

**TOWN OF DEERFIELD  
IMPACT FEES  
BASIS OF ASSESSMENT**

**Public Schools  
Solid Waste  
Town Roads**

**2013 UPDATE**

December 13, 2013

Prepared for:  
Deerfield Planning Board

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## Executive Summary

This report provides a review and update of the Town of Deerfield impact fee schedules for public schools, solid waste facilities, and Town roads. In the past, impact fee reports were produced as individual reports and memos. A brief description of changes is summarized below by fee category.

**Public School Fee.** The school impact fee revisions include an update to the estimated K-8 enrollment per dwelling unit, and the capital cost of school facilities has been based on the insured values (replacement cost) of the main building at the Deerfield Community School and the modular classrooms that have been used to provide adequate educational space at the site. In the course of reviewing insured values and assessment files, it was apparent that the actual size of the main building is smaller than indicated in the previous impact fee reports. This results in a somewhat lower assignment of square feet per pupil capacity as the “facility standard” used in the assessment.

**Solid Waste Fee.** The solid waste fee has been updated to reflect an estimated replacement cost based on a construction cost multiplier. Average household size has been adjusted to the 2010 Census and ACS data to assign per capita costs to the three housing unit types in the assessment schedule. The original estimated capacity to be served by the facility was originally estimated at a population of 4,901 (a 20-year projection made in 1995). If the useful life of the facility were based on years (20) rather than estimated population, then the facility may be approaching a time when it will need new capital investment. The long term needs of the solid waste and recycling facilities should be determined prior to the next impact fee update.

**Road Impact Fee.** The current road impact fee is based on a 20-year plan (developed in 2009) for road reconstruction of the paved portions of Class V roads that serve as the primary road network or “heavy use” roads in Deerfield. The original model relied on base year population and household estimates, which have now been corrected to reflect actual demographics from the 2010 Census. Road reconstruction needs for selected roads were projected at \$4.2 million over 20 years, reflecting about 0.41 miles of reconstruction per year at about \$97 per linear foot. Projected costs were based on engineering estimates and design cost allowances. Additional work was projected for shim and overlay treatments of this group of roads, but that cost component was not included within the model selected by the Board for computation of the impact fee.

Based on the Highway Department’s section of Town Reports for 2009 to 2012, it appears that the Town has implemented a sufficient portion of the original improvement program to justify continuation of the fee. However, more detailed information should be compiled as evidence of actual costs and amount and level of road improvements completed.

As we were unable to determine the actual costs incurred in the reconstruction program, BCM Planning recommends holding the cost per foot at the original level until an actual cost baseline can be determined for the projects that have been completed. Adjustments to the demographics of the model and projected trip growth, and holding the cost per foot to \$97 per foot for related road reconstruction, resulted in a fee update that is only a few dollars less per unit than the 2009 basis of assessment.

### Fee Schedule Update 2013

Structure Type	Capital Facility & Impact Fee Schedule Per Dwelling Unit			
	Schools	Solid Waste	Roads	Total
Single Family	\$3,729	\$529	\$1,662	\$5,920
Attached & 2+ Family	\$1,758	\$362	\$905	\$3,025
Manufactured Housing	\$1,251	\$458	\$971	\$2,680

## A. School Impact Fee Update

The purpose of this report is to update the Town of Deerfield impact fee schedule for public schools. The first impact fee report on public schools was completed in December 1994. The basis of assessment and impact fee schedule has been amended periodically by the Planning Board. The recommended adjustments to the principal elements of the fee calculation and related schedules are described below.

### Prior School Impact Fee Reports and Schedules:

- December 1994
- June 1995
- April 1996
- January 1997
- June 1999
- September 2000
- May 2002
- February 2004
- July 2005
- April 2009

**Enrollment per Unit.** Enrollment per dwelling unit by type of structure is the principal measure or proportionate impact of average housing units on the Deerfield Community School (DCS). The average number of pupils per unit has declined since the original inception of the fee, and this ratio has been periodically updated. An updated ratio has been computed based on a combination of U. S. Census data, the American Community Survey, Public Use Microdata samples, and actual enrollment in Deerfield in 2013.

**School Capacity.** The estimated capacity of the school facilities includes both the main building at the Deerfield Community School and the modular classrooms on the site. The original maximum capacity estimate for the main building alone was about 600 pupils prior to the 2009 update. The capacity estimates applied beginning in 2009 reflect a change in the allocation of classrooms by function and grade, and changes in the Deerfield School District class size policy by grade. The total capacity of the school site (including the modulars) is estimated at 507 in this update. October 2013 enrollment was 434 pupils or about 85% of the capacity estimate

**Floor Area Standard.** In the course of reviewing the estimated replacement cost (insured value) of the DCS buildings, the indicated floor area of the main building showed a discrepancy with past estimates, which has been corrected in this update. Detailed assessment data for the main building shows a total finished floor area of 73,314 square feet, which is similar to the insured value assumptions. Total space in the modular classrooms is 5,264 bringing total facility space to 78,578 square feet. When weighted for core vs. classroom capacity estimates, total finished space is about 140 square feet per pupil capacity. The impact fee update is based on this corrected floor area standard.

**Facility Development Costs.** The insured value (replacement cost) for buildings and contents at the DCS site averages \$152 per square foot for all educational space. Replacement cost of the main building is about \$155 per square foot, and the average for the modular classrooms is \$105 per square foot. Historically, 30% State Building Aid was available for the development of the original school, and remains part of the calculation since the fee basis represents a recoupment of local District costs for school facilities.

**Credit Allowances in Fee Basis.** Debt service has been reallocated to “past” vs. “future” payments for the debt service on the original construction of the school. “Past payments” are debt service costs

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through 2013. Final payments on the original debt service for school construction were made during 2003. The 2013 updated fee basis does contains a revised “future payment credit” that reflects the local cost of meeting existing space deficiencies in the permanent (non-modular) classrooms. As recommended in the 2009 update, the “look-back” period for past debt service payments has been limited to 20 years.

The revised credit allowances per home are based on a cost per thousand valuation using the 2013 net local assessed valuation in Deerfield. The estimated value of residential and current use land and related acreage, used to compute credit allowances, were updated to reflect the 2013 values shown in the Town’s MS-1 report to the NH Department of Revenue Administration.

The recommended update to the basis of assessment are documented in Tables 1-6.

**1 Estimated Enrollment Per Unit**

The 2010 Census indicates that the Deerfield school age population (age 5-17) averaged 0.504 pupils per occupied dwelling unit, down from 0.681 in 2000 and 0.645 as of 1990. Reasons for this decline include a slowed economy, low rate of housing construction, lack of in-migration to the State, and the aging of the population.

A lower proportion of total households are in age groups associated with school enrollment generation. In Deerfield, 77% of households in 1990 were under the age of 55; the ratio was 76% in 2000, but only 61% as of 2010. (See Table 1.) If the school age population is taken as a ratio to the number of households headed by a person under the age of 55, the ratio is 0.83 for 2010, about the same as it was in 1990 at 0.84 school age persons per household.

**Table 1: Demographic Change**

<b>DEERFIELD NH</b>	<b>1990</b>	<b>2000</b>	<b>2010</b>	<b>Change 1990-2010</b>
Population	3,124	3,678	4,280	1,156
In Group Quarters	34	22	0	(34)
In Households	3,090	3,656	4,280	1,190
Households	999	1,225	1,537	538
Average Household Size	3.09	2.98	2.78	-0.31
Housing Units	1,227	1,406	1,743	516
Pre-School Population (<5)	294	268	251	(43)
School Age Population (5-17)	644	834	775	131
Pre-School Age Pop. Per Household (<5)	0.294	0.219	0.163	-0.13
School Age Pop. Per Household (5-17)	0.645	0.681	0.504	-0.14
Households by Age				
Under 35	275	190	150	(125)
35 to 44	304	390	346	42
45 to 54	191	346	442	251
55 to 64	105	165	357	252
65 or Older	124	134	242	118
Total Under 55	770	926	938	168
Pop. 5-17 Ratio to Households <55	0.84	0.90	0.83	-0.01

*Source: Decennial U. S. Census 100% count data*

In the 2013 methodology, 2005-2009 Public Use Sample (5% sample) data for New Hampshire was used to estimate “expected” enrollment averages for three structural types. These ratios were then applied to the estimated number of occupied units in Deerfield to generate an expected level of public school enrollment for grades K-8. Actual K-8 enrollment in October 2013 was 89% of the predicted public enrollment derived from the NH average multipliers. Therefore, the predicted enrollment ratios were adjusted down using a ratio of 0.89 to assign a 2013 enrollment ratio for three structural categories in Deerfield.

Overall, public enrollment in Grades K-8 in Deerfield is estimated to average 0.282 pupils per occupied unit, with single family detached homes estimated to average 0.291 pupils per unit. Note that this ratio represents only the *K-8 portion* of total resident enrollment, because only the facilities for these grade levels comprise the basis for the impact fee. Impact fees are limited to facilities that are owned or operated by a municipality or its school district. In Deerfield, high school pupils are educated under a tuition agreement with the city of Concord.

**Table 2: Estimated Public Enrollment Ratios for K-8 Grades in Deerfield**

DEERFIELD ENROLLMENT MULTIPLIER ESTIMATES - FALL 2013 ENROLLMENT								
Units In Structure	Estimated Number of Occupied Units	Expected Pupils Per Occ. Unit (1) All Grades K-12	Deerfield Census Ratios 2010 Based on 100% Count		Adjusted Multipliers Grade K-8	K-8 Predicted By Avg. Multipliers	Actual Enrollment	K-8 Adjusted Multipliers
Single Family	1,461	0.5170	Actual Population Age 5-17 Per Occupied Unit 2010 Census	Actual Population Age 5-13 Per Occupied Unit (K-8 Grades)	0.328	479	October 2013 Actual Enrollment	0.291
2+ Family	18	0.2670			0.170	3		0.151
Manufactured Housing	58	0.2070			0.131	8		0.116
Total Housing Units	1,537	0.3190	0.504	0.320	0.319	490	434	0.282
<i>Adjustment: Ratio Actual to Predicted:</i>							0.89	
<i>(1) 2005-09 ACS Public Use Sample Data Census NH Averages for K-8 enrollment in occupied units tabulated by NH Housing Finance Authority</i>								

In summary, the revised K-8 public enrollment ratios per unit in the 2013 update are revised to the following ratios:

<u>Estimated K-8 Enrollment Per Unit</u>	<u>2013 Update</u>
Single Family Detached Housing	0.291
Attached and Multi-Family	0.151
Manufactured Housing	0.116
Total/Average	0.282

The ratios for attached & multifamily housing and manufactured or mobile home units are significantly lower in this update than in prior methodologies, principally because of a new baseline estimate using the American Community Survey PUMS data. The relationship between the single family enrollment ratio and the average for other types of units will now reflect updated baseline information on relative enrollment per unit by structure type.

In future updates of the school fee, it is recommended that actual averages be developed by comparing enrollment by address in Deerfield to the housing data in the property assessment files to generate the most accurate ratios using local information.

## 2. Capacity and Space at Deerfield Community School (DCS)

Table 3 contains a revised capacity estimate for the school based on updated District policies for class size by grade and the availability of classrooms at the DCS site. Under these revised assumptions, 85% of the classroom capacity at the DCS site is utilized with respect to desired maximum class size guidelines of the School District. Overall classroom capacity based on the current grade distribution and number of general classrooms assigned is estimated at 507 for grades K-8. October 2013 enrollment was 434 (excluding Pre-K).

The District is relying in part on 3 modular buildings (maximum of 6 classrooms) to meet the demands of existing enrollment under its class size policy and current educational program. The assumptions shown in Table 3 are based on correspondence with the Principal of the Deerfield Community School. The assumptions are intended to reflect a reasonable estimate of capacity based on current School District policy on class size by grade. An independent analysis of space needs by an architect or educational facilities specialist might yield different estimates of functional capacity.

**Table 3 - Capacity Estimate for Deerfield Community School**

Deerfield Community School - Estimate of Classroom Capacity K-8 Based on District Policy on Class Size											
Grade/Type	Number of Classrooms					Classroom Capacity Assumptions					Pupils Enrolled
	Main Bldg 1st Floor	Main Bldg 2nd Floor	Total Main Bldg	In Modular. Bldgs	Total Classrooms	Potential Sessions/Day	Students/Session	Max Capacity/Day Incl. Temp Bldgs	Capacity Main Building Only	Max Capacity Main Building	Enrollment October 2013
Pre-K	1		1		1	2	n.a.	n.a.	n.a.	n.a.	36
<b>K-8 Capacity Estimates</b>											
Spec. Ed. Classrooms	1		1		1	n.a.	n.a.	excluded from gen capacity est			included in enrollment by grade
Kindergarten	3		3		3	1	16	48	48	48	48
Grade 1	3		3		3	1	16	48	48	417	386
Grade 2	3		3		3	1	18	54	54		
Grade 3	1	3	4		4	1	18	72	72		
Grade 4		3	3		3	1	18	54	54		
Grade 5				2	2	1	21	42	0		
Grade 6		3	3		3	1	21	63	63		
Grade 7		3	3		3	1	21	63	63		
Grade 8		3	3		3	1	21	63	63		
<b>Total K to 8</b>	11	15	26	2	28	<b>Capacity for K-8:</b>		507	465	465	434
<b>Total Pre-K to 8</b>	12	15	27	2	29						
<b>Other Special Use Rooms Not Included in Capacity Estimates</b>											
Art		2	2		2						
Music		2	2		2						
World Language				1	1						
Health/Wellness				1	1						

### 3. School Capital Cost Per Dwelling Unit

In this update the capital value of school facilities has been assigned based on the insured value (replacement cost) of buildings and contents as of 2013, which includes the main building and the modular classrooms at the DCS site. A review of the insured value of DCS facilities (replacement cost of buildings and contents) as of April 2013 shows a value of \$11, also indicates a replacement cost for the main building at \$155 per square foot.<sup>1</sup> For the modular classrooms, total insured values for buildings and contents average \$105 per square foot. The overall replacement cost estimates for facilities in service has been estimated at the respective replacement costs per square foot for the permanent vs. modular classroom buildings at the DCS site. The blended average cost per square foot for facility replacement costs is \$152 per square foot.

Gross school capital costs per dwelling unit are computed in Table 4 as the product of:

- 1) Gross square feet of school area per pupil capacity;
- (2) 2013 replacement costs of existing school facilities;
- (3) Estimated K-8 enrollment per unit by structure type as of October 2013;

<sup>1</sup> Use of a cost multiplier produces a similar result for the main building using cost indices from RS Means' Square Foot Costs, 34th Annual Edition. The cost indices for 1989 (annual average) and 2013 (January, estimated) applied to the original construction cost also indicate a 2013 value of \$155 per square foot for the main building.

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(4) An average local District cost that is about 70% of the total, to reflect the historical 30% share of school capital costs paid by State Building Aid for the grade 1-8 portion of the facility; and

(5) A reduction in cost of Kindergarten space that reflects 75% State Building Aid on the Kindergarten portion of the facility.

**Table 4: District School Facility Cost Per Dwelling Unit**

PUBLIC SCHOOL IMPACT FEE CALCULATION FOR 2013 - GRADE K-8 FACILITY DEERFIELD COMMUNITY SCHOOL (Main building originally opened January,1990)		
<b>FACILITIES FOR GRADES K-8</b>		
Gross Floor Area Main Building	73,314	Main building (1989) plus additions
Estimated K-8 Classroom Area	24,307	Estimated portion
Kindergarten Classrooms (original)	2,596	Built with 75% state aid
Core, Support, Circulation, Other:	46,411	Balance of Area (estimated)
Modular Classrooms (6 in 3 bldgs)	5,264	As of 2013 moduls serving Grade 5, World Language and Health/Wellness
Total Estimated Classroom Area	32,167	Including Moduls
Total All Floor Area All Buildings	78,578	Total all buildings
<b>FACILITY CAPACITY AND GROSS AREA PER PUPIL - ALL BUILDINGS</b>		
<b>Estimated K-8 Capacity</b>	<b>Per Pupil</b>	<b>Estimated Capacity</b>
Classroom Space	63	507
Core Space	77	605
<u>Total Per Pupil</u>	<u>140</u>	
<b>Replacement Cost of Facilities</b>		
Main Building (Built 1989)	73,314	\$11,390,000
Modular Classrooms	5,264	\$552,000
<b>Total Facilities on Site</b>	<b>78,578</b>	<b>\$11,942,000</b>
<b>Average Replacement Cost Per Sq. Ft.</b>		<b>\$152</b>
Standard Used:		District Policy
2013 Estimated Capital Cost Per Pupil Capacity (Grade K-8)		\$21,280
Less Effective State Building Aid as % of Facility Investment (30%)		(\$6,384)
Local District Capital Cost/Pupil Grades K-8		\$14,896
<b>ATTRIBUTABLE LOCAL CAPITAL COST PER DWELLING UNIT</b>		
Initial Impact Fee (Per Unit Basis)	Gr. K-8 Per Household	(Total District Cost Per Dwelling)
Single Family Detached	0.291	<b>\$4,335</b>
Two or More Family Structure	0.151	<b>\$2,249</b>
Manufactured Housing	0.116	<b>\$1,728</b>
<p>No land costs were incurred in development of site, which was transferred from Town to School District.                      Site has capacity for expansion of elementary school and/or new middle school development.                      \$4.5 million of the original development cost was bonded.</p> <p>* General classroom capacity measured at desired maximum pupils per room @ 16 in K and grade 1,                      18 in grades 2-4 and 21 in grades 5-8. Original fee basis assumed ratio of 22 per room for all grades.</p> <p>Total floor area of main building and moduls based on finished floor area per property tax records</p>		

Based on the revised multipliers and the updated construction costs less state aid, the revised 2013 average capital cost impact per dwelling unit (prior to impact fee credits) is:

<u>Type of Structure</u>	<u>K-8 Local Capital Cost Per Unit</u>
Single Family	\$ 4,335
Multi Family/Attached	\$ 2,249
Manufactured Housing	\$ 1,728

#### 4. Credit Allowances

Revised credit allowances were computed for past property tax payments on the original bond issue for the Deerfield Community School for the period 1994 to 2003 (the last year of bonded debt payments on original school construction. In this update, per the recommendation of the 2009 update report, past payment credits have been limited to a 20-year “lookback period” (or the period 1994 through 2013). See Table 5.

The most recent net local assessed property valuation figure for computing local taxes in Deerfield (October 2013) is \$ 546,424,497. This valuation has been used to recalculate present value impact fee credits.

The average assessed value of raw land has been recalculated using the Town’s 2013 Summary Inventory of Assessed Valuation as reported in its 2013 MS-1 report to the NH Department of Revenue Administration. The average assessed valuation of residential and current use land per acre (\$7,332) has been used to compute the standard credit for past payments on debt service by vacant land. An average lot size of 3 acres per unit has been assumed for all residential development types.

Past Payments by the Undeveloped Lot. Based on the update in Table 5 the standard credit allowance for past payments (20 year lookback period) by vacant land for the original school construction is updated as follows:

<u>Type of Unit</u>	<u>Credit allowance Past Payment</u>
Single Family	\$ 275
Multi Family/Attached	\$ 275
Manufactured Housing	\$ 275

This credit schedule would apply to all school impact fee assessments, except for those fee payers selecting the option of computing actual past payments using the worksheet attachment provided to estimate an alternative past payment credit. The standard credit is the same for all unit types because it is based on an overall average of three acres of land per residential unit. A revised 2013 worksheet has been prepared to accommodate those who wish to prepare individual calculation of past payment credits based on actual tax payments over the same 20-year “lookback” period (from 1994 forward).

Future Payments by the New Dwelling Unit. The outstanding debt on the original school construction bond was retired in 2003. Consequently, there are no remaining future payments due on the original bonded debt for construction of the Deerfield Community School. However the use of temporary modular classrooms at the site suggests a deficiency in permanent facility space relative to the typical quality level assumed for school construction.

**Table 5: Credit Allowances**

<b>IMPACT FEE CREDIT CALCULATION FOR PROPERTY TAX PAYMENTS</b>						
FOR SCHOOL DEBT -- ORIGINAL CONSTRUCTION OF DEERFIELD COMMUNITY SCHOOL						
ASSUMPTIONS						
	Principal Amount:			\$4,500,000		
	Term In Years:			15		
	Interest Rate On Bonds:			6.9 to 7.0%		
	State Aid To District:			30.00%	Of Principal Due on Bonds	
	Local Government Share:			100.00%	Of District Costs Paid By Deerfield	
	Discount Rate:			6.00%		
Year	Principal Balance	Principal Payment	Interest Payment	Total Payment	Less State Building Aid 30% of Principal	Net Debt Service Of District
<b>PAST PAYMENTS</b>						
1989	\$4,500,000	\$300,000	\$314,400	\$614,400	\$90,000	\$524,400
1990	\$4,200,000	\$300,000	\$293,700	\$593,700	\$90,000	\$503,700
1991	\$3,900,000	\$300,000	\$273,000	\$573,000	\$90,000	\$483,000
1992	\$3,600,000	\$300,000	\$252,000	\$552,000	\$90,000	\$462,000
1993	\$3,300,000	\$300,000	\$231,000	\$531,000	\$90,000	\$441,000
1994	\$3,000,000	\$300,000	\$210,000	\$510,000	\$90,000	\$420,000
1995	\$2,700,000	\$300,000	\$189,000	\$489,000	\$90,000	\$399,000
1996	\$2,400,000	\$300,000	\$168,000	\$468,000	\$90,000	\$378,000
1997	\$2,100,000	\$300,000	\$147,000	\$447,000	\$90,000	\$357,000
1998	\$1,800,000	\$300,000	\$126,000	\$426,000	\$90,000	\$336,000
1999	\$1,500,000	\$300,000	\$105,000	\$405,000	\$90,000	\$315,000
2000	\$1,200,000	\$300,000	\$84,000	\$384,000	\$90,000	\$294,000
2001	\$900,000	\$300,000	\$63,000	\$363,000	\$90,000	\$273,000
2002	\$600,000	\$300,000	\$42,000	\$342,000	\$90,000	\$252,000
2003	\$300,000	\$300,000	\$21,000	\$321,000	\$90,000	\$231,000
<div style="border: 1px solid black; width: 100px; height: 15px; display: inline-block;"></div> Within 20-year "lookback period"						
Total Bond Period		\$4,500,000	\$2,519,100	\$7,019,100	\$1,350,000	\$5,669,100
						2013 Present Worth of Past Payments (1994-2003): \$6,841,357
						Present Value of Remaining Payments: \$0
						2013 Net Local Assessed Valuation: \$546,424,497
						2013 Valuation Land (Residential and Current Use) \$195,221,117
						Acreage - Residential and Current Use 26,624.73
						Average Land Valuation Per Acre-Developed/Undeveloped \$7,332
						Average Raw Land Value - 3 Acre Site \$21,996
						Past Payment Credit Per \$1000 Valuation Raw Land \$12.52
						<b>Past Payment Credit For 3-Acre Lot - Raw Land \$275</b>
						<b>Future Payments - Credit Allowance for Space Deficiency</b>
						Space in Temporary Modular Classrooms (Sq. Ft.) 5,264
						Building Cost Per Sq. Ft. \$155.00
						Cost to Rectify Space Deficiency \$815,920
						Less 30% State Building Aid (\$244,776)
						Net Cost to District \$571,144
						<b>Cost Per Thousand Assessed Valuation \$1.05</b>
<b>STANDARD CREDIT CALCULATIONS</b>						
Type Unit	Acres Per Unit	Credit for Past Payments	Assessed Value/Unit For New Homes	Future Payment Credit Allow.	Total Standard Credit Allow.	
SINGLE FAMILY	3	\$275	\$315,000	\$331	\$606	
TWO + FAMILY	3	\$275	\$206,000	\$216	\$491	
MOBILE HOME	3	\$275	\$192,000	\$202	\$477	

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Therefore a credit allowance based on the cost that would be required to replace existing temporary modular classrooms now in use with permanent facilities. The total floor area of these three buildings (containing a maximum of 5-6 usable classrooms) is 5,264 square feet. The cost of this amount of permanent space is computed at the same cost per square foot used to estimate 2013 replacement costs for the main building at DCS (at \$155 per square foot). The resulting dollar amount, less a 30% state building aid allowance, is the net local cost to correct the current deficiency in space. That cost is then expressed per \$1,000 valuation and applied to the estimated taxable valuation per dwelling unit to compute the credits, summarized below:

<u>Type of Unit</u>	<u>Credit Allowance For Modulares</u>
Single Family	\$ 331
Multi Family/Attached	\$ 216
Manufactured Housing	\$ 202

**5. Supportable Impact Fee Schedule 2013**

The revised school impact fee schedule for 2013 is calculated by subtracting the standard impact fee credits (as shown in Table 5) for each dwelling unit type from the local capital cost per unit (shown in Table 4). The standard impact fee computed in this manner is:

<u>Type of Unit</u>	<u>2013 School Impact Fee Per Dwelling Unit</u>
Single Family Detached	\$ 3,729
Multi Family/Attached	\$ 1,758
Manufactured Housing	\$ 1,251

Actual net impact fees assessed to new development may vary from these amounts if a higher past payment credit is calculated in cases where the assessed property uses the special credit worksheet supported by documentation of actual tax payments on vacant land.

Table 6 below summarizes the history of the school impact fees applicable to a single-family home in Deerfield based on the original report and subsequent updates to the methodology:

**Table 6 – Single Family Fee for Schools 1994-2013**

<b>HISTORY OF SCHOOL IMPACT FEE IN DEERFIELD - SINGLE FAMILY UNIT</b>					
<b>Year</b>	<b>DCS Enrollment per Single Family Unit</b>	<b>Local Capital Cost Impact Per SF Unit</b>	<b>Past Payment Credit</b>	<b>Future Payment Credit</b>	<b>Net Impact Fee Assessed</b>
1994	0.445	\$3,089	(\$88)	(\$1,410)	<b>\$1,591</b>
1995	0.445	\$3,088	(\$132)	(\$1,375)	<b>\$1,581</b>
1996	0.449	\$3,215	(\$140)	(\$1,155)	<b>\$1,920</b>
1997	0.447	\$3,378	(\$146)	(\$981)	<b>\$2,251</b>
1999	0.453	\$3,609	(\$256)	(\$670)	<b>\$2,683</b>
2000	0.429	\$3,579	(\$285)	(\$528)	<b>\$2,766</b>
2002	0.416	\$3,656	(\$291)	(\$310)	<b>\$3,055</b>
2004	0.412	\$3,739	(\$328)	\$0	<b>\$3,411</b>
2005	0.423	\$4,293	(\$340)	\$0	<b>\$3,953</b>
2009	0.344	\$4,763	(\$627)	(\$277)	<b>\$3,859</b>
2013	0.291	\$4,335	(\$275)	(\$331)	<b>\$3,729</b>

## **5. Current Enrollment and Capacity**

Enrollment as of October 2013 in grades K-8, excluding pre-school now represents about 85% of revised classroom capacity at the site, including the modular classrooms. The DCS now relies on temporary classrooms to provide necessary facility capacity to maintain its desired class size standards and educational programs. The impact fee is based on a capital value that reflects the average replacement cost of existing facilities, a blend of modular classrooms and site-built construction.

While there have been discussions of possible additions of more permanent classrooms and a field house at the school site, or the possible creation of a separate new middle school, there are no specific plans for expansion at this time. Because there is some remaining capacity at the school, the impact fee represents the recoupment of past investments to create existing facility space. School impact fees collected by the Town may be retained (for up to six years) and used either for related capital cost or refunded per the provisions of the impact fee ordinance.

## **6. Use of Recoupment Impact Fees**

NH RSA 674:21, V allows impact fees to be used to recoup the cost of facilities in proportion to the benefits provided to new development. The impact fee update maintains a proportionate assessment to new development, based on average enrollment per unit and space requirements per pupil. In the absence of a school impact fee, and with no debt service remaining on school facilities, new development would benefit from the value of the community's past capital investment in the school at no cost.

In situations where there is remaining debt service on facilities that have capacity to support impacts from new development, impact fee revenue may be applied to offset a portion of debt service costs, which keeps the use of the impact fee aligned with direct payments that support facility capacity.

The impact fees may also be retained for application to anticipated projects that enhance capacity of the school system. Other than the concept of a potential new middle school, there are no tangible plans for school expansion at this time.

Given the time limitation of 6 years over which fee income can be retained before it must be appropriated to a related capital project, consideration must be given to the appropriate use of school fee revenue. There has been no debt service due on the DCS construction since 2003. New school facility space has been provided using modular classrooms added to the site. No specific new school expansion projects are planned. There is a modest amount of remaining capacity in existing facilities under present grade configurations (about 15% of capacity remaining).

While recoupment is supportable under these conditions, the appropriate means of applying fee revenue is not specifically articulated in RSA 674:21, V. If the fee is continued it is recommended that in the absence of new construction projects, that the fee income be applied to other capital expenditures that improve or otherwise benefit K-8 facilities.

## **7. School Fee Discount Option**

It is likely that, with the general aging of the population, that enrollment per dwelling unit will continue to decline for some years to come, barring some major reversal that results in the in-migration of younger households. For this reason, the Board may want to consider a discounted impact fee in anticipation of this trend. For example, the fee schedule as computed might be discounted by a uniform percentage for actual assessment to new development.

## **8. Revised Assessment Worksheets**

### **a. Assessment Work Sheet**

A new impact fee assessment work sheet has been developed to incorporate the revised school and solid waste fees, and the road impact fee. (See Appendix.)

The form allows the option for the fee payer to substitute alternative past payment credits (for the school fee) based upon actual past tax bills for the period 1994 through 2003 (the period during which original debt service on the school was being paid), using the “Attachment 1” form. In the past, the credit period extended back to 1989. To be consistent with this update, and a 20-year lookback period on debt service, the form has been amended to reflect the same period.

### **b. Worksheet Attachment 1 Form**

A new “Attachment 1” work sheet for 2013 is provided in the Appendix. On this form, tax payments from 1989-2003 made by vacant lots that are the subject of a building permit application may be entered to calculate a unique past payment credit for school facilities for each applicant. Where the result of the worksheet computation results in a number higher than the standard *past payment* credit of \$275 per unit, that alternative credit may be substituted for the standard allowance on the impact fee assessment worksheet. This computation should not be substituted for the future payment credit shown in the standard impact fee schedule.

Should the net impact fee amount, after application of credits, result in zero or a negative number, no school impact fee should be assessed.

If the Planning Board decides to implement the recommendations of this report, then the new fee schedule should be adopted as an update in a manner consistent with the Town's Impact Fee Ordinance. While this update supersedes prior calculation methods for school impact fees, all prior updates along with the original study should be retained on file with the Town as documentation of the history of the Town's impact fee assessment process for public schools.

## B. SOLID WASTE IMPACT FEE UPDATE 2013

The town of Deerfield assesses an impact fee for its solid waste facilities (transfer station and recycling facility). The original methodology for the fee was developed January 1997, with subsequent updates prepared:

- June 1999
- September 2000
- May 2002
- February 2004
- July 2005
- April 2009

The following text describes the changes recommended for application in 2013. This text supplements and updates the prior reports; all reports should be maintained on single file to document the historical basis for solid waste impact fee assessment.

The three major factors in the residential solid waste impact fee calculation are: (1) persons per occupied housing unit; (2) replacement cost of solid waste capital facilities per capita, based on estimated service population at capacity; and (3) credits for debt service related to capital investments serving pre-existing needs (demand on facilities in the base year).

### 1. Persons per Occupied Dwelling Unit

Table 7 shows an updated computation of average household size by type of housing unit in Deerfield. Average household size is used to compute proportionate assessments per housing unit based on typical household size (persons per unit). The 2000 Census provided a detailed sampling at the municipal level that allowed reasonable estimates of household size by type of structure.

**Table 7**

<b>Estimates of Average Household Size By Structure Type - Deerfield</b>			
<b>Structure Type</b>	<b>2000 Census (Sample)</b>	<b>2010 Census (Full Count)</b>	<b>2010 Estimate by Type of Unit</b>
Single Family Detached	3.09	--	<b>2.89</b>
Attached and 2+ Family	2.12	--	<b>1.98</b>
Manufactured Housing	2.67	--	<b>2.50</b>
Total Housing Units	2.98	2.79	<b>2.79</b>

The 2010 Census provides 100% count data for total households only; the larger samples produced in 2000 are no longer conducted. Municipal level estimates from the 5-year averages compiled by the American Community Survey are not reliable by structure type in the small municipal samples.

The 2010 estimates of household size were computed based on the ratio of the 2010 average household size for Deerfield relative to the 2000 Census sample ratio, applied to each structure type.

## 2. Capital Value of Solid Waste Facilities

Table 8 lists the original and estimated 2013 replacement cost of solid waste facilities, adjusted for the value of funding assistance from the state of New Hampshire. R. S. Means, Inc. historic cost index were used as a basis for time adjustments from the base year of original construction to January 2013 (the most current time adjustment factors provided by this source).<sup>2</sup>

**Table 8**

<b>SOLID WASTE DISPOSAL FACILITIES - CAPITAL COST PER UNIT</b>			
<b>Town of Deerfield</b>			
<b>Transfer Station and Recycling Facilities</b>			
	Base Year	Design Year	
Original Design Population Estimates (1995, NHOEP)	3,272	4,901	
Per Capita Solid Waste & Recycling (Avg lbs/capita/day 2011 and 2012)		2.50	
Solid Waste in Design Year @ 2012 Avg Tons/Capita	Tons Per Year:	2,236	
Total Solid Waste and Recycling Tons in 2012		1,951	
2012 Volume as Percent		87%	
2010 Census Population		4,280	
As Percent of Original Design Year Population		87%	
		2013 Adjusted	Cost Multiplier to
Solid Waste Facilities	Original	Cost of	Adjust Base Year
Capital Investment	Cost	Facilities	Cost To 2013 (Jan)
Adjusted to Current Year Dollars			
Recycling Building (1990)	\$26,600	\$59,371	2.232
Transfer Station (1994)	\$400,000	\$787,600	1.969
Access Road (1996)	\$130,000	\$235,040	1.808
Estimated Replacement Cost of Solid Waste Facilities		<u>\$1,082,011</u>	
Less Credits for State Funding (Historic)	% of Capital Cost	Credit for Value of	State Funding
Value of Grants Received - Recycling Facilities	50.0%	(\$29,686)	
Reimbursable Costs From State			
For Transfer Station Costs	20.0%	(\$157,520)	
Net Local Capital Cost of Solid Waste Facilities Adjusted to 2013		\$894,806	
Cost Per Ton To Serve Design Year Population		\$400	
Cost Per Capita To Serve Design Year Population		\$183	
<b>CAPITAL COST PER DWELLING UNIT</b>			
	Deerfield Est.	2013	
	Persons Per	Capital Cost	
Residential	Occupied Unit 2011	Per Unit	
Single Family Detached	2.89	<b>\$529</b>	
2 + Family	1.98	<b>\$362</b>	
Manufactured Housing	2.50	<b>\$458</b>	

<sup>2</sup> Another possible source of this information would be to use fixed asset values if available from the Town for specific facilities. Such inventories often show the original date facilities and improvements are placed in service, and the date the item was constructed or purchased. The original investment value can then be updated to the current year. While this information was requested from the Town for this study, BCM Planning received no reply, so it is unknown whether such a fixed asset inventory exists. The 2012 financial statement for the Town posted on its website indicates total capital assets, suggesting that further detail may actually be available for specific facilities.

The original projection of the population supportable by Deerfield’s solid waste facilities was assumed as a 20-year horizon population of 4,901 (the NHOEP projection made in 1995 for the year 2015). The most recent NHOEP projections (November 2013) suggest that this population may be reached between 2020 and 2025. The facility is approaching an age of 20 years. The Town should review of actual solid waste facility needs for reinvestment, replacements or expansion prior to the next impact fee update.

### 3. Facility Cost per Capita and Per Dwelling Unit

The 2013 capital values assigned to solid waste facilities shown in Table 2 (total, less proportionate value of state funds) is estimated at **\$894,806**. The value of local capital investment in solid waste disposal facilities is estimated at **\$400 per ton** (net capital cost divided by year 2015 projected tonnage of 2,370), or an equivalent of **\$183 per capita** (2013 value of local capital investment divided by design year population of 4,901).

When multiplied by the number of persons per household for occupied units in Deerfield, the average capital cost per dwelling unit is calculated as follows (to be assessed as the impact fee for solid waste facilities).

Type of Dwelling	<b>Impact Fee: Capital Cost Per Dwelling Unit</b>
Single Family Detached	<b>\$ 529</b>
2 + Family Dwellings	<b>\$ 362</b>
Manufactured Housing	<b>\$ 458</b>

### 4. Credits for Future Tax Payments

The original bonded debt for the construction of Deerfield solid waste facilities was fully amortized in 2007. Prior fee schedules had included allowances for future debt service payments toward the portion of net local bond costs attributable to the needs of the base year population at the time the facility was constructed. Credit allowances for past payments on debt by vacant land were determined to be negligible in the prior versions of the impact fee assessment for solid waste. There is no remaining debt service on the facility. Therefore no credit allowances are included in this update of the solid waste impact fee.

Should the Town decide to discount the fees below the amounts shown above, any reduction should be made by applying the same percent reduction to the fee for each type of unit, in order to preserve proportionality in the fee system. This update and all prior documentation of the derivation of the solid waste impact fee should be retained in the Town’s files as part of its adopted methodology for calculation of impact fees.

### 5. Use of Solid Waste Impact Fee Funds

With the debt service on solid waste facilities now paid, the issue of how to apply solid waste impact fees may arise. NH RSA 674:21, V allows the community to recoup its past investment in facilities, which is what Town has been doing for some years for its solid waste facilities. When debt service remains, recoupment fees may be applied to pay down debt payments. When there is no remaining debt service, the most practical use of recouped funds may be to apply the revenues to other enhancements or improvements that help the transfer station and recycling facilities accommodate new development.

## C. Road Impact Fee Update 2013

In 2009 a new approach to the Town's road impact fee was adopted based on a 2009 memo on road impact fee options prepared by BCM Planning. The option adopted by the Town is based on the projected improvement of the heavier-use Class V roads in Deerfield and the cost of those improvements over a 20-year period. Growth in the number of vehicle trips is estimated by a growth model that is based on projected change in housing units, households, number of passenger vehicles, and employment in Deerfield. A portion of the projected cost over the 20 year period is allocated to new development based on new trip generation created by that development.

Therefore, this fee acts to recoup a portion of the Town's ongoing investment in major road improvements, and presumes the implementation of a 20-year schedule to justify the amount of the fee.

### 1. General Principles and Limitations

Under RSA 674:21, V, impact fees may be assessed for "public road systems and rights-of-way". The statute also requires that impact fees may be assessed only for those facilities that are "owned or operated by the municipality". Therefore, State highway facilities cannot be the subject of a local road impact fee assessment (except possibly for those portions of State highways which are maintained by the Town). Furthermore, the statute requires that "...upgrades, the need for which is not created by new development, shall not be paid for with impact fees."

In its guidelines for impact fee assessment, prepared by the Southern New Hampshire Planning Commission<sup>3</sup>, the section relating to roads indicates that impact fees are most properly assessed for improvements to a discrete set of major streets or intersections.

While normal resurfacing of highways and repairs must take place periodically, general repaving or regrading of roads is an ongoing maintenance responsibility rather than a capacity-related improvement of particular benefit to new development. However, full road reconstruction is sometimes necessary to accommodate modern traffic loads on older highways. Certain improvements may be made as roads are rebuilt that will provide better sub-base conditions, and surface conditions that may include additional width of lanes or shoulders, better sight distance, curvature, or drainage that will accommodate existing as well as future traffic.

The Consultant's opinion is that the highway projects benefiting from impact fees should involve the latter type of more extensive improvements such as rebuilding or full-depth reclamation that will improve the local roads to recommended standards.

The road impact fee assessment reflects a series of assumptions regarding related improvements to principal Class V highways, such as the following:

- Deerfield will undertake an annual program of road reconstruction of identified local collector roads that form the Town's principal highway network,
- The Town plans to rebuild approximately "X" mile per year of the Class V roads that function in Deerfield as "local collectors" or "major Town roads";
- When rebuilt, gravel roads that are designated as existing or future "local collectors" will be reconstructed as paved roads;
- That the road projects to be funded with impact fees are not simply repaving or overlay costs of regular road maintenance, but projects that involve excavation of sub-grade layers, and full reconstruction and/or reclamation of the roadways;

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<sup>3</sup> Impact Fee Development for New Hampshire Communities, 1999, Southern NH Planning Commission.

- That the improvements funded with impact fees will reasonably improve the capacity of the road network through construction to recommended standards and/or widening the traveled way and improving drainage as needed to improve capacity and prolong the life of the road system.

## 2. Inventory of Deerfield Roads

### *a. Summary of Highway Mileage 2012*

Table 9 updates the road mileage in Deerfield based a January 2012 NHDOT road inventory which includes about 59.1 miles of Class V highway (paved and unpaved):

**Table 9**

<b>DEERFIELD ROAD INVENTORY 2012</b>		
<b>Legislative Class</b>	<b>Linear Miles</b>	<b>Lane-Miles</b>
I - State Primary	0	0
II - State Secondary	17.312	34.624
III - Recreation	1.35	2.7
IV - Compact	0	0
V - Local	59.117	115.364
VI - Local Not Maintained	10.32	13.208
VII - Federal	0	0
Private	17.609	33.204
<b>Total</b>	<b>105.708</b>	<b>199.1</b>
<b>Subtotal Public</b>	<b>88.099</b>	<b>165.896</b>
<b>Town Class V</b>	<b>59.117</b>	<b>115.364</b>

*Source: NHDOT January 2012 inventory*

In the 2009 study, it was determined that:

- The inventory of Class V roads totaled 58.2 miles (June 2008, NHDOT)
- About 34.7 miles of the Class V road system (about 60% of its mildage) may be considered as the Town's network of principal and heavier use roads.
- Of this total for the network roads, about 68% of the road miles were paved (23.5 miles).
- Within this group of principal paved roads there were ab estimated 8.23 miles to be reconstructed over a 20-year period, and 8.38 miles would require shim and overlay work alone.
- The reconstruction portion of required work on these roads would total about \$4.2 million, while other shim and overlay work projected for the period would total about \$1.5 million.
- The reconstruction portion of the work represented an average cost of about \$97 per linear foot along the paved portions of this network, or about \$210,000 per year. With the shim and overlay work planned, the total cost would be about \$287,000 per year.

### 3. Anticipated Projects and Costs

#### a. Capital Cost of Road Reconstruction (Engineering Estimates)

Suggested minimum design standards published by NHDOT contain the following guidelines for Class V road construction. Recommended road and shoulder width, depth of road base, and pavement type vary with anticipated traffic volume. (See Table 10.)

**Table 10 – NHDOT Road Design Guidelines**

NH DOT MINIMUM GEOMETRIC AND STRUCTURAL GUIDES FOR LOCAL ROADS AND STREETS							
Avg Daily Traffic	Pavement Width	Shoulder Width	Center of Rd to Ditch Line	Pavement Type	Slope	Base Course Depth Gravel (in)	Base Course Depth Cr. Gravel (in)
0-50	18	2	15	Gravel	4%	12	0
50-200	20	2	16	Asph Surf Treated	3%	12	0
200-750	20	4	18	Hot Bitum.	2%	12	4
750-1500	22	4	20	Hot Bitum.	2%	12	6
1500+	24	8	not given	Hot Bitum.	2%	18	6

Source: NH Department of Transportation

In October 2007, BCM Planning retained the engineering firm Wright-Pierce to develop estimates of road reconstruction costs based on the range of design standards recommended by NHDOT for Class V roads. Cost scenarios were developed for:

- Full-depth reconstruction vs. reconstruction using reclamation of pavement
- Roads with gravel vs. paved shoulders

The engineering estimates are based on unit costs applied to components of construction required for excavation, base courses of gravel, bituminous pavement for surface and binder courses, plus allowances for ditching, erosion and sedimentation controls, loam, seed and mulching. Unit costs for the model were updated in October 2013.

The estimated cost of road reconstruction has been based on engineering judgments and standardized assumptions of the quantity of excavation and materials required to meet NHDOT design recommendations under. Table 11 summarizes the estimated 2013 reconstruction costs generated by the model to meet the recommended design standards for a Class V highway.

**Table 11**  
**2013 Estimated Road Reconstruction Costs w/Reclamation**  
 Based on NHDOT Design Guidelines and Engineering Assumptions

Road Width:	24 ft	22 f	20 ft	Average
With Paved Shoulders	\$ 126	\$ 99	\$ 93	\$106
With Gravel shoulders	\$ 87	\$ 80	\$ 74	\$ 81
Average	\$106	\$ 90	\$ 84	\$ 93

Source: Based on 2013 update to reconstruction cost model developed by Wright-Pierce for BCM Planning

This model provides a general guideline on the cost of reconstruction using reclamation techniques.

The 2009 study relied on a serried of engineering costs estimates prepared by Keach-Nordstrom Associates for the Town. The average cost per linear foot for various road widths was applied to the

project schedule shown below in Table 11 to project average annual costs for the proposed improvements. The blended average cost for road reconstruction projects reflects an average of about \$97 per linear foot.

**Table 11: 2009 Improvement Plan for Major Roads**

20-Year Road Improvement Plan for Deerfield Collectors & Heavy Use Roads (Locally Maintained, Paved)							
Road Name	Level of Improvement		Total Miles Improved in Period	Avg Estimated Paved Width	Estimated Cost Full Reconstruction (1)	Estimated Cost Shim & Overlay Only (2)	Total Improvement Cost Estimate
	Full Reconstruction	Shim & Overlay Only					
Birch	0.43		0.43	22	\$222,499	\$0	\$222,499
Candia		0.91	0.91	20	\$0	\$168,168	\$168,168
Cotton	0.50	1.00	1.50	24	\$266,640	\$184,800	\$451,440
Gulf	0.30		0.30	20	\$150,480	\$0	\$150,480
Meetinghouse Hill	1.10		1.10	20	\$551,760	\$0	\$551,760
Middle	1.80	1.00	2.80	20	\$902,880	\$184,800	\$1,087,680
Mt. Delight Phase II		1.33	1.33	20	\$0	\$245,784	\$245,784
Mt. Delight Phase I		1.65	1.65	20	\$0	\$304,500	\$304,500
Reservation Rd (from CIP)	1.00		1.00	18	\$501,600	\$0	\$501,600
Ridge	1.10	0.19	1.29	22	\$569,184	\$35,112	\$604,296
South	2.00	2.30	4.30	22	\$1,034,880	\$425,040	\$1,459,920
<b>Total</b>	<b>8.23</b>	<b>8.38</b>	<b>16.61</b>		<b>\$4,199,923</b>	<b>\$1,548,204</b>	<b>\$5,748,127</b>
Average per year - 20 years	<b>0.41</b>	<b>0.42</b>	<b>0.83</b>	<b>Avg/Yr - 20 Yrs</b>	<b>\$209,996</b>	<b>\$77,410</b>	<b>\$287,406</b>
Total Miles Collectors & Heavy Use Roads (Town Maintained - Paved Portions)	23.538		(1) Full reconstruction cost @ \$95-\$101 per linear foot depending on width, per estimates attributed to Keach-Nordstrom Associates in memo dated 09-09-2009 from Gerald I. Coogan, Planning Consultant to the Town of Deerfield				
Number of Years Required to Improve All Collectors & Heavy Use Roads at Average Miles Per Year Planned			28	(2) Estimated at \$35 per foot (Road Agent estimates a range of \$30-\$40 per ft depending on overlay thickness.)			

Unless there is evidence that actual costs of the reconstruction program are running substantially lower or higher than \$97 per linear foot, BCM Planning recommends that this cost standard be maintained as a reasonable approximation of 2013 costs.

*b. Progress in 2009 Improvement Plan*

Based on review of the Highway Agent's annual summaries from Town Reports (2010-2012) it appears that some progress has been made toward the 20-year plan for improvement of the major listed roads, as well as other "heavy use roads" not listed in the 2009 plan (Church Street and Brown Road).

- 2010: Meetinghouse Hill Rd: 1,400 feet (0.265 miles) ground, graveled, paved
- 2010: Reservation Road: 6,200 feet (1.174 miles) replaced /reconstructed
- 2010: Church Street: 1,200 feet (0.227 miles) ground, graveled, paved
- 2010: Mt. Delight Rd Phase I plan to overlay 2.2 miles in 2011 (completion unknown)
- 2011: Church Street: Plan to finish last two sections in 2011 (length, completion unknown)
- 2011: Brown Road Extensive work late summer; final part includes paving in 2012
- 2012: Church Street: Budget for topcoat in 2012 (length, completion unknown)

From the above, at least 1.7 miles of roadway appear to have been completed in 2010, and another 2.2 miles were scheduled for 2011-2012 for a total of about 3.9 miles. Assuming that 3.9 miles of road reconstruction have been completed on the roads listed in Table 11, it would represent about 47% of the mileage scheduled for reconstruction, or about 1.3 miles per year, ahead of the annual averages needed to implement the 20-year schedule.

The actual extent of project completions could not be determined from the Town Reports, nor are the costs or lengths of the improvements known. This information should be confirmed to determine the comprehensive cost of the road improvements completed and actual costs per linear foot.

A format for summarizing progress is suggested in Table 12 below. This information was requested from the Road Agent in support of the impact fee update, but related information has not yet been made available to BCM Planning.

**Table 12: Format for Documenting Major Road Reconstruction and Improvements**

PROGRESS TOWARD 20 YEAR PLAN FOR IMPROVEMENTS ON MAJOR CLASS V ROADS - DEERFIELD								
Road Name	20-Year Plan (2009) for Major Roads - Miles of Planned Improvements			Projects Completed 2010 or Later				
	Full Reconstruction (Reclamation)	Shim & Overlay Only	Total	Year(s) Work Was Completed	Reconstructed Miles	Reconstruction Cost *	Overlay Miles	Overlay Cost *
Birch	0.43		0.43					
Candia		0.91	0.91					
Cotton	0.50	1.00	1.50					
Gulf	0.30		0.30					
Meetinghouse Hill	1.10		1.10					
Middle	1.80	1.00	2.80					
Mt. Delight Phase I		1.65	1.65					
Mt. Delight Phase II		1.33	1.33					
Reservation Rd	1.00		1.00					
Ridge	1.10	0.19	1.29					
South	2.00	2.30	4.30					
<b>Total</b>	<b>8.23</b>	<b>8.38</b>	<b>16.61</b>					
<b>Other "Heavy Use Roads"</b>								
Brown Rd								
Church St								
Old Center Rd								
Old Center Rd S								
Range Rd								

\* Please note if "cost" represents contracted services only, or cost includes Town labor & materials as well.

#### 4. Updated Demographic Factors and Cost Per Trip

Table 13 updates the fee model selected by the Town based on actual 2010 demographic factors and revised projections for a 20 year period to 2030. The trip production and trip attraction estimates are based on SNHPC modeling factors from equations contained in its Regional Transportation Plan.

The baseline data for the original model used estimates; the 2010 baseline in Table 13 for population and housing is 100% count data from the Census; employment data for the same year reflects NH Employment Security information. Due to data suppression for small samples, the estimated number of retail jobs is a proportionate estimate based on prior year proportions of local employment.

The source notes to the table describe the projection basis, which begins with historic trends and linear projections of total housing units and average household size. From those factors, 2030 housing units, households, and population projections were derived.

**Table 13**

Estimated Trips Generated Within Town of Deerfield - 2010 Base Year and 2030 Projection Year					
Line No.	Socioeconomic Variables	2010	2030	Change	Source Notes
A	TOTAL POPULATION	4,280	5,229	949	Projected based on housing and household growth assumptions; population project based on projected average household size based on linear trend
B	HOUSEHOLDS	1,537	2,100	563	Average of linear trend in total housing units for period 1980-2010 and 1990-2010
C	AVERAGE HOUSEHOLD SIZE	2.78	2.49	-0.29	Projected household size in 2030 based on linear trend in average household size in Deerfield 1990-2010
D	DWELLING UNITS	1,734	2,300	566	Average of linear trend in total housing units for period 1980-2010 and 1990-2010
E	RETAIL JOBS	17	31	13	Retail portion of total local employment projected to 2030 at 2010 percentage of total
F	NON-RETAIL JOBS	329	584	256	Balance of jobs (total less retail estimate). Future projection of total based on linear trend analysis.
G	TOTAL EMPLOYMENT	346	615	269	Total employment includes government & school. Projections based on linear trends 1980-2012 (private sector) and 1990-2012 (total including government)
H	TRIP PRODUCTION	13,005	17,049	4,044	Trip production rates, SNHPC Regional Transp. Plan, 2008
I	TRIP ATTRACTION	5,888	8,222	2,333	Trip attraction rates, SNHPC Regional Transp. Plan, 2008
J	TOTAL TRIP GENERATION	18,893	25,270	6,377	Total of trip production and attraction - local uses
K	ESTIMATED PEAK TRIPS @ 10%	1,889	2,527	638	PM peak trips estimated @ 10% of total
L	PROJECTED SHARE OF 2030 TRIPS GENERATED BY NEW DEVELOPMENT 2010-2030			25%	New trips generated 2010-2030 as percent of total trips in horizon year
M	RECONSTRUCTION OF MAJOR ROADS DURING PERIOD @ \$210,000 PER YEAR			\$4,200,000	Reconstruction portion of major collector & heavy use road improvements
N	Portion of Capital Cost Attributed to Increase in Trips During Projection Period		25%	\$1,050,000	Allocated share of cost based on new trips as % of 2030 trips
O	Cost Allocation Per New PM Peak Trip			<b>\$1,646</b>	Average cost per new trip during growth period

Residential Uses	PM Peak Trips Per Unit*	Unit of Assessment	Fee Per Unit
Single Family Detached Home	1.01	Dwelling Unit	\$1,662
Attached & 2+ Family (avg of trips for two-family & townhouse)	0.55	Dwelling Unit	\$905
Manufactured Housing (based on data for MH Parks)	0.59	Dwelling Unit	\$971

\* Institute of Transportation Engineers (ITE), Trip Generation, 7th edition, 2003

Based on this model, about 25% of total PM peak trips generated in Deerfield in 2030 would be the result of increased trip generation (generated by new development) from the base year 2010 to the projection year.

With average annual road reconstruction costs at \$210,000 per year, a total of \$4.2 million would be invested in the reconstruction of major Class V roads, with \$1.05 million of that total assessed to new development over the projection period, averaging \$1,646 per new PM peak trip. The cost per trip is multiplied by the ITE trip generation rate shown at the bottom of the chart to generate the impact fee per dwelling unit.

Alternative assumptions of the amount of future growth, the number of miles required to be rebuilt each year to accommodate the Town's needs, and the cost of road reconstruction are all variables that will affect the computation under this method.

#### 5. Relationship to Exactions for Off-Site Improvements

In addition to the standardized road impact fees illustrated above, in this case representing the cost of periodic road reconstruction costs for the primary network of Class V roads, the Town may still require certain offsite improvements to highways (under local site plan and subdivision regulations). RSA 674:21, V provides that exactions for certain off site improvements, limited to water, sewer, road and drainage upgrades "necessitated by the development" may be required in the subdivision/site plan review process.

#### 6. Recommendations

It is the Consultant's view that road impact fees should not be used for projects that constitute regular maintenance; projects funded with impact fees should be based on substantial improvements with a long useful life (15-20 years) such as full depth reconstruction, widening, intersection improvements, and improved road alignments.

Provided that the Town maintains the funding level anticipated by the fee model (at least \$210,000 per year in 2013 dollars) invested in the reconstruction of primary and heavy use Class V roads, the annual impact fee income may be used to offset a portion of that total expense.

To maintain the integrity of the fee system a detailed record of improvements by type, cost and name and length of the improved segments should be kept. (See Table 12 earlier in this section). This will aid in defending the rationale for the impact fee system and its associated costs, and to update the fee so that it appropriately reflects actual rather than estimated improvement costs.

## **APPENDIX: WORKSHEETS**

**ATTACHMENT 1 - 2013 UPDATE**

**WORKSHEET FOR ALTERNATIVE CALCULATION OF PAST PAYMENT CREDITS  
FOR SCHOOL DEBT SERVICE WHERE PAST  
PROPERTY TAX PAYMENT INFORMATION IS AVAILABLE**

**TOWN OF DEERFIELD - SCHOOL IMPACT FEE  
PAST PAYMENT CREDIT FOR VACANT LOT**

**PROPERTY LOCATION**

Street Address \_\_\_\_\_  
\_\_\_\_\_

Tax Map/Lot I. D. \_\_\_\_\_

Previous Owner, if Known: \_\_\_\_\_

Date Lot Was Created, If Known: \_\_\_\_\_

- 1 Actual acreage of the vacant lot to be developed \_\_\_\_\_ Acres
- 2 Number of years owned by this applicant \_\_\_\_\_ Years
- 3 Note: Proceed with computation with respect to tax payments made on the VACANT LOT which is to be developed.

**COMPUTATION**

- 4 Enter actual annual property tax payments for any or all years applicant has owned this lot;
- 5 If this lot was created in 1989 or after from a larger vacant parcel, entries in Column A may include a share of tax payments made by a previous owner. That share may not exceed the current lot acreage as a proportion of the size of the original parcel.
- 6 Use the formulas shown to compute the credit

Year (1)	ENTER THE Total Property Tax Paid For This Vacant Land (A)	Multiply By Proportionate Impact of Original Bonded Debt Payments On Total Tax Rate (B)	Tax Payment Attributable to Original School Bond = A x B (C)	Multiply by 2013 Pres. Worth Factor * (D)	Yields: Pres. Val. Credit =C x D (E)
1994	_____	0.0949	_____	2.52	_____
1995	_____	0.0832	_____	2.40	_____
1996	_____	0.0735	_____	2.29	_____
1997	_____	0.0663	_____	2.18	_____
1998	_____	0.0582	_____	2.08	_____
1999	_____	0.0723	_____	1.98	_____
2000	_____	0.0593	_____	1.89	_____
2001	_____	0.0442	_____	1.80	_____
2002	_____	0.0365	_____	1.71	_____
2003	_____	0.0306	_____	1.63	_____

*(no outstanding debt on school after 2003)*

Sum of the above credits (add column): \_\_\_\_\_

(This is the alternate past payment credit amount - enter this figure above line B on Impact Fee Assessment Worksheet)

*(1) Credit period for 2013 limited to 20-year lookback  
or tax payment on vacant land beginning in 1994*

*\* PW factor computed at 5% per year compounded*

## **Assessment Schedule 2013**