Estimating the total cost for contracting SMFRA’s services using a 2.41 inflation rate (rate of inflation over the past 15 years in the U.S.) would look like this:

SMFRA (Annual revenue loss not factored)											
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10 yr total cost
5 yr cost	\$7,700,000.00	\$7,885,570.00	\$8,075,612.24	\$8,270,234.49	\$8,469,547.14	\$7,321,923.51	\$7,498,381.86	\$7,679,092.86	\$7,864,159.00	\$8,053,685.23	\$78,818,206.34
7 yr cost	\$7,400,000.00	\$7,578,340.00	\$7,760,977.99	\$7,948,017.56	\$8,139,564.79	\$8,335,728.30	\$8,536,619.35	\$7,679,092.86	\$7,864,159.00	\$8,053,685.23	\$79,296,185.10
10 yr cost	\$7,170,000.00	\$7,342,797.00	\$7,519,758.41	\$7,700,984.59	\$7,886,578.31	\$8,076,644.85	\$8,271,291.99	\$8,470,630.13	\$8,674,772.32	\$8,883,834.33	\$79,997,291.92
									11th year for all plans	\$8,247,779.05	

It should be noted that this table is an estimate only based on inflation; it does not include any interest that would be paid if the city decides to pay for the consolidation costs via a loan or bond. The cost of land to build the proposed station is not included. However, it may be possible to build on property the city already owns. It also does not take into account the loss of EMS, wildland firefighting, or fire permit fee revenues and cost recovery. In order to include revenues and add them into to projections, approximately \$850,000.00 annually of lost revenue can be added to the numbers in the table. Revenues vary from year to year, but these are good averages for strategic planning. Adding in revenue loss, the picture looks as follows:

SMFRA (Annual revenue loss factored in)											
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10 yr total cost
5 yr cost	\$8,550,000.00	\$8,756,055.00	\$8,967,075.93	\$9,183,182.46	\$9,404,497.15	\$8,279,405.81	\$8,478,939.49	\$8,683,281.93	\$8,892,549.03	\$9,106,859.46	\$88,301,846.25
7 yr cost	\$8,250,000.00	\$8,448,825.00	\$8,652,441.68	\$8,860,965.53	\$9,074,514.80	\$9,293,210.60	\$9,517,176.98	\$8,683,281.93	\$8,892,549.03	\$9,106,859.46	\$88,779,825.00
10 yr cost	\$8,020,000.00	\$8,213,282.00	\$8,411,222.10	\$8,613,932.55	\$8,821,528.32	\$9,034,127.16	\$9,251,849.62	\$9,474,819.20	\$9,703,162.34	\$9,937,008.55	\$89,480,931.83
									11th year for all plans	\$9,326,334.77	

The benefit of contracting services isn't so much in the annual *operating costs*, which will be relatively similar when revenues are considered. The bulk of savings comes long term in the infrastructure, communications and capital equipment expenses. SMFRA's proposal includes the maintenance, update and rebuild of the proposed station when required (though not the initial construction), includes the cost of a state-of-the-art dispatch/communications service, and also includes the cost of any fire apparatus and equipment purchases in the future after the initial startup costs discussed above.

The recent study performed by the city's public works department offers several options for updating or rebuilding Englewood's existing fire stations. For the purposes of comparison, I will offer two options, option one looks at a ten-year cost projection based on rebuilding all Englewood fire stations, option two looks at a ten-year cost projection based on remodeling all Englewood fire stations. Both options use the average of the cost range for each solution projected by Englewood's Public Works department. Further, replacement of apparatus and capital equipment is factored into the comparison based on real-world estimates. Factoring in the annual revenues the current cost for the fire department budget is approximately \$6,450,000.00. Factoring in ongoing annual apparatus and equipment replacement funding, the projected cost of contracting for fire communications and additional staffing brings the annual initial cost to \$7,405,802.38. The following table indicates the cost over 10 years with the station infrastructure improvements included as indicated above:

Stand-Alone EFD (Annual revenues subtracted)											
Rebuild Stations	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10 yr total cost
5 yr	\$9,572,826.46	\$9,803,531.58	\$10,039,796.69	\$10,281,755.79	\$10,529,546.10	\$8,342,264.39	\$8,543,312.96	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$93,998,303.66
7 yr	\$8,999,326.42	\$9,216,210.19	\$9,438,320.85	\$9,665,784.39	\$9,898,729.79	\$10,137,289.18	\$10,381,597.85	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$94,622,528.35
10 yr	\$8,570,324.98	\$8,776,869.81	\$8,988,392.38	\$9,205,012.63	\$9,426,853.44	\$9,654,040.60	\$9,886,702.98	\$10,124,972.52	\$10,368,984.36	\$10,618,876.89	\$95,621,030.60
									11th year for all plans	\$9,397,141.80	
Remodel Station	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	10 yr total cost
5 yr	\$8,003,081.62	\$8,195,955.89	\$8,393,478.42	\$8,595,761.26	\$8,802,919.10	\$8,342,264.39	\$8,543,312.96	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$85,762,043.33
7 yr	\$7,845,012.46	\$8,034,077.26	\$8,227,698.52	\$8,425,986.06	\$8,629,052.32	\$8,837,012.48	\$9,049,984.48	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$85,934,093.28
10 yr	\$7,726,770.34	\$7,912,985.51	\$8,103,688.46	\$8,298,987.35	\$8,498,992.94	\$8,703,818.67	\$8,913,580.70	\$9,128,398.00	\$9,348,392.39	\$9,573,688.65	\$86,209,303.01
									11th year for all plans	\$9,397,141.80	

As one can see, the option to remain independent and rebuild all existing fire stations is the most expensive of all the options. Over ten years, rebuilding all three fire stations exceeds SMFRA's proposal by around 5 million dollars, even with revenues factored in. Interestingly, the option to remodel the existing three Englewood stations is about 3 million dollars less than SMFRA's proposal over ten years when revenues are factored in. Also interesting, is that in the eleventh year, after the infrastructure updates are complete, the annual cost for service for each alternative is virtually identical.

It is important to point out that the update of the infrastructure in Englewood need not be a wholesale rebuild or remodel by necessity. A combination of these options may be ultimately be the best approach and would impact the bottom line.

Two other factors must be considered in the decision to remain independent or contract for service. First is the question of service impacts. SMFRA is a high-quality organization that provides excellent services on a par with Englewood Fire, over a much larger district with far greater resources. However, the proposal to staff the City of Englewood with a single station and 12 firefighters will impact service delivery in the city. A single centrally located station in Englewood will mean longer response times to the far corners of the city. The largest impact will be to the northwest and the southwest neighborhoods. With the elimination of Stations 2 and 3, response times to these areas will be increased by 2 to 3 minutes in most cases. Further, each of these locations sit across what the Insurance Services Office (ISO) factors into their ratings as a geographical barriers, specifically a railway and a river. A reduced ISO rating may mean higher insurance costs for these areas. Automatic aid agreements with SMFRA and Littleton Fire Department currently provide some backup response to these areas; however, the agreement with Littleton may be affected by this change in station proximity as response will not be as easily reciprocated by the single station in Englewood to the southwest areas.

The additional response times may still fall within acceptable national standards, only time will tell for sure, as fewer resources will be close in when the ones located in Englewood are busy. It must be pointed out, however, that a 2 to 3 minute difference can be significant in terms of fire growth and extension as well as in patient survivability related to a number of medical conditions and injuries.

The second factor to consider is governance or control. Presently, the City of Englewood enjoys full control over the future of its fire department and the services it provides. Once that control is passed on to a contracting agency, the city becomes a customer of that agency. Costs and service levels will be determined by the contracting agency in relation to the market for the service it provides. The only practical recourse the city is left with is to look to another contractor to provide service if it is not satisfied with the current contractor. Once the fire department is disbanded, though it could be reestablished in theory, the process would be very laborious and the cost would be extremely high. The city must be willing to move into a different mode of governance if it accepts a contract proposal. It will be one voice among many on the district board as fire service issues are addressed. While this is a big change for Englewood, it is a circumstance that many communities across the nation manage to work within and receive very satisfactory service. But it is a change that Englewood must be prepared and willing to accept if it chooses this alternative.

In summary, there are some cost benefits over time to contracting for fire services, especially if the decision is made to rebuild all three fire stations. Further, future needs for remodeling and rebuilding fire stations will be managed by the contractor, and the city will not need to directly plan for and administer these updates. The same advantages exist for acquiring apparatus and capital equipment. What must be weighed is whether the city is willing to accept the trade-offs of some service impacts and the loss of direct governance of the fire department in return for these financial advantages. I hope this information will help our council towards making an informed decision.

Encl: Excel attachment

SMFRA (Annual revenue loss not factored)					
	2015	2016	2017	2018	2019
5 yr cost	\$7,700,000.00	\$7,885,570.00	\$8,075,612.24	\$8,270,234.49	\$8,469,547.14
7 yr cost	\$7,400,000.00	\$7,578,340.00	\$7,760,977.99	\$7,948,017.56	\$8,139,564.79
10 yr cost	\$7,170,000.00	\$7,342,797.00	\$7,519,758.41	\$7,700,984.59	\$7,886,578.31
SMFRA (Annual revenue loss factored in)					
	2015	2016	2017	2018	2019
5 yr cost	\$8,550,000.00	\$8,756,055.00	\$8,967,075.93	\$9,183,182.46	\$9,404,497.15
7 yr cost	\$8,250,000.00	\$8,448,825.00	\$8,652,441.68	\$8,860,965.53	\$9,074,514.80
10 yr cost	\$8,020,000.00	\$8,213,282.00	\$8,411,222.10	\$8,613,932.55	\$8,821,528.32
Stand-Alone EFD (Annual revenues subtracted)					
Rebuild Stations	2015	2016	2017	2018	2019
5 yr	\$9,572,826.46	\$9,803,531.58	\$10,039,796.69	\$10,281,755.79	\$10,529,546.10
7 yr	\$8,999,326.42	\$9,216,210.19	\$9,438,320.85	\$9,665,784.39	\$9,898,729.79
10 yr	\$8,570,324.98	\$8,776,869.81	\$8,988,392.38	\$9,205,012.63	\$9,426,853.44
Remodel Stations	2015	2016	2017	2018	2019
5 yr	\$8,003,081.62	\$8,195,955.89	\$8,393,478.42	\$8,595,761.26	\$8,802,919.10
7 yr	\$7,845,012.46	\$8,034,077.26	\$8,227,698.52	\$8,425,986.06	\$8,629,052.32
10 yr	\$7,726,770.34	\$7,912,985.51	\$8,103,688.46	\$8,298,987.35	\$8,498,992.94

Rebuild Option	5 yr EFD	7 yr EFD	10 yr EFD
Base	\$6,450,000.00	\$6,450,000.00	\$6,450,000.00
Station Rebuild	\$2,167,024.08	\$1,593,524.04	\$1,164,522.60
Apparatus	\$331,989.00	\$331,989.00	\$331,989.00
Capital Equipmer	\$106,586.00	\$106,586.00	\$106,586.00
Personnnel	\$327,227.38	\$327,227.38	\$327,227.38
Communications	\$190,000.00	\$190,000.00	\$190,000.00
Total	\$9,572,826.46	\$8,999,326.42	\$8,570,324.98
Total w/o Station	\$7,405,802.38	\$7,405,802.38	\$7,405,802.38
Remodel Option			
Base	\$6,450,000.00	\$6,450,000.00	\$6,450,000.00
Station Remodel	\$597,279.24	\$439,210.08	\$320,967.96
Apparatus	\$331,989.00	\$331,989.00	\$331,989.00
Capital Equipmer	\$106,586.00	\$106,586.00	\$106,586.00
Personnnel	\$327,227.38	\$327,227.38	\$327,227.38
Communications	\$190,000.00	\$190,000.00	\$190,000.00
Total	\$8,003,081.62	\$7,845,012.46	\$7,726,770.34
Total w/o Station	\$7,405,802.38	\$7,405,802.38	\$7,405,802.38
SMFRA Base w/o Revenue	\$6,500,000.00		
SMFRA + Revenue	\$7,350,000.00		

2020	2021	2022	2023	2024	10 yr total cost
\$7,321,923.51	\$7,498,381.86	\$7,679,092.86	\$7,864,159.00	\$8,053,685.23	\$78,818,206.34
\$8,335,728.30	\$8,536,619.35	\$7,679,092.86	\$7,864,159.00	\$8,053,685.23	\$79,296,185.10
\$8,076,644.85	\$8,271,291.99	\$8,470,630.13	\$8,674,772.32	\$8,883,834.33	\$79,997,291.92
			11th year for all plans	\$8,247,779.05	

2020	2021	2022	2023	2024	10 yr total cost
\$8,279,405.81	\$8,478,939.49	\$8,683,281.93	\$8,892,549.03	\$9,106,859.46	\$88,301,846.25
\$9,293,210.60	\$9,517,176.98	\$8,683,281.93	\$8,892,549.03	\$9,106,859.46	\$88,779,825.00
\$9,034,127.16	\$9,251,849.62	\$9,474,819.20	\$9,703,162.34	\$9,937,008.55	\$89,480,931.83
			11th year for all plans	\$9,326,334.77	

2020	2021	2022	2023	2024	10 yr total cost
\$8,342,264.39	\$8,543,312.96	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$93,998,303.66
\$10,137,289.18	\$10,381,597.85	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$94,622,528.35
\$9,654,040.60	\$9,886,702.98	\$10,124,972.52	\$10,368,984.36	\$10,618,876.89	\$95,621,030.60
			11th year for all plans	\$9,397,141.80	

2020	2021	2022	2023	2024	10 yr total cost
\$8,342,264.39	\$8,543,312.96	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$85,762,043.33
\$8,837,012.48	\$9,049,984.48	\$8,749,206.80	\$8,960,062.69	\$9,176,000.20	\$85,934,093.28
\$8,703,818.67	\$8,913,580.70	\$9,128,398.00	\$9,348,392.39	\$9,573,688.65	\$86,209,303.01
			11th year for all plans	\$9,397,141.80	

Denver Metro Area

Mill Levies & Sales Tax Rates

Updated 5/27/2014

Municipalities	Mill Levy (General Operations)	Other (Bonds, Refunds, etc...)	Mill Levy (Fire Services)	TOTAL	Sales Tax %
City of Westminster	3.650	0.50% Sales Tax for PD & FIRE	0	3.650	4.35
City of Littleton	6.662		0	6.662	3.00
City of Englewood	5.88	2.244	0	8.124	3.50
City of Sheridan	5.974	2.132	0	8.366	3.50
City of Wheat Ridge (WRFPD) *Received a Voter Approved 4.5 mill FD increase in 5/2014	1.806		7.500 *12.000	13.806	1.81
City of Lone Tree (SMFPD)			9.444	9.444	3.75
City of Thornton	10.210		0	10.210	4.00
City of Aurora	10.290		0	10.290	3.75
Town of Castle Rock	1.703		8.750	10.453	3.00
City of Golden	12.340		0	12.340	3.00
City of Greenwood Village (SMFPD)	2.932		9.444	12.376	3.00
City of Brighton (GBFPD)	11.795		1.000	12.795	3.75
Commerce City (SACFPD) *Received a Voter Approved 5.6 mill FD increase in 11/2013	3.280		4.300 *9.900	13.180	3.50
City of Louisville	6.720		6.686	13.406	3.50
City of Centennial (SMFPD)	4.982	0.091	9.444	14.517	2.50
Town of Parker (PFPD)	2.602		13.096	15.698	3.00
City of Lakewood (WMFPD)	4.711		13.739	18.450	3.00
City of Arvada (AFPD)	4.310		14.898	19.208	3.46
Highlands Ranch Metro District	19.713		n/a	19.713	0
City of Cherry Hills Village (SMFPD)	13.374		9.444	22.818	0
City of Broomfield (NMFPD)	11.457		11.375	22.832	4.15
City of Northglenn (NMFPD)	11.597		11.375	22.972	4.00
City of Denver	32.926		0	32.926	3.62
Fire Protection Districts					
Littleton Fire Protection District			7.678		
Fairmount Fire Protection District * Voters denied a 4.5 mill increase in 5/2014			*8.157		
Castle Rock Fire Protection District			8.750		
South Metro Fire Rescue			9.444		
South Adams County Fire Prot. District *Received a Voter Approved 5.6 mill FD increase in 11/2013			*9.900		
North Metro Fire Protection District *Seeking a 3.5 mill increase in 11/2014		1.400	*11.375	12.775	
Wheat Ridge Fire Protection District *Received a Voter Approved 4.5 mill FD increase in 5/2014			7.500 *12.000		
Parker Fire Protection District			13.096		
West Metro Fire Protection District * Voters denied a 3.0 mill increase in 5/2014			*13.739		
Cunningham Fire Protection District			13.970		
Arvada Fire Protection District			14.898		
North Washington Fire Protection District			17.344		
S.W. Adams Fire Protection District		1.000	17.800	18.800	

Wheat Ridge Fire Protection District glad to move ahead with more funding

By Austin Briggs YourHub Reporter The Denver Post
Posted: Mon May 19 13:21:25 MDT 2014

DenverPost.com

Frank Stites said Wheat Ridge has always had a good relationship with its fire department, and that history made it easy for him to cast a "yes" vote May 6 for a property tax increase for the fire district.

"I think the fire department needs it," Stites, a lifelong resident, said. "They were volunteer all those years, did a good job and didn't waste any money."

The ballot measure asking for a five-mill increase passed 3,054 to 2,393 and means the 32,000 customers in the Wheat Ridge Fire Protection District will pay in total about \$1.66 million more per year in property taxes. An owner of property valued at \$250,000 will pay an extra \$99.48 per year. The district generated \$3.15 million in 2014.

"This will allow the district to offer better training, better equipment and better services," said Fire Chief Bob Olme. "I've got to say we're very humbled and very thankful people saw the value in what we do."

The fire department has 33 paid firefighters, 18 volunteers, owns two fire stations, leases one from the city of Edgewater and has a response time of just over four minutes from dispatch call to firefighter arrival.

The district won't see any of the property tax increase until March 2015, Olme said, but priorities include building a new station in Edgewater, purchasing new equipment and taking a serious look at unfreezing pay for firefighters.

The district's need for more funding came from rising costs, increased demand for services, depletion of a \$2.3 million grant and the 2010 transition from an all-volunteer to a paid organization. If the mill levy didn't pass, the district would have faced a \$420,000 shortfall in 2016.

Newcomer Monica Duran and incumbents James Johnson and Kent Johnson won election and will join Jerry Cassel and Liz Willis on the five-member board of directors for the district.

Olme and the three winners said the district is ready to move forward after a turbulent year of leadership resignations, deaths and the realization that the financial health of the district was dire.

"The way I'm looking at it now is we have a fresh start," Duran said. "We can take all the lessons learned from the past and mistakes that were made and just move forward; we need to set out our financial goals and let people know what our mission and dedications are."

District leadership has expressed reservations about following the recommendation of a blue ribbon panel that the organization hire an outside consultant to develop a long-term financial plan and assess the district's structure and levels of service.

"That part of not knowing where the money has been going has been taken care of," Kent Johnson said in a previous interview, noting that an outside firm now does payroll. "We now know who the money is going out to and why."

"The past is behind us and I don't want to keep throwing more money on it and have more people unnecessarily be involved," James Johnson said in April. "I think we're in good shape and moving forward."

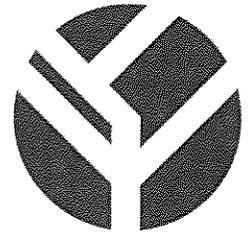
Austin Briggs: 303-954-1729,

CITY COUNCIL DISCRETIONARY FUNDS POLICY.

1. Discretionary funds in the sum of \$600.00 shall be allocated for each Council Person per annum. It is the intention of the City Council that these funds be used in the metropolitan area surrounding the City of Englewood. Those funds not used in any calendar year shall not be later used by the Council Person but shall be returned to the general fund.
2. Discretionary funds shall not to be used for out-of-state expenses unless approved by City Council. An application for use of Discretionary Funds for an out-of-state trip may be applied for after the fact, but if the City Council disapproves of the expenditure the Council Member must pay back any of the discretionary funds used during the trip.
3. Discretionary funds may be used for books, publications, newspapers, or materials directly related to the responsibilities of the City Council. The materials may not be used for personal uses and shall be made available to other Council Members on request, that is any materials (tapes, publications, etc.) obtained at a conference or purchased with discretionary funds shall be made available to all of the Council members and City Staff on request.
4. Individual memberships to an organization (service clubs, etc.) may be paid from discretionary funds provided they have a City purpose.
5. Discretionary funds may be used for meals that are directly related to the responsibilities of the City Council. Expenditures for alcoholic beverages shall only be as part of a meal as opposed to separate expenditure. Where it is necessary as a part of the establishments policy to have separate tickets for food and beverage purchases, compliance shall be satisfied so long as noted on the receipts by the council person.
6. All receipts must be turned in within 15 days of date of expenditure to facilitate reconciliation with Finance Department. Failure to comply may result in non-payment for that expense.
7. Discretionary funds shall not be used in a manner that would violate the Fair Campaign Practices Act or any other law.
8. Discretionary Funds shall not be used for individual charitable contributions as such contributions are made by Council Motion using funding from the Council Aid to Other Agencies Account.
9. Usage of a City-issued credit card is permissible for discretionary expenditures subject to separate credit card usage agreement attached.
10. Expenditure Form attached shall be used for documentation of all expenses.
11. Resolution No. 11, Series of 1992 is hereby amended to reflect changes in the Council Policy made by this resolution.

Resolution No. 41, Series 2009

MEMORANDUM



TO: Gary Sears, City Manager

THROUGH: Rick Kahm, Director of Public Works

FROM: David Henderson, Deputy Public Works Director ✓

DATE: May 28, 2014

SUBJECT: **DARTMOUTH BRIDGE REPAIR UPDATE**

As scheduled and communicated to the public, test repairs to the Dartmouth Bridge over the Platte River began on Friday, May 16th. We anticipated working throughout the weekend and the following Monday to complete repairs to the concrete deck topping.

As planned, the contractor's first step (after proper traffic control was in place) was to remove all of the asphalt on top of the concrete deck in our test section. This allowed Public Works staff and our bridge consultant to evaluate the condition of the deck. Unfortunately, the condition of the concrete deck in this area was worse than expected. Proceeding with patching the concrete was not a practical or economical option. The deck in this area will require complete removal and replacement.

Our contingency plan, which had been communicated to the contractor prior to the beginning of any work, was initiated immediately. We removed additional asphalt from another portion of the bridge in order to obtain additional data regarding the deck's condition, and instructed the contractor to pave over the deteriorated concrete. Asphalt paving was completed and all lanes were reopened to traffic on Saturday, May 17th.

Staff instructed our bridge consultant to prepare an initial report of his findings (see attached report from EST). **It should be noted that the Dartmouth Bridge is not in danger of structural failure.** It will continue to develop potholes that will be patched by our Street Division until permanent repairs to the deck topping are funded. **The State of Colorado inspects all of Englewood's bridges every other year. The most recent report was completed a couple of months ago and does not recommend any weight restrictions.** As we have known for many years, the report does recommend repairing the deck, along with other improvements, including widening, that would bring the bridge up to present day design standards. Also attached is the "Bridge Rehabilitation Cost" prepared by the State's consulting engineer. These estimated costs are based on 2013 CDOT cost data and do not include design, testing, and construction administration. Note that the estimated construction cost to replace the deck is \$808,500. Other improvements required to bring the bridge up to present day design standards would require another \$830,930 bringing the total project cost to \$1,739,430. Inflation, design, and construction administration would result in a project cost exceeding \$2 million.

The State Bridge Inspection report evaluated all 17 of Englewood's "off system" (not maintained by CDOT) bridges. Staff will schedule some time at a future Study Session, likely this fall, to discuss specific recommendations for the Dartmouth Bridge, along with condition assessments of the other "off-system" bridges in Englewood. Our goal will be to develop a long term plan for bridge repairs and/or replacements, along with funding options or alternatives.

lt/att (2)

May 22, 2014

Mr. Larry G. Nimmo
Field Operations Administrator
City of Englewood
1000 Englewood Parkway
Englewood, CO 80110

**RE: 2014 w. Dartmouth Ave. Over S. Platte River Bridge Partial Deck Repairs
Condition of Existing Reinforced Concrete Deck**

Dear Mr. Nimmo:

The project was bid as a Pilot project to determine the extent of the damage to the existing reinforced concrete deck constructed on precast prestressed concrete "T" girders. It was felt by City staff that the existing deck had significant damage from the application of deicing salts, moisture and environmental causes such as the freeze-thaw cycles. The aerial below indicates the areas of asphalt repairs that had been performed on the deck.



Bids were received on April 1, 2014 and the construction company of KECI Colorado Inc. was the low bidder with a total bid of \$110,990.00. The pilot area of repairs was an area 21 ft. wide by 100 ft. long located at the west end of the bridge centered on the bridge deck. Repairs were based on Colorado Department of Roads (CDOT) methods typically utilized for deck repairs similar to this. The percentage of Class 1 repairs (3/4" to 1 1/2" depth) was bid as 15% of the deck area, Class 2 (>1 1/2" to approx. 3" depth) bid as 50% of the Class1 repairs and Class 3 (full depth) bid as 25% of the Class1 repairs. CDOT normally bids Class 1 as 10% of the deck area, Class 2 as 10% of the Class 1 repairs and Class 3 as 10%. Class 1 repair was bid as 39 SY, Class 2

repair as 20 SY and Class 3 repair as 10 SY of the total 257 SY of pilot deck repairs. The bid repair quantities were 1.5 to twice the typical CDOT repair quantities due to anticipated repair quantities based on City staff comments. The pilot deck repair project also included reinforcement replacement, zinc galvanic anodes, waterproofing membrane and asphalt driving surface replacement.

Traffic control to close the 21 ft. wide repair area for lying out and depicting the 100 ft. long repair area began at 10 am on Friday May 16, 2014. It was determined based on site conditions (existing asphalt deck repairs) to extend the repair length from 100 ft. to 103 ft. The mill (ALPHA Milling) arrived at approximately 11:45. The eastbound lane was closed at noon and the detour went into effect with an Englewood policewoman as the uniformed traffic control (UTC). Flaggers stopped traffic for the mill to access the repair area and milling began at approximately 12:15. Milling began on the north edge as we believed that the worst of the damaged areas would be here based existing asphalt repairs. At approximately 20ft. into the milling beginning at the east edge (103 ft. east of the west end of the bridge) I stepped onto the milled deck with asphalt driving surface removed but prior to any brooming. I noticed that the a large quantity of the milled surface was severely deteriorated with the surface being such that you could kick it with your shoe and easily remove the concrete to the surface of the reinforcing. I called you (Mr. Nimmo) at this point to apprise you of the initial indications that the concrete was severely deteriorated and “rotten” and noted that we would continue with the planned removals but that the area might be much greater than provided for in the bid quantities.

The milling continued moving from the north edge to the south edge of the planned milling area. Mechanical sweeping of the milled deck area began. The area was initially inspected and it was determined that approximately 1/4 to 1/3 of the deck area may require Class 2 repairs. The bid Class 2 repairs were based on 2.5% of the deck to receive Class 2 repairs. The amount of Class 3 repairs could have increased by a similar ratio. It was determined at this point that the project Class 2 and 3 repair quantities could over-run the bid quantities by a minimum of 4 or 5 times the bid amount and possibly more. We also decided to mill an additional pass (approximately 7 ft.) so that we could see the difference between the original 1965 bridge deck concrete and the 1974 widened bridge deck concrete. The differences are indicated in the attached photos and the following descriptions of the concrete.

General observations of the condition of the existing reinforced concrete bridge are as follows:

1. The deteriorated concrete was severely deteriorated and was now basically sand and gravel and could easily be removed with a shovel without any need of hammering.
2. The depth of the deteriorated concrete was to or below the existing steel reinforcement. A spud bar (long steel bar with a tapered end) was used to chip at the concrete between the reinforcing (rebar) and the depth of severely deteriorated concrete between the rebar was to a depth of approximately 3” of the total existing plan depth of 4 ½”. This would be a minimum of Class 2 if not Class 3 repairs.
3. A waterproofing membrane was not observed on any of the surface.
4. Several existing approximate 2 ft. x 2 ft. concrete patches were observed; these patches were in excellent condition.
5. The deteriorated concrete that was visually observed was moist in addition to being severely deteriorated and loose material.
6. The concrete in the 1965 construction area had what appeared to be 1 ½” minus gravel/sand aggregate that was not crushed. The color was a tan/earth tone.
7. The concrete in the 1974 widening construction area had what appeared to be ¾” minus crushed aggregate. The color was a dark gray tone.
8. The concrete in the 1974 widened area on the south appeared to have minimal deterioration with only one rebar being exposed, likely due to having improper placement with not enough cover.
9. The reinforcing/rebar was severely deteriorated and would have required substantial replacement, an estimated ¼ to ½ of the rebar. Some were completely rusted through. Several of the rebar were

broken and not continuous. Development length of the rebar is required which is 1'-7" minimum for the #5 rebar in the deck. This would require additional removal of the concrete deck in sound concrete to this length along the edges of the Class 2 repairs further increasing the areas of Class 2 repairs.

10. The amount of reinforcing would have increased significantly and that amount of epoxy coated reinforcing was not on site and may have caused a delay until it was on site.
11. The number of zinc galvanic anodes to be included for protection of adjacent reinforcing would have increase relative to the Class 2 and 3 repairs and this number had not been ordered and would not have been available.
12. The cost of the repairs could have an over-run of 4 or 5 times the bid amount. During the design process it was determined that if the Class 1 repairs were approximately 30% of the deck area and the Class 2 and 3 repairs relative to the estimate percentages, then a total removal and replacement of the deck would be more cost effective.
13. The pilot deck repair was for an area of the 1965 deck of approximately 235 SY. The total 1965 original construction remaining is 920 SY. This pilot repair is approximately 25% of the total 1965 bridge deck area.

It is recommended that as a minimum that the 1965 original construction portion of the deck be removed and replaced as soon as possible as this portion of the deck is severely deteriorated. This severely deteriorated deck should be evaluated and the load carrying capacity of the deck determined to see if either portions of the bridge or if the entire bridge should be load rated. It appears that the 1974 deck widening is sound and would only require the traditional CDOT concrete deck repairs.

Please contact me to discuss this report and its findings with you and/or others at the City. Funding for this repair should be obtained as soon as possible and the schedule of the repairs and funding may increase based on the evaluation of the capacity of the existing 1965 deck.

Sincerely,
 EST, Inc.

Chuck Dreesen, P.E.
Chief Civil Engineer



Start Milling – North edge @ east end – concrete deck degradation observed with rebar exposed, existing asphalt patch behind person



North Edge looking east with asphalt patch in background and degraded concrete deck



North Edge near center of repair (50' +/- east of west end) – concrete degradation with loose aggregate observed to a depth of approximately 2" with reinforcing exposed.



West end after milling and brooming – dark areas are degraded concrete with exposed reinforcing and in-situ existing moisture, additional roto-mill pass made on south after this photo



South edge of 1st mill pass with broken rebar and concrete degradation



Approx. 30 ft. +/- east of west end – degraded concrete with exposed reinforcing and in-situ existing moisture, existing asphalt patch at lower center of photo, light colored square in center is an existing concrete patch



Close-up of exposed rebar and degraded concrete near center of photo above @ Approx. 30 ft. +/- east of west end, depth of degradation and loose concrete is approx. 3" of 4 1/2" reinforced concrete deck



North edge looking west from approx. center of 103 ft. milling. Degraded/loose concrete with exposed rebar – depth of degradation to approx. 3"



East 1/3 of 103 ft. of milled deck, approx. 5 ft. of 1974 widening exposed/milled on right side



Southwest corner of bridge with concrete degradation and exposed rebar, another concrete patch. Note that degradation stops before the south 5 ft. of the 1974 widening



South side near center of 103' milling – note another existing concrete patch, the line differentiated by the color change just up from the patch is the line of the 1965 deck and the 1975 widening



Existing asphalt patch that is into and below the exposed rebar. A close-up follows.



Exposed reinforcing in existing asphalt patch, depth of degradation/loose concrete is approximately 3" of 4 1/2" reinforced concrete deck



Close-up of degraded concrete with rusted through rebar and degradation to approx. 3" of 4 1/2" deck



Center of milled area looking northeast – existing asphalt patching, degraded/loose concrete, moist concrete and exposed reinforcing



Degradation and exposed reinforcing at existing asphalt patch, existing concrete path lower right



Southeast corner of milled deck – existing asphalt patching, degraded/loose concrete, moist concrete and exposed reinforcing



Line near center of photo going from left to right is the construction line/joint for the 1974 widening of the 1965 bridge. Note the color difference, the 1965 is the top half and is more earth tones and has round aggregate of approx. 1 1/2" minus – the bottom has approx. 3/4" minus crushed aggregate and no degrading



Line near center of photo going from left to right is the construction line/joint for the 1974 widening of the 1965 bridge. Note the color difference, the 1965 is the top half and is more earth tones and has round aggregate of approx. 1 1/2" minus – the bottom has approx. 3/4" minus crushed aggregate and no degrading. The diagonal line/joint is the phasing/pour line for moment distribution



Close-up of exposed rebar and degraded concrete at existing asphalt patch



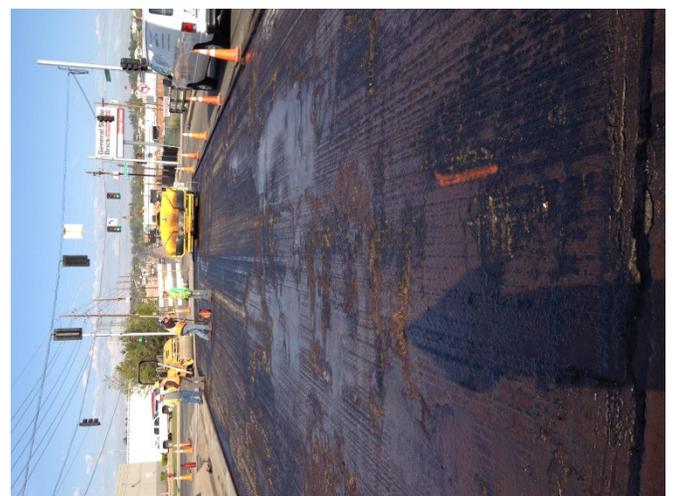
The only exposed rebar in the south pass in the 1974 widened concrete deck



Near center of milled section



Near center near west end



Tacked section before paving



Tacked section on northeast corner looking north prior to tack "breaking"



Paving commencing



Tacked section near center of milled section looking south



Paving completed and HMA completed



Paving ready to commence



Ready to open to traffic

BRIDGE REHABILITATION COST*



Structure Number: ENGLWD-DAPR

Date: 9/26/2013

By: Frank Block

Deck Rehabilitation / Replacement

1. Current Bridge Length (SIA Item 49)	<u>250</u>	FT.
2. Current Roadway Width (SIA Item 51)	<u>46.2</u>	FT.
3. Roadway Deck Area (#1 x #2)	<u>11550</u>	S.F.
4. Estimated Deck Replacement Cost @	<u>\$70</u>	S.F.
5. Total Cost for Existing Deck Area (#3 x #4)	<u>\$808,500</u>	

Bridge Widening / Rehabilitation

6. Future ADT (SIA Item 114)	<u>22983</u>	
7. Minimum Design Width ¹	<u>63</u>	FT.
8. Widening Width (#7 - #2)	<u>16.8</u>	FT.
9. Widening Deck Area (#1 x #8)	<u>4200</u>	S.F.
10. Estimated Widening Cost @	<u>\$160</u>	
11. Total Cost for Widening Deck Area ²	<u>\$772,800</u>	
12. Total Bridge Cost (SIA Item 94) ³	<u>\$1,581,300</u>	
13. Total Roadway Cost (SIA Item 95) ⁴	<u>\$158,130</u>	
14. Total Project Cost (SIA Item 96) ⁵	<u>\$1,739,430</u>	

* For Information Only, Actual Costs May Vary Depending on Location and Current Material Costs

¹ Deck Width Geometry (NBI Item 68) Based on Future ADT and AASHTO Design Guidelines
Deck Width Chosen to Correspond with Deck Geometry NBI Rating Code = 7

² Widening Cost = 1.15[Line 9 x Line 10] Assumed an estimated 15% Engineering Cost of widening cost.

³ Total Bridge Cost = Line 5 + Line 11

⁴ Estimated Roadway Improvement Cost at 10% of Total Bridge Rehabilitation Cost

⁵ Total Project Cost = Line 12 + Line 13

**AGENDA FOR THE
ENGLEWOOD CITY COUNCIL
BOARD AND COMMISSION APPRECIATION
MONDAY, JUNE 30, 2014
Englewood Recreation Center
1155 West Oxford Avenue
6:00 P.M.**

I. Board and Commission Appreciation

City Council will celebrate the volunteerism of the board and commission members.

6:00 p.m. Hot dogs/hamburgers for board/commissioners and families
6:45 p.m. Update from board/commission chairs
7:30 p.m. Conclusion and Clean-up of BBQ