



SPECIAL Town Council Meeting

March 2024 Work Session

March 19, 2024 | 3:30 PM

**Apex Town Hall | 73 Hunter Street, Apex, NC
3rd Floor Training Rooms A and B**

1. Call to Order | Pledge of Allegiance

Mayor, Jacques K. Gilbert

2. Yard Waste Collection

John Mullis, Director, Public Works Department

3. Q & A

4. Adjournment

ANNOUNCEMENTS

Members of the public can access and view the meeting on the Town's YouTube Channel <https://www.youtube.com/c/TownofApexGov> or attend in-person.

Accommodation Statement: Anyone needing special accommodations to attend this meeting and/or if this information is needed in an alternative format, please contact the Town Clerk's Office. The Town Clerk is located at 73 Hunter Street in Apex Town Hall on the 2nd Floor, (email) allen.coleman@apexnc.org or (phone) 919-249-1260.



Yard Waste Program Updates

John Mullis – Public Works Director

March 19, 2024

Purpose:

Provide an overview of the town's current yard waste program and solicit input from the Town Council on potential ordinance revisions establishing pre-collection set out parameters, excess yard waste collection fees, cost recovery expectations, and discuss direction of future yard waste collection model.

Requested Action:

- Receive Council feedback on willingness to consider ordinance revisions that establish pre-collection set out parameters.
- Receive Council feedback on willingness to consider ordinance revisions that define and establish excess yard waste collection fees.
- Receive Council feedback to gain an understanding of their expectations of program cost recovery.
- Receive Council feedback and direction on future yard waste collection model.

Why Conversation on Yard Waste?

- Alignment to Strategic Plan Framework
- Environmental & Safety Compliance
- Municipal Yard Waste Collection is not Statutorily required
- Service Demand Model and Cost Recovery Subsidies
- Understanding of Town Council's Level of Service Expectations
- Aesthetics of our Communities
- Operational Challenges (related to current ordinances and enforcement)
- Material Transfer, Processing, and Disposal Challenges
- Interlocal Agreement with Holly Springs is Sunsetting

Challenges – Recap

Highlights from December 14, 2023 Town Council Workshop

- Sustainability of the yard waste program
- Last large town in Wake County to have “mow it and throw it” yard waste model
- Landscapers hired can dispose yard waste in any volume in current program
- High non-compliant comingled yard waste piles
- Varying pile sizes collected manually by hand create opportunity for worker injuries
- No containerization of yard waste
- Weekly service with no limits on weight or volume per household impacts cost recovery
- 8 " diameter / 8 ' length limb limits (hard to enforce)
- No enforcement mechanism included in current ordinances for extreme non-compliant situations
- No excess yard waste fees
- Current program is labor and capital intensive
- Yard waste is allowed in the street
- Yard waste set out date within 48 hours of weekly scheduled collection (unenforceable)
- Loss of free disposal of all yard waste at Greenway Waste (5/6/21)
- Grass clippings are not desirable (Town encourages use of mulching blades)
- Town Council is supportive of establishing a transfer center to support disaster debris processing and yard waste collected curbside daily from residential customers
- No yard waste convenience center for residents to dispose of excess waste

Update on Yard Waste Transfer Facility

- Transfer Facility - Phased depending on Town Council Direction

Immediate:

- Staff is evaluating town-owned property on Perry Road for use as a temporary yard waste transfer facility. Staff intends to request rezoning of the the property for internal operations use. A portion of the property would be dedicated for use as a disaster debris receiving site as well as a transfer and processing center for yard waste generated from Apex residents. The initial acreage requirement is 4 acres excluding buffers and is expected to accommodate our current yard waste volume including peak loose leaf volume.
- Site improvements will be necessary but water and sewer will not be required initially.

Future phase considerations:

- Seek options for a scalable site expansion that allows for immediate transfer needs while positioning for future growth, operational flexibility to increase program resiliency and ability to diversify to become eligible for federal funding (through compost-ready planning).
- Citizens Convenience Center(CCC). Allows residents a location to dispose of large volumes of Yard Waste.
- Allows for operational flexibility to make any collection model changes easier and increases our ability to identify markets through processing.
- Estimated acreage needed for future expansion: 10 acres usable.

Peer Communities: Collection Methods & Frequency – Yard Waste

Collection Method	Raleigh	Cary	HS Knight	Apex	Morris	FV	WF	Zebulon	Roles	Wendell
Weekly Collection		X	X	X		X	X			X
Bi-Weekly Collection	X		X		X			X	X	
Modified Schedule for Fall	X	X	X	X		X	X		X	X
Vacuum Truck Year Round				X						
Local Convenience Center	X	X	X							
Allows Compostable Paper Bags	X	X		X	X		X	X		
Allows Small Bins	X	X		X	X	X	X		X	
96 Gallon Carts	X		X							X

Peer communities are most similar in the following areas:

Containerized Yard Waste

Non-Containerized Yard Waste

Apex and Zebulon allows loose yard waste

Yard Waste fees are compulsory in that every household pays them.

Containerization is the most common form of collection used curbside.

Set out limits and weight restrictions per stop. Excess yard waste can be collected in Cary and Holly Springs for an additional fee based on per visit or volume.

* Cary offers chipping service for \$ 350 per visit.

* Holly Springs offers fee based collection based on volume levels (Example- minimum rate (Level 1): \$80 per 2.5 cubic yards).

Contractors (Lawncare/Tree Service firms) hired to perform residential service work is responsible for removal of yard waste debris.

Yard waste to be placed behind the curb (not in the street or gutter) so that debris does not interfere with traffic or drainage.

Potential Ordinance Changes

Overall goal: to strengthen ordinance language to more clearly define yard waste collection parameters, especially volume.



Est. 25' x 6' x 14' = 78 Cubic Yards

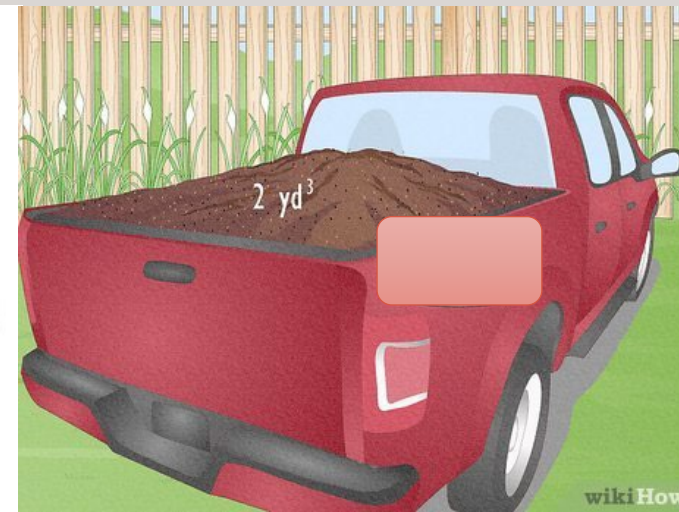
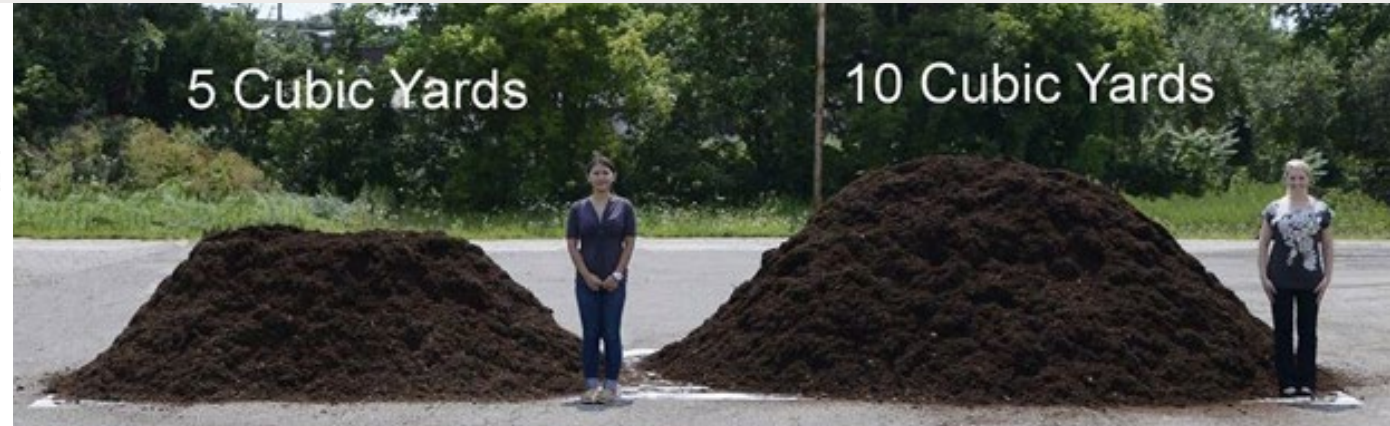
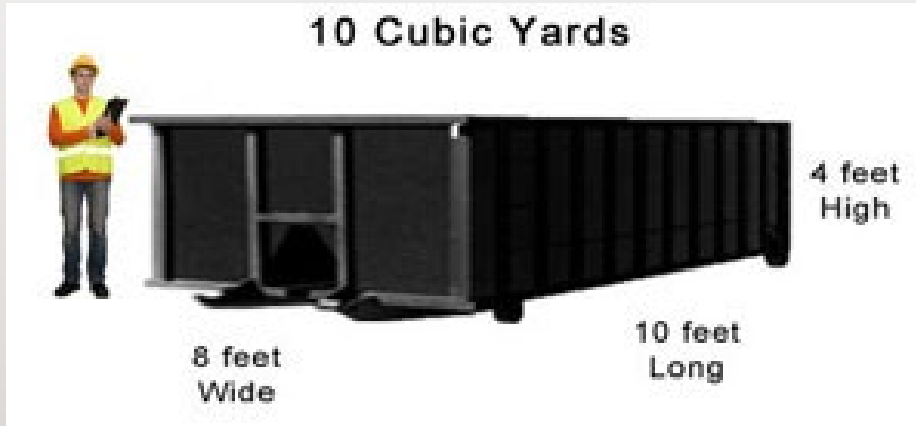
Understanding Cubic Volume

PICKUP TRUCK CLASS & BED SIZE	PAYLOAD RANGE	MAX. CUBIC YARDS OF	
		MULCH, COMPOST (LIGHT STUFF)	SOIL, SAND, GRAVEL (HEAVY STUFF)
 F150 /1500 full size			
5 1/2 - 6 1/2 ft beds	1200 - 1800 lbs	1 1/2	1/2
6 1/2 - 7 1/2 ft beds	1600 - 2200 lbs	2	1/2 - 1
7 1/2 - 8 ft beds	1600 - 2200 lbs	3	1/2 - 1



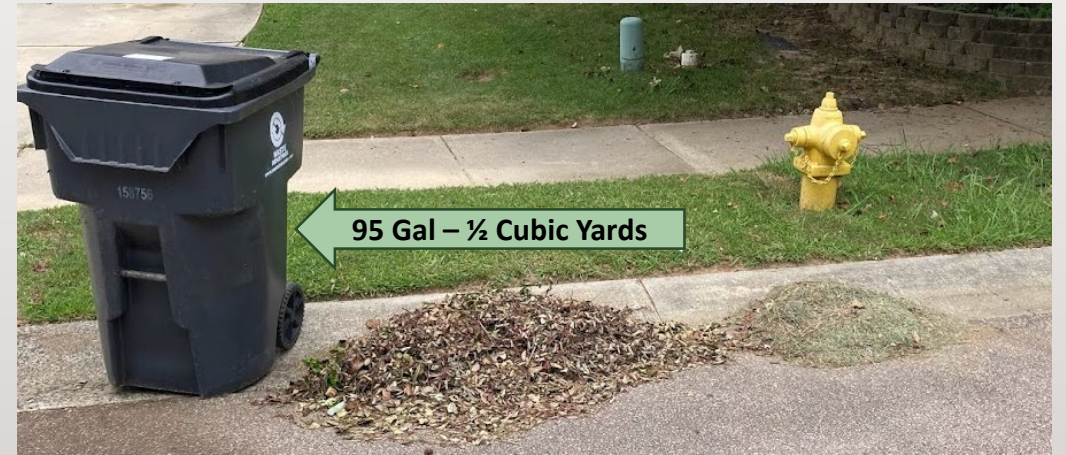
1 cubic Yard is equal to 27 cubic feet (depicted in the image). The truck depicted is 8 feet long but the material is only 3 feet wide and 3 feet high. As you can see the material in the truck equals 2.5 Cubic Yards. Most Standard pickup dimensions are: 8' long X 5.33' wide X 1.5' high. Fully loaded level truck beds, will hold 2 cubic yards of material. Unless the material is the height of the cab.

Understanding Cubic Volume



$3' \times 6' \times 3' = 54 \text{ cft} / 27 = 2 \text{ Cubic Yards}$

Smaller Cubic Volume



Excess Cubic Volume *(Pruning by contractors & homeowners)*



Sec. 12-126 Definitions

Land Clearing Debris

- **Current:** *Land clearing debris* means solid waste which is generated solely from land clearing activities including, but not limited to, stumps, trees, brush and other vegetative waste incidental to tree, brush and stump removal.

Curbside

- **Current:** *Curbside* means along the concrete curb or edge of pavement located within the town right-of-way.
- **Recommended:** *Curbside* means **within three feet of** the concrete curb or edge of pavement located within the town right-of-way.

Small Limbs

- **Current:** *Small limbs* means tree limbs that are less than eight feet in length and a maximum diameter of eight inches.
- **Recommended:** *Small limbs* means tree limbs that are less than **six feet** in length and a maximum diameter of **six inches**.

Yard Waste

- **Current:** *Yard waste* means solid waste consisting of vegetative matter resulting from residential landscaping maintenance including, but not limited to, leaves, grass clippings, twigs, small limbs, hedge trimmings, plant trimmings, hay straw, pine straw, pine cones and small shrubs.

Sec. 12-128 – Pre-collection Practices

Current:

- (a) Yard waste shall be placed loose (not bagged or containerized) at curbside for collection by the town. Leaves and grass clippings must be separated from other qualifying yard waste materials.
- (b) Yard waste to be collected by the town shall not be contaminated by materials that are not included in the definition of yard waste provided above.
- (c) Yard waste shall not be placed at curbside more than 48 hours in advance of the collection date.
- (d) Yard waste shall not be placed at curbside within ten feet of any storm drain catch basin.
- (e) Town residents desiring Christmas tree collection by the town shall place their Christmas tree curbside. All tinsel, nails, screws, wires, ribbon and other nonvegetative materials shall be removed from the Christmas tree by the resident prior to collection. Wreaths may be set out by residents for collection provided that the wreaths are free from wire, screws, metal frames, and all other nonvegetative material.

Sec. 12-128 – Pre-collection Practices

Recommended:

- (a) Yard waste shall be placed loose (not bagged or containerized) at curbside for collection by the town. Leaves and grass clippings must be separated **and not comingled with** other qualifying yard waste materials. **All materials shall be out of the roadway when possible including parking spaces, within the boundaries of the property and no more than 6 feet beyond the curb. Yard waste placement should not block fire hydrants, curb ramps, sidewalks, or storm drain collectors.**
- (b) Yard waste to be collected by the town shall not be contaminated by materials that are not included in the definition of yard waste provided in Section 12-126.
- (c) Yard waste shall not be placed at curbside more than 48 hours in advance of the collection date **and in accordance with the town's National Pollutant Discharge Elimination System (NPDES) - MS4 Stormwater permit.**
- (d) Yard waste shall not be placed at curbside within ten feet of any storm drain catch basins, **mailboxes, parked vehicles, or other obstacles preventing safe collection.**

Sec. 12-128 – Pre-collection Practices

Recommended:

COUNCIL GUIDANCE REQUESTED (e)

- (e) Loose yard waste must be separated by individual type (leaves, grass, sticks, limbs) and placed into piles that cumulatively do not exceed **“?” feet in length, “?” feet wide, and “?” feet high** with no separated pile exceeding **50 pounds** and no individual pieces larger than **6 inches** in diameter. Sticks/limbs should be placed with cut ends facing the same direction and in the direction of travel. The Town will collect **up to “?” cubic yards** total per collection cycle in any combination of yard waste types provided they are separated and prepared in accordance with pre-collection practices as listed in section 12-126.

Staff recommendation is:

2 cubic yards per collection cycle. *(Approximate capacity of a full size pick up truck cargo bed).*

Pile size: **6 feet in length x 3 feet wide x 3 feet tall (2 Cubic Yards).**

- (f) Town residents desiring Christmas tree collection by the town shall place their Christmas tree curbside **during the months of December and January**. All tinsel, nails, screws, wires, ribbon and other nonvegetative materials shall be removed from the Christmas tree by the resident prior to collection. Wreaths may be set out by residents for collection provided that the wreaths are free from wire, screws, metal frames, and all other non-vegetative material.

Peer Community Comparisons

	Collection Parameters	Weekly/ Biweekly	Overall Weekly Limit <small>* Biweekly adjusted to weekly totals</small>	Additional Collection	Excess Fees
Apex	Loose	Weekly	None	-----	-----
Cary	Tubs, Bags, Bundles	Weekly	240 ft ³ - 8.89 yd ³	Chipper Service	\$350 for 30 min
Fuquay Varina	Tubs, Bundles	On Request	None	Not Offered	Not Offered
Garner	Carts, Tubs, Bags, Bundles	Weekly	6 yd ³	Not Offered	Fines: \$50/\$100/\$150
Holly Springs	Carts	Biweekly	.25 yd ³	Grapple/Chipper	\$80 (> 4 yd ³)/\$160 (4-8)/\$240 (8-12)
Knightdale	Tubs, Bags, Large Pile	Weekly	None	Not Offered	Not Offered
Morrisville	Tubs, Bags, Bundles	Biweekly	1.5-2 yd ³ *	Not Offered	Not Offered
Raleigh	Carts, Bags, Bundles	Biweekly	1.8 yd ³ *	Not Offered	Not Offered
Rolesville	Tubs, Bundles	Biweekly	2 yd ³	Not Offered	Not Offered
Wake Forest	Tubs, Bags, Bundles	Weekly	8 yd ³	Not Offered	Not Offered
Wendell	Carts	Weekly	.5 yd ³	Up to 3 per year (<i>w justification</i>)	Not Offered
Zebulon	Loose	Biweekly	None	Not Offered	Not Offered

Sec. 12-129- Limitations on Service

Current

- (a) Yard waste collection will be provided by the town on a weekly basis year round.
- (b) Curbside yard waste collection service shall be provided only to residents who are annexed into the town corporate limits. This service will not be provided to institutional, business, commercial or industrial properties.
- (c) Yard waste collection service does not include the collection of land clearing debris.
- (d) Residential yard waste generated from commercial landscaping or other businesses shall be left at the original project site to be collected by the town, or properly disposed of by the contractor in accordance with all applicable local ordinances, state and federal rules and regulations. Town employees will not collect yard waste generated from one property and disposed at another.
- (e) Yard waste not prepared and handled in accordance with the provisions of this article shall not be collected by the town.

Recommended

- (a) **Yard waste collection will be provided by the town according to the frequency and schedule as adopted by Town Council. Curbside yard waste collection occurs year round. Peak leaf season is identified as December through February.**
- (b) **Curbside yard waste collection service shall be provided only to residents who are annexed into the town corporate limits. This service will not be provided to institutional, business, commercial or industrial properties.**
- (c) **Yard waste collection service does not include the collection of land clearing debris. Yard waste does not include the following prohibited items: dirt, root balls, dead plants and grasses containing soil, sod, mulch, concrete, rocks, construction debris, pallets, trash, plastic, pet waste, and all sizes of lumber, including mailbox posts.**
- (d) **The Town will not collect any debris cut and harvested by a landscaping or tree service contractor. Town employees will not collect yard waste generated from one property and disposed at another. Yard waste is to be placed curbside in front of the parcel it was harvested from.**
- (e) **Yard waste not prepared and handled in accordance with the provisions of this article shall not be collected by the town.**

Excess Yard Waste – Curbside Collection Operational Scenario

Grapple Truck: Operational Capability and Cost

- Operational cost - daily (O&M): \$ 495
- Operational capability (# of stops per day): 14
- Weight collected per stop in pounds(1/4 ton) 500 #
- Volume collected per stop in cubic yards 2 Cyds
- Truck capacity in cubic yards 27 Cyds
- Operational Capability # of stops (annually) 3640

Disposal Cost: (varies – based on disposal outlet)

- Disposal cost per ton: \$ 25
- Per Truck (regardless of weight- avoid when possible): \$ 175

Excess Yard Waste Single Day Grapple Truck Scenario: Operational Capability and Cost

- 14 stops – 500 pounds(1/4 ton) per stop (7000#/3.5 tons)– Disposal is \$25/ton Disposal Cost: \$ 87
Operational Cost: \$ 495
Scenario – Daily Grapple Cost (14 households): \$ 582

Cost per household **\$ 41.57** in the above scenario.

23,854 households: If each household requested 1 excess fee collection service: **\$ 991,610**

Note: Chipping Service was not included in the above scenario but has a higher per stop cost (2 staff members required).

- FOR DISCUSSION PURPOSES ONLY: Projections are estimates and have been made using the most recent data available.

Excess Yard Waste – Options

Scheduled Curbside Service

- Residents schedule fee based excess collection for yard waste exceeding “X” Cubic Yards.
- Ability to collect larger material (up to 12 inches in diameter) when scheduling excess collection

Volume: Staff recommendation is to collect up to 2 cubic yards per household per collection cycle. For households with excess yard waste that exceeds 2 cubic yards, **Staff recommends that residents schedule an additional excess collection in 2 Cubic yard increments.** Residents can schedule up to 10 cubic yards per collection.

Excess collection fees: Council may want to discuss based on level of service desired, resident expectations, program costs, operational capability, subsidies, and cost recovery targets.

- Council may choose to set a excess collection rate to reduce the growth of ongoing general fund subsidies.
- Council may choose to set a minimal rate for scheduled excess collection.
- Council may decide to not set a rate for scheduled excess collection.
- **Staff recommendation: \$50 for each 2 cubic yards of compliant yard waste. Maximum of 10 Cubic yard per collection.**

No Fee Options

- Loose leaves are collected free of charge during Peak Leaf season loose with no volume parameters.
- Consider Citizens Convenience Center so residents have a location to dispose of yard waste materials.
- Council could consider a menu of offerings when considering operational capability, challenges, and cost recovery targets.

No Excess Collection offering

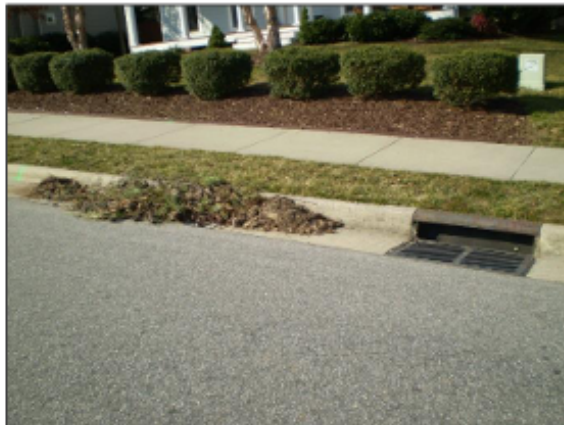
- Residents reserve excess yard waste until next collection cycle.

Capital Improvement Plan – Fiscal Years 2024-2028

Public Works & Environmental Services Element Projects

Projects Funded: Projects designed to manage and mitigate the effects of stormwater runoff, manage the collection and disposal of solid waste, and maintain streets. These projects include structural improvements, Stormwater Control Measure (SCM) construction, and the major maintenance of this infrastructure. They also include equipment needed to manage solid waste collection and maintain town streets

Peak Plan 2030 Recommendation: There are no direct recommendations in the plan regarding Public Works and Environmental Services.



Focusing on maintaining and improving the conveyance of stormwater protects property, infrastructure, and the environment. A well-managed yard waste collection program assists in this effort by keeping roadside gutters and drains clear.



The table below shows each of the projects submitted for consideration in this year's CIP process and the estimated cost of the project in each fiscal year in the plan. Section 7 of this document contains detailed information regarding the proposed funding source for each individual project.

Public Works & Environmental Services	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28	Future Years	Total Capital Cost
Grapple Truck - Replacement	235,000	-	-	-	-	-	235,000
Fleet Services Field Response Truck - Replacement	-	225,000	-	-	-	-	225,000
Leaf Truck - Addition	-	280,000*	-	288,000*	-	-	568,000
Leaf Truck - Replacement	-	-	285,000*	-	290,000*	-	575,000
Right of Way Mowing Tractor - Replacement	-	-	140,000	-	-	-	140,000
Rear Loader - Addition	-	-	-	235,000*	-	-	235,000
Tandem Semi Tractor w/ Wet Line	-	-	-	-	180,000	-	180,000
Dump Truck - Replacement	-	-	-	-	-	185,000	185,000
Element Total	\$235,000	\$505,000	\$425,000	\$523,000	\$470,000	\$185,000	\$2,343,000

* Cost estimates from prior year CIP. Actual current costs are reflected in projections.

Existing CIP earmarks totaling **\$1,378,000** provides an opportunity to transition to a more efficient, safe, and sustainable collection model. Build time for collection vehicles is currently 19 months. Orders placed in July 2024 arrive January 2026.

Current State vs Possible Future State

Current State : Solid Waste Fleet 2024:			
23,854 households	Unit Cost	QTY	Capital Value
Curbside Collection Equipment (Weekly/Year Round)			
Leaf Vac (***)	318,000	6	\$1,908,000
Grapple Truck (****)	270,000	2	\$540,000
Chipper Truck Combo (Truck/Chipper) (****)	201,000	5	\$1,005,000
Current State Collection Vehicles		13	\$3,453,000
Future State : Solid Waste Fleet 2026:			
26,000 households (March 2026)			
Curbside Collection Equipment (Weekly/Year Round)			
(*) 95 Gallon Roll out Yard Waste Carts (\$0.86 hh / 72 mo)	62	27,500	\$1,705,000
(*)Frontload load cart inventory year 1 for budgetary reasons			
Automated Side Loaders(ASL) for cart collection	396,587	7	\$2,776,109
Fee Based - Scheduled Collection - Excess Volume Vehicles			
Grapple Truck (****)	270,000	3	\$810,000
Chipper Truck Combo (Truck/Chipper) (****)	201,000	2	\$402,000
Rear Loader :	340,650	1	\$340,650
Large Piles/ Special Collections / Surges / Misses / Alleyways / Route Support /Disaster Response			
Future State Collection vehicles		13	\$4,328,759
Seasonal Operations(Loose Leaf) : Dec-Feb (3 mo)/year			
Leaf Vac (***)	318,000	7	\$2,226,000
Transition over time to Hook Lift/Skid Mounted Leaf Collectors			

Assumptions (Estimated) :	Value
Industry standard for equipment resilience (spare vehicle ratio). Allows daily maintenance to occur on route vehicles	20%
Industry Standard - 950 tips per 10 hr day (95 hr)	95
March 2026 - Household count	26,000
March 2026 - HH served per day per route (5 day week)	5,200
March 2026 : ASL's available for daily service (disposal time allowance to & from transfer facility). Note: One spare collector truck in rotation allowing daily fleet maintenance and route support	7
March 2026 - Number of stops per day. Collection responsibility per ASL(6 in daily service)	865
March 2026 - Cart set out rate-estimated	70%
March 2026 - Anticipated Number of stops per day. Collection responsibility per ASL	605
March 2026 - Collection responsibility- Tips per driver per hour (assumes 6 hrs in field)	100
March 2026 - Collection responsibility- Tips per driver per minute - Cart tips per minute(assumes 6 hrs in field)	1.7
(*) Debt Service assumption: Interest rate / Term	3.5% / 72 mo
(**) Debt Service assumption: Interest rate / Term - Illustrative comparison only (The Town has not Financed Equipment)	3.5% / 76 mo
Note: Debt assumption reflects actual replacement schedule	
(***) - Proposed cart model utilizes Leaf Vacs seasonally(3 mo)	
(***) Grapple and Chippers utilized for suggested Fee Based Excess Collection and Disaster response	

FOR DISCUSSION PURPOSES ONLY: Projections have been made using the most recent data available and is approximate. Staff is confident that this information will provide Council guidance representative of actual conditions.

Current State vs Possible Future State

Equipment Cost: Debt service included for illustration and comparison only	Future State	(**) Current State
Capital Cost - Equipment at Current Cost	\$4,821,759	\$3,787,000
Debt Service(*)	\$530,998	\$440,717
Program Cost (Acquisition, P & I)- Full	\$5,352,787	\$4,227,717
Program Cost (Acquisition, P & I)- Annually	\$892,131	\$660,581
Program Cost (Acquisition, P & I)- Monthly	\$74,344	\$55,628
Capital Cost per Household/ (mo)- 26,000 (Mar 2026)	\$2.86	\$2.14

Using the above illustration, transition to a new collection model is not prohibitive from a equipment perspective because cost are spread out between 26,000 households (March 2026) and current collection equipment is similar in cost. The current CIP funding schedule includes procurement for (1) new leaf vac each year for the next (4) years. Should a new collection model be considered, staff would recommend transitioning to cart capable ASL collection vehicles with a six (6) year funding and replacement schedule.

Note: Equipment lead time is currently 19 months.

FOR DISCUSSION PURPOSES ONLY: Projections have been made using the most recent data available yet approximate. Staff is confident that this information will provide Council guidance representative of actual conditions.

Requested Action

- Receive Council feedback on willingness to consider ordinance revisions that establish pre-collection set out parameters.
- Receive Council feedback on willingness to consider ordinance revisions that define and establish excess yard waste collection fees.
- Receive Council feedback to gain an understanding of their expectations of program cost recovery.
- Receive Council feedback and direction on future yard waste collection model.

Questions
