



**ANNE ARUNDEL COUNTY
OFFICE OF THE COUNTY AUDITOR**

March 13, 2014

The Honorable Jerry Walker
County Council, District 7
Anne Arundel County, Maryland
44 Calvert Street
Annapolis, Maryland 21401

Dear Mr. Walker:

Ms. Shelly Daniels, owner of the Happy Harbor Restaurant in Deale, Maryland, contacted you to inquire about the accuracy of her wastewater bill. She provided examples of wastewater bills for other properties in the Deale area and inquired about apparent discrepancies between the bills. She also asked whether there was authority in the County Code for the Department of Public Works (DPW) to assess an excessive strength waste surcharge.

The following County Code provisions are relevant to Ms. Daniels' inquiry:

- Section 13-5-806 provides that the charge for unmetered wastewater shall be "the average charge for wastewater service for similar properties plus a maintenance charge of \$3 per billing cycle." The Code does not define "similar properties."
- Section 13-5-509(p) provides that the Director of Public Works may establish a system of surcharges to recover the cost of treating excessive strength waste, defined as contaminants exceeding the maximum daily concentrations set in the County Code for biochemical oxygen demand, total suspended solids, and total phosphorus.

After gaining an understanding of the Code provisions, we met with the DPW to determine (1) how DPW calculates the "average charge for wastewater service for similar properties," and (2) whether the Director of Public Works has established a system of surcharges for excessive strength waste and how the surcharges are applied to metered and unmetered wastewater customers in the restaurant industry.

Usage Charges

DPW determines the "average charge . . . for similar properties" by multiplying the 16,000 gallons/quarter by the number of equivalent dwelling units assigned to a property, with an equivalent dwelling unit equal to 250 gallons/day (gpd). This methodology will result in a bill equal to the average charge for similar properties if (1) 250 gpd accurately represents peak consumption for an EDU; (2) the number of EDUs DPW assigned to the property accurately reflects the number of equivalent dwelling units for a similar property; and (3) average consumption per EDU is 16,000 gallons/quarter.

Based on the analysis we conducted last spring, we concur that one EDU equals peak consumption of 250 gpd, and we agree that average consumption per EDU is 16,000 gallons/quarter. Therefore, for the purposes of Ms. Daniels' inquiry, we concentrated our analysis on how DPW determines the number of EDUs it assigns to a nonresidential property with unmetered wastewater.

Determination of EDUs

DPW has developed a chart that sets the number of EDUs for a property based on the property's use; e.g., restaurant, office space, etc. Leslie Campbell, DPW Financial Services Manager, advised us that the standards in the chart were developed by the Maryland Department of the Environment (MDE) in 1978, and DPW has made modifications in the subsequent years.

The standard in the EDU chart for restaurants is based on the number of seats. To determine the number of EDUs for a restaurant, DPW multiplies the number of seats in the restaurant by 25 gpd and divides the result by 250 gpd. The 25 gpd/seat standard was established by MDE in 1978 standards, and it is the standard still used in the April 2011 EDU chart.

Prior to April 2011, the EDU chart had three separate categories for bars that were in addition to the 25 gpd/seat standard for a restaurant. The three bar categories were:

Bar (add for food service)	5 gpd/seat
Restaurants, additional for bars and cocktail lounges	2 gpd/seat
Restaurants - Bar/Tavern/Pub (add for food service)	5 gpd/seat

DPW eliminated the latter two categories when it modified the EDU chart in April 2011 after consulting with the DPW Engineering division, and DPW modified the first category to "Bar (no food service) - 5 gpd/seat."

The Calypso Bay restaurant in Deale is one of the properties to which Ms. Daniels compared her bills. When DPW originally calculated the EDUs for Calypso Bay, DPW used 25 gpd/seat and derived 17 EDUs. However, DPW subsequently revised the calculation using only 5 gpd/bar seat, reducing the number of EDUs to nine. According to Ms. Campbell, DPW based its revised calculation because 5 gpd was the standard in effect when Calypso Bay's property owners petitioned the County for wastewater service, when the project was released for service on March 25, 2011, and when DPW had discussions with the property owner during the course of the petition project. DPW chose to use 5 gpd despite that Calypso Bay has food service at the bar and despite that Calypso Bay connected to the County's system in May 2012, more than a year after the EDU chart was modified to eliminate the categories for bar seats with food service.

In May 2011 DPW calculated the number of EDUs for Happy Harbor using 25 gpd/seat for 144 seats plus flow factors for 17 boat slips and 1,650 square feet of commercial mixed space, resulting in 17 EDUs. DPW subsequently modified its calculation in May 2012 to exclude the commercial mixed space and to include 17 boat slips and one residential unit, resulting in 16 EDUs for the commercial property and one EDU for a residential property. In October 2012, DPW modified its calculation a third time to reduce the number of seats to 113, to add 1,850 square feet of commercial mixed space, to exclude the boat slips, and to exclude the residential property, reducing the number of EDUs to 13. Finally, in July 2013, DPW modified its calculation yet again using 25 gpd for 88 restaurant seats, 5 gpd for 25 bar seats, and adding 1,650 square feet of commercial office space (a category distinct from commercial mixed space), resulting in a reduction to only 10 EDUs.

Ms. Campbell advised us that DPW thought it only fair and equitable to calculate the number of EDUs for Happy Harbor using the same 5 gpd/bar seat used for Calypso Bay. DPW made this decision despite (1) that Happy Harbor connected to the County's system in March 2013, almost two years after the EDU chart was modified; (2) that Happy Harbor has food service at its bar; and (3) that DPW does not recall having any discussions with the property owner during the course of the petition project in which DPW based the EDU calculations on 5 gpd/bar

seat.

According to Ms. Campbell, DPW made exceptions only for these two restaurants after the EDU chart was modified in April 2011. Further, Ms. Campbell advised us that prior to the chart's modification, DPW never used the "Restaurants, additional for bars and cocktail lounges" category or the "Restaurants - Bar/Tavern/Pub (add for food service)" category, and that DPW always used 5 gpd for bar seats, even if the establishment offered food service at the bar, despite the clear indication in the chart to "add for food service."

In our opinion, DPW should not have made an exception for either restaurant. Both have food service at their bars, and the location of the seats (table vs. bar) is irrelevant. Further, while it is not clear in the prior EDU chart how many gpd/seat should have been added when a bar offered food service, it is clear that some amount should have been added. Had DPW used the standard of 25 gpd/seat, Happy Harbor would have paid \$6,000 more for capital facility connection charges, and Calypso Bay would have paid \$24,000 more. Further, Happy Harbor's quarterly bills for usage, environmental protection fees, and the bay restoration fee would be \$224 more, and Calypso Bay's quarterly usage bills would be \$896 more (using 16,000 gpd/EDU/quarter and the FY2014 wastewater rates).

Excessive Strength Waste Surcharge

DPW advised us that the Director has established a system of surcharges to recover the cost of treating excessive strength waste under § 13-5-509(p). The surcharge was developed in June 2000 by a consultant who analyzed the County's treatment costs. The consultant and DPW identified four types of establishments that generate excessive strength waste: full-service restaurants, fast-food restaurants, miscellaneous food restaurants, and institutions with cafeterias, such as nursing homes and schools. Additionally, DPW developed site specific surcharges for certain commercial and industrial users, such as the Anne Arundel Medical Center and the Baltimore Washington Medical Center.

Based on the system of surcharges established by the Director, full-service restaurants with metered wastewater pay a surcharge of \$2.427 per thousand gallons, while restaurants with unmetered wastewater pay a flat rate of \$757.99/quarter, regardless of their size or their estimated consumption. For example, Big Dave's restaurant with 32 seats pays the same surcharge as Happy Harbor with 113 seats and as Calypso Bay with 170 seats. Further, Big Dave's pays 650% more than a similarly-sized restaurant with metered wastewater, and Happy Harbor pays 195% more than a similarly-sized restaurant with metered service (assuming 16,000 gallons/quarter/EDU). In our opinion, this methodology results in egregious inequities between the surcharges for metered and unmetered restaurants, and DPW was unable to explain or justify the disparate treatment.

Finally, we noted that DPW does not apply the surcharge to public or private schools that have food service, a policy adopted by the Owens administration. This policy results in all other users subsidizing the cost to treat the excessive strength waste generated by public and private schools.

Billing Errors

Ms. Daniels compared Happy Harbor's bills to several other nonresidential establishments in the Deale area and identified discrepancies for which she was seeking explanations. Therefore, we reviewed the charges for Ms. Daniels' and for seven other properties.

In our analysis we determined that Ms. Daniels' bills were accurate based on the reduced number of 10 EDUs that DPW assigned and the flat-rate surcharge of \$757.99/quarter. However, the discrepancies noted by Ms. Daniels were exacerbated by errors in the quarterly bills for five of the seven other properties we reviewed. As shown in Exhibit 1, DPW understated the number of EDUs on which the charges were based for five properties, and

prior to September 2013, DPW failed to assess the excessive strength waste surcharge on three. The largest errors were in Calypso Bay's bills which were understated by \$2,008 for each quarter prior to March 2013.

Accuracy of the EDU Chart

Since MDE developed the 25 gpd/seat standard 35 years ago, we attempted to determine whether 25 gpd/seat is still an accurate indicator of peak consumption for a full-service restaurant. We did this by analyzing the quarterly bills for a sample of nine restaurants with metered wastewater service. As shown in Exhibit 2, average (mean) consumption was 16.70 gpd/seat and peak consumption was 23.38 gpd/seat for all quarterly bills.

While 23.38 gpd/seat is only 6.5% less than the 25 gpd/seat used in the April 2011 EDU chart, our sample showed peak consumption varied widely by restaurant. Six of the nine restaurants in our sample had peak consumption that was less than 25 gpd/seat (from 19.3% less for Big Fish Grill to 45% less for the Melting Pot), and three had peak consumption that was more than 25 gpd (from 2.4% more for the Sunset restaurant to 61% more for TFIG). Only one of the nine restaurants (Sunset) had a variance of less than 19%.

Our sample was not a statistical sample that can be projected to the entire restaurant population. However, absent other documentation from DPW to support the standard in the EDU chart, we believe the variances are significant enough to question whether the 25 gpd/seat accurately reflects peak consumption for a full-service restaurant.

Recommendations

In our May 2013 letter to the County Council on unmetered wastewater for residential customers, we recommended that DPW establish a policy that defines "similar properties" considering the property's use, type of unit, and other factors that may be relevant. Further, we recommended that DPW ensure that the County's billing system is capable of generating reports that show average consumption for similar properties with metered wastewater and use this data to calculate the "average charge . . . for similar properties" under § 13-5-806 of the County Code.

We reiterate those recommendations here, and we recommend that DPW use the results of this analysis to evaluate the accuracy of the EDU chart; for example, whether 25 gpd/seat is representative of peak consumption for a full-service restaurant.

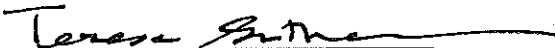
We also recommend the following:

- If DPW's analysis shows the number of seats in a restaurant directly correlates to peak consumption, then DPW should independently verify the number of seats rather than rely solely on the property owners' assertions. (DPW reduced the number of seats for Happy Harbor from 144 to 113 and accepted that 25 were located at the bar based solely on the owner's representations, not as the result of any verification process.)
- DPW should adopt a formal policy establishing when changes to the standards in its EDU chart will take affect, including justification for applying different standards to properties that connect after the chart is modified. For example, should DPW use the standards in effect when the property owner connects to the County's wastewater system, or, as with Calypso Bay, when the property owner submitted a petition to extend sewer service? If one property is "grandfathered" in under a more favorable standard, should a neighboring property receive the same favorable treatment (as happened with Calypso Bay and Happy Harbor), while a property located further away falls under the less favorable standards in a modified chart?

- DPW should ensure that the excessive strength waste surcharge is charged equitably to all customers who generated excessive strength waste, including schools. If the cost to treat the excessive strength waste is dependent on the volume, then the surcharge should be the same rate per gallon for both metered customers and unmetered wastewater customers.
- DPW should update its system of surcharges to reflect current costs because the analysis on which the current surcharge is based on treatment costs 13 years ago.
- Using licensing information maintained by the Health Department, DPW should review the wastewater bills for all restaurants to ensure they are charged the excessive strength waste surcharge. Our analysis included bills for 9 metered and 6 unmetered restaurants, and we found errors in the surcharges for 5 of the 15, a 33% error rate. DPW did not assess the surcharge prior to September 2013 for three, and DPW did not know that two others were not being charged the surcharge until we brought the errors to their attention.
- Since new businesses open regularly, DPW should establish a procedure to ensure that all new commercial accounts are evaluated to determine whether it is appropriate to assess a surcharge.

Management's Response

Management's response and our response to management's response are attached.



Teresa Sutherland, CPA
County Auditor

c: The Honorable Members of the County Council
The Honorable County Executive Laura Neuman
Mr. Christopher Phipps, Director of Public Works

EXHIBIT 1

Unmetered Wastewater Customers

Property	# of EDUs on which DPW based quarterly bills	Correct # of EDUs per DPW	Difference in EDUs	Understatement of Usage Charges based on 16,000 gallons/EDU	Understatement of Environmental Protection Fees (25% of usage charges)	Understatement of Bay Restoration Fees (\$15/EDU)	Total Understatement - Usage, EPF, and Bay Restoration Fees
5720 Deale Churction Road: Ledo's Pizza, Happy House Restaurant, and other retail units	1	3	2	\$155	\$39	\$30	\$224
0 Deale Road: Calypso Bay Restaurant (Notes 1 and 2)	9	9	0	\$0	\$0	\$0	\$0
6171 Shady Side Road: Landstrom, car wash and deli	1	5	4	\$310	\$78	\$0 (Note 3)	\$388
5960 Deale Churction Road: café and catering (Note 2)	2	3	1	\$78	\$19	\$30 (Note 4)	\$127
655 Deale Road: Deale Market Place (four businesses including a restaurant)	4	4	0	\$0	\$0	\$45 (Note 5)	\$45
5761 Deale Churction Road: convenience store and retail shops	1	4	3	\$233	\$58	\$45	\$336
5451 Deale Churction Road: Big Dave's Restaurant (Note 2)	1	3	2	\$155	\$39	\$30	\$224

Note 1: We noted that prior to the March 2013, DPW based Calypso Bay's usage charges, environmental protection fees, and bay restoration fees on only 1 EDU, not 9. Consequently, Calypso Bay's quarterly consumption was understated by 192,000 gallons/quarter, and DPW understated the charges for usage, the environmental protection fee, and bay restoration fees by \$1,250.40/quarter.

Note 2: We noted that prior to September 2013, DPW failed to assess the excessive strength waste surcharge on Calypso Bay, Big Dave's, and the café located at 5960 Deale Churction Road. Consequently, the bills for Calypso Bay and Big Dave's were understated by \$75.99 per quarter, and the bills for the café were understated by \$534.26/quarter.

Note 3: Although DPW based consumption charges on 1 EDU, DPW inexplicably based the Bay Restoration Fee on 5 EDU's.

Note 4: Although DPW based consumption charges on 2 EDU's, DPW inexplicably based the Bay Restoration Fee on 1 EDU.

Note 5: Although DPW based consumption charges on 4 EDU's, DPW inexplicably based the Bay Restoration Fee on 1 EDU.

EXHIBIT 2

Average and Peak Consumption for Sample of Restaurants with Metered Wastewater Service

Restaurant	Bill Date	Number of Days in Billing Period	Usage	Number of Seats (NOTE 1)	Average GPD/Seat (Mean)	Peak GPD/Seat
Big Fish Grill	10/10/2013	85	252,000	238	12.46	17.44
	7/17/2013	90	253,000	238	11.81	16.54
	4/18/2013	92	261,000	238	11.92	16.69
	1/16/2013	93	295,000	238	13.33	18.66
	10/15/2012	91	344,000	238	15.88	22.24
	7/16/2012	89	360,000	238	17.00	23.79
	4/18/2012	95	353,000	238	15.61	21.86
	1/14/2012	87	300,000	238	14.49	20.28
	10/19/2011	87	331,000	238	15.99	22.38
	7/24/2011	96	380,000	238	16.63	23.28
	4/19/2011	81	260,000	238	13.49	18.88
1/28/2011	95	326,000	238	14.42	20.19	
Big Fish Grill - Average and Peak				2,856	14.42	20.19
Chevy's of Annapolis	10/11/2013	92	597,000	456	14.23	19.92
	7/11/2013	93	588,000	456	13.87	19.41
	4/12/2013	85	501,000	456	12.93	18.10
	1/11/2013	92	578,000	456	13.78	19.29
	10/11/2012	96	579,000	456	13.23	18.52
	7/12/2012	89	555,000	456	13.68	19.15
	4/12/2012	91	540,000	456	13.01	18.22
	1/13/2012	87	446,000	456	11.24	15.74
	10/17/2011	90	452,000	456	11.01	15.42
	7/12/2011	96	528,000	456	12.06	16.89
	4/12/2011	98	578,000	456	12.93	18.11
1/13/2011	90	454,000	456	11.06	15.49	
Chevy's of Annapolis - Average and Peak GPD/Seat				5,472	12.75	17.85
Fuddruckers	10/11/2013	93	199,000	198	10.81	15.13
	7/11/2013	95	270,000	198	14.35	20.10
	4/12/2013	85	263,000	198	15.63	21.88
	1/11/2013	93	932,000	NOTE 2		
	11/1/2012	95	772,000	NOTE 2		
	7/12/2012	87	366,000	198	21.25	29.75
	4/12/2012	94	241,000	198	12.95	18.13
	1/13/2012	89	216,000	198	12.26	17.16
	10/17/2011	94	202,000	198	10.85	15.19
	7/12/2011	93	215,000	198	11.68	16.35
	4/12/2011	98	233,000	198	12.01	16.81
1/13/2011	90	180,000	198	10.10	14.14	
Fuddruckers - Average and Peak GPD/Seat				1,980	13.19	18.46

EXHIBIT 2

Average and Peak Consumption for Sample of Restaurants with Metered Wastewater Service

Restaurant	Bill Date	Number of Days in Billing Period	Usage	Number of Seats (NOTE 1)	Average GPD/Seat (Mean)	Peak GPD/Seat
Joe's Crab Shack	10/28/2013	95	460,000	280	17.29	24.21
	7/29/2013	95	495,000	280	18.61	26.05
	4/29/2013	83	492,000	280	21.17	29.64
	1/28/2013	92	797,000	280	30.94	43.32
	10/29/2012	94	1,088,000	280	41.34	57.87
Joe's Crab Shack - Average and Peak GPD/Seat				1,400	25.87	36.22
Melting Pot	10/21/2013	88	136,000	192	8.05	11.27
	7/26/2013	99	156,000	192	8.21	11.49
	4/17/2013	72	132,000	192	9.55	13.37
	1/30/2013	101	164,000	192	8.46	11.84
	10/24/2012	88	195,000	192	11.54	16.16
	7/26/2012	95	195,000	192	10.69	14.97
	4/26/2012	84	145,000	192	8.99	12.59
	1/30/2012	93	147,000	192	8.23	11.53
	10/31/2011	96	191,000	192	10.36	14.51
	7/26/2011	188	392,000	192	10.86	15.20
1/31/2011	90	225,000	192	13.02	18.23	
Melting Pot - Average and Peak GPD/Seat				2,112	9.81	13.74
Sunset	8/29/2013	98	643,000	290	22.62	31.67
	5/28/2013	84	538,000	290	22.09	30.92
	2/28/2013	95	614,000	290	22.29	31.20
	11/29/2012	90	600,000	290	22.99	32.18
	8/27/2012	94	587,000	290	21.53	30.15
	5/29/2012	89	561,000	290	21.74	30.43
	2/27/2012	86	524,000	290	21.01	29.41
	11/29/2011	90	539,000	290	20.65	28.91
	8/29/2011	90	142,000	290	5.44	7.62
	5/26/2011	88	122,000	290	4.78	6.69
	2/28/2011	97	369,000	290	13.12	18.36
11/30/2010	88	538,000	290	21.08	29.51	
Sunset - Average and Peak GPD/Seat				3,480	18.28	25.59

EXHIBIT 2

Average and Peak Consumption for Sample of Restaurants with Metered Wastewater Service

Restaurant	Bill Date	Number of Days in Billing Period	Usage	Number of Seats (NOTE 1)	Average GPD/Seat (Mean)	Peak GPD/Seat
TGIF	10/28/2013	95	708,000	260	28.66	40.13
	7/29/2013	95	588,000	260	23.81	33.33
	4/29/2013	83	506,000	260	23.45	32.83
	1/28/2013	92	457,000	260	19.11	26.75
	10/29/2012	94	608,000	260	24.88	34.83
	7/27/2012	87	533,000	260	23.56	32.99
	4/27/2012	92	541,000	260	22.62	31.66
	1/27/2012	97	583,000	260	23.12	32.36
	10/27/2012	86	782,000	260	34.97	48.96
	7/28/2011	90	989,000	260	42.26	59.17
	4/28/2011	93	974,000	260	40.28	56.39
1/31/2011	90	878,000	260	37.52	52.53	
TGIF - Average and Peak GPD/Seat				3,120	28.69	40.16
Skipper's Pier	10/11/2013	91	193,000	125	16.97	23.75
	7/11/2013	94	138,000	125	11.74	16.44
	4/12/2013	89	62,000	125	5.57	7.80
	1/11/2013	232	398,000	125	13.72	19.21
Skipper's Pier - Average and Peak GPD/Seat				500	12.00	16.80
Petie Greens	10/11/2013	91	85,000	68	13.74	19.23
	7/11/2013	94	77,000	68	12.05	16.86
	4/12/2013	89	67,000	68	11.07	15.50
	1/11/2013	96	76,000	68	11.64	16.30
	10/11/2012	93	82,000	68	12.97	18.15
	7/12/2012	93	76,000	68	12.02	16.82
	4/12/2012	90	131,000	68	21.41	29.97
	1/13/2012	70	57,000	68	11.97	16.76
	10/17/2011	94	61,000	68	9.54	13.36
	7/12/2011	103	60,000	68	8.57	11.99
	4/12/2011	91	67,000	68	10.83	15.16
1/13/2011	90	57,000	68	9.31	13.04	
Petie Greens - Average and Peak GPD/Seat				816	12.09	16.93
Mean of Average GPD/Seat All Restaurants					16.70	
Mean of Peak GPD/Seat All Restaurants						23.38
<i>Note 1: We obtained the number of seats by calling each restaurant.</i>						
<i>Note 2: We excluded two quarters with unusually high consumption that the restaurant reported was due to a water leak. The Administration did not verify whether there was a leak or adjust the bills for a leak.</i>						

Management's Response

Management Response to Audit

The Auditor's recent performance audit of the Department of Public Works calculation of equivalent dwelling units (EDU) for restaurants connecting to the County public wastewater system highlighted seven areas of concern.

1. Review Accuracy of EDU Chart
2. Independent Verification of Data from Property Owners
3. Policies for Effective Dates for Changes to EDU Flow Factor Chart
4. Excessive Strength Waste Surcharge on All Customers with Food Service including Schools
5. Excessive Strength Waste Surcharge Calculation
6. Review Surcharge Calculation for Existing Businesses
7. Procedures for Reviewing New Businesses to Charge Surcharge

The Department of Public Works (DPW) generally agrees with the findings and recommendations, except where noted below, and will take action to mitigate the issues as appropriate. It should also be noted that many of the findings stem from the initial usage assessment applied to unmetered commercial users. As noted below, DPW intends to address concerns with the initial assessment of EDUs through a comprehensive review of those unmetered accounts. As a result, the concern regarding using that data as the basis for other charges will be addressed.

- 1. Review Accuracy of EDU Chart:** DPW has historically and consistently relied on the flow projections established by the Maryland Department of the Environment. This data is considered to be industry standard and is used by other jurisdictions for purposes of calculating flow for development. Further to prepare a study to recalculate the flow factors for the more than 50 categories of development would not be cost effective. Finally in response to changing markets and development trends, DPW reviews and updates its factors as needed. It should also be noted that of the 9 restaurants included in the limited testing by the Auditor, the average quarterly usage was 3.295 million. Based on 2,107 total seats at those 9 restaurants and 90 days per quarter, the average gallon per day per seat is 17.38 gallons. With the required 1.4 peaking factor, DPW arrived at 24.332 peak gallons per seat, or within 2.7% of the 25 gallons per EDU that DPW used in its calculations. Additionally if the calculation is repeated using actual days per quarter rather than an assumed 90 days per quarter, the resulting flow factor is 25 gallons per EDU, thereby confirming the MDE figure. Therefore DPW believes its current calculation method is sufficiently accurate without additional studies needed.
- 2. Independent Verification of Data from Property Owners:** DPW relies on the Professional Engineer or other third party consultant that has certified and signed the submitted plans for a new restaurant on the total seating capacity. DPW will now require written statements from property owners who are connecting existing businesses to public sewer and, if a restaurant, will independently verify the number of seats prior to approving a connection permit. DPW will also independently verify

all existing restaurants on flat rate sewer within the next two years to determine if they are being billed properly. If changes to the restaurants are made now and in the future under current Code, formal plans and engineer or other third party consultant certifications are required.

3. **Policies for Changes to EDU Flow Factor Chart:** DPW currently uses the Flow Projections provided by the Maryland Department of the Environment as its standard when calculating estimated EDUs for a variety of businesses. When necessary and after thorough analysis and sampling of actual consumption data, DPW has occasionally adopted an updated flow factor and amended the EDU flow factor chart. This amended EDU flow factor chart and EDU worksheet is shared with other County agencies like the Office of Planning and Zoning and the Department of Inspections and Permits as well as with industry groups like the Anne Arundel County chapter of the Home Builders Association of Maryland. DPW will develop a formal policy and procedure for the publication of any new EDU flow factor charts and the effective date.
4. **Excessive Strength Waste Surcharge on All Customers including Schools:** The County has not typically charged the excessive strength waste surcharge on entities like schools where specific data is not available to compute a reasonable charge. In the future, the County does not intend to revise its policy and to assess this charge to schools.
5. **Excessive Strength Waste Surcharge Calculation:** DPW has included funding in its FY 2015 budget for a study of treatment costs in order to update the sewer surcharges assessed businesses. As the Auditor noted, current surcharges are based on a study performed 13 years ago.
6. **Review Surcharge Calculation for Existing Businesses:** DPW has already started to work with the Health Department to identify all restaurants in the County excluding those on septic systems. DPW will periodically review billing data for all restaurants to ensure they are being charged the excessive strength waste surcharge. These procedures will be document in a formal policy and procedure document.
7. **Procedures for Reviewing New Businesses to Charge Surcharge:** To ensure that new businesses are properly charged the excessive strength waste surcharge, in addition to reviewing Health Department data, DPW is working with the Office of Information Technology to develop a process for obtaining information electronically from the Department of Inspections and Permits when Certificates of Use for a new business are issued. With this information, DPW will be able to review the business, including restaurants, to determine if the excessive strength waste surcharge should be assessed.

Auditor's Response to Management's Response

Auditor's Response to Management's Response

Review of Accuracy of EDU Chart

DPW disagrees with our recommendation to evaluate the accuracy of the EDU chart because their analysis showed peak usage of 24.332 gpd/seat, which is with 2.7% of the 25 gpd/seat. DPW's peak usage differs from our calculation because they included a different TGIF restaurant in their sample, they included the two quarters that Fuddruckers had unusually high consumption because of an alleged leak, and they excluded Petie Greens and Skippers Pier both of whom had peak consumption that was 32% less than 25 gpd.

In our report, we note that there is not a significant difference between our peak consumption calculation of 23.38 gpd and the 25 gpd standard, and our recommendation that DPW evaluate whether 25 gpd is the appropriate standard to use for a restaurant is not based on this difference. Rather, our recommendation is based on the large variances in peak consumption from one restaurant to another. Eight of the nine restaurants we reviewed had peak consumption that varied by more than 19% from the 25 gpd standard, ranging from 45% less to 61% more, and only one (Sunset with 25.59 gpd peak consumption) was remotely close to the 25 gpd standard. For this reason, we reiterate our recommendation that DPW evaluate whether 25 gpd/seat is the appropriate standard to use in the EDU chart.

Excessive Strength Waste Surcharge

DPW disagrees with our recommendation to assess the excessive waste surcharge on all customers including schools because the County typically has not charged the excessive strength waste surcharge on entities like schools, and there is no specific data available to compute a reasonable charge. Since DPW states that they will request funding in fiscal year 2015 to study treatment costs in order to update the surcharges, we urge the department to develop a methodology to assess schools their cost of treating excessive strength waste as part of that study.