

# AUDIT COMMITTEE MEETS @ 6:00PM



## TOWN COUNCIL WORK SESSION

February 1, 2016 @ 7:00pm  
Front Royal Administration Building

### Town/Staff Related Issues:

1. Solid Waste Evaluation from MSW Consultants
2. FY2017 Capital Improvement Program (CIP) – Sidewalk Improvements – *Director of Planning*
3. Finance Department Reorganization – *Town Manager*
4. Happy Creek Road Phase II Update – *Town Manager*
5. Request from FRIBA to Host *New Year's Eve Front Royal* Event – *Town Manager*
6. Continued Discussion of Urban Archery Ordinance – *Town Manager*
7. Discussion to Set Tax Rate – *Town Manager*

### Council/Mayor Related Items

8. Grace Fellowship Church Sign – *Councilman Hrbeke*
9. Continued Discussion of NSVRC Elected Representative Vacancy
10. Planning Commission Vacancies
11. Council Discussion/Goals (*time permitting*)

1

Town of Front Royal, Virginia  
**Work Session Agenda Form**

Date: January 26, 2016

**Agenda Item:** Solid Waste Collection System Evaluation

**Summary:** The Town retained MSW Consultants to conduct a study and evaluation of the Town's solid waste collection operations. The evaluation has been completed and is presented to Council for discussion.

**Council Discussion:** Council is requested to review the evaluation and its conclusions and provide input and direction to staff.

**Staff Evaluation:** The evaluation identifies a number of recommendations. Staff will evaluate the costs associated with the recommendations for fleet replacement and standardization. Staff are also investigating the single stream recycling recommendation.

**Budget/Funding:** The Finance Director will be available to address fiscal issues.

**Legal Evaluation:** The Town Attorney will be available to address legal issues.

**Staff Recommendations:** Staff recommend Council review the evaluation and provide direction for staff to pursue.

**Town Manager Recommendation:** The Town Manager recommends that Council review the evaluation and provide direction for staff to pursue.

**Council Recommendation:**

- Additional Work Session     Regular Meeting     No Action  
Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)





# TOWN OF FRONT ROYAL

## COLLECTION SYSTEM EVALUATION

FINAL REPORT  
JANUARY 15, 2016



## **MSW CONSULTANTS**

*MidAtlantic Solid Waste Consultants*

11875 High Tech Avenue, Suite 150, Orlando, FL (800) 679-9220

[www.mswconsultants.com](http://www.mswconsultants.com)



*This report was delivered electronically. If it is necessary to print hard copies, please do so on post-consumer recycled paper and recycle.*

# TABLE OF CONTENTS

---

|          |   |          |
|----------|---|----------|
| <b>1</b> | <b>INTRODUCTION.....</b>                            | <b>1</b> |
|          | 1.1.1 Background.....                               | 1        |
|          | 1.1.2 Objectives.....                               | 1        |
|          | 1.2 Methodology.....                                | 1        |
|          | 1.2.1 Phase 1 Existing System Evaluation.....       | 1        |
|          | 1.2.2 Phase 2 Review of Alternatives.....           | 1        |
|          | 1.2.3 Phase 3 Report and Presentations.....         | 2        |
| <b>2</b> | <b>SYSTEM DESCRIPTION.....</b>                      | <b>2</b> |
|          | 2.1 Facilities.....                                 | 2        |
|          | 2.2 Residential Collection Services.....            | 3        |
|          | 2.3 Residential Collection System Observations..... | 4        |
|          | 2.4 Commercial Collection System.....               | 5        |
|          | 2.5 Commercial Collection Observations.....         | 5        |
|          | 2.6 Fleet Observations.....                         | 5        |
| <b>3</b> | <b>COST-OF-SERVICE ANALYSIS.....</b>                | <b>6</b> |
| <b>4</b> | <b>SERVICE AND PROGRAM ALTERNATIVES.....</b>        | <b>7</b> |
|          | 4.1 Standardizing on Rearload Collection.....       | 7        |
|          | 4.2 Convert to Single Stream Recycling.....         | 8        |
| <b>5</b> | <b>CONCLUSIONS AND RECOMMENDATIONS.....</b>         | <b>8</b> |

## LIST OF APPENDICES

- Appendix A – First Working Meeting Presentation
- Appendix B – Second Working Meeting Presentation
- Appendix C – ANSI Standard

# TABLE OF CONTENTS

---

## List of Tables

|  |   |
|--|---|
| Table 2-1 Residential Route Summary.....                                   | 3 |
| Table 2-2 Sample PAYT Rate Structure for Front Royal.....                  | 4 |
| Table 2-3 Commercial Route Summary .....                                   | 5 |
| Table 3-1 Cost of Service Results.....                                     | 6 |
| Table 3-2 Comparison of Current Rates to Estimated Full Cost Rates .....   | 6 |
| Table 3-3 Rate Impact of Facility Operations and Common Good Services..... | 7 |

# COLLECTION SYSTEM EVALUATION

---

## 1 INTRODUCTION

### 1.1.1 BACKGROUND

The Town of Front Royal, located in Warren County, provides residential and commercial waste and recycling collection within Town limits. Residential households receive either a 96 or 32 gallon refuse cart; while commercial customers may receive cart or dumpster service. Recycling collection is provided to households via a curbsort system; many commercial businesses utilize commercial cardboard collection also provided by the Town.

Customers pay monthly fees for trash and recycling collection. The Town will pick up bulky items and out-of-cart set-outs for an additional fee, which increases on successive uses to discourage abuse of the service. The Town may tip residential wastes for no charge at the County transfer station in Bentonville.

Commercial customers are charged \$227 or \$277 per month for 8-yrd dumpster service, depending on once or two a week collection. The Town Municipal Code does not specify rates for the provision of recycling collection, despite the cost of these services. Commercial wastes are also delivered to the County transfer station, although must pay a \$69/ton tip fee.

### 1.1.2 OBJECTIVES

At the current time, the Town is interested in evaluating and optimizing its collection system to improve customer service, reduce costs, increase efficiency, and assure compliance with state recycling goals.

## 1.2 METHODOLOGY

The Town retained MSW Consultants, LLC, a management consulting firm specializing in municipal solid waste management, to evaluate the current collection system. This evaluation was undertaken via the following phases and tasks:

### 1.2.1 PHASE 1 EXISTING SYSTEM EVALUATION

- ◆ **Information Request and Review of Data:** MSW Consultants submitted a written request for information and reviewed responses.
- ◆ **Kick-off Meeting:** MSW Consultants met with Town management and operations personnel at the outset of the project to confirm project scope, schedule, and methodology.
- ◆ **Interviews:** Town personnel (solid waste, fleet management, and Town management) were interviewed to gain additional insight on problems and potential solutions.
- ◆ **Collection Operations Audit:** MSW Consultants observed on-route collection practices, including customer set-out behaviors, for the purpose of identifying current performance metrics and identifying possible alternatives for improving operational efficiency and/or upgrading collection technology. Both the residential (refuse, recycling, yard waste, and bulky waste) and commercial collection systems were observed.
- ◆ **Fleet Inspection:** MSW Consultants visually inspected the solid waste collection fleet, as well as pre-and post-trip procedures.

### 1.2.2 PHASE 2 REVIEW OF ALTERNATIVES

- ◆ **Identification of Options:** Based on the Phase 1 observations, this task identified alternatives for improving efficiency, reducing system costs, and generally improving the solid waste collection systems.

# COLLECTION SYSTEM EVALUATION

---

- ◆ **Analysis of Options:** Each option was evaluated for operational and cost impacts in comparison to the status quo. A cursory cost-of-service model was developed for this analysis to identify likely rate impacts.<sup>1</sup>

## 1.2.3 PHASE 3 REPORT AND PRESENTATIONS

- ◆ **Working Meeting Presentations:** A first working meeting was conducted to present the findings from Phase 1 observations and identify alternatives for additional analysis. This presentation is included in Appendix A. A second working meeting was performed to present the results of the analysis of options. The second working meeting presentation can be found in Appendix B.
- ◆ **Report:** Project results are summarized in this report, with Working Meeting presentations attached as appendices to provide additional details.

## 2 SYSTEM DESCRIPTION

MSW Consultants spent four days observing the collection practices and facilities related to waste and recycling for the Town from August 4 through August 7, 2015.

### 2.1 FACILITIES

The following facilities play a role in Town solid waste management. It was beyond the scope of this study to evaluate facility operations and alternative disposal and processing options.

- ◆ The Town owns a **Public Works facility** located at the Walter M. Duncan Public Works Center & Property Yard at 800 Crosby Road. This facility also houses the Fleet Maintenance, Streets, Water and Sewer Departments.
- ◆ Refuse is delivered by the Town to the **Warren County Transfer Station**, owned by County. There is no tip fee for residential refuse as the fee is included in the annual County property tax. Commercial refuse must be collected separately and not mixed with residential refuse; the rate for commercial waste is \$67.00 per ton. The transfer station, located in Bentonville, is 14.5 miles from the Town Public Works facility and takes approximately 28 minutes one way to drive to the main gate.
- ◆ Yard waste goes to the **Town-owned mulching facility** located at the end of Manassas Avenue on the North side of the railroad tracks. The Town chips brush and provides the mulch to residents free of charge. The grass is dumped in piles at the facility, turned on a regular basis, and decomposes naturally. The facility is located on Town property about a 6 minute drive and 0.7 miles from the Public Works facility.
- ◆ Recycling is dumped at the **Town's Consolidation Center**, also located at the end of Manassas Avenue. The Consolidation Center is located 0.4 miles and a 3 minute drive from the Public Works facility. Old Corrugated Cardboard delivered to the facility is loaded into a dedicated OCC rearload truck, while the remaining commodities are dumped in dedicated roll-off containers. All the separated recyclables are transported by roll-off truck to Southern Scrap located in Winchester. This facility is located 23.8 miles from the Town Public Works facility and takes approximately 42 minutes one way to drive to the front gate.

---

<sup>1</sup> It should be noted that a formal full cost of service and rate analysis was not performed within the scope of this project. The Town may wish to develop such a financial model in the future to validate current rates and manage its solid waste system over a five or ten year planning period.

## 2.2 RESIDENTIAL COLLECTION SERVICES

The Town provides weekly curbside trash and recycling collections to the 5,425 units within the Town. 95 gallon carts for refuse and 22 gallon bins for recyclables are provided to each unit as part of the service. Only residential refuse can be collected on these routes because the Warren County Transfer Station does not charge the Town to dispose of residential refuse.

- ◆ Curbside **refuse collection** is provided using a combination of semi-automated frontload trucks with specially built Curotto cans with two flippers and rearload trucks also with two flippers.
  - ◆ Each refuse routes utilizes a two person crew. The frontload truck requires the driver to drive from the left side even though the truck is equipped with dual drive and the crew person stands on the right side. This does allow for both side of the street collections but the driver has to get in and out of the left side of the truck. Benefits of the dual drive are not achieved with this configuration.
  - ◆ The rearload route, also using a two person crew, provides services to the inner town area including street cans and commercial stops before collecting residential curbside refuse.
- ◆ **Recyclables** are collected once per week at the curb in Town-provided bins. The two person crews curb-sort the recyclable materials into five commodities using a compartmentalized trailer pulled by a small stake bed truck.
  - ◆ The plastic compartment in the recycling trailers fills up quickly, causing the truck to depart the collection route and dump at the consolidation center quite often each day. Town staff reported that some days the crews dump up to four times per day.
  - ◆ The OCC is separated from the other fiber stream and placed in the back of the stake body. The stake body is unloaded by hand into the rearload OCC truck at the consolidation center.
  - ◆ The other commodities collected are dumped into the dedicated roll-off containers at the consolidation center.
- ◆ **Yard Waste** is collected once per week on Wednesdays using rearload trucks with three person crews. Residents are required to use personal containers, decomposable bags or plastic bags. However, all plastic bags must be opened and dumped out and the bags disposed of separately.
- ◆ **Brush**, defined as anything cut in longer than 5 foot sections, is collected by the Horticulture Department using a portable chipper.
- ◆ Most **bulky waste** is collected in the residential refuse collection trucks. All white goods and tires are collected in a flatbed pick-up truck using a call-in/ticket system.
  - ◆ Every year each customer get one free bulky waste collection. After the first collection the customer must pay \$25 for the second collection and \$50 for each additional collection. If the setout consist of more than 20 bags and 5 pieces of furniture the cost for collection is \$400 per hour. For the larger setouts, the crews use a rearload truck for collections. C&D material are not included in acceptable materials for bulk waste collections.

# COLLECTION SYSTEM EVALUATION

Table 2-1 summarizes the daily routes in service at the current time. As shown, there are roughly five daily routes in service each weekday.

**Table 2-1 Residential Route Summary**

| Type of Service         | Mon      | Tue      | Wed      | Thu      | Fri      | Total     |
|-------------------------|----------|----------|----------|----------|----------|-----------|
| Residential Refuse FL   | 2        | 2        | 1        | 2        | 2        | 9         |
| Residential Refuse RL   | 1        | 1        |          | 1        | 1        | 4         |
| Residential Recyclables | 2        | 2        | 1        | 2        | 2        | 9         |
| Yard Waste RL           |          |          | 2        |          |          | 2         |
| <b>Total</b>            | <b>5</b> | <b>5</b> | <b>4</b> | <b>5</b> | <b>5</b> | <b>24</b> |

## 2.3 RESIDENTIAL COLLECTION SYSTEM OBSERVATIONS

The following observations are offered about the residential collection system (in no particular order)

- ◆ All collections crews return to Public Works facility for lunch each day. Many private sector and municipal sector collection providers do not leave route when breaking for lunch.
- ◆ The two person crew configuration on the frontload truck with Curotto can is not an efficient use for this type of truck. Frontloaders with automated carry cans are designed to be operated by a single operator collecting from the right side of the street. The operator can use the low entry, right-hand drive most efficiently.
- ◆ The recycling trailers have a riding step constructed on the rear of the trailer. This configuration may be in violation of ANSI Standards Z2451.1992, which requires that a rider be in plain sight of the driver at all times and riding steps cannot extend beyond the year of the truck. This ANSI standard has been included in Appendix C.
- ◆ There are a few dead-end streets where the collections trucks must either back in or drive in and back out. The helpers were observed walking behind the trucks to help guide the driver. Under these adverse conditions this is the safest alternative for the collection crew.
- ◆ Drivers did not uniformly assist helpers with the recycling collection and sorting effort, resulting in lower collection productivity.
- ◆ Yard Waste collection crews need to be staffed with three crew members during the busy spring and fall yard waste seasons. A two-person crew is likely sufficient for the remaining seasons. During observations, a maximum of seven bags was found to be the largest set-out, which could be handled by a single helper. At most setouts, the second helper never even got off the back of the truck to help and if he did he did, it was to converse rather than to assist with loading.
- ◆ The frontload trucks had what appears to be an electrical problem where the arms stop moving about half way up. The truck could not be moved with the arms and Curotto can in the air so the crew has to shut the engine off and wait for the electronics to reset. Fleet Maintenance reports that they have worked on this problem many times but cannot diagnose it.
- ◆ The Town already uses 32 and 96 gallon carts for residential collection. This is a good platform for converting from flat rates to volume-based rates (often called Pay-As-You-Throw, or PAYT) to give residents an incentive to recycle rather than discard wastes. Such a system might offer a middle cart (perhaps 65 gallons) in addition to the current sizes. Although there could be roughly \$200,000 capital cost associated with purchasing the new sized carts, Table 2-2 illustrates what such a rate structure might look like and calculates the annual revenue that could be recouped. Such rates could provide an incremental increase to annual revenue.

# COLLECTION SYSTEM EVALUATION

**Table 2-2 Sample PAYT Rate Structure for Front Royal**

| Service      | Container Size | Monthly Rate | No. of Customers | Annual Revenue   |
|--------------|----------------|--------------|------------------|------------------|
| 505          | 32 gallon      | \$12.00      | 2,000            | \$288,000        |
| New          | 64 gallon      | \$14.50      | 2,358            | \$410,000        |
| 510          | 96 gallon      | \$16.75      | 1,000            | \$201,000        |
| <b>Total</b> |                |              | <b>5,358</b>     | <b>\$899,000</b> |

## 2.4 COMMERCIAL COLLECTION SYSTEM

The Town operates both a rearload and front load commercial collection system. Both these systems collect commercial containers. The rearload collects 2, 4, and 6 cubic yard containers while the frontload collects all 8 cubic yard containers. All commercial refuse must be collected separately from residential waste and is charged at a rate of \$69 per ton at the transfer station.

- ◆ Commercial collections are performed on Tuesday and Friday. The crew performs the frontload collection first and then switches trucks and performs the rear load collection route. The crew dumps the rearload truck on Tuesday so it is empty for the Wednesday Yard Waste collection, and dumps the frontload truck on Friday.
- ◆ Four days per week the residential rearload crew collects the “town run,” or Central Business District (CBD). The County allows these stops to be mixed with the residential refuse.
- ◆ Commercial OCC is collected in a rearload truck dedicated to OCC collections every Wednesday.
- ◆ There are some rearload containers that are placed at apartment buildings. These containers are dumped as they are passed on the residential routes because they are all residential waste.
- ◆ The Town has a roll-off truck, but it is not used to empty any customer containers. The truck is used to transport the recyclables to the Material Recovery Facility in Winchester.

Table 2-3 summarizes the commercial routes in service each day.

**Table 2-3 Commercial Route Summary**

| Type of Service      | Mon      | Tue      | Wed      | Thu      | Fri      | Total    |
|----------------------|----------|----------|----------|----------|----------|----------|
| Commercial Refuse FL |          | 1        |          |          | 1        | 2        |
| Commercial Refuse RL |          | 1        |          |          | 1        | 2        |
| Commercial OCC RL    |          |          | 1        |          |          | 1        |
| <b>Total</b>         | <b>0</b> | <b>2</b> | <b>1</b> | <b>0</b> | <b>2</b> | <b>5</b> |

## 2.5 COMMERCIAL COLLECTION OBSERVATIONS

The following observations are offered about the commercial collection system (in no particular order):

- ◆ Frontload collection vehicles are designed to be operated by a single occupant. These vehicles are not customarily operated with two person crews.
- ◆ The frontload commercial collections are placing a large bolt in the end of the finger to make sure that the container does not slide off into the hopper while dumping. This is not necessary when the operators are properly trained in dumping procedures.

## COLLECTION SYSTEM EVALUATION

- ◆ Rearload and frontload containers are placed throughout the community and often adjacent to each other. With so few commercial accounts, there is little rationale for maintaining both collection technologies.

### 2.6 FLEET OBSERVATIONS

MSW Consultants did not perform a rigorous analysis of fleet management as part of this project. The following comments are based on limited observations.

- ◆ Town operates a Fleet Maintenance shop within the Public Works facility with four working bays.
- ◆ The shop operates with a staff of 4 including a working Supervisor and 3 mechanics.
- ◆ For solid waste vehicles, a preventive maintenance (PM) service is performed every 3 months and an oil change every 6 months.
- ◆ FL trucks are continuously having issues with the electrical/hydraulic system, which stops arms from moving when half way to top of the cycle.
- ◆ The fleet was found to be getting older and is not rigorously maintained.
- ◆ Many grease fittings were observed to need lubrication. Other issues included small oil leaks that need repair, worn tires, and electrical wires that are hanging low.

### 3 COST-OF-SERVICE ANALYSIS

MSW Consultants proposed a cursory cost-of-service analysis to evaluate the appropriateness of current rates. The cost of service was developed by allocating line-item expenses based on employees, routes or customers, depending on the particular line item. Table 3-1 summarizes the results of this exercise. As shown, the Town's solid waste management program costs almost \$1.2 million on an annualized basis (i.e., direct operating costs, management and administration, and including the annualized capital cost of fleet vehicles).

**Table 3-1 Cost of Service Results**

| Function                          | Annual Cost        | Customers | Monthly Cost/<br>Customer |
|-----------------------------------|--------------------|-----------|---------------------------|
| Residential Refuse Collection     | \$436,924          | 5,358     | \$6.80                    |
| Residential Recycling Collection  | \$288,010          | 5,358     | \$4.48                    |
| Residential Yard Waste Collection | \$101,936          | 5,358     | \$1.59                    |
| Residential Bulky Collection      | \$18,001           | 5,358     | \$0.28                    |
| Consolidation Center              | \$54,501           | N/A       |                           |
| Compost Facility                  | \$72,701           | N/A       |                           |
| CBD Collection/Beautification     | \$82,501           | N/A       |                           |
| Commercial Frontload Collection   | \$57,183           | 5         | \$953.05                  |
| Commercial Rearload Collection    | \$52,329           | 28        | \$155.74                  |
| Commercial Recycling Collection   | \$23,907           | 23        | \$86.62                   |
| <b>Total</b>                      | <b>\$1,187,992</b> |           |                           |

Based on the data above, Table 3-2 calculates the approximate rate compared to the current rate charged for each service.

## COLLECTION SYSTEM EVALUATION

**Table 3-2 Comparison of Current Rates to Estimated Full Cost Rates**

|                                   | Estimated<br>Monthly Cost | Current<br>Rate [1] | Difference |
|-----------------------------------|---------------------------|---------------------|------------|
| <b>Direct Collection Services</b> |                           |                     |            |
| Residential                       | \$13.14                   | \$13.75             | \$0.61     |
| Commercial Rearload Collection    | \$155.74                  | \$209.35            | \$53.62    |
| Commercial Frontload Collection   | \$953.05                  | \$209.35            | -\$743.69  |
| Commercial Recycling              | \$86.62                   | \$0.00              | -\$86.62   |

[1] Commercial rates reflect average revenue per customer, not a specific rate

As shown above, the residential rates appear to be revenue sufficient, while commercial rates do not appear to be adequate to cover direct collection costs.

However, it is important to note that the Town also funds other services through its solid waste collection rates:

- ◆ Consolidation Center operations
- ◆ Compost facility operations
- ◆ Central Business District collection and beautification.

The cost of these services must either be recovered through rates, or else from other sources within the Town. Table 3-3 illustrates the impact of recovering these costs entirely on residential rate payers, or entirely on commercial rate payers.

**Table 3-3 Rate Impact of Facility Operations and Common Good Services**

| Function             | Annual Cost      | Monthly Cost per Customer                           |  |
|----------------------|------------------|---|--|
|                      |                  | If Recovered Solely<br>Through Residential<br>Rates | If Recovered Solely<br>Through Commercial<br>Rates |
| Consolidation Center | \$54,501         | \$0.85  | \$908  |
| Compost Facility     | \$72,701         | \$1.13  | \$1,212  |
| CBD                  | \$82,501         | \$1.28  | \$1,375  |
| <b>Total</b>         | <b>\$209,704</b> | <b>\$3.26</b>                                       | <b>\$3,495</b>                                     |

As shown, monthly residential rates would need to be increased by \$3.26 per household if all of these costs were recovered through residential rates. If all of these facility operations and CBD costs were recovered only through commercial customers, the cost increase would be dramatic.

These costs could eventually be offset through new revenue mechanisms such as facility tip fees or user fees charges to CBD occupants. It was beyond the scope of this project to evaluate revenue recovery strategies.

Overall, this analysis suggests that the Town should look more closely at its commercial collection service to determine (a) whether or not to be in the commercial collection business at all, and (b) if so, how to provide the service more cost effectively. The latter issue is discussed in the next section.

# COLLECTION SYSTEM EVALUATION

---

## 4 SERVICE AND PROGRAM ALTERNATIVES

Based on the above analysis and discussions with the Town, the following two program changes were evaluated.

### 4.1 STANDARDIZING ON REARLOAD COLLECTION

There are significant opportunities to reduce operating cost by converting to a single collection vehicle platform. Currently, provision of both frontload and rearload container service add significantly to the capital cost of the system, while providing minimal benefits.

MSW Consultants evaluated the benefits of converting entirely to rearload collection and converting the small number of frontload containers to rearload containers. Making this change would result in the following operational and financial impacts:

- ◆ Two collection crew positions could be eliminated (or these individuals could be re-assigned).
- ◆ There would be a reduction of seven route-days over a full week.
- ◆ The Town would save roughly \$70,000 annually.

### 4.2 CONVERT TO SINGLE STREAM RECYCLING

The Town may wish to consider implementation of curbside single stream recycling collection via rearloaders. If the conversion to single stream is made in addition to the standardization of all collection services on rearloaders, the following operational and financial impacts would be realized:

Collection crews would no longer curb sort the recyclables into multi-compartment trailers, but rather dump all recyclables mixed together into the rearloader.

- ◆ Three collection crew positions could be eliminated (or the individuals could be re-assigned).
- ◆ There would be a reduction of 11 route-days over a full week.
- ◆ The Consolidation Center could be closed and instead the single stream recyclables could be delivered to a different local processor slightly further away than the current facility. The single stream facility is currently not offering any rebates for single stream recyclable material.
- ◆ The Town would save roughly \$146,000 annually.

## 5 CONCLUSIONS AND RECOMMENDATIONS

MSW Consultants offers the following conclusions and recommendations for consideration by the Town:

- ◆ **Fleet Management:** Steps should be taken to reduce the average age of the fleet and increase the frequency of the preventive maintenance services for the collection trucks.
- ◆ **Standardization of Collection Fleet:** Given that all customer classes can be converted to enable rearload service, there is strong operational and financial incentive to make this transition.
- ◆ **Commercial Collections:** Many local governments do not attempt to serve the commercial sector, but rather choose to leave this an open market where commercial waste generators are responsible for contracting with haulers to obtain services. With only 33 commercial customers, the Town may wish to consider contracting out for commercial collection (especially if it is not possible to convert all commercial customers to rearload containers), or even exit this business entirely. Conversely, the Town could take over all commercial collections within the Town limits which could make the commercial collection system more efficient.
- ◆ **Automation:** Given the topography and customer base, the Town could only implement fully automated collection for roughly 50 percent of its customers. Consequently the current semi-automated system for cart-based waste disposal is appropriate.

- ◆ **Privatization:** Many smaller local governments have outsourced collection of residential wastes and recyclables to private vendors, especially if their small size diminishes economies of scale to keep the service affordable. Because Front Royal provides not only residential collection, but also a slate of common good services in the Central Business District, there is no compelling reason to investigate privatization of the residential service.
- ◆ **Allow for Mixing of Residential and Commercial Waste:** The requirement to keep commercial waste separate from residential for purposes of proper disposal cost accounting creates significant inefficiencies for the Town collection system. The Town should attempt to negotiate a method with the County that would allow for the mixing of residential and commercial waste on the same truck, which would enable improved collection efficiency and reduced cost. Such a solution might provide for semi-annual audits to determine the split of residential and commercial waste on Town trucks, so that the Town could collect and deliver mixed residential and commercial loads on a routine basis.
- ◆ **Single Stream Recycling:** Because of the proximity of a local processor, it appears that collection cost savings can be achieved with the conversion to single stream collection as described in this report. The single stream facility is located slightly further away than the current facility and this facility currently does not rebate their customers for the single stream recyclables delivered.
- ◆ **Formal Rate Study:** Although this report estimated the adequacy of current rates, it did not compile and organize Town financial, customer and operational data suitable for a defensible rate study. The Town should consider preparing a more comprehensive financial cost and rate model for use over a five and 10 year planning period, similar to what may be done for other utilities like water, sewer and electric.

This page intentionally left blank.

---

**APPENDIX A**

**FIRST WORKING MEETING PRESENTATION**

---

This page intentionally left blank.

# Collection System Evaluation

1

WORKING MEETING 1

TOWN OF FRONT ROYAL

SEPTEMBER 24, 2015



## Objectives

2

- **Evaluate Existing System**
  - Staff Interviews
  - Collection Operations Audit
  - Fleet Inspection
- **Identify System Improvements**
  - Improve efficiency
  - Reduce cost
  - Provide better service to Residents and Business

## Data Assembly and Review

3

- Material quantities
- Facilities
- Fleet/containers
- Customers
- Staffing
- Routes
- Cursory review of financial information



## Residential Collection

4

## Collection Services Provided

5

| Service (Collection Technology)                    | No. of Customers | Quantity (annual tons) | Generation Rate  |
|--|------------------|------------------------|------------------|
| Residential Curbside (FL)                          | 3,617            | 3,667                  | 47.6 lbs/HH/week |
| Residential Curbside (RL)                          | 1,808            | 1,833                  | 47.0 lbs/HH/week |
| Residential Recycling (Stake body truck & Trailer) | 5,425            | 309                    | 7.8 lbs/HH/week  |
| Residential Yard Waste (RL)                        | 5,425            | 196                    | 15.4 lbs/HH/week |

FL = Frontload  
RL = Rearload

## Curbside Residential Collection

6



- Town provides once per week refuse collection
- Customers use 95 gallon carts
  - Frontload uses Curotto can with two flippers
  - Rearload has two flippers
- Residential crews collect bulky items
  - Must be called in
  - 1<sup>st</sup> set-out is free
  - Subsequent set-outs charged a fee

## Curbside Recycling Collection

7



- Manual collection by 2-person crew operating 2 routes per day
- 5-compartment truck and trailer
  - Single bin set-outs, sorted by collection crew
- Plastic compartment fills fastest
  - Estimated four dumps per day
- Crew person rides on the back of the trailer

## Curbside Residential Yard Waste

8



- Yard waste (YW) is collected each Wednesday except for Feb & March
- Three person crews collect in Rearloader
- YW must be contained in homeowner containers, Kraft compostable bags, or plastic bags
- Plastic bags must be emptied and bags disposed separately
- The Horticulture Dept chips pile of brush cut in 5 foot lengths

## Productivity

9

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>● <b>Residential Refuse Data</b> <ul style="list-style-type: none"> <li>○ HH/Rt                             <ul style="list-style-type: none"> <li>✦ FL 465</li> <li>✦ RL 476</li> </ul> </li> <li>○ Setout Rate 82%</li> <li>○ FL 45 Sec/Stop</li> <li>○ RL 42 Sec/Stop</li> </ul> </li> <li>● <b>Residential Recycling Data</b> <ul style="list-style-type: none"> <li>○ HH/Rt 607</li> <li>○ Setout Rate 28%</li> <li>○ 80 Sec/Stop</li> </ul> </li> <li>● <b>Residential Yard Waste Data</b> <ul style="list-style-type: none"> <li>○ HH/Rt 2,827</li> <li>○ Setout Rate 9%</li> <li>○ 95 Sec/Stop</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>● <b>Refuse Comments</b> <ul style="list-style-type: none"> <li>○ Low units per route</li> <li>○ Slow seconds per stop</li> </ul> </li> <li>● <b>Recycling</b> <ul style="list-style-type: none"> <li>○ Low units per route</li> <li>○ Low setout rate</li> <li>○ Low seconds per stop</li> </ul> </li> <li>● <b>Yard Waste</b> <ul style="list-style-type: none"> <li>○ Low setout rate</li> <li>○ Low seconds per stop</li> </ul> </li> </ul> |
|--|--|

## Recommendations/Alternatives

10

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>● <b>Refuse Collection</b> <ul style="list-style-type: none"> <li>○ Semi-automated collection is appropriate given Town topography and street profiles</li> <li>○ Standardize on Rearloaders for residential collection                             <ul style="list-style-type: none"> <li>✦ Or...eliminate 2nd crewmember on Frontload/Curotto can route</li> </ul> </li> <li>○ Establish industry standard productivity goals                             <ul style="list-style-type: none"> <li>✦ Increase route size to 600 to 800 households per route</li> </ul> </li> <li>○ Install automated vehicle location (AVL) system for route management or RFID for container tracking and service confirmation</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>● <b>Recycling Collection</b> <ul style="list-style-type: none"> <li>○ Consider single stream recycling with possible collection every other week                             <ul style="list-style-type: none"> <li>✦ With current bin or 95 gallon cart with possible RFID</li> </ul> </li> <li>○ Revisit productivity goals                             <ul style="list-style-type: none"> <li>✦ Increase routes size to 600 to 800 households per route</li> </ul> </li> </ul> </li> </ul> |
|---|---|

## Recommendations (continued)

11

- **Yard Waste Collection**
  - Eliminate plastic bags
  - Consider 95 gallon carts with possible RFID for YW to eliminate plastic bag issue
  - Reduce crew size during off-season months
  - During heavy season, staff extra employee with temporary staff
  - Capacity exists for expanded organics collection (i.e., food and compostable papers)

## Commercial Collection

12

## Collection Services Provided

13

| Service (Collection Technology) | No. of Cust-omers | Quantity (annual tons) | Generation Rate     |
|---------------------------------|-------------------|------------------------|---------------------|
| Commercial OCC (RL)             | 23                | 103                    | 4.5 tons/cust/year  |
| Commercial Containers (RL)      | 28                | 350                    | 12.5 tons/cust/year |
| Commercial Containers (FL)      | 5                 | 72                     | 14.3tons/cust/year  |

FL = Frontload  
RL = Rearload

## Commercial FL Container Collection

14

- Frontload
- 1/2 route two days per week
- 6-yd or 8-yd containers
- 2-person crews
  - Second person opens gates, assist in backing, and adds large bolt so container does not slip off forks
- Low routing density



## Commercial RL Container Collection

15

- Two person crews use RL truck to collect commercial containers
- Containers can range from 2 yard to 8 cubic yd
- RL truck has an overhead winch to dump containers
- Lids are an issue
- Low routing density



## Commercial OCC Collection

16

- Town crew collects source separated OCC from local business
- Crews use a RL truck dedicated to OCC collection
- Some of the OCC is collected by hand and some is collected in RL containers



## Commercial Collection Policy

17

- Town provides service in competition with private sector
- Service levels currently offered do not provide flexibility for customers
  - Flat monthly rate for 6 or 8-yd containers
  - No smaller containers
  - Fixed collection frequency of 2 times per week
- Town does provide some “special services” like opening gates or locking containers

## Productivity

18

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• <b>FL Data</b><ul style="list-style-type: none"><li>○ 248 sec/stop</li></ul></li><li>• <b>RL Data</b><ul style="list-style-type: none"><li>○ 240 sec/stop</li></ul></li><li>• <b>OCC Data</b><ul style="list-style-type: none"><li>○ 250 sec/stop</li></ul></li></ul> | <ul style="list-style-type: none"><li>• <b>FL Comments</b><ul style="list-style-type: none"><li>○ Should be 150 to 180 sec/stop</li><li>○ Eliminate the second person on truck</li></ul></li><li>• <b>RL Comments</b><ul style="list-style-type: none"><li>○ Always slow to dump 4 &amp; 6 cu yd RL containers</li></ul></li><li>• <b>OCC Comments</b><ul style="list-style-type: none"><li>○ Mostly collected by hand</li><li>○ Most private sectors haulers use FL for OCC collection</li></ul></li></ul> |
|---|---|

## Recommendations/Alternatives

19

- **Overarching Statement**
    - The Town does not service enough commercial customers to provide an efficient collection system
  
  - **Reach out to Warren County and try to negotiate an agreement to eliminate the need to separate residential and commercial waste**
- **Options**
    - Change Town ordinance to require that all commercial collection be performed by Town
      - ✦ Prohibit private sector involvement
    - Exit the commercial refuse collection business
      - ✦ Leave to the private sector
    - Eliminate Frontloader service and standardize all Town collection on a Rearload platform

## Fleet Overview

20

## Fleet Management

21

- Four service bays at fleet management facility
  - Staffing:
    - Supervisor
    - 3 mechanics
  - Vehicle Availability was reported to **not** be problem
  - Perform PM service on all vehicles every 3 months and oil change every 6 months
  - Frontload trucks reported to continuously have issues raising the arms
- Avg Age of Fleet
    - FL 13 years
    - RL 12 years
    - Recycling Stake Body and trailers 12.8
  - Reports to have new truck in next budget



## Fleet Management (continued)

22

- Results of Inspection
  - Older fleet is not overly maintained
  - Grease fittings need lubrication
  - Many small hydraulic leaks
  - Electrical wires hanging low
  - Worn tires
- \$50,000 is budgeted annually for Solid Waste Department
  - It was reported that budget is always exceeded
  - No underlying basis for this budget amount

## Recommendations

23

- **More frequent PM service is advised**
  - Weekly is ideal
  - Monthly
- **Develop operational cost profiles for each vehicle type and create budget based on actual expected cost**
- **Standardize solid waste fleet**
  - Frontloader can be eliminated
- **Reduce the average age of the fleet. For Rearload trucks keep to a maximum of 10 years old.**
- **Industry average for trucks:**
  - FL 7 years
  - RL 10 years
  - RO 10 years

## Facilities

24

## Recycling Consolidation Center

25



- 30 Cu Yd roll-off containers are used to store and transport recyclables to the MRF
- OCC is contained in a dedicated RL truck
- Crews transport at least two loaded containers per week to the MRF
- Separate 30 Yd for White Goods and metal

## Brush & Yard Waste Facility

26

- Town operates a facility to chip brush and compost grass called the Farm
- One Town employee assigned to the Farm
  - Manages the consolidation center
  - Chips brush
  - Mixed compost
- Dump grass in a pile for compost



## Recommendations

27

### Recycling Center

- Consider buying a stationary compactor for consolidation center to store OCC
  - Already loaded by hand
- Analyze recycling collection and processing alternatives
  - Status quo
  - Single stream processing

### Yard Waste Processing

- Investigate future ability to incorporate food waste with green waste composting

## Summary

28

## Routes

29

| System                    | Mon      | Tue      | Wed        | Thu      | Fri      | Total       |
|---------------------------|----------|----------|------------|----------|----------|-------------|
| Residential Curbside(FL)  | 2        | 2        |            | 2        | 2        | 8           |
| Residential Curbside (RL) | 1        | 1        | 1          | 1        | 1        | 5           |
| Residential Recycling     | 2        | 2        | 1          | 2        | 2        | 9           |
| Residential Yard Waste    |          |          | 2          |          |          | 2           |
| Commercial OCC            |          |          | 0.5        |          |          | .5          |
| Commercial Containers RL  |          | 0.5      |            |          | 0.5      | 1           |
| Commercial Containers FL  |          | 0.5      |            |          | 0.5      | 1           |
| <b>Total Routes</b>       | <b>5</b> | <b>6</b> | <b>4.5</b> | <b>5</b> | <b>6</b> | <b>26.5</b> |

## Other Recommendations

30

- Perform Cost-of-Service/Rate Study to validate and update rates after optimization of collection system
  
- Get engaged

## Next Steps

31

### October

- **Finish Analysis of Alternatives**
  - Optimize Current System
  - Implement Single Stream recycling
  - Convert all Residential and Commercial to RL Collection system
  - Eliminate all Commercial collections
  
- **Present Alternatives**

### November

- **Complete final report**

## Questions

32

**Walt Davenport, President**  
**301/607-6428**  
**[wdavenport@mswconsultants.com](mailto:wdavenport@mswconsultants.com)**

---

**APPENDIX B**  
**SECOND WORKING MEETING PRESENTATION**

---

This page intentionally left blank.

# Collection System Evaluation

1

WORKING MEETING 2

TOWN OF FRONT ROYAL

DECEMBER 8, 2015



## Objectives

2

- **Identify and Analyze Alternative Collection System Service Delivery**
  - Operational Impacts
  - Financial Impacts

# Collection System Alternatives

3

## Current Routes

4

| Route Type             | Truck Type        | M        | T        | W          | Th       | F        | Total       |
|------------------------|-------------------|----------|----------|------------|----------|----------|-------------|
| Residential Trash      | Frontload         | 2        | 2        | 1          | 2        | 2        | 9           |
| Residential Trash      | Rearload          | 0.75     | 0.75     |            | 0.75     | 0.75     | 3           |
| Coml Business District | Rearload          | 0.25     | 0.25     |            | 0.25     | 0.25     | 1           |
| Commercial Trash       | Rearload          |          | 0.5      |            |          | 0.5      | 1           |
| Residential Recycling  | Pick-up & Trailer | 2        | 2        | 1          | 2        | 2        | 9           |
| Residential Yard Waste | Rearload          |          |          | 2          |          |          | 2           |
| Commercial Trash       | Frontload         |          | 0.5      |            |          | 0.5      | 1           |
| Commercial OCC         | Rearload          |          |          | 0.5        |          |          | 0.5         |
| Residential Bulky      | Flatbed Pick-up   | On-call  |          |            |          |          | 0           |
| <b>Total Routes</b>    |                   | <b>5</b> | <b>6</b> | <b>4.5</b> | <b>5</b> | <b>6</b> | <b>26.5</b> |

## Current Staffing

5

| Route Type             | Truck Type        | M         | T         | W         | T         | F         | Total     |
|------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Residential Trash      | Frontload         | 4         | 4         | 2         | 4         | 4         | 18        |
| Residential Trash      | Rearload          | 1.5       | 1.5       |           | 1.5       | 1.5       | 6         |
| Coml Business District | Rearload          | 0.5       | 0.5       |           | 0.5       | 0.5       | 2         |
| Commercial Trash       | Rearload          |           | 1         |           |           | 1         | 2         |
| Residential Recycling  | Pick-up & Trailer |           | 1         |           |           | 1         | 2         |
| Residential Yard Waste | Rearload          | 4         | 3         | 2         | 4         | 3         | 16        |
| Commercial Trash       | Frontload         |           |           | 6         |           |           | 6         |
| Commercial OCC         | Rearload          |           |           | 2         |           |           | 2         |
| Residential Bulky      | Flatbed Pick-up   |           |           |           |           |           | 0         |
| Farm                   | Rolloff           | 1         | 1         | 1         | 1         | 1         | 5         |
| Extra                  |                   | 2         | 1         | 0         | 2         | 1         | 6         |
| <b>Total Staff</b>     |                   | <b>13</b> | <b>13</b> | <b>13</b> | <b>13</b> | <b>13</b> | <b>65</b> |

## Collection Options

6

- **Automated collection**
  - Automated trucks could only be used for residential refuse and recycling collections.
  - Although it could be used for commercial collection it is not efficient.
  - Only portion of Town can be automated.
- **Increase route size**
  - The units collected on Wednesday should be divided between the other four days of the week to eliminate those Wednesday routes for refuse and recycling

## Pay-as-you-Throw

7

- **Currently use 32 or 96 gallon carts for residential collection**
- **Good platform for starting a pay-as-you-throw (PAYT) program**
  - Many PAYT programs use various sized carts for setting rates
  - Usually start with a base system cost for basic weekly refuse using a 35 gallon cart and weekly recycling service
  - However, most communities offer a larger recycling container to accommodate all the weekly recyclables generated
  - Recycling contamination may increase

## Pay-as-You-Throw Example

8

| Service | Description | Rate    | # Customers | Monthly collection rev | Annual Collection rev |
|---------|-------------|---------|-------------|------------------------|-----------------------|
| 505     | 32 Gal Cart | \$12.00 | 2,000       | \$ 24,000              | \$ 288,000            |
|         | 64 Gal Cart | \$14.50 | 2,358       | \$ 34,191              | \$ 410,292            |
| 510     | 96 Gal Cart | \$16.75 | 1,000       | \$ 16,750              | \$ 201,000            |
|         | Total       |         | 5,358       | 74,941.00              | \$ 899,292.00         |

- Example above would generate more annual revenue for system
- This example would require the Town to purchase additional smaller carts.
- Potential capital cost could be \$200,000 in carts

## All Rearload System

9

- One of the options is an all Rearload collection system
- An all rearload system make better sense:
  - Standardize fleet
  - Reduce fleet size
  - Reduce maintenance cost
  - More efficient residential collection for two person crew
  - Currently collecting half the commercial accounts with Rearload

## Impact on Routes

10

| Route Type             | Truck Type        | Routes: Current | Routes: All RL |
|------------------------|-------------------|-----------------|----------------|
| Residential Trash      | Frontload         | 9               | 0              |
| Residential Trash      | Rearload          | 3               | 7              |
| Com Business District  | Rearload          | 1               | 1              |
| Commercial Trash       | Rearload          | 1               | 1              |
| Residential Recycling  | Pick-up & Trailer | 9               | 8              |
| Residential Yard Waste | Rearload          | 2               | 2              |
| Commercial Trash       | Frontload         | 1               | 0              |
| Commercial OCC         | Rearload          | 0.5             | 0.5            |
| Residential Bulky      | Flatbed Pick-up   | On call         | On call        |
| <b>Total Routes</b>    |                   | <b>28.5</b>     | <b>21.5</b>    |

## Impact on Staffing

11

| Route Type                | Truck Type | Current | All RL |
|---------------------------|------------|---------|--------|
| Residential Trash         | Rearload   | 26      | 16     |
| Commercial Trash          | Rearload   | 4       | 2      |
| Residential Yard Waste    | Rearload   | 6       | 4      |
| Residential Recycling     | Trailer    | 18      | 16     |
| Commercial OCC            | Rearload   | 1       | 1      |
| Rolloff/Consolidation Ctr | Rolloff    | 9       | 9      |
| Bulky                     | Flatbed    | 1       | 1      |
| Total Staff               |            | 65      | 49     |

Current: 65 staff

## Single Stream Recycling Collection

12

- **Single stream recycling collection could possibly be performed by a single truck or even every-other-week collection**
- **If the residential and commercial refuse collection system are converted to all rearload trucks it would make sense to convert the residential recycling to rearload collection**
  - Could reduce the number of trucks required for collection
  - However, would increase the capital cost of equipment for recycling collection
  - The pickup trucks with trailers are very cost effective with extremely low capital cost

# Financial Analysis

13

## Current System Revenues

14

| Service | Description             | Rate      | # Customers | Monthly collection | Yearly Collection |
|---------|-------------------------|-----------|-------------|--------------------|-------------------|
| 505     | 32 Gal container        | \$ 12.00  | 317         | \$ 3,804.00        | \$ 45,648.00      |
| 510     | 96 Gal container        | \$ 13.75  | 5,041       | \$ 69,313.75       | \$ 831,765.00     |
| 530     | Dumpster 1x week pickup | \$ 190.00 | 19          | \$ 3,610.00        | \$ 43,320.00      |
| 540     | Dumpster 2x week pickup | \$ 240.00 | 12          | \$ 2,880.00        | \$ 34,560.00      |
| 580     | Tipping fee             | \$ 37.00  | 30          | \$ 1,110.00        | \$ 13,320.00      |
|         | Total                   |           |             |                    | \$ 968,613.00     |

- Based on 2016 Adapted Budget
- Average commercial revenue of \$209.35 per account

## Current System Costs

15

- Cost from 2016 budget with addition of estimated capital cost

| Cost Center                       | Res Refuse | Res Rec    | Res YW     | Res Bulky | Consolidation Center | Compost Facility | CBD       | Com FL    | Com RL    | Com Rec   | Total        |
|-----------------------------------|------------|------------|------------|-----------|----------------------|------------------|-----------|-----------|-----------|-----------|--------------|
| Total Personnel & Fringe Benefits | \$ 264,620 | \$ 207,094 | \$ 69,031  | \$ 11,505 | \$ 23,010            | \$ 57,526        | \$ 57,526 | \$ 23,010 | \$ 23,010 | \$ 11,505 | \$ 747,840   |
| Total Operating Expenses          | \$ 65,023  | \$ 47,706  | \$ 10,724  | \$ 2,650  | \$ 10,301            | \$ 12,485        | \$ 5,485  | \$ 16,482 | \$ 16,128 | \$ 2,657  | \$ 189,642   |
| Total Capital                     | \$ 18,459  | \$ 13,844  | \$ 3,077   | \$ 769    | \$ 1,538             | \$ 1,538         | \$ 1,538  | \$ 1,538  | \$ 1,538  | \$ 769    | \$ 44,610    |
| Transfer to General Fund          | \$ 13,821  | \$ 10,366  | \$ 2,303   | \$ 576    | \$ 1,152             | \$ 1,152         | \$ 1,152  | \$ 1,152  | \$ 1,152  | \$ 576    | \$ 33,400    |
| Annualized Capital Cost           | \$ 75,000  | \$ 9,000   | \$ 16,800  | \$ 2,500  | \$ 18,500            | \$ -             | \$ 16,800 | \$ 15,000 | \$ 10,500 | \$ 8,400  | \$ 172,500   |
| Total - Department                | \$ 436,924 | \$ 288,010 | \$ 101,936 | \$ 18,001 | \$ 54,501            | \$ 72,701        | \$ 82,501 | \$ 57,183 | \$ 52,329 | \$ 23,907 | \$ 1,187,992 |

## Cost of Service Methodology

16

- Allocated line item budget expenses based on
  - Employees
  - Route-days
  - Number of Customers
- Added annualized cost of fleet vehicles
  - 10-yr useful life
  - Replacement value (\$1.7 million total capital cost)
- Calculated monthly cost per customer for each service type
- CIP plan needs to be developed

## Allocated System Cost

17

| Function                          | Annual Cost        | Customers | Monthly Cost/<br>Customer |
|-----------------------------------|--------------------|-----------|---------------------------|
| Residential Refuse Collection     | \$436,924          | 5,358     | \$6.80                    |
| Residential Recycling Collection  | \$288,010          | 5,358     | \$4.48                    |
| Residential Yard Waste Collection | \$101,936          | 5,358     | \$1.59                    |
| Residential Bulky Collection      | \$18,001           | 5,358     | \$0.28                    |
| Consolidation Center              | \$54,501           | ?         |                           |
| Compost Facility                  | \$72,701           | ?         |                           |
| CBD Collection/Beautification     | \$82,501           | ?         |                           |
| Commercial Frontload Collection   | \$57,183           | 5         | \$953.05                  |
| Commercial Rearload Collection    | \$52,329           | 28        | \$155.74                  |
| Commercial Recycling Collection   | \$23,907           | 23        | \$86.62                   |
| <b>Total</b>                      | <b>\$1,187,992</b> |           |                           |

## Full Cost vs Current Rates

18

|  | Estimated<br>Monthly Cost | Current<br>Rate [1] | Difference         |
|--|---------------------------|---------------------|--------------------|
| <b>Direct Collection Services</b>            |                           |                     |                    |
| Residential                                  | \$13.14                   | \$13.75             | \$0.61             |
| Commercial Rearload Collection               | \$155.74                  | \$209.35            | \$53.62            |
| Commercial Frontload Collection              | \$953.05                  | \$209.35            | -\$743.69          |
| Commercial Recycling                         | \$86.62                   | \$0.00              | -\$86.62           |
| <b>Other Services - Added to Residential</b> |                           |                     |                    |
| Consolidation Center                         | \$0.85                    | \$0.00              | -\$0.85            |
| Compost Facility                             | \$1.13                    | \$0.00              | -\$1.13            |
| <u>CBD</u>                                   | <u>\$1.28</u>             | <u>\$0.00</u>       | <u>-\$1.28</u>     |
| Total  | \$3.26                    |                     | -\$3.26            |
| <b>Other Services - Added to Commercial</b>  |                           |                     |                    |
| Consolidation Center                         | \$908.35                  | \$0.00              | -\$908.35          |
| Compost Facility                             | \$1,211.69                | \$0.00              | -\$1,211.69        |
| <u>CBD</u>                                   | <u>\$1,375.02</u>         | <u>\$0.00</u>       | <u>-\$1,375.02</u> |
| Total  | \$3,495.07                |                     | -\$3,495.07        |

[1] Commercial rates reflects average revenue per customer

## High Cost of Commercial Services

19

- **Commercial Services will require a substantial price increase to obtain a breakeven level.**
  - A price increase could further decrease the number of commercial customers
  - With further decreases in customer counts the Town might consider eliminating the entire system
- **One alternative might be to eliminate separating commercial and residential waste if approved by County**
  - That change could eliminate the commercial collection system
- **The IN or OUT decision may need to be discussed**
- **Decision would not effect collection of dumpsters at apartments**

## Convert to All Rearload Collection

20

- **Transition all frontload customers to rearload collection**
- **Reclassification of 2 employees and eliminates 7 route-days**
- **Annual savings of ~\$69,400**

**Convert to All Rearload Collection and Single Stream Recycling Collection**

21

- **Transition all frontload customers to rearload collection**
- **Convert to single stream recycling collection via rearload service**
- **Reclassification of 3 employees and eliminates 11 route-days**
- **Eliminate the necessity for the Consolidation Center**
- **Annual savings of ~\$145,700**

**Summary**

22

## Next Steps

23

December

- Complete and deliver project report

## Questions

24

**Walt Davenport, President**

**301/607-6428**

**[wdavenport@mswconsultants.com](mailto:wdavenport@mswconsultants.com)**

**John Culbertson, Principal**

**407/380-8951**

**[jculbertson@mswconsultants.com](mailto:jculbertson@mswconsultants.com)**

---

**APPENDIX C**  
**ANSI STANDARD Z2451.1992**

---

This page intentionally left blank.

## APPENDIX C – ANSI STANDARD Z2451.1992

---

### 7.1.10 Riding steps

If provided, riding steps shall:

- a) have a Slip-resistant surface and be self-cleaning;
- b) be capable of supporting 500 lb at the point furthest from its point of attachment;
- c) be mounted not more than 24 in above the road surface;
- d) have a depth of at least 8 in and provide a minimum of 220 square in of surface area;
- e) riding steps, if provided, shall be located behind the rearmost axle of the vehicle, but shall not extend beyond the rearmost structural portion of the vehicle except as described in 7.2.2.4.

### 7.2.2.4 Riding steps

In addition to the requirements of 7.1.10, steps shall extend no more than 8 in beyond the vertical plane that intersects that rearmost structural portion of the truck or hopper, and shall extend no more than 8 in inboard of the Inside edge of the hopper opening. Steps and riding platforms shall not extend beyond the rearmost portion of the vehicle except as described herein (see figure 11).

# APPENDIX C

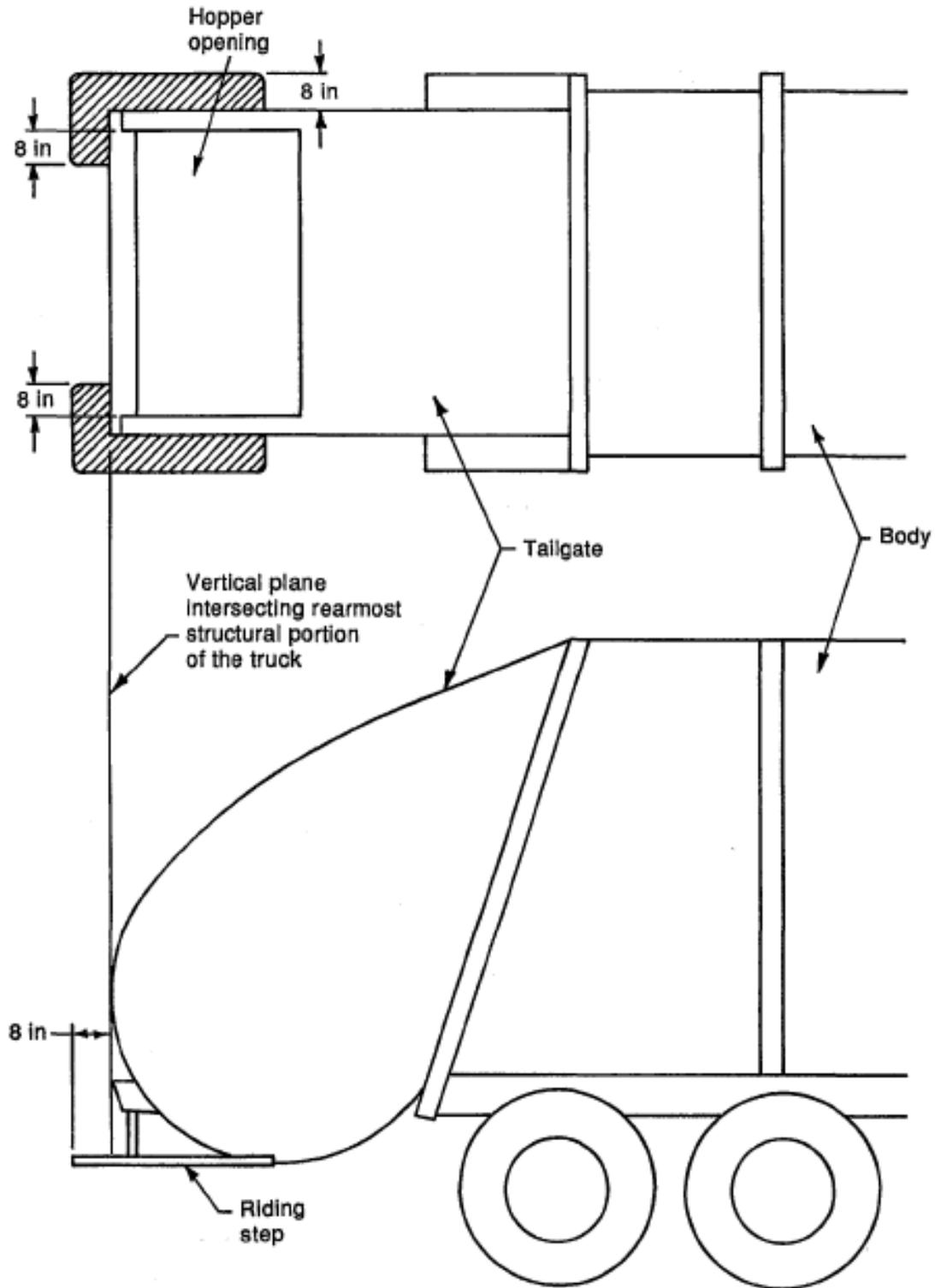


Figure 11 – Mobile compactor rear-riding step configuration

2

## Town of Front Royal, Virginia Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** FY2017 Capital Improvement Program (CIP) – Sidewalk Improvements  
*Director of Planning & Zoning*

**Summary:** The following table includes a list of short-term sidewalk improvement projects that Town Staff recommends for the FY 2017 CIP.

| Project                    | Description  | Distance    | Estimate  |
|----------------------------|--|-------------|-----------|
| Westminster Drive          | Add 5' sidewalk on west side. 4 Crosswalks and ADA ramps. VDOT TAP Grant Approved.   | 2,375'      | \$125,000 |
| E. Criser Road             | Add 6' sidewalk/trail on south side. 5 Crosswalks.   | 3,425'      | \$193,000 |
| E. Stonewall Drive         | Add 5' sidewalk on one side to complete link to Town. 4 Crosswalks.  | 2,360'      | \$123,000 |
| Happy Creek Road, Phase 2. | Add 5' sidewalks on both sides of the street. Bike lanes. Coordinate with Road Improvement Project. Links Happy Creek, P1 with LRP Projects.                   | 2,200' (x2) | \$229,000 |
| Kendrick Lane              | Add 5' sidewalk on one side of Kendrick Lane from existing sidewalk to Future Police Station. Crosswalks. Links Town with Avtex. Links Viscose City with Town. | 4,460'      | \$232,000 |
| West Main Street           | Add 5' sidewalk on one side of W. Main Street from current sidewalk to connection with Future W. Main Extended. Links Downtown with W. Main Extension/Avtex.   | 2,240'      | \$117,000 |

Attached with this coversheet is a map of existing sidewalks and trails in the Town. Major pedestrian “destinations” have been labeled for reference purposes. Also attached is a map showing the above short-term projects.

**Council Discussion:** This agenda item is scheduled for a work session review on February 1, 2016, and is in coordination with the FY2017 CIP.

**Staff Evaluation:** Planning & Zoning Staff will be available during the work session.

**Budget/Funding:** As to be determined by Town Council. Estimates provided above.

**Legal Evaluation:** The Town Attorney will be available at the upcoming work session.

**Town Manager:** The Town Manager will be available at the upcoming work session.

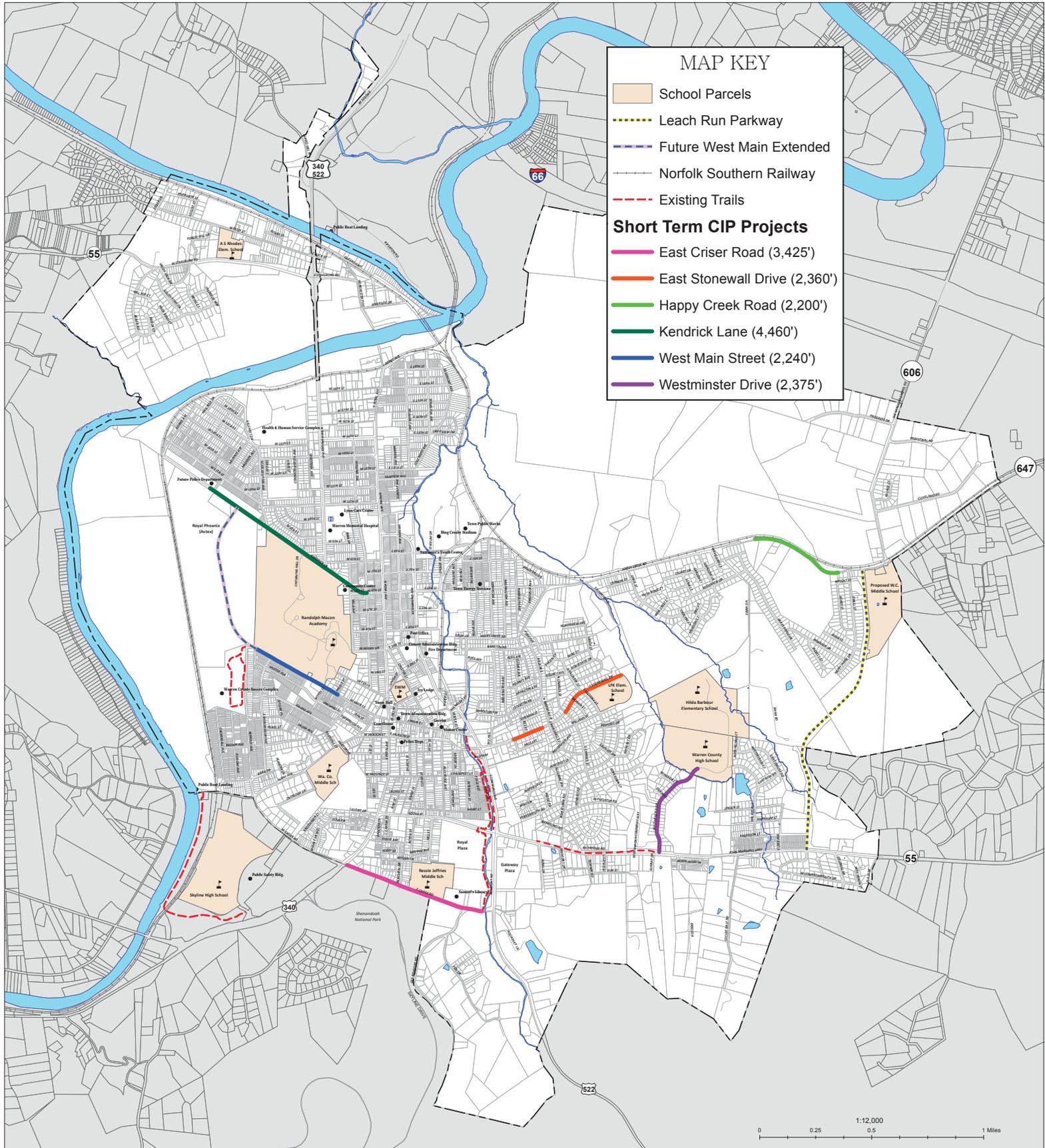
**Council Recommendation:**

Additional Work Session   
  Regular Meeting   
  No Action  
 Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)

Work Session



# Capital Improvement Plan - Short Term Projects



JANUARY 2016

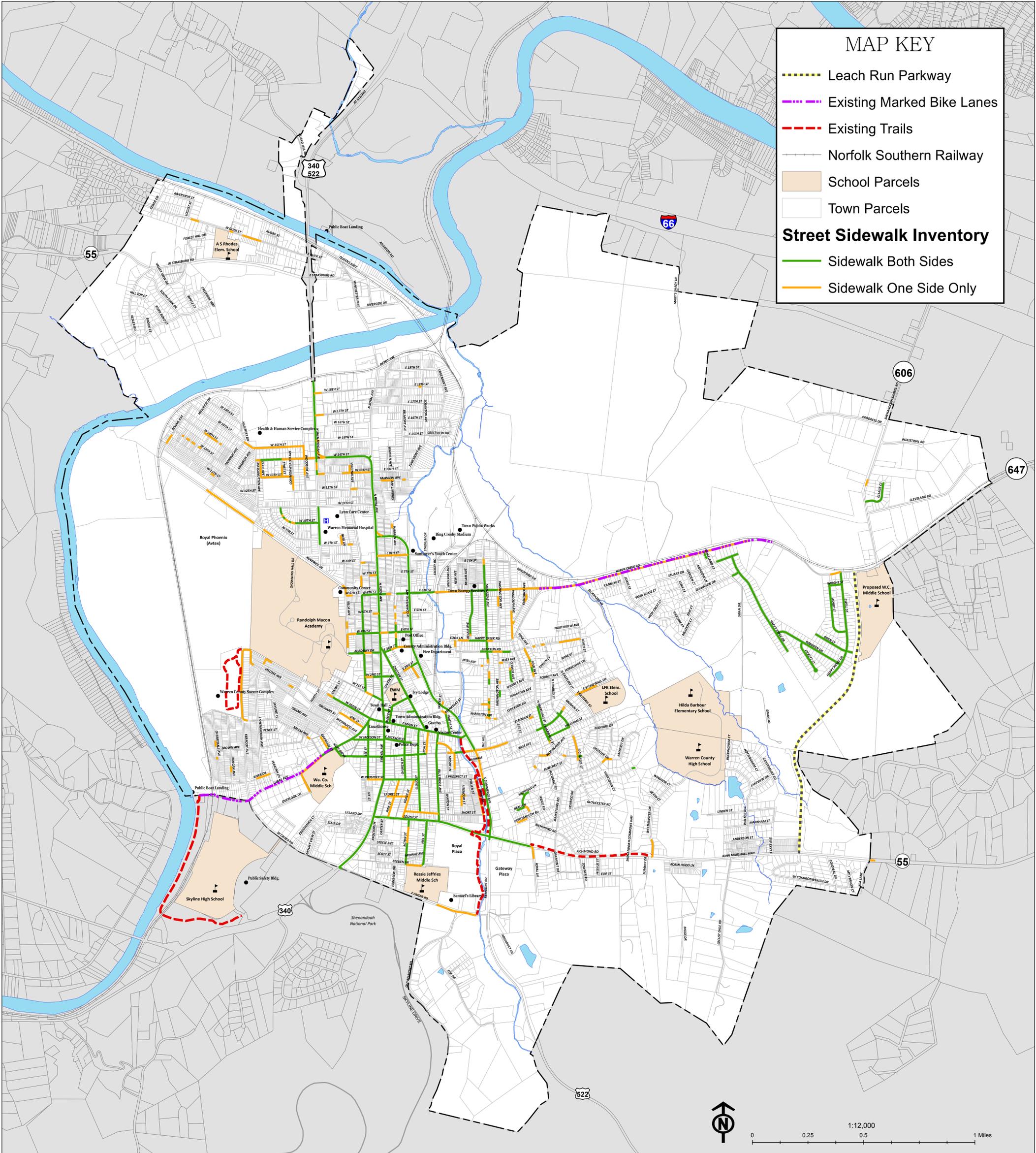
PREPARED BY THE  
TOWN OF FRONT ROYAL  
DEPARTMENT OF PLANNING & ZONING

D.G. Merchant, Cartographer

## Town of Front Royal, Virginia



# SIDEWALK INVENTORY



**MAP KEY**

- Leach Run Parkway
- Existing Marked Bike Lanes
- Existing Trails
- Norfolk Southern Railway
- School Parcels
- Town Parcels

**Street Sidewalk Inventory**

- Sidewalk Both Sides
- Sidewalk One Side Only

Revised JANUARY 2016

PREPARED BY THE  
TOWN OF FRONT ROYAL  
DEPARTMENT OF PLANNING & ZONING

D.G. Merchant, Cartographer

## Town of Front Royal, Virginia

3

Town of Front Royal, Virginia  
**Work Session Agenda Form**

Date: February 1, 2016

**Agenda Item:** Finance Department Reorganization

**Summary:** Based upon the retirement of our Finance Director, staff has developed a plan to reorganize the Finance Department. Details about the reorganization and anticipated cost savings will be provided at the Work Session

**Council Discussion:** Council is requested to consider a plan to reorganize the Finance Department.

**Staff Evaluation:** The proposed reorganization is anticipated to establish a Department that will provide dedicated staffing towards fiscal status evaluation and provide a defined career development path within the Department.

**Budget/Funding:** The Finance Director will be available to address fiscal issues.

**Legal Evaluation:** The Town Attorney will be available to address legal issues.

**Staff Recommendations:** Staff recommend Town Council consider the proposed reorganization plan and provide input about its implementation.

**Town Manager Recommendation:** The Town Manager recommends Town Council consider the proposed reorganization plan and provide input about its implementation.

**Council Recommendation:**

- Additional Work Session     Regular Meeting     No Action  
Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)



4

Town of Front Royal, Virginia  
Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** Happy Creek Road Phase II

**Summary:** The Town has been notified by Steve Damron with VDOT that recent policy changes within VDOT have resulted in further delay towards the Happy Creek Road Phase II project. VDOT will not allow projects to advance to any stage of the design or construction process until the project is fully funded throughout the construction phase. VDOT has confirmed that \$1,316,594 in Urban Funds have been allocated towards the project, but these funds cannot be used until the project estimated between \$3,000,000 and \$4,000,000 is fully funded. VDOT recommends that the Town pursue HB2 or Revenue Sharing funding for the project.

**Council Discussion:** Council is requested to receive the updated project status and project input about proceeding with the project.

**Staff Evaluation:** VDOT will not be awarding new HB2 or Revenue Sharing funding until July 2017. Staff will attempt to identify Town funding to develop a Preliminary Engineering Report for the project in the FY16-17 Budget. Staff will also pursue other funding opportunities as they are identified.

**Budget/Funding:** The Finance Director will be available to address fiscal issues.

**Legal Evaluation:** The Town Attorney will be available to address legal issues.

**Staff Recommendations:** Staff recommend Town Council receive the update on the project's status.

**Town Manager Recommendation:** The Town Manager recommends Town Council receive the update on the project's status.

**Council Recommendation:**

Additional Work Session     Regular Meeting     No Action  
Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)



**Subject:** Status of Happy Creek Road Phase II UPC 105005  
**Date:** Thursday, January 21, 2016 at 10:49:40 AM Eastern Standard Time  
**From:** Damron, Steven (VDOT)  
**To:** Steven Burke  
**CC:** Kiser, Randy, PE (VDOT), Jackson, Terry, PE LS (VDOT), Branscome, Michael (VDOT), Carter, Edwin (VDOT), Short, Terry (VDOT)  
**Attachments:** image001.gif

Steve,

Thanks again for meeting with me yesterday to discuss the status of the Happy Creek Road Phase II project, as discussed new policy changes within VDOT will have an effect on how this project moves forward. This new policy states that no project can move forward unless it is fully funded throughout the construction phase.

As you know myself and our Programming and Local Assistance sections worked last fall closing out the Happy Creek Phase I and transferred the remaining balance of project funding to Phase II. This work resulted in \$1,316,594 in Urban Funds being allocated to Happy Creek Phase II, which would have funded the PE Phase of the project and some of the ROW phase.

Currently, the funds that are allocated to the project will remain available through January of 2018 if additional project funding can be secured, otherwise these funds will be subject to deallocation after January of 2018. For this reason I recommended to you that the Town of Front Royal should apply for Revenue Sharing and/or HB2 Funding during the next application cycle to fully fund this project.

We also discussed that if the Town wished to begin preliminary design using the Town's own funding would help this project score better in the HB2 process. We also discussed that there may be a possibility of some VDOT planning funds being available to help develop projects like this for the HB2 process but we need to have those discussions with the VDOT District Planner, Terry Short, to see what those options are.

If you have any questions or need any additional information please do not hesitate to let me know.

Thanks,



## Steven K. Damron

Programming Specialist Senior  
Staunton District - PIM Section  
811 Commerce Rd.  
Staunton, VA 24401-9029  
Ph # (540)-332-7389  
Fax # (540)-332-9266  
email: [Steven.Damron@VDOT.Virginia.gov](mailto:Steven.Damron@VDOT.Virginia.gov)

5

Town of Front Royal, Virginia  
Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** New Year's Eve Front Royal Request

**Summary:** The Town has received a request from the Front Royal Independent Business Alliance to host the 2016 New Year's Eve Front Royal event. Staff have requested that representatives of FRIBA attend the Work Session to discuss their vision of the event for Council's consideration to transition oversight.

**Council Discussion:** Council is requested to discuss the request to transition oversight of the 2016 New Year's Eve Front Royal event to the Front Royal Independent Business Alliance.

**Staff Evaluation:** Staff will be available to discuss the organization of the 2015 New Year's Eve Front Royal event.

**Budget/Funding:** The Finance Director will be available to address fiscal issues.

**Legal Evaluation:** The Town Attorney will be available to address legal issues.

**Staff Recommendations:** Staff recommend Town Council discuss transition of the 2016 New Year's Eve Front Royal event to FRIBA.

**Town Manager Recommendation:** The Town Manager recommends Town Council discuss transition of the 2016 New Year's Eve Front Royal event to FRIBA

**Council Recommendation:**

- Additional Work Session
  - Regular Meeting
  - No Action
- Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)



1 Kidd Lane  
Front Royal, VA 22630



info@frontroyaliba.com  
www.frontroyaliba.com

January 14, 2016

Mayor Tim Darr  
Front Royal Town Council

Mr. Mayor and Members of Council:

At our membership meeting this week, FRIBA agreed that we would like to take on the New Year's Eve Celebration in Downtown Front Royal as the primary organizer and sponsor, with the aid of the Town as secondary sponsor.

We understand that the Town, in establishing this event, has stated that they would be willing to give this opportunity to another organization if one were interested in taking on the responsibility of managing this event. So we are asking for the opportunity, as it fits within our mission of hosting family-oriented events that promote and aid independent businesses in our community.

We hope we can do this in partnership with the Town, as we have done and continue to do with our Taste of the Town event, which is coming up in May of this year.

Please let us know, either by letter, phone call or email, if our understanding is correct, and that the Town is acceptable to having FRIBA sponsor the event.

You can reach me at 540-635-7064, [info@frontroyaliba.org](mailto:info@frontroyaliba.org), or the below printed address.

Thanks, and we wish you the best for 2016!

Craig Laird  
President



*The best way to compete with organized business is with organized people.*

6

Town of Front Royal, Virginia  
Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** Urban Archery Code Amendment

**Summary:** At the January 19th Work Session, Council requested staff investigate 1) if a minimum lot size could be required; 2) if school property should be excluded; 3) if Town can regulate who hunts.

**Council Discussion:** Council is requested to continue discussion of the Code Amendment for Urban Archery so that the Town can continue deer management in 2016

**Staff Evaluation:** Staff have discussed Council’s inquiries with staff from the Department of Game and Inland Fisheries; DGIF staff have been invited to attend the Work Session if they are available. 1) The Town can include a minimum lot size in the Code. Staff would recommend modifying 167-6. B. to “Any person discharging archery equipment shall, at all times while engaged in such activity, have in their possession written permission from the landowner(s) to discharge such weapon on the private property. *Approval from landowner(s) of a total aggregate, contiguous area of one (1) acre at minimum is required to conduct archery hunting.*” 2) Discussion indicates that hunting of school property should be left to the director/administrator of the school. Staff would recommend modifying 167-6. F. to “*Hunting on school property will require written approval of the director/administrator/superintendent of the school, and shall be subject to all requirements of this Chapter.*” Discharge of archery equipment is not permitted within one hundred (100) feet of any school property line.” 3.) DGIF believes that the requirements of the standard hunting permit should suffice. Any further restrictions create further regulations that will have to be administered, tracked, and confirmed by the Town.

**Budget/Funding:** The Finance Director will be available to address fiscal issues.

**Legal Evaluation:** The Town Attorney will be available to address legal issues.

**Staff Recommendations:** Staff recommend Town Council to continue discussion on the Code Amendment for Urban Archery.

**Town Manager Recommendation:** The Town Manager recommends Town Council to continue discussion on the Code Amendment for Urban Archery.

**Council Recommendation:**

- Additional Work Session
- Regular Meeting
- No Action

Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)



Chapter 167WEAPONS**Sections:****167-1 DEFINITIONS****167-2 DISCHARGE OF FIREARMS****167-3 DISCHARGE OF PNEUMATIC GUNS****167-4 DISCHARGE OF MISSILE PROJECTING WEAPONS****167-5 THROWING OF STONES****167-6 VIOLATIONS**

Adopted by the Town Council of the Town of Front Royal 3-11-85 (*Chapter 32 of the 1965 Code*). Entire Chapter amended by Ord. 3-12 on 1-23-12. Other amendments noted where applicable.

**167-1 DEFINITIONS**

**ARROW** – A shaft-like projectile intended to be shot from a bow.

**AMMUNITION** – A cartridge, pellet, ball, missile, or projectile adapted for use in a weapon.

**BOW** – Any longbow, recurve bow, compound bow, or crossbow having a peak draw of 10 pounds or more, intended and capable of shooting an arrow. The “bow” does not include bows that have a peak draw of less than 10 pounds or are intended to be used principally at toys.

**FIREARM** – Any weapon which will, or is designed to, or may be readily converted to, expel a projectile, or in which ammunition may be used or discharged by explosion; provided, however, that stud nailing guns, rivet guns, and similar construction equipment neither designed nor intended as weapons, shall not be deemed firearms.

**PNEUMATIC GUN** – Any implement designed as a gun that will expel a BB pellet, or other ammunition by action of pneumatic pressure. This definition shall include a paintball gun that expels by action of pneumatic pressure plastic balls filled with pain for the purpose of marking the point of impact.

**REASONABLE CARE** – The use of pneumatic guns such that the gun is being discharged so that its BBs, pellets, or other ammunition will be contained on the property by a backstop, earthen embankment or fence. The discharge of BBs, pellets, or other ammunition across or over the bounds or property shall create the rebuttable presumption that the use of the pneumatic gun was not conducted with reasonable care.

**TOWN COUNCIL** – The Town Council of the Town of Front Royal, Virginia.

(Ord. No. 8-07 Repealed Entire Section 5-14-07-Effective Upon Passage)

(Ord. No. 3-12 Added Entire Section 1-23-12-Effective Upon Passage)

## 167-2 DISCHARGE OF FIREARMS

A. No person shall discharge a firearm of any description within the Town, with the exception of the following:

1. Any law enforcement officer in the performance of official duties;
2. Any other person whose said willful act is otherwise justified or excusable at law in the protection of life or property, or is otherwise specifically authorized by law. *This shall not apply to control of wildlife by non law enforcement personnel;*
3. Any otherwise lawful discharge while actually engaged in target practice on shooting ranges or other facilities lawfully established and maintained;
4. The use of blank ammunition at athletic events, military funerals, theatrical performances or events of similar character; or,
- ~~5. Lawfully hunting deer pursuant to a specific grant of authority under a Deer Management Plan adopted by the Virginia Board of Game and Inland Fisheries and the Town Council.~~

(Ord. No. 3-12 Amended Entire Section 1-23-12-Effective Upon Passage)

## 167-3 DISCHARGE OF PNEUMATIC GUNS

A. It shall be unlawful for any person to discharge any pneumatic gun in the Town that are in the opinion of the Town Council so heavily populated as to make such conduct dangerous to the inhabitants thereof:

1. In or within 300 feet of any dwelling, commercial building, or shelter for animals, with the exception of the following:
  - a. Any otherwise lawful discharge while actually engaged in target practice on shooting ranges or other facilities lawfully established and maintained;
  - b. On other property where firearms may be legally discharged; or,
  - c. On private property with permission of the owner or legal possessor thereof when conducted with reasonable care to prevent a projectile from crossing the bounds of the property.

B. It shall be unlawful for any minor under the age of 16 to use a pneumatic gun unless such

minor is under the supervision of a parent, guardian, or other adult supervisor approved by a parent or guardian of such minor. Minors above the age of 16 may, with the written consent of a parent or guardian, use a pneumatic gun on private property with the consent of the owner. Any minor, whether permitted by a parent or guardian to use a pneumatic gun or not, shall be responsible for obeying all laws, regulations, and restrictions governing such use.

(Ord. No. 3-12 Amended Entire Section 1-23-12-Effective Upon Passage)

#### 167-4 DISCHARGE OF MISSILE PROJECTING WEAPONS

A. It shall be unlawful to discharge any non-firearm or non-pneumatic missile projecting gun or weapons to include bows, crossbows, and slingshots within the Town, with the exception of the following:

1. Any law enforcement officer in the performance of official duties;
2. Any other person whose said willful act is otherwise justified or excusable at law in the protection of life or property, or is otherwise is specifically authorized by law;
3. Any otherwise lawful discharge while actually engaged in target practice on shooting ranges or other facilities lawfully established and maintained; and,
4. Lawfully hunting wildlife pursuant to *the Urban Archery regulations provided below. a specific grant of authority under a Wildlife Management Plan adopted by the Virginia Department of Game and Inland Fisheries and the Town Council.*
5. *Target shooting of bows and crossbows for use during the Town's Urban Archery Season is permitted with appropriate backstop on property with written consent of the owner of the property.*

(Ord. No. 3-12 Added Entire Section 1-23-12-Effective Upon Passage)

(Amended (4) by adding "Wildlife" in place of "Deer" 9-23-13-Effective Upon Passage)

#### 167-5 THROWING OF STONES

It shall be unlawful for any person to throw a stone or other missile in the streets or public property with the intent to do harm to people, animals, or property.

(Ord. No. 3-12 Amended Entire Section 1-23-12-Effective Upon Passage)

#### 167-6 URBAN ARCHERY

*Archery hunting is permitted within the Town limits by licensed hunters during an approved Virginia Department of Game and Inland Fisheries (DGIF) Archery Season. In addition to the Urban Archery Season for deer, archery deer hunting is also allowed during the early archery deer season, the general firearms deer season, and the late archery deer season. Hunting for other wildlife is permitted only during the season approved by DGIF. Licensed archery hunters*

*must abide by all applicable section of the Virginia State Code and Virginia Hunting Regulations (including bag limits and tagging/checking requirements). It shall be unlawful for any person, while archery hunting to violate any of the following additional Town restrictions:*

- A. Discharge of an arrow is permitted only in order to hunt wildlife in season or for target practice. No discharge of an arrow shall be made toward any animal other than those in approved hunting season.*
- B. Any person discharging archery equipment shall, at all times while engaged in such activity, have in their possession written permission from the landowner(s) to discharge such weapon on the private property.*
- C. No person shall discharge archery equipment from, over, or across any street, sidewalk, alley, roadway, or public land or public place within the Town limits or toward any building or dwelling in such a manner that an arrow may strike it.*
- D. No person shall discharge archery equipment unless from an elevated position of at least ten (10) feet above the surrounding terrain. Any disabled hunter unable to hunt from such platform must comply with all regulations established by the Virginia Department of Game and Inland Fisheries.*
- E. Except for target shooting, discharge of archery equipment is not permitted within one hundred (100) feet of any dwelling except with written consent of the owner of said structure.*
- F. Discharge of archery equipment is not permitted within one hundred (100) feet of any school property line.*
- G. Any person discharging archery equipment shall use reasonable care to ensure the arrow does not cross any property line and enter any property on which the hunter does not have permission to hunt. The discharge of an arrow across or over the boundaries of a property for which no permission has been given by the property owner shall create a rebuttable presumption that the use of the archery equipment was not conducted with reasonable care.*
- H. The hunter is responsible for the disposition of the animal carcass to the local/regional landfill. Carcasses shall be double bagged. Field dressing of the animal shall be by agreement between the landowner and the hunter. No field dressing of the animal shall occur on Town owned property without express written permission from the Town Manager or designee.*
- I. No person shall hunt within the Town limits by use of dog or dogs.*

#### **167-67 VIOLATIONS**

- A. Violations of this Section involving firearms shall constitute a Class 3 misdemeanor punishable by a fine of not more than ~~five hundred dollars (\$500.00)~~ **two thousand five hundred dollars (\$2,500.00)** and twelve (12) months in jail.*
- B. Violations of this Section involving pneumatic guns, missile projecting weapons, or throwing stones shall constitute a Class 4 misdemeanor punishable by a fine of not more than two hundred fifty dollars (\$250.00).*

*C. Violations of the Urban Archery Section shall constitute a Class 1 misdemeanor punishable by a fine of not more than two thousand five hundred dollars (\$2,500.00).*

**(Ord. No. 3-12 Amended Entire Chapter/Section 1-23-12-Effective Upon Passage)**

7

## Town of Front Royal, Virginia Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** FY16-17 Town Tax Rates

**Summary:** The Town Property Tax Rates are currently as follows:

|                                       |                                 |
|---------------------------------------|---------------------------------|
| Real Estate Property Tax              | \$0.13 per \$100 Assessed Value |
| Personal Property Tax                 | \$0.64 per \$100 Assessed Value |
| Machinery & Tools Tax                 | \$0.64 per \$100 Assessed Value |
| Emergency Services Property Tax       | \$0.32 per \$100 Assessed Value |
| Mobile Home Property Tax              | \$0.13 per \$100 Assessed Value |
|                                       |                                 |
| Leach Run Parkway Dedicated Funding - | \$ 0.0167 of RE Tax (\$187,500) |
| Police Department Headquarter -       | \$ 0.0167 of RE Tax (\$187,500) |
| Main Street Extension -               | \$ 0.0067 of RE Tax (\$75,000)  |

**Council Discussion:** Council is requested to discuss the major Capital Improvement Projects requiring funding for FY16-17

**Staff Evaluation:** The following Major CIP General Fund projects with estimated construction costs and annual debt service are provided for consideration:

| <u>Project</u>            | <u>Estimate (Town Share)</u> | <u>Estimated Annual Debt Service</u> |
|---------------------------|------------------------------|--------------------------------------|
| Police Headquarters       | \$5,550,000                  | \$500,000                            |
| Leach Run Parkway         | \$17,000,000 (\$3,400,000)   | \$400,000                            |
| Happy Creek Road Phase II | \$4,000,000 (\$2,683,406)    | \$225,000                            |
| Sidewalk/Trail Program    | \$750,000                    | \$100,000                            |
| Main Street Extension     | \$1,750,000 (\$250,000)      | n/a                                  |

**Budget/Funding:** The Finance Director will be available to address fiscal issues.

**Legal Evaluation:** The Town Attorney will be available to address legal issues.

**Staff Recommendations:** Staff are pursuing additional funding opportunities for the these capital projects.

**Town Manager Recommendation:** The Town Manager recommends no further adjustment of the tax rates at this time to evaluate alternative funding opportunities. Construction of the Police Headquarters and Happy Creek Phase II are anticipated for FY17-18.

**Council Recommendation:**

- Additional Work Session   
  Regular Meeting   
  No Action  
 Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)



8

Town of Front Royal, Virginia  
Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** Sign in Residential Neighborhoods

**Summary:** The Town has received complaints about a new sign in a residential neighborhood. The sign if associated with a a religious institution the is permitted to located within a residential neighborhood. A copy of the pertinent Town Sign Ordinance is included for discussion by Town Council.

**Council Discussion:** Council is requested to discuss sign regulations for institutions in residential neighborhoods.

**Staff Evaluation:** The sign is currently in compliance with Town Code and has an approved permit from the Planning Department.

**Budget/Funding:** The Finance Director will be available to address fiscal issues.

**Legal Evaluation:** The Town Attorney will be available to address legal issues.

**Staff Recommendations:** Staff recommends Town Council discuss sign regulations in residential neighborhoods.

**Town Manager Recommendation:** The Town Manager recommends Town Council discuss sign regulations in residential neighborhoods.

**Council Recommendation:**

- Additional Work Session
  - Regular Meeting
  - No Action
- Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)

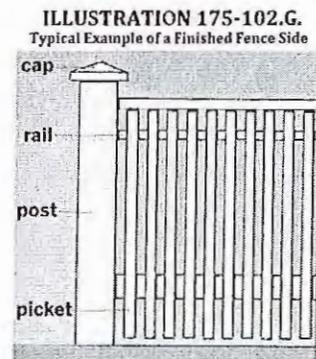


E. Fences surrounding industrial sites, public playgrounds, institutions or schools may not exceed a height of fourteen (14) feet.

F. No fence shall be constructed or altered to include protruding nails, or other materials, that would create a dangerous condition.

(Added "F" 2-25-13-Effective Upon Passage)

G. Notwithstanding the other requirements of this chapter, a finished fence side shall face toward improved public streets and adjoining lots used for residential purposes. For the purposes of this requirement, a finished fence side shall consist of the side covered with pickets, or similar material, such as, but not limited to, panels, wire, and/or fabric, if any, and opposite of a side with exposed rails, or similar supports, excluding posts and caps, *Illustration 175-102.G. depicts a typical finished side of a fence.*



(Added "G" 3-24-14-Effective Upon Passage)

### 175-103 ACCESS TO STREETS, SERVICES, FIRE PROTECTION AND PARKING

Every building hereafter erected or moved shall be on a lot adjacent to a public or private street approved by the Town, and all buildings shall be located on lots as to provide safe and convenient access for servicing, fire protection and required off-street parking.

### 175-104 OFF-STREET PARKING

All new uses or developments, and changes of use, shall comply with the off-street parking requirements of Chapter 148.

(Amended 5-14-90, 3-22-93, 4-14-97 and 6-22-15-Effective Upon Passage)

### 175-105 OFF-STREET LOADING

All new uses or developments, and changes of use, shall comply with the off-street loading requirements of Chapter 148.

(Amended Section 6-22-15-Effective Upon Passage)

### 175-106 SIGNS

#### A. General Provisions:

1. Purpose and Intent: The purpose of this section is to regulate the size, location, height and construction of all signs placed for public observance; to protect the public health, safety, convenience and general welfare; to facilitate the creation of a convenient, attractive and harmonious community; to protect property values; and to further the urban design and

economic development objective of the Town plan. To these ends, these regulations are intended to promote signs that are:

- a. Compatible with the landscape/streetscape and architecture of surrounding buildings, including historic sites and structure;
- b. Legible and appropriate to the activity to which they pertain;
- c. Not distracting to motorists; and
- d. Constructed and maintained in a structurally sound and attractive condition.

2. **Applicability:** These sign regulations shall apply to all signs erected within the Town of Front Royal following the effective date of this ordinance.

3. **Sign Permit Required:** Except as provided herein, no sign shall be erected, installed, used, altered, relocated, replaced or reconstructed until a sign permit has been issued (and a certificate of appropriateness, if applicable). For the purpose of this Ordinance, all signs are considered accessory uses and accessory structures. Unless specifically qualified, all signs shall be located on the same lot with the principal use to which they pertain.

4. **Special Definitions:** For the purposes of these sign regulations, unless the context otherwise requires, the following terms shall have the meanings established below:

**ANIMATED SIGN** - A sign or part of a sign that moves or appears to move, including, but not limited to propellers, discs, digital screens, projections and flashing lights, but specifically excluding the hands of a clock, clocks, digital displays of only the time, date and temperature, weather vanes, and flags.

(Amended 1-9-12-Effective Upon Passage)

**ARTISTIC MURAL** - A work of art (as a painting) applied to and made integral with a building wall that is prepared by a skilled artist and shows imaginative skill in arrangement or execution.

(Added 6-26-95-Effective Upon Passage)

**AWNING SIGN** - A sign placed, painted or printed directly on the surface of an awning.

(Amended by adding "painted" 11-8-93-Effective Upon Passage)

**BANNER** - A temporary sign applied to cloth, paper, balloons or fabric of any kind. Governmental flags or symbolic flags of religious, charitable, public or nonprofit organizations shall not be considered banners.

(Amended by adding "temporary" 1-9-12-Effective Upon Passage)

**BILLBOARD SIGN** - See "off-premise sign."

**CANOPY SIGN** - A sign attached or otherwise affixed to a canopy.

(Amended 11-8-93-Effective Upon Passage)

**CHANGE OF USE** - Any change from one business activity to another, except a name change for a specific established business activity.

(Added 11-8-93-Effective Upon Passage)

**CHANGEABLE COPY SIGN** - A sign or part of a sign that is designed so that characters, letters or illustrations can be changed or rearranged without altering the face or surface of the sign.

**DIRECTIONAL SIGN** - An on-premises sign designed to guide vehicular and/or pedestrian traffic by using such words as "Entrance," "Exit," "Parking," "One Way" or similar directional instruction, but not including any advertising message.

**DIRECTORY SIGN** - A sign on which the names and locations of occupants or the use of a building or group of buildings is given.

**FLAG** - Any fabric, cloth, canvas or any non-rigid lightweight material that can be easily folded or rolled and attached to or designed to be flown from a flagpole or similar device and containing distinctive colors, patterns or symbols.

(Added 1-9-12-Effective Upon Passage)

**FLAG SIGN** - A flag used as a sign

(Added 1-9-12-Effective Upon Passage)

**FLAG SIGN, TRADITIONAL** - A flag sign, excluding a sign on a "feather flag", that does not exceed fifteen (15) square feet in area, and no one side exceeding a length of five feet (5').

(Added 1-9-12-Effective Upon Passage)

**FLAG SIGN, NON-TRADITIONAL** - A flag sign other than a traditional flag sign. A "feather flag" is an example of a non-traditional flag sign.

(Added 1-9-12-Effective Upon Passage)

**FLASHING SIGN** - A sign used for identification, direction, advertising or promotion that includes lights which flash, blink or turn on and off intermittently.

**FREESTANDING SIGN** - See "ground-mounted sign."

**GROUND-MOUNTED SIGN** - A sign which is supported by structures or supports in or upon the ground and independent of any support from any building.

**IDENTIFICATION SIGN** - A sign which displays only the address and name or crest, insignia or trademark, occupation or profession of an occupant or the name of any building on the premises.

**ILLUMINATED SIGN** - A sign illuminated in any manner by an artificial light source, whether internally or externally lit, including neon.

(Amended by adding "neon" 11-8-93-Effective Upon Passage)

**INSTITUTIONAL BULLETIN BOARD SIGN** - A sign containing a surface upon which is displayed the name of a religious institution, school, library, community center or similar institutional or community service use and the announcement of its service.

**MARQUEE** - A permanent structure projecting beyond a building wall at an entrance to a building or extending along and projecting beyond the building's wall and generally designed and constructed to provide protection against the weather.

**MARQUEE SIGN** - A sign attached to and made part of a marquee or any other similar projection from a building.

**MONUMENT SIGN** - A sign affixed to and made an integral part of a structure built on-grade that does not involve the use of poles as its major sign support and is less than eight (8) feet in height.

(Amended 11-8-93-Effective Upon Passage)

**OFF-PREMISES SIGN** - A sign which directs attention to a business, commodity, service or establishment conducted, sold or offered at a location other than the premises on which the sign is erected.

**PORTABLE SIGN** - Any sign, except an exempt sign that is not permanently affixed to the ground or another structure and is capable of being moved by mechanical or non-mechanical means.

**PROJECTING SIGN** - Any sign, other than a wall, awning or marquee sign, which is affixed on a building wall perpendicularly, typically by use of brackets.

(Amended 11-8-93-Effective Upon Passage ; Amended 1-9-12-Effective Upon Passage)

**RE-FACE** – The act of creating a new sign message by replacing or refurbishing the non-structural components or surface of an existing lawful sign, without creating a new nonconformity to the requirements of this chapter.

(Added 2-25-13-Effective Upon Passage)

**ROOF SIGN** - A sign erected or constructed, in whole or in part, upon or above the highest point of a building with a flat roof, or the lowest portion of a roof for any building with a pitched roof.

**SANDWICH BOARD SIGN** – A two-sided, self-supporting sign attached at the top with the two sides separated by approximately 45 degrees.

(Added 11-22-10-Effective Upon Passage)

**SIGN** - Any device employing letters, words, symbols, etc., used or intended to attract the attention of the public from streets, sidewalks or other outside public rights-of-ways. For the purposes of this Article, the term "sign" shall include all structural members.

**SIGN AREA** - The surface area encompassed within any regular geometric figure (square, rectangle, circle, triangle, etc.) which would enclose all parts of the sign, excluding structural supports.

**TEMPORARY SIGN** - A sign or advertising display designed or intended to be displayed for a short period of time. Unless otherwise specified within this section, a temporary sign may only be used two (2) times within a 12-month period, and for a total time of ninety (90) days or fewer during the same 12-month period of time.

(Amended 1-9-12-Effective Upon Passage)

**WALL SIGN** - A sign attached to a wall, or painted on or against a flat vertical surface of a structure, which displays only one (1) advertising surface.

**WINDOW SIGN** - All signs attached to or applied directly onto the internal or external surface, or set back less than one (1) foot from the interior surface, of any window in view of the general public from outside the structure.

5. Prohibited Signs: The following signs are expressly prohibited unless specifically stated otherwise
- a. Billboards and Off-premise signs.
  - b. Portable Signs, except sandwich board signs, as defined above, but including signs displayed on a stationary vehicle.

(Amended "b" by adding "sandwich board signs" 11-22-10-Effective Upon Passage)

c. Changeable Copy Signs, except for approved institutional bulletin boards and gas station fuel price signs as permitted by this ordinance, and where such signs are incorporated as an element within another permanent sign, provided that the changeable copy area does not exceed twenty (20) square feet or fifty percent (50%) of the total sign area, whichever is less.

- d. Simulated Traffic Signs or any sign which may be confused with or obstruct the view of any authorized traffic sign or signal.

e. Animated Signs, including but not limited to propellers and discs. This prohibition shall not apply to the hands of a clock, a weather vane or flags.

(Amended by removing "pennants" 1-9-12-Effective Upon Passage)

f. Flashing Signs, except for time and temperature signs.

g. Glaring Signs or signs with light sources of such brightness as to constitute a hazard, as determined by the Zoning Administrator.

h. Strings of lights outlining property lines, sales areas or any portion of a structure, unless part of an approved sign or sign structure. This prohibition shall not apply to seasonal decorations.

i. Roof Signs.

j. Signs affixed to a tree, other natural vegetation, rocks, public utility poles or public signs.

k. Signs that obstruct the visibility of intersections or block any window, door, fire escape, stairway or any opening intended for light, air or access to any building.

l. Signs erected in or over a public right-of-way or on public land, except as allowed in the Historic Overlay District, or as specifically approved by the Town Council.

m. Home Occupation Signs, except an address or identification sign as provided in Section 175-106A (6)(a) below.

(Amended 11-8-93-Effective Upon Passage)

n. Non-traditional Flag Signs, except when used as a temporary sign, as regulated by this Chapter.

(Added 1-9-12-Effective Upon Passage)

o. Offensive Signs, including signs that include obscene, indecent or profane language.

(Added 2-25-13-Effective Upon Passage)

6. Exempt Signs: Sign permits shall not be required for the following signs; however, all other applicable regulations of this ordinance shall apply.

a. Address or Identification sign. Signs indicating the address and/or names of occupants of premises, not exceeding two (2) square feet in area.

b. Changing the message content of an approved directory, institutional bulletin board, theater marquee or changeable copy element of an approved sign.

the appraised value, the sign may be restored within two (2) years of the destruction but shall not be enlarged in any manner. The present day replacement cost of an identical new sign, as determined by a sign contractor or manufacturer, shall be considered the appraised value.

- [2] Damage or Destruction of Use: A non-conforming sign shall be removed if the structure or use to which it is accessory is destroyed or demolished to the extent exceeding fifty percent (50%) of the principal structure's appraised value.

(Amended by removing [3]-Change of Use" 6-26-95-Effective Upon Passage)

**B. Signs Permitted by Zoning Districts:**

**1. Agricultural and Residential Zoning Districts; Permitted Signs:**

**a. General Regulations:**

- [1] Minimum Setback: Ten (10) feet from all public rights-of-way unless further restricted by provisions of this section.
- [2] Illumination of Signs in Residential Districts: The following signs may be illuminated, by white light only: institutional bulletin boards and residential development identification signs.

**b. Signs for Permitted Uses:**

- [1] Single-Family and Two-Family Dwellings: None, except for those signs exempt from permit requirements.
- [2] Residential Developments: Permanent subdivision or development identification signs indicating only the name and/or address of the premises. The identification sign shall be a ground mounted or monument sign, and the maximum sign area shall be determined as follows:
- [a] Development of (20) units or less: One (1) ground mounted sign, not to exceed sixteen (16) square feet in area or eight (8) feet in height, at each major street entrance.
- [b] Development of (21) units or more: one (1) ground-mounted sign at each major street entrance not to exceed twenty-four (24) square feet in area or eight (8) feet in height.

(Amended [b] 11-8-93-Effective Upon Passage)

- [c] Where signs are incorporated as part of a monumental entrance structure, such as a gateway, archway or freestanding entry columns, the lettering or signage incorporated therein may be physically divided and still considered as one (1)

entrance sign. The total of all lettering or signage shall not exceed the maximum allowed in this Section.

- [3] General Farming Activities: Two (2) ground mounted farm signs per property up to eight (8) feet in height, with a combined area not to exceed twenty-four (24) square feet.

(Amended [3] 11-8-93-Effective Upon Passage)

- [4] Institutional Signs and Bulletin Boards: One (1) ground-mounted or wall sign per use, not to exceed twenty-four (24) square feet in area and eight (8) feet in height for ground-mounted signs or ten (10) feet in height for wall-mounted signs. The Town Council may, by special permit, approve an increase in size to thirty-two (32) square feet. In addition to the signs otherwise allowed by this section, any educational institution located on not less than fifty (50) contiguous acres and with road frontage on not fewer than four (4) public streets may have up to four (4) ground-mounted identification signs, facing outwards from the grounds of the institution, each not to exceed seventy-five (75) square feet in area and eight (8) feet in height. Two (2) of such signs may have a second face, on the side facing into the institution.

(Amended [4] 11-8-93 and 6-13-05-Effective Upon Passage)

- [5] Professional Office, Nursing Homes and Bed & Breakfast Homes: One (1) sign not to exceed twenty-four (24) square feet per principal structure and eight (8) feet in height.

(Amended [5] 11-8-93-Effective Upon Passage)

- [6] Medical and Professional Centers: Facilities located within a center of at least two (2) acres in size and including five (5) or more functions or offices planned as an integrated development shall be authorized to erect signs based on the following:

[a] Signs for Individual Establishments or Functions Within Center: Same as for multiple businesses, as outlined in Section 175-106B.2.c.

[b] Center Identification Sign: One (1) ground mounted or monument style sign per street frontage with an area of one (1) square foot per four (4) linear feet of lot frontage on which the sign is to be erected, up to a maximum of sixty (60) square feet. The center identification sign shall display only the name and address of the center, and establishments located therein. No other ground mounted signs shall be permitted on that same road frontage within the center.

c. Signs for Accessory Uses:

- [1] Accessory Management or Rental Offices: One (1) sign up to four (4) feet in area and four (4) feet in height.

9



## Town of Front Royal, Virginia Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** Continued Discussion of NSVRC Elected Representative Vacancy

**Summary:** Former Councilman Funk, current Clerk of the Court, was appointed as the Town's Northern Shenandoah Valley Regional Commission's (NSVRC) Elected Representative on July 9, 2012, said term to expire June 30, 2016. Council is requested to discuss filling the unexpired term until December 31, 2016, the length of former Councilman Funk's term. Councilman Connolly is the Town's Alternate Representative (term expires 12/31/18) and Jeremy Camp is the Town's Non-Elected Representative (term expires 6/30/17). Council discussed this issue on November 16, 2015 and agreed to continue the discussion once a new councilmember was appointed.

**Council Discussion:** Council takes desired action

**Staff Evaluation:** N/A

**Budget/Funding:** N/A

**Legal Evaluation:** N/A

**Staff Recommendations:** N/A

**Town Manager Recommendation:** N/A

**Council Recommendation:**

Additional Work Session     Regular Meeting     No Action

Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)

Work Session

10



## Town of Front Royal, Virginia Work Session Agenda Form

Date: February 1, 2016

**Agenda Item:** Planning Commission Vacancies

**Summary:** Due to the recent resignation, effective January 20, 2016, of Robert B. Ballentine and the appointment of Planning Commission member Jacob Meza as Town Councilman, the Front Royal Planning Commission has two vacancies. Mr. Ballentine and Mr. Meza were both re-appointed by Council on August 10, 2015 to 4- year terms, said terms to expire August 31, 2019.

**Council Discussion:** Council is requested to direct Staff on their desired action to fill these unexpired terms on the Front Royal Planning Commission.

**Staff Evaluation:** N/A

**Budget/Funding:** N/A

**Legal Evaluation:** N/A

**Staff Recommendations:** N/A

**Town Manager Recommendation:** N/A

**Council Recommendation:**

Additional Work Session     Regular Meeting     No Action

Consensus Poll on Action: \_\_\_(Aye) \_\_\_(Nay)

Work Session

11