



Site Planning	Environmental Studies
Civil Engineering	Entitlements
Landscape Architecture	Construction Services
Land Surveying	3D Visualization
Transportation Engineering	Laser Scanning

## MEMORANDUM

DATE: June 18, 2015

TO: Supervisor Harley Doles III and Members of the Town Board  
Michael H. Donnelly, Esq., Dickover, Donnelly & Donovan, LLP  
Mr. Tim Miller, AICP, Tim Miller Associates

FROM: Mr. Richard J. Pearson, PE, PTOE, JMC  
Mr. Robert B. Peake, AICP, JMC

RE: JMC Project 15095  
Kiryas Joel Annexation  
Town of Monroe & Village of Kiryas Joel, NY

SUBJECT: **Comments on Kiryas Joel Annexation Draft Generic Environmental Impact Statement (DGEIS)**

As requested by the Town of Monroe, we have reviewed the Draft Generic Environmental Impact Statement (DGEIS) for the 507.4 (507) acre annexation of a portion of the Town of Monroe to the Village of Kiryas Joel, which was accepted by the Village of Kiryas Joel Board of Trustees on May 1, 2015 and was the subject of a public hearing on June 10, 2015. The DGEIS includes an alternative 164 acre annexation.

Several of our below comments note the DGEIS page number to the left of the comment, referring to a specific location in the DGEIS to which the comment is addressed. Comments without a DGEIS page reference are of a non-page specific nature.

Based upon our review of the DGEIS, we offer the following comments:

### **A. A Supplemental DGEIS Is Required**

The Kiryas Joel Annexation DGEIS is based entirely on a 10 year projection of population growth of residents within the existing Village of Kiryas Joel, which is comprised of approximately 700 acres per the DGEIS. The 10 year analysis included in the DGEIS considers only a portion of the potential future impacts. Accordingly, a supplemental DGEIS needs to be prepared to properly address the buildout potential of the entire 1,207 acres and provide the public with an opportunity to comment on the anticipated impacts associated with the proposed annexation and resulting/anticipated

increase in density and population of the 507 acres of existing Town lands as well as the 164 acre alternative annexation. In order to properly evaluate the full environmental impacts associated with the proposed annexation. A timeframe for when such buildouts would occur beyond 2025 should be included. If several alternative buildout scenarios are contemplated as reasonable for the Proposed Action and the noted Alternatives, all of these buildout scenarios should be evaluated.

The attached pages from the New York State Department of Environmental Conservation (NYSDEC) include the cover page of the SEQR Handbook, 3<sup>rd</sup> Edition, dated 2010 as well as Chapter 7: SEQR and Local Government Development Decision. In Chapter 7, Section D 1. Are Municipal Annexations Subject to SEQR, the NYSDEC publication states “Municipal decisions on annexation are similar in their consequences to rezoning decisions; both decisions have the potential to change land use patterns and require a hard look at the consequences of the whole action.”

A buildout analysis is a standard method for evaluating zoning densities in growth potential and comparing proposed/anticipated zoning densities to existing zoning densities. For example, as described in the attached American Planning Association's March 2006 article "Zoning Practice" "Buildout Analysis", "The basic purpose of buildout analysis is to...evaluate potential impacts and...possible alternatives," and is part of good planning practice. For the subject Kiryas Joel annexation DGEIS, buildout analyses need to be conducted in order to evaluate longer-term (greater than 10 year) impacts from the associated population growth to critical infrastructure, including but not limited to water and sanitary sewer demands and evaluating capacities to accommodate such demands.

The following Tables JMC-1 through JMC-4 compare the 10 year Hasidic population growth analyzed in the DGEIS to anticipated buildout Hasidic population growth projected by JMC under various alternatives. The tables demonstrate that the ultimate population growths beyond year 2025 (which are associated with environmental impacts) are substantially greater than the 10 year growth analyzed in the DGEIS.

Table JMC-1 includes the 10 year Hasidic population growth of 19,663 persons considered in the DGEIS without and with the 507 acre annexation as well as without and with the alternative 164 acre annexation, which are identified as Scenarios “A” through “D” in the DGEIS. Table JMC-1 also includes three JMC buildout scenarios based on the 507 acre annexation and the 164 acre annexation, as well as the buildout based on existing zoning of the three territories.

JMC buildout conditions were evaluated by JMC cumulatively in JMC Buildout Scenario “1” for the existing 700 acres of Kiryas Joel as well as the 507 total proposed annexation acres, which are comprised of 347 acres of low density (RR-1.0 AC and RR-3 AC) zoning within the Town and 164 acres of multi-family (UR-M) zoning

within the Town. JMC Buildout Scenario “1” shows an increase in the Hasidic population within the 1,207 acres of approximately 81,361 persons.

JMC Buildout Scenario “2” is based on the 164 acre alternative annexation. The Hasidic population would be expected to grow by approximately 35,007 persons within the 1,207 acres under this alternative.

JMC Buildout Scenario “3” is based on the Hasidic population potential increase without either annexation. An increase of 22,377 persons could be accommodated based on the projections included in the DGEIS.

Table JMC-2 compares the JMC projected increase in Hasidic populations within the annexation areas with and without the 507 and 164 acre annexations. A net increase of approximately 58,984 persons are projected with the 507 acre annexation, compared to a net increase of approximately 12,630 persons with the 164 acre annexation. The substantial increase in additional dwelling units and persons in the 507 acre annexation is related to the substantial increase in permitted proposed density with annexation as compared to existing Town regulations within the 343 lower density acres.

Table JMC-3 shows the minimum anticipated Hasidic population growth based on projections included in the DGEIS. The table considers 20 dwelling units per developable acre as included in the DGEIS for the annexed territories. The table shows a buildout Hasidic population growth of approximately 59,237 persons with the 507 acres annexation and approximately 29,252 persons with the alternative 164 acre annexation. The table shows the additional future increased population not analyzed in the DGEIS based on the 507 acre annexation, the 164 acre alternative annexation and without annexation.

Table JMC-4 is similar to Table JMC-3, yet projects a development density of 30 dwelling units per developable acre for the annexed territories, consistent with Tables JMC-1 and JMC-2. We believe a higher rate of 30 units per acre should be used than the rate of 20 units per acre based on our review of recent development within Kiryas Joel. Developments with rates of 38.1, 35.7 and 33 units per acre characterize current trends. The Village does not have a regulated maximum number of units per acre and the development is limited on a practical basis by the buildings not having elevators. The rate of 30 units per acre accounts for mixed residential development types and commercial uses. The current Village construction activity includes redevelopment, resulting in higher density buildings. A 10 unit development was recently razed and a 30 unit development is being constructed on the same property. Table JMC-4 shows an increase with the 507 acre annexation of approximately 61,698 additional future increased Hasidic population which was not analyzed in the DGEIS. A supplemental DGEIS is required to analyze the additional population.

**TABLE JMC-1**  
**DGEIS YEAR 2025 HASIDIC GROWTH VERSUS JMC BUILDOUT HASIDIC GROWTH**

SCENARIO	TERRITORY	HASIDIC POPULATION GROWTH	DWELLING UNITS PER ACRE		PERSONS PER UNIT
			DEVELOPABLE	GROSS	
DGEIS SCENARIO "A" • Without Annexation • 507 Acre Territory • 19,663 Persons in 2025	507 Town Acres (164 & 343)	7,356	3.82	2.82	5.1
	Kiryas Joel (700 acres)	12,307 <sup>(1)</sup>	-(1)	9.26 <sup>(1)</sup>	5.4
	<b>Total (1,207 acres)</b>	<b>19,663</b>		-	-
DGEIS SCENARIO "B" • With Annexation • 507 Acre Territory • 19,663 Persons in 2025	507 Annexed Acres (164 & 343)	19,663	20	7.54	5.1
	Kiryas Joel (700 acres)	0 <sup>(1)</sup>	-(1)	5.84 <sup>(1)(2)</sup>	5.5
	<b>Total (1,207 acres)</b>	<b>19,663</b>		-	-
DGEIS SCENARIO "C" • Without Annexation • 164 Acre Alternative • 19,663 Persons in 2025	164 Town Acres	4,642	9.25 <sup>(8)</sup>	5.51	5.1
	Kiryas Joel (700 Acres)	15,021 <sup>(1)</sup>	-(1)	10.01 <sup>(1)</sup>	5.4
	<b>Total (864 Acres)</b>	<b>19,663</b>		-	-
DGEIS SCENARIO "D" • With 164 Acre Annexation • 19,663 Persons in 2025	164 Annexed Acres	11,517	20	11.92	5.9
	Kiryas Joel (700 Acres)	8,146 <sup>(1)</sup>	-(1)	8.51 <sup>(1)</sup>	5.2
	<b>Total (864 Acres)</b>	<b>19,663</b>		-	-
JMC BUILDOUT SCENARIO "1" • With 507 Acre Annexation	507 Annexed Acres	66,340 <sup>(3)(6)</sup>	30 <sup>(3)</sup>	22.16 <sup>(3)</sup>	5.9 <sup>(3)</sup>
	Kiryas Joel (700 Acres)	15,021 <sup>(5)(6)</sup>	-(1)	6.08 <sup>(5)(6)</sup>	5.5 <sup>(7)</sup>
	<b>Kiryas Joel Total (1,207 Acres)</b>	<b>81,361<sup>(5)(6)</sup></b>		-	-
JMC BUILDOUT SCENARIO "2" • With 164 Acre Annexation	164 Annexed Acres	17,272 <sup>(4)(6)</sup>	30 <sup>(3)</sup>	17.85 <sup>(3) (4)(6)</sup>	5.9 <sup>(4)</sup>
	Kiryas Joel (700 Acres)	15,021 <sup>(5)(6)</sup>	-(1)	6.08 <sup>(5)(6)</sup>	5.5 <sup>(7)</sup>
	<b>Kiryas Joel Subtotal (864 Acres)</b>	<b>32,293<sup>(5)(6)</sup></b>		-	-
	343 Town Acres	2,714 <sup>(9)</sup>		1.55 <sup>(9)</sup>	5.1 <sup>(9)</sup>
	<b>Total (1,207 Acres)</b>	<b>35,007</b>		-	-
JMC BUILDOUT SCENARIO "3" • Without Annexation	Kiryas Joel (700 Acres)	15,021 <sup>(5)(6)</sup>	-(1)	6.08 <sup>(5)(6)</sup>	5.5 <sup>(7)</sup>
	164 Town Acres	4,642 <sup>(8)</sup>	9.25 <sup>(8)</sup>	5.51 <sup>(8)</sup>	5.1 <sup>(8)</sup>
	343 Town Acres	2,714 <sup>(9)</sup>	2.29 <sup>(9)</sup>	1.55 <sup>(9)</sup>	5.1 <sup>(9)</sup>
	<b>Total</b>	<b>22,377</b>			

**Notes:**

<sup>(1)</sup> Projected DGEIS net growth in Kiryas Joel population shown in the existing 700 acres varies from 0 (zero) to 15,021 since the DGEIS population is based on projected net dwelling units **needed** for year 2025 population increase of 19,663 persons per DGEIS Tables E-1 and AHE-1. It is illogical and inconsistent for the DGEIS to not consider any population growth within the existing 700 acres under DGEIS Scenario "B" while considering an additional 15,021 persons under DGEIS Scenario "C."

- (2) Existing density of 5.84 dwelling units per acre shown for the 700 acres within the existing Village is based on total acreage, which includes undeveloped and underdeveloped property in Kiryas Joel.
- (3) Based on 374.8 acres of developable land and 507.4 acres of gross land per DGEIS scenario "B" and 97.6 acres of developable land of the 164 acres per DGEIS Scenario "D". JMC Scenarios 1 and 2 are based on recent Kiryas Joel projects and consider development of 30 dwelling units per acre of developable land rather than the 20 units per acre analyzed in DGEIS Scenarios "B" and "D", as well as 5.9 persons per unit per DGEIS Scenario "D".
- (4) Based on DGEIS projected 97.6 acres of developable land of the 164 acre annexed territory.
- (5) Kiryas Joel growth potential may be higher than the 15,021 persons considered in DGEIS Scenario "C" since there is undeveloped and underdeveloped property in Kiryas Joel.
- (6) Buildout potential may be higher since Kiryas Joel does not have a regulated maximum permitted residential density. Recent Kiryas Joel developments have densities up to 38 units per acre.
- (7) Persons per unit is based on existing density of Kiryas Joel.
- (8) Per DGEIS Scenario "C" and 97.6 acres of developable land of the 164 acres per DGEIS Scenario "D".
- (9) Subtracting 4,642 persons in 164 acre territory shown without annexation in DGEIS Scenario "C" from 7,356 persons in 507.4 acre territory shown without annexation in DGEIS Scenario "A" results in 2,714 persons, a density of 1.55 dwelling units per acre and 5.1 persons per unit in the 343 acres without annexation.

TABLE JMC-2  
PROJECTED JMC BUILDOUT INCREASE IN HASIDIC POPULATION WITHIN  
ANNEXATION AREAS

SCENARIO	CONDITION	INCREASE
507 Acres	With Annexation	66,340 <sup>(1)(3)</sup>
	Without Annexation	7,356 <sup>(2)</sup>
	<b>Net Increase With Annexation</b>	<b>58,984<sup>(3)</sup></b>
164 Acres	With Annexation	17,272 <sup>(1)(3)</sup>
	Without Annexation	4,642 <sup>(5)</sup>
	<b>Net Increase With Annexation</b>	<b>12,630<sup>(3)</sup></b>

Notes:

- (1) See Table JMC-1 for supplemental information regarding the projections.
- (2) Based on DGEIS Scenario "A".
- (3) Buildout potential may be higher since Kiryas Joel does not have a regulated maximum permitted residential density. A density of 30 units per developable acre in the annexation area has been considered in the JMC analyses. Recent Kiryas Joel developments have densities up to 38 units per acre.
- (4) Based on Table 1, DGEIS Scenario "C".

**TABLE JMC-3**  
**JMC MINIMUM BUILDOUT POPULATION GROWTH VERSUS DGEIS YEAR 2025 GROWTH <sup>(1)</sup>**

SCENARIO	TERRITORY	BASED ON 20 DWELLING UNITS PER DEVELOPABLE ACRE	PERSONS PER UNIT	POPULATION GROWTH BUILDOUT	DGEIS 2025 INCREASED POPULATION	ADDITIONAL FUTURE INCREASED POPULATION NOT ANALYZED IN DGEIS
507 ACRES ANNEXATION	507 Annexed Acres	14.77	5.9	44,216 <sup>(2)</sup>	-	-
	Kiryas Joel (700 Acres)	-	5.5	15,021 <sup>(1)(2)</sup>	-	-
	<b>Total (1207 Acres)</b>	-	-	<b>59,237<sup>(2)</sup></b>	<b>19,663</b>	<b>39,574<sup>(2)(3)</sup></b>
164 ACRES ANNEXATION	164 Annexed Acres	11.92	5.9	11,517 <sup>(2)</sup>	-	-
	Kiryas Joel (700 Acres)	-	5.5	15,021 <sup>(1)(2)</sup>	-	-
	343 Town Acres	1.55	5.1	2,714	-	-
	<b>Total (1207 Acres)</b>	-	-	<b>29,252<sup>(2)</sup></b>	<b>19,663</b>	<b>9,589<sup>(2)(3)</sup></b>
WITHOUT ANNEXATION	Kiryas Joel (700 Acres)	-	5.5	15,021 <sup>(1)(2)</sup>	-	-
	164 Town Acres	5.51	5.1	4,642	-	-
	343 Town Acres	1.55	5.1	2,714	-	-
	<b>Total (1207 Acres)</b>	-	-	<b>22,377<sup>(2)</sup></b>	<b>19,663</b>	<b>2,714</b>

Notes:

- (1) The minimum Hasidic population of 15,021 persons in the existing 700 acres is based on the year 2025 Hasidic growth considered in DGEIS Scenario "C" which is based on dwelling units **needed**, rather than the buildout potential of vacant and underdeveloped land.
- (2) Population growths are based on JMC buildout scenarios described in Table JMC-1, except that a density of 20 dwelling units per developable acre is used for the annexation area, which is consistent with the DGEIS, rather than the 30 units per acre considered in Table JMC-1. Buildout population growth may be higher than shown since Kiryas Joel does not have a regulated maximum permitted residential density.
- (3) The DGEIS did not analyze the additional future increased population resulting from the annexation based on full buildout.

**TABLE JMC-4**  
**JMC PROJECTED BUILDOUT POPULATION GROWTH VERSUS DGEIS YEAR 2025 GROWTH <sup>(1)</sup>**

SCENARIO	TERRITORY	BASED ON 30 DWELLING UNITS PER DEVELOPABLE ACRE	PERSONS PER UNIT	POPULATION GROWTH BUILDOUT	DGEIS 2025 INCREASED POPULATION	ADDITIONAL FUTURE INCREASED POPULATION NOT ANALYZED IN DGEIS
507 ACRES ANNEXATION	507 Annexed Acres	22.16	5.9	66,340 <sup>(2)</sup>	-	-
	Kiryas Joel (700 Acres)	-	5.5	15,021 <sup>(1)(2)</sup>	-	-
	<b>Total (1207 Acres)</b>	-	-	<b>81,361<sup>(2)</sup></b>	<b>19,663</b>	<b>61,698<sup>(3)</sup></b>
164 ACRES ANNEXATION	164 Annexed Acres	17.85	5.9	17,272 <sup>(2)</sup>	-	-
	Kiryas Joel (700 Acres)	-	5.5	15,021 <sup>(1)(2)</sup>	-	-
	343 Town Acres	1.55	5.1	2,714	-	-
	<b>Total (1207 Acres)</b>	-	-	<b>35,007</b>	<b>19,663</b>	<b>15,344<sup>(3)</sup></b>
WITHOUT ANNEXATION	Kiryas Joel (700 Acres)	-	5.5	15,021 <sup>(1)(2)</sup>	-	-
	164 Town Acres	5.51	5.1	4,642	-	-
	343 Town Acres	1.55	5.1	2,714	-	-
	<b>Total (1207 Acres)</b>	-	-	<b>22,377<sup>(2)</sup></b>	<b>19,663</b>	<b>2,714</b>

Notes:

- (1) The minimum Hasidic population of 15,021 persons in the existing 700 acres is based on the year 2025 Hasidic growth considered in DGEIS Scenario "C" which is based on dwelling units **needed**, rather than the buildout potential of vacant and underdeveloped land.
- (2) Population growths are based on JMC buildout scenarios described in Table JMC-1, which considered 30 dwelling units per developable acre based on recent Kiryas Joel developments. Buildout population growth may be higher than shown since Kiryas Joel does not have a regulated maximum permitted residential density. Recently Kiryas Joel developments have up to 38 units per developable acre.
- (3) The DGEIS did not analyze the additional future increased population resulting from the annexation based on full buildout.



**B. Land Use and Zoning**

- B1. What is the impact on the property values of the properties adjoining the proposed annexation area, particularly for the properties that will be surrounded on three sides by the annexation lands?
- B2. Referencing our overall comment regarding the necessity of the completion of a buildout analysis, the results of such an analysis must be evaluated for its related impacts to land use and zoning.

**C. Demographics and Fiscal**

- C.1  
pg. 3.2-2 Table 3.2-1 does not indicate which are recorded and which are projected populations. This should be so noted on the Table.
- C.2  
pg. 3.2-4 The Kiryas Joel population projections should be updated using the latest available American Community Survey (ACS) data for determining the Village's average family size.
- C.3  
pg. 3.2-4 What is the geographic extent of the National Center for Health statistics used to project the number of annual deaths in Kiryas Joel? A broad geographical data set may not accurately reflect the unique characteristics of the Kiryas Joel population, such as less vehicular driving by the residents, etc. Would birth and death statistics from the Village provide more pertinent data?
- C.4  
pg. 3.2-5 The DGEIS states that the projected 2014 population of the Village was compared to the number of marriage licenses issued in the Village between 2010 and 2013 and was also compared to the number of new building permits issued between 2010 and 2013 and "found to be reasonable". The specific numbers of marriage licenses and new building permits issued for the noted time period need to be included in the DGEIS so that the conclusion may be supported.
- C.5  
pg. 3.2-16 The discussion of Table 3.2-11 Future Increased Revenues by Jurisdiction With Annexation—Post Development is misleading because the discussion compares tax revenues versus Pre-Development taxes and does not provide a comparison with Table 3.2-10 Future Increased Revenues by Jurisdiction Without Annexation—Post Development. This is a more valid comparison

because the Post Development scenario in Table 3.2-10 will occur in any case with no action. Thus, the difference in future taxes generated for With versus Without Annexation Post-Development for Orange County is \$448,803, for combined Monroe Townwide and Monroe Highway Townwide is \$164,014, and for the Village is \$1,504,852. A discussion is needed of the comparison of post development tax revenues generated with and without the annexation.

C.6

pg. 3.2-17 In Table 3.2-11, explain the basis for using 1,952 projected units on the annexation land and 1,873 units projected for growth within Kiryas Joel as a basis for deriving the \$195,718,122 total assessed value of the improvements for the future increased tax revenues by jurisdiction calculations. The Appendix E Table E-1 With Annexation Scenario "B"—Growth in the 507-Acre Annexation Territory states that the projected number of dwelling units in the Annexation Land is 3,825 with zero projected net dwelling units needed in Kiryas Joel.

C.7

pg. 3.2-19 The DGEIS Municipal Cost—Without Annexation section discusses the tax revenues as presented in Table 3.2-10. The rightmost column of Table 3.2-10 presents these tax revenues as "Future Tax Increase". Thus, this column is mislabeled because it does not represent the "Future Tax Increase" but rather the "Future Tax Revenue", and thus is misleading. This column description as well as a similar column heading in Table 3.2-11 must be changed accordingly. The discussion of the Tables on pages 3.2-15 through 3.2-17 must also be revised to reflect the correct description as Future Tax Revenue.

C.8

pgs. 3.2-20

and 3.2-21 It is not noted that a comparison of the net tax benefit to the Town of Monroe as depicted on Table 3.2-12 and Table 3.2-13 shows a net reduction of the "Net Benefit" tax revenue of \$336,980 with the annexation compared to without the annexation. Thus, although as discussed in the DGEIS the Town's tax revenue under either scenario more than covers the cost of providing Town services, the net Town tax surplus is smaller by \$336,980 under the annexation scenario.

C.9

pg. 3.2-26 The DGEIS states that it is unlikely, without annexation taking place, there would be any motivation to revise the current Kiryas Joel School District (KJSD) boundary lines into the Town of Monroe. The DEIS then goes on to state at the bottom of the same page that the school tax rate in Kiryas

Joel is lower than the school tax rate for the Monroe-Woodbury School District (MWSD). This would be an approximately 44% savings on the school tax rate per \$1,000 of assessed value as described in the DGEIS. That would seem to be a potentially significant motivation for revising the KJSD boundaries even without the annexation, especially since the vast majority of the students in the annexation lands attend parochial school.

- C.11 Referencing our overall comment regarding the necessity of the completion of a buildout analysis, the results of such an analysis must be evaluated for its related demographic and fiscal impacts.

**D. Community Services and Facilities**

- D.1 What is the impact on the adjoining properties to the proposed annexation area on municipal services such as street snow plowing, trash collection, etc., particularly for the properties that will be surrounded on three sides by the annexation lands? Which municipality will provide these services? How will that be arranged?
- D.2. Referencing our overall comment regarding the necessity of the completion of a buildout analysis, the results of such an analysis must be evaluated for its related impacts to community services and facilities.
- D.3  
pg. 3.3-15 The DGEIS does not address the fiscal impacts associated with mutual aid requests to the Monroe Fire Department (MFD) should the Kiryas Joel Fire Protection District be expanded to include the annexation territories. The annexation territories would no longer pay taxes to the MFD, and thus the impact of these tax reductions on the MFD, which will respond to mutual aid calls in the annexed territories post-development when the building densities and sizes are larger, should be analyzed.

**E. Traffic and Transportation**

- E.1  
pg 3.4-1 The entire Traffic and Transportation section needs to be revised to reflect conditions associated with the buildout of the annexed territories beyond year 2025 as well as continued development within Kiryas Joel as previously described in this memorandum. Tables E-1 and Alt E-1 show additional development in the areas proposed for annexation as compared to the populations in the annexation areas without the 507 acre annexation or 164 acre alternate annexation.

E.2

pg 3.4-4 Key intersections are described on page 3.4-4 (CR 64 was inadvertently labeled as CR 44 in the DGEIS). Quantitative intersection capacity analyses should be computed for the four intersections described in the DGEIS, as well as for the triangular intersections of Route 208 and Route 17M. The analyses should be provided for peak weekday AM and PM hours based on existing traffic volumes as well as future volumes without and with the annexation and buildout of the annexed territories. A Saturday peak hour analysis is not required since Kiryas Joel related Saturday traffic volumes are significantly lower than on other days. We concur that trip generation rates per unit for Kiryas Joel is lower than rates in other municipalities since many people walk rather than drive, the women do not drive and many people use public transportation, carpool and limit certain trips to internal trips within Kiryas Joel. However, the potential buildout including the annexed area and continued growth within the existing 700 acre Kiryas Joel should be compared to the less intensive potential buildout of the Town lands without the annexation. Recommended improvements to the analyzed intersections should be described and analyzed.

E.3

pg 1-2 The DGEIS discusses the obligation for future consideration of SEQRA on particular projects that may be proposed. Have traffic studies been performed for Planning Board review of developments recently constructed within Kiryas Joel?

## **F. Community Water and Sewer Services**

F.1

pg. 3.5-1 When will the NYSDEC draft consolidated water supply permit (WSA No. 11,069) be approved as final? What is the impact of this timing?

F.2

pgs. 3.5-3  
and 3.5-6

The Mountainville well field, according to the WSA No. 11,609 in Appendix G.1, states that the Mountainville Well No. 1 is the largest well in the Village system, thus in order to meet redundancy requirements its contribution cannot be counted towards total well system capacity of 1,928,800 gpd, per Special Condition 1B of the permit. (This Condition notes that the Village is authorized to take up to 2.54 million gallons per day (mgd) only until March 31, 2015, and this period of time is past.) The DGEIS statement that the addition of the Mountainville well field would enable the Village to meet its maximum daily demand and serve as an interim supply while the remainder of the pipeline connection to the

Aqueduct is constructed is therefore not accurate because it cannot be counted towards permitted total system capacity. As such, what is the impact of this on the Village's water supply until the Aqueduct connection is completed?

- F.3  
pgs. 3.5-5 A copy of the intermunicipal agreement with the Town of New Windsor to share the Town's existing connection to the Catskill Aqueduct, which is discussed in the DGEIS, should be provided as an appendix.
- F.4 The analysis which the Village submitted to the State Environmental Facilities Corporation (EFC) in connection with the bonding of the Aqueduct Connection project, relies on demographic growth projections through the year 2045, with 8,550 new residential connections and 1,500 new commercial connections. The EFC-related projection thus exceeds the year 2025 population analyzed in the DGEIS. This further supports our contention that the DGEIS timeframe ending at the year 2025 is not adequate for analyzing the proposed impacts of the annexation resulting from the buildout of the annexation properties.
- F.5  
pg. 3.5-6 Explain the rights the Village has to the Mountainville well field, and any contested ownership of groundwater resources claimed by any nearby municipalities. How will that impact the use of the well field by Kiryas Joel and the annexed territory in the future?
- F.6  
pg. 3.5-6 Specific details should be provided regarding the status of the permitting required for the Village's proposed connection to the Catskill Aqueduct. Filing dates, current review status, and expected date of final permit approvals should be provided.
- F.7  
pg. 3.5-6 In addition, specific details should be provided regarding the status of the construction schedule of Phase 1 and Phase 2 of the Village's proposed connection to the Catskill Aqueduct. The DGEIS states that according to the project engineer (whose firm is not identified) the construction of Phase 1 is nearing completion and is scheduled to be completed in 2015, with Phase 2 to be completed in 2017. This response does not provide sufficient detail. A monthly schedule of work to be completed on the Aqueduct construction including current construction status needs to be provided.

- F.8  
pg. 3.5-6 Footnote 9, etc. All footnoted correspondence that is not part of a previous public record needs to be included in the DGEIS appendices.
- F.9  
pg. 3.5-6 The statement that the Mountainville well will serve as an interim primary supply for the Village while the remainder of the Aqueduct pipeline is constructed is not accurate. What is the impact of this on the Village's water supply until the Aqueduct connection is completed?
- F.10  
pg. 3.5-8 The current status of the Woodbury Heights Estate Water Company's March 2014 application to the NYSDEC for a water supply permit should be provided. When is the approval expected? What impact does this timing have on the Village?
- F.11  
pg. 3.5-9 Further details should be provided on the volume of water allowed to be taken from the Catskill Aqueduct both with and without the proposed annexation based on the date that the connection is anticipated to be completed. Describe this permitting process and the timing involved.
- F.12  
pg. 3.5-9 It should be clarified if the 100 percent back-up for the volume of water taken from the Aqueduct as specified by the New York City administrative code is required to be calculated with the largest supply well out of service. If so, how does this impact the Village's water supply calculations?
- F.13  
pg. 3.5-10 Table 3.5-1 should be modified with additional columns that show the type of permitting required and permitting status for each of the various well fields, the timeframe permitting is anticipated to take (if applicable), as well as the anticipated permitted water to be taken from each well field.
- F.14 Figure  
3.5-1 This figure should be modified to include a legend, to depict the extent of the Catskill Aqueduct connection pipeline currently installed, the pipeline yet to be installed, and monthly dates of the anticipated installation next to those sections of the pipeline remaining to be installed. The figure should also depict the proposed annexation area. Explain the meaning of "Pipeline Route A" depicted on the figure.

F.15 Figure

3.5-20 The statement that “It has been reported that the Villages of South Blooming Grove and Woodbury are successors to the rights and obligations of the Towns of Blooming Grove and Woodbury, with respect to the inter-municipal agreements”. What is the source of the reporting?

F.16 What is the impact on the Village of Kiryas Joel (either with or without the annexation) should an upgrade to the County’s wastewater treatment plant not be completed prior to reaching maximum capacity for the existing plant, and a moratorium on new sanitary connections is enacted?

F.17 Referencing our overall comment regarding the necessity of the completion of a buildout analysis, the results of such an analysis must be evaluated for its related impacts to community water and sewer services. JMC Buildout Scenario “1” of Table JMC-1 of this memo shows a buildout population of 81,361 with the buildout of the 507 acre annexation and existing Village of Kiryas Joel. Using the 66.0 gallons per person average daily water usage rate as described in Section 3.5.5 page 3.5-30 of the DGEIS, yields a total average daily water usage and sanitary flow of 5,369,826 gallons per day, which is approximately 90% of the existing Harriman Wastewater Treatment Plant capacity of 6.0 million gallons per day (mgd). Under JMC Buildout Scenario “2” of Table JMC-1, the 164 acre annexation alternative yields a buildout population of 35,007, which in turn yields a 2,310,462 gallons per day average daily water usage and sanitary flow. The potential 3.0 mgd upgrade to the sanitary wastewater treatment capacity of the Orange County Sewer District #1 is not sufficient to accommodate these buildout populations in addition to continued population growth in other areas of the Sewer District. Clearly, there are significant water and sanitary buildout impacts and these must be analyzed in a supplemental DGEIS.

**G. Natural Resources**

G.1

pg. 3.6-4 Under Section 3.6.2 of the DGEIS, the statement is made that under the growth scenario described in the project description (without and with annexation), disturbance of the land would result from construction activities to much the same degree. This statement is not supported by a comparison of the existing Town of Monroe zoning regulations which limits unit density and has various bulk regulations in place which limit the extent of site disturbance activities. A comparison with the denser development permitted under KJ zoning should be provided to determine if the degree of land disturbance following annexation would change versus the no annexation scenario.

## H. Cultural Resources

### H.1

Pg. 3.7-4 The DGEIS notes that because Seven Springs Road is a public road, the annexation will not remove or hinder public access to the roadway as it currently provides for users of the Highlands Trail and Long Path, significant regional hiking trailways. However, people using those trails might be impacted should the Village post signs (as it currently does at other entrances to the Village) asking visitors to dress in a modest way, specifically by “wearing long skirts or pants; covered necklines; sleeves past the elbow; [and to]...maintain gender separation in all public areas.” Impacts to users of the trails should be addressed.

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# **THE SEQR HANDBOOK**

3<sup>rd</sup> Edition - 2010



Division of Environmental Permits  
New York State Department of Environmental Conservation



presents the information in a concise, objective and factually accurate manner. Where complex, highly technical models or studies are developed for an EIS, summarize the results in the main body of the EIS, and include the detailed supporting documentation only as appendices.

- Provide a sufficient number of copies of the EIS for public review. If the EIS is large and too expensive to provide everyone with his or her own copy, make the documents widely available at public libraries, offices of the lead and involved agencies, or any other publicly accessible facilities in the vicinity of the project site. In addition, cooperate with the lead agency in making arrangements for posting the EIS on a publicly accessible web site.
- If the lead agency requests assistance in developing responses to some or all comments received on the draft EIS, provide accurate and timely input.

#### **4. How can interested citizens or groups participate effectively in SEQR reviews?**

- To contribute productively to a SEQR review, interested citizens and groups need to understand the formal rules which govern SEQR as well as the rules which apply to the lead agency's general management of applications. For example, local boards must post their meeting dates and probable agendas, while state agencies typically rely on published notices.
- Ensure that any comments or other submissions to the lead agency focus on relevant potential environmental impacts of a project, and are not merely expressions of support or opposition.
- Be aware of the status of applications in your area of interest, so that you are able to provide early input to the lead agency.
- Additional information on citizen participation in the SEQR process is available in the pamphlet, "[A Citizens Guide to SEQR](#)" (pdf, 972 kb).

## **Chapter 7: SEQR and Local Government Development Decision**

### **A. General Applicability of SEQR to Local Governments**

#### **In This Section You Will Learn:**

- which local government decisions are subject to SEQR; and,
- how a municipality can integrate SEQR into its decision-making process.

#### **1. Which local government actions must comply with SEQR?**

All local governments, including county legislatures and county agencies, city councils, town boards, village board of trustees, planning boards, zoning boards of appeal, school boards, and industrial development agencies, must comply with SEQR.

#### **2. Which local government decisions are subject to SEQR?**

Most local government "actions" are subject to SEQR. Determining whether a governmental activity is an "action" under SEQR is the first step in deciding if SEQR applies. As defined by SEQR, the term "action" includes all discretionary decisions to fund, approve or directly undertake projects or physical activities that may affect the environment by changing the

use, appearance or condition of any natural resource or structure. The definition also includes adoption of local laws, ordinances, and resolutions that may affect the environment. Specific examples of local government actions are:

- Adoption or amendment of a comprehensive plan
- Adoption or amendment of zoning laws and ordinances and amendments to zoning laws and ordinances
- Special use permit approvals
- Site plan review approvals
- Subdivision approvals
- Bond resolutions for municipal development projects
- Capital improvements
- Annexations
- Acquisition or sale of public lands

### **3. What local government actions *do not* require SEQR review?**

Activities that do not meet the definition of "action" or that are classified as Type II actions (see [Section 617.5](#)) do not require SEQR review. Type II actions include some typical local government activities such as:

- Construction or expansion of a single-family, a two-family or a three-family residence on an approved lot;
- Granting of individual setback and lot line variances, granting of area variance(s) for a single-family, two-family or three-family residence;
- Official acts of a ministerial nature involving no exercise of discretion, including building permits and historic preservation permits whose issuance is predicated solely on the applicant's compliance or noncompliance with the relevant building or preservation code(s);
- Collective bargaining activities;
- Adoption of a moratorium on land development or construction;
- Designation of local landmarks or their inclusion within historic districts.

### **4. If an action is classified as a Type II action, is SEQR review required of the municipal board before it undertakes, approves or funds the action?**

No. The board should note the Type II classification of the action in the resolution approving the action or in a separate resolution prior to approving the action. The resolution should specify the item on the Type II list in Part 617.5 that applies to the action.

### **5. Is a municipality required to apply SEQR even if its present procedures incorporate environmental considerations (for example, a site plan review law containing performance standards for visual impacts)?**

Yes. Though seemingly redundant or overlapping, SEQR review is still required for actions even though the local or state law governing the proposed action provides for the consideration of the environment. In fact, many zoning actions taken under the municipal enabling acts provide for varying consideration of environmental factors. As a practical matter, for example, the same information may form the basis for a SEQR decision to approve, reject, or approve a project with conditions and the basis for whether a project meets the locality's requirements for land use approval.

## **6. How does a municipality integrate SEQR into its decision-making processes?**

If the action involves the review of a subdivision, General City Law §32, Town Law §276 and Village Law §7-728 (the State subdivision review enabling laws) incorporate SEQR directly into the overall subdivision review process. For other local government actions, there are a few basic rules to follow:

- First, the SEQR process should be started at the earliest practicable time in the review of a project or legislative decision.
- Second, an agency cannot fund, approve, or undertake an action until it has complied with SEQRA.
- Third, an application to fund or approve an action is not complete until a negative declaration has been issued or a draft EIS has been accepted by the lead agency as satisfactory with regard to scope, content and adequacy.

With regard to third rule, there are some caveats. Historically, municipal boards used the public hearing forum to do fact finding on whether to require a draft EIS. At the same time, the public hearing ordinarily follows the determination that an application is complete. Because no application is complete until a negative declaration has been issued or the municipal board has accepted a draft EIS, the public hearing must follow the determination on whether to require a draft EIS. To satisfy the rule here and to allow fact finding on whether to require a draft EIS, where necessary, municipal boards can hold a separate public hearing on whether to require a draft EIS or accept public comment on its determination to require or not require a draft EIS at the hearing held subsequent to determining that the application is complete. If public input reveals new information or indicates errors in the characterization of the action that call the issuance of a negative declaration into question, the negative declaration can be rescinded and an EIS required.

Finally, the third timing rule does not apply to the adoption of local laws and ordinances since neither involves an "application." However, SEQR must be satisfied before any law or ordinance goes into effect.

## **7. May a municipal board delegate its SEQR duties to another board?**

No. A municipal board may not delegate SEQR to a separate board or agency. If the other board or agency does not have decision making authority for the action being reviewed. SEQR is intended to make boards that are responsible for approving, funding or undertaking an action consider the environmental effects of their decisions. Delegating SEQR-review to a non-involved agency is not permitted. A board may be assisted in its review by other agencies and staff with expertise on environmental issues. An example is where a planning board is assisted in its review of a subdivision by a municipal planner or a conservation advisory council. If an action involves the approval of more than one board, a lead agency may be picked from among the boards and thereby be primarily responsible for the SEQR review of that action.

## **8. If a proposed development will require approvals by agencies in two or more municipalities, how are these multiple reviews integrated?**

Because SEQR requires agencies to look at the whole action and not to segment the review of actions, the involved agencies of each municipality must participate in the SEQR process and consider the whole action, including impacts in neighboring communities. If coordinated review is initiated or required by an involved agency, and the initial phases of a

development occur in only one of the municipalities, but one or more of the municipalities will be ultimately involved, then each agency should be treated as involved agency at the beginning of the process.

**9. Does a municipal board have to consider extraterritorial environmental impacts, for example: impacts occurring in an adjoining municipality?**

Yes. For example, a planning board reviewing a cellular communications tower visible from a neighboring community should consider the aesthetic impact of the tower on the neighboring community. A town planning board reviewing a big box development should consider the impact of the development on the community character of a neighboring village that might suffer business displacement as a result of the approval of the big box development. A third example would be a community reviewing a shopping plaza that generates traffic on an adjoining community's roadway system. In that case, the host community's review should consider the traffic on the adjoining community.

**10. When a municipal board such as a conservation advisory council or planning board is acting in an advisory role only can it be designated as the lead agency?**

No agency can serve as the lead agency or be considered an involved agency on the basis of an advisory role. The same would apply to the county planning agencies, though their recommendations trigger special voting requirements.

**11. If my board is reviewing, for example, a special use permit application, or any other type of application, what difference does it make if the applicant prepares an EIS or just submits a long-form EAF with heavy documentation?**

The EIS process establishes a formal process for the identification and assessment of impacts, consideration of alternatives to the proposed action, and identification of mitigation measures for adverse impacts revealed in the EIS process. Through the various notice provisions of the SEQR regulations, the public is given the opportunity for a greater role in the project review over that which may be required by the General City Law, Town Law or the Village Law (municipal enabling statutes). For an action (or project) that is the subject of a final EIS, the lead agency (or board) must make the SEQR findings required by Section 617.11 (of 6 NYCRR). Notably, the findings require, based on a balancing of social and economic considerations with environmental considerations, the alternative that avoids or minimizes adverse impacts to the maximum extent practicable. In a nutshell, while SEQR does not change the jurisdiction of an agency (or board), it overlays a formalized process for the consideration of environmental impacts onto an agency's (or board's) jurisdiction. It then imposes a findings requirement that forces the lead agency to consider alternatives and to then pick the alternative with the least impact while balancing social and economic considerations with environmental considerations.

**B. SEQR and Land Use Decisions**

**In This Section You Will Learn about:**

- SEQR and building permits
- SEQR and land use moratoria
- SEQR and comprehensive plans;
- SEQR and zoning, special use permits, variances and zoning board interpretations

## ***SEQR and Building Permits***

### **1. Does the building inspector's issuance of a building permit require SEQR review?**

SEQR classifies as Type II actions official acts of a "ministerial" nature involving no exercise of discretion. (A "ministerial" act is one that involves direct adherence to a rule or standard with a compulsory result.) Issuance of building permits, where the issuance of the permit is determined solely on basis of the applicant's compliance with the building code would be included in this category. The building inspector's issuance of most building permits does not involve the exercise of discretion. In a typical situation, if an application meets the requirements of the New York State Uniform Fire Prevention and Building Code then the building permit must be issued. The building inspector does not have any discretion in the matter. (If a building permit is issued following site plan review approval or the issuance of a special use permit, or both, the building permit should have to meet the requirements of those approvals. However, the code enforcement officer or building inspector is merely enforcing conditions that have already been established by the planning or zoning board.)

### **2. When would the building inspector's or code enforcement officer's issuance of a building permit *not* be classified as a Type II action and therefore require review under SEQR?**

There are instances where the issuance of building permit does involve the exercise of discretion by the building inspector. Some local laws give the building inspector some discretionary authority. For example, in some limited instances, building inspectors may have some authority to conduct site plan review. In that situation, the issuance of the building permit is no longer a ministerial action and SEQR review is required.

### **3. If issuance of a building permit for a project is ministerial and no local discretionary approvals are required, may SEQR be applied by the local government?**

The local government has no opportunity to apply SEQR because it has no discretionary approvals to give. If SEQR review is conducted by a state or county agency, the local government may participate as an interested party, but not as an involved agency.

### **4. Can a ministerial permit be issued while SEQR review of an action is being conducted?**

A ministerial permit can be issued while the SEQR review is ongoing if the permit can otherwise be issued. However, the activity allowed in the permit may not be undertaken because the SEQR regulations [6 NYCRR §617.3(a)] state that no physical alteration related to an action shall be commenced by a project sponsor until the provisions of SEQR have been complied with. The issuing official should notify the project sponsor of this prohibition. This would be particularly applicable to the issuance of demolition permits associated with a subsequent development action subject to review under SEQR.

## ***SEQR and Land Use Moratoria***

### **5. Are municipal land use moratoria subject to SEQR?**

Land use moratoria are classified as Type II actions, which means that a municipality adopting a moratorium is not required to undertake any SEQR review with respect to the moratorium. A municipality adopting a moratorium should merely note the Type II classification in its resolution adopting a moratorium.

### **6. If a municipality adopts a moratorium on development projects and includes projects that are currently in the review process does the SEQR review also stop for those projects in the pipeline?**

Yes. This answer is based on the rule that SEQR does not change the existing jurisdiction of agencies. SEQR only applies when a board is authorized by some other statute to fund, approve or undertake an action (e.g., site plan, special use permit, or subdivision review). If the underlying review has been stayed by the moratorium then the SEQRA review is also stayed pending the end of the moratorium since the SEQR review does not have independent life. Therefore, a moratorium on development projects that are in the "pipeline" would stay the SEQR process.

## ***SEQR and Comprehensive Plans (or land use "Master plans")***

### **7. Does SEQR apply to the adoption of a comprehensive plan?**

Yes. A municipality's adoption of a land use or "comprehensive plan" (as referred to in General City Law §28-a, Town Law §272-a, and Village Law §7-722) is not only subject to SEQR but is classified as a Type I action in the SEQR regulations. As a result, the adoption of a comprehensive plan is more likely to have a potentially significant, adverse impact on the environment, and, therefore, more likely to require the preparation of an EIS.

### **8. What is the best way for a municipality adopting a comprehensive plan to comply with SEQR?**

While it is possible to issue a negative declaration in connection with the adoption of a comprehensive plan, the generic EIS is the most appropriate way to analyze the environmental impacts of a comprehensive plan. The generic EIS is specifically designed to analyze actions that call for a series of subsequent actions such as a comprehensive plan. In most cases, the comprehensive plan will set out a series of follow-up actions such as the amendment or writing of zoning laws or ordinances. Second, the adoption of a comprehensive plan can be one of the most significant land use actions taken by a municipality. General City Law §28-a, Town Law §272-a, and Village Law §7-722 each provide that all city, town and village land use regulations must be in accordance with the comprehensive plan. Therefore, underlying all local land use regulations should be the comprehensive plan. The preparation of a generic EIS allows for a more searching review of the range of possible land use actions proposed in a comprehensive plan. Third, SEQR provides an important incentive for preparing GEISs, namely, if a GEIS has been prepared, no further SEQR compliance is required if a subsequent proposed action is carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement. In other words, the generic EIS can be used as a tool for preplanning actions that involve more than one step such as the adoption of a

comprehensive plan which, in many cases, involves the re-drafting of zoning laws or ordinances.

If the municipality chooses to prepare a generic EIS for the comprehensive plan, the comprehensive plan and the generic EIS should be made available for public review as a joint document. Having both documents available at the same time provides for meaningful public review and assessment of the comprehensive plan along with consideration of the relevant environmental factors. Following public review and hearing, the final comprehensive plan and generic EIS and SEQR findings would be produced and the lead agency can proceed with implementing the plan.

### **9. Should a GEIS be prepared for all comprehensive plans?**

As mentioned above, it is lawful to prepare a long-form EAF and then issue a negative declaration for a comprehensive plan if there are no potentially significant adverse environmental impacts as a result of the plan's adoption. If a municipality goes ahead and prepares a draft, generic EIS and then determines that there are no potentially significant, adverse environmental impacts as a result of the plan's adoption, the municipality can issue a negative declaration based on the draft GEIS. Despite these options, the comprehensive nature of comprehensive plans and the need to inform and gain input from the public on long-range plans make the comprehensive plan process very compatible with the GEIS. Additionally, the long-form EAF addresses itself more to analyzing projects than planning documents, which is another reason why both the Department of Environmental Conservation and the Department of State recommend the use of the generic EIS for comprehensive plans.

### **10. Are all municipal plans subject to SEQR?**

No. Only those plans that may affect the environment and commit the municipality to a definite course of future decisions, such as a municipality's comprehensive plan. Sometimes municipalities engage in planning-like activities that affect the environment but do not commit the municipality to a definite course of conduct. For example, the establishment of a committee to do planning does not commit the municipality to a definite course of conduct.

## ***SEQR and Zoning, Special Use Permits, Variances and Zoning Board Interpretations***

### **a. Zoning (in general) and Rezonings**

### **11. What zoning activities are subject to SEQR?**

SEQR applies to local government decisions to adopt zoning laws and ordinances or to modify existing zoning laws and ordinances. Certain zoning actions receive special attention under SEQR. For example, zoning actions that change the allowable uses on twenty-five or more acres of land are classified as Type I actions. Special or conditional use permits also require SEQR review. Finally, variances are subject to SEQR, though, as mentioned below, certain types of variances are classified as Type II actions- making them exempt from SEQR review.



**12. Which board is responsible for the conduct of SEQR when local zoning decisions are made?**

The board with primary responsibility for making the zoning decision. Except with regard to subdivision regulations, which can only be administered by a planning board, there is significant variance among municipalities as to which of the various boards ordinarily established by a city, town or village will have primary responsibility for the various zoning decisions. If the zoning decision is legislative (such as a rezoning decision), then the board with primary responsibility, depending on whether the municipality is a city, town or village, will be the city council, the town board or the village board of trustees, respectively. If a municipality has zoning then it must have a zoning board of appeals. The statutory jurisdiction of the zoning board of appeals includes granting use and area variances as well as interpretations of the zoning law or ordinance. Thus, the zoning board of appeals will ordinarily be responsible for the conduct of SEQR with regard to variances (interpretations are classified as Type II actions). Jurisdiction to issue special or conditional use permits varies among municipalities. Typically, this function is usually given to either the zoning board of appeals or the planning board. Thus, for special or conditional use permits, the board with primary responsibility will usually be the zoning board of appeals or the planning board. Site plan review, which is a power given to municipalities separate and apart from zoning, is normally delegated to planning boards. Typically, planning boards have responsibility for making site plan review decisions. If more than one zoning-related decision is necessary for the same action and if the review is to be coordinated, then the boards must decide on which board is to be lead agency following SEQR procedures for establishing lead agency. These procedures are described in 6 NYCRR §617.6 (b).

**13. In a community adopting zoning for the first time, what are the SEQR responsibilities of the zoning commission?**

For towns and villages adopting zoning for the first time, Town Law §266 and Village Law §7-710 each require appointment of a zoning commission to formulate and recommend the law or ordinance. The zoning commission may be either a temporary, special board or the planning board - if one already exists. The town board or the village board of trustees, however, remains responsible for complying with SEQR since the legislative boards ultimately decide whether to adopt the zoning proposed by the zoning commission. Nonetheless, the legislative body may direct the zoning commission to assist it in preparing the environmental assessment form or the EIS.

**14. Are there differences, for SEQR purposes, between a zoning change sought by a project sponsor and one initiated by the municipality?**

When a zoning change is initiated by the municipality on its own recommendation or at the request of residents, but no specific development project is planned (e.g., the zoning is changed to be consistent with actual use), the rezoning itself is the whole action and is classified as a direct action of local government. The determination of significance must consider the consequences of such rezoning on the environment, but it is not necessary to speculate about specific projects (see the next question and answer). In contrast, if the zoning change is proposed by a project sponsor, in conjunction with a proposal, the impacts of both the rezoning and the specific development must be considered in determining environmental impacts.

**15. When a zoning change is a direct action and no physical changes or projects are proposed, what should be considered in the SEQR review?**

The SEQR review should consider the relative impacts based on the proposed changes. In other words, the analysis should compare the relative impacts of land use and development (based on the existing zoning) and the proposed zoning. For example, the rezoning of agricultural land to a commercial or residential use might significantly affect community character, aesthetics, traffic and stormwater runoff. A municipality should consider the most intensive uses allowable under the proposed zoning to judge potential impacts.

Keep in mind that rezoning itself may be more significant from the standpoint of SEQR than the individual permitting of projects since a zoning change triggers a change in the allowable use of land and ostensibly individual projects consistent with that change will be considered in the future in the rezoned area.

The use of a generic EIS is the best SEQR-tool to analyze the rezoning actions for large-scale or significant changes.

**16. Can the environmental review of rezoning be segmented from the environmental review of any site specific projects that may come about as a result of the rezoning?**

Segmentation is contrary to the intent of SEQR. (*See [citation] for discussion of segmentation.*) Under certain circumstances, however, certain forms of segmentation may be reasonable. For example, if a landowner is seeking to rezone a parcel of land to conform the parcel to changing uses in the surrounding area, segmentation may be justified if the owner has no present plan to develop the parcel for a particular use. Nonetheless, the lead agency should conceptually review the potential impacts for the maximum development that could be realized on the rezoned parcel of land. In general, segmented review should be justified in writing and used sparingly.

Project sponsors may be unwilling or financially unable to provide detailed information about a project until the zoning question is resolved. However, this does not justify a segmented review. For situations where there are uncertainties about the specifics of development projects, the following options are suggested:

- If the lead agency determines that neither the rezoning nor the project, taken together, may have a significant environmental impact, it can issue a negative declaration.
- If the project or the zoning may result in significant impacts, the project sponsor may be required by the lead agency to prepare a generic EIS that analyzes the impacts of the zoning change. The generic EIS should also conceptually analyze the impacts of the proposed development, based on current information and reasonable projections without the need for detailed engineering. If the zoning decision allows the proposed use, a supplemental EIS may be needed to discuss specific impacts of the project in detail.

**b. Variances and Interpretations**

**17. What types of variances are classified as Type II actions, and, therefore, exempt from SEQR?**

The granting of individual setback and lot line variances and area variances for a single-family, two-family or three-family residence.

**18. Does a zoning board of appeals, when interpreting a zoning law or ordinance have to apply SEQR?**

No. As part of their appellate jurisdiction, zoning boards are specifically authorized to render interpretations of local zoning laws. Interpretations of the local zoning law by zoning boards are classified as Type II actions, which are exempt from SEQR review.

**19. Is a use variance that changes the allowable uses on 25 or more acres of land a Type I action?**

No. The Type I classification for actions that change the uses allowable on 25 acres or more of land refers to legislative rezonings by either the city council, town board or the village board of trustees. Nonetheless, the practical effect of a variance that changes the allowable uses of land on 25 or more acres of land may be the same as a legislative rezoning that affected the allowable uses on 25 or more acres of land. Therefore, a zoning board would be prudent to scrutinize such a request to the same degree as if the action were classified as a Type I action. This can be done by, among other things, utilizing the long-form EAF and coordinating review with other involved agencies, if any.

**20. Is a ZBA decision subject to SEQR when it is an interpretation of the zoning ordinance or the review of a decision of a zoning enforcement officer?**

No. ZBA interpretations are classified as Type II actions. The rationale for classifying ZBA interpretations as Type II actions is that they are akin to judicial interpretations and do not directly result in a decision to approve, fund or undertake an action.

**21. How should SEQR be applied to a zoning board's review of a use variance application?**

SEQR applies to a ZBA's consideration of use variance requests. Unlike area variances, where in certain limited circumstances they are classified as Type II actions, there are no Type II categories corresponding to use variances. Use variances will be classified as either Type I or Unlisted actions.

There is an overlap between the criteria for granting use variances and SEQR considerations. To be eligible for a use variance under General City Law, Town Law and the Village Law, an applicant must demonstrate "unnecessary hardship." To prove unnecessary hardship the applicant must show, among other factors, that the variance, if granted, will not alter the essential character of the neighborhood. Also, under the General City Law, the Town Law and the Village Law, zoning boards, in granting use variances, are directed to preserve and protect the character of the neighborhood and the health, safety and welfare of the community. At the same time, closely akin to the use variance factors, SEQR factors include community character and aesthetics. Procedurally, however, the zoning board must still apply the use variance criteria factors even where it issues a negative declaration under SEQR.

Here is a suggested way to handle the overlap. The zoning board should determine based on the EAF and other information whether to require an EIS. This determination will come before the decision on the variance; in fact, this determination will be made as part of the determination on whether the application is complete for review purposes. Whether the variance, if granted, would alter the essential character of the neighborhood is something that the zoning board would consider in determining whether to require an EIS. If the zoning board were to determine that the variance, if granted, would *not* alter the essential character of the neighborhood, it would still have to determine whether based on the other SEQR criteria to require the preparation of an EIS. If an EIS is required based on impacts to the neighborhood or community character or for any other SEQR-relevant reason, the zoning board can proceed to consider the environmental related variance factors within the environmental impact statement process.

Another practical problem with variances is the potential for redundant SEQR reviews. Once a use variance is granted, most municipalities will provide for either site plan review or special use permit review, or both, of the project that has been granted the variance. This subsequent review often requires SEQR review unless the action is classified as a Type II action. This second review may result in needless repetition of the same SEQR issues that were addressed during the variance stage of the review. One solution is to coordinate SEQR review of the variance and the special use permit or site plan application, if coordinated is review is not otherwise required under the SEQR regulations. This approach may result in more immediate cost to the project applicant. However, coordinated review avoids segmented and repetitive review of the action.

## **22. How should SEQR be applied to area variance requests?**

Certain area variances are classified as Type II actions, meaning that there is no SEQR review. Type II actions include granting of individual setback and lot line variances and granting of area variances for a single-family, two-family or three-family residence. All other area variances would either be classified as Type I or Unlisted actions. The comments on projects that require both area variances and special use or site plan review applications, mentioned in answer to the proceeding question, applies to area variances.

### **C. SEQR and Capital Improvements**

#### **In This Section You Will Learn about:**

- SEQR and capital improvements.

#### **1. How does SEQR apply to capital improvements and other infrastructure development undertaken by local governments?**

Direct actions of local governments to acquire, construct, alter, remove or dispose of land or structures intended for public purposes require review under SEQR. Included would be capital projects such as public buildings and open space, streets and highways, sewer and water systems and maintenance facilities.

#### **2. Are there capital improvement actions that are classified as Type II actions, which can be undertaken without SEQR review?**

Yes. Prominent examples from the Type II list include:

- Maintenance or repair involving no substantial changes in an existing structure or facility;
- Replacement, rehabilitation or reconstruction of a structure or facility, in kind, on the same site, including upgrading buildings to meet building or fire codes, unless such action meets or exceeds any of the thresholds for Type I actions; and
- Maintenance of existing landscaping or natural growth.

**3. If a municipality makes a bond resolution for a capital project does the bond resolution have to undergo SEQR review and does the scope of such review cover the project that is being financed by the bond resolution?**

The bond resolution requires SEQR review, if it comes within the definition of "action" and is not for an action classified as a Type II action. The scope of the review should include the project that is being financed by the indebtedness. As with any action that either may involve a series of actions or where the action may evolve over time, the generic environmental impact statement will most likely be the best SEQR tool to identify and assess the impacts of the action. As the action evolves, the municipality can prepare supplemental statements covering the changes.

**4. Is a capital budget considered a sufficient commitment to the improvements listed within it to require a review under SEQR before its adoption?**

The inclusion of capital improvements within a municipal budget is not an action subject to SEQR. The budgeting process merely sets aside funds without a commitment to their expenditure. Such budget items are usually not definitive enough with respect to design, and sometimes even location, to be reviewable at the time the budget is adopted. However, the adoption of a capital budget should alert public agencies that SEQR should be applied to such projects before they are initiated. Municipal or agency bonding of a particular capital project would be an action requiring SEQR compliance before it is undertaken.

**5. Is the acquisition or disposal of land associated with a capital improvement covered by SEQR?**

Land acquisition or disposal associated with a capital improvement should be reviewed as part of the whole action. Frequently the first commitment to a project will occur when a property transaction is made, and it is appropriate that SEQR be completed before such commitment is made.

**6. Must SEQR be applied to budget items for purchase of equipment?**

No. Purchase (or sale) of new or replacement furnishings, equipment or supplies, such as vehicles, waste handling equipment, traffic control devices and playground equipment (other than land, radioactive material, pesticides, herbicides or other hazardous materials) is considered a Type II action.

**D. SEQR and Municipal Annexations**

**In This Section You Will Learn about:**

- SEQR and municipal annexations.

## **1. Are municipal annexations subject to SEQR?**

Yes. The determinations of public interest that must be made by municipalities pursuant to Article 7 of the General Municipal Law, prior to granting or denying an annexation petition, involves the weighing and balancing of social, economic and environmental factors. Municipal annexation decisions are, therefore, discretionary decisions requiring SEQR review. Annexations of 100 or more contiguous acres are classified as Type I actions; annexations involving less than 100 acres are classified as Unlisted actions, unless some other aspect of the action triggers Type I review.

Annexation is typically associated with potential changes in land use or need for public services that may be more readily available from one municipality than another. Municipal decisions on annexation are similar in their consequences to rezoning decisions; both decisions have the potential to change land use patterns and require a hard look at the consequences of the whole action. In the case of an annexation, only after examination of these SEQR concerns, among other factors, can the question of public interest be fully addressed.

## **2. At what point in the annexation process should SEQR be applied?**

SEQR should be applied at the time the initial petitions for annexation are presented to the involved municipalities, and prior to the joint municipal public hearing required under General Municipal Law. If an EIS is required, it should be made available as a draft for public review prior to the joint public hearing. The joint hearing can also serve as a SEQR hearing.

## **3. Can annexations associated with development proposals be reviewed separately from such development?**

No. Although annexation petitions often will be the first elements of an overall action presented, annexation considerations cannot be segmented from the SEQR analysis necessary for the whole action. Moreover, an annexation approved without considering the environmental impacts of the associated development may be unwise, if it turns out that the development is not feasible.

## **4. What if details of future development are not known?**

If the annexation petitioners are not committed to a specific development proposal, or if several parts of the area have undefined development potential, a generic EIS may be appropriate. A generic EIS would allow both the petitioners and reviewers to evaluate potential impacts of a variety of project proposals.

## **5. What factors should be considered in establishing lead agency for an annexation?**

Although state and county agencies occasionally have involvement with some aspect of specific projects associated with annexations, the most appropriate lead agency is likely to be from one of the involved municipalities. Major considerations are the agency's:

jurisdiction over activities in the proposed annexation; jurisdiction over environmental impacts which may occur outside the proposed annexation due to activities within it (e.g.,

traffic congestion and waste generation); and the municipal ability to assess and mitigate anticipated environmental impacts.

If no development activities requiring discretionary decisions by other agencies are anticipated within the proposed annexation, only the municipal legislative boards would be involved agencies and eligible to serve as lead. All other considerations being equal, the most logical choice for lead agency is the agency which has had the longest standing jurisdiction within the area. This is normally an agency of the municipality from which the annexed parcel may be taken.

## **E. SEQR and Municipal Development Incentives**

### **In This Section You Will Learn about:**

- SEQR and municipal incentives.

#### **1. What forms of public financial support of development incentives by a municipality are subject to SEQR?**

Local public agencies can encourage desired development by providing direct financing, financial or tax incentives, and land for development; by constructing infrastructure and by limiting certain regulatory constraints. The provision of such incentives is subject to review under SEQR. If the incentives are proposed broadly such as a local program to encourage senior citizen group housing, they may be examined under SEQR in generic fashion. If they involve one-of-a-kind proposals, site specific reviews would be appropriate. Agencies providing financial or other incentives are involved agencies.

#### **2. Are actions of local or county Industrial Development Agencies (IDAs) subject to review under SEQR?**

Yes. The approval to guarantee funds or loans is subject to SEQR, even when no other approvals are required. The exception of course is where the action is classified as a Type II action. If so, no further application under SEQR is required by the IDA. Also, if the funding proposal is part of a previously considered action covered by a negative declaration, no further SEQR review is necessary. If the action is consistent with a previously produced FEIS, the IDA should make SEQR findings about its approval or disapproval of the action, based on such FEIS. If the proposed funding or loan application is independent of any earlier review under SEQR, the IDA must make its own determination of significance.

## **Chapter 8: SEQR and Related Federal and State Review**

### **A. SEQR and the National Environmental Policy Act (NEPA)**

#### **In This Section You Will Learn about:**

- SEQR and the National Policy Act (NEPA)



# ZONING PRACTICE

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➔ ISSUE NUMBER THREE

## PRACTICE BUILDOUT ANALYSIS

# 3



# Buildout Analysis: A Valuable Planning and Hazard Mitigation Tool

By David R. Godschalk, FAICP

Anticipating the likely impacts of future development on livability and safety is an ongoing challenge for local planners and emergency managers.

How can you translate those symbols on the future land-use map or the zoning map districts into potential impacts on hazard vulnerability, community livability, and infrastructure capacity? One approach is to conduct a buildout analysis in order to generate a future growth scenario of full development.

Buildout analysis is a useful tool for planners and emergency managers who wish to anticipate the impacts of future development. Buildout analysis looks ahead to the planning horizon in order to project the amount and location of growth allowed under existing community development policies. Its findings can be used to assess the resulting impacts and to ask whether current plans, development regulations, and hazard mitigation strategies should be reconsidered.

## WHAT IS BUILDOUT ANALYSIS?

In its basic form, buildout analysis simply asks: What is likely to happen if the community grows to the full extent allowed under present development regulations and plans? It says: Let's assume that all the growth permitted under our future land-use plans or zoning comes to pass, then look at the outcome and see if we believe that the resulting development pattern is desirable or needs to be changed.

Buildout analysis may be based on land parcels or zoning districts. In either case, the analysis will be facilitated by the use of geographic information system (GIS) maps and overlays. A *parcel-based analysis* examines each parcel to determine its maximum feasible future development. A *zoning district analysis* looks at the aggregate of developable land in each zoning category, based on photo-interpretation of land use and ignoring parcel boundaries.

## HOW IS BUILDOUT ANALYSIS USED?

The basic purpose of buildout analysis is to translate technical planning and regulatory materials into a long-range growth picture or scenario that can be understood by local decision makers to help them evaluate potential impacts and discuss possible alternatives.

Impacts can be expressed in terms of the number and location of new housing units, the amount and location of new commercial or industrial square footage, the size of the new population or some portion of it—such as the number of new school-age children, the additional gallons per day of water demand, the length of new roads, and the like. To affect or mitigate the impacts, planners can explore alternatives such as amendments to the future land-use plan, zoning ordinance, floodplain maps, or environmental protection policies.

Local and regional growth managers can use buildout analysis to assess the desirability of future land-use patterns and the adequacy of infrastructure and capital improvement programs. Jurisdictions with

urban growth boundaries can use buildout analysis to compare the capacity of designated growth areas with projected population demands. Emergency managers can use buildout analysis to project the vulnerability of future development to natural hazards. Communities concerned about maintaining their quality of life or sustainability can use buildout analysis to construct visions or scenarios of future conditions.

Applications of buildout analysis can be found in a number of jurisdictions.

Mecklenburg County, North Carolina, applied buildout analysis in combination with HAZUS modeling (see sidebar) to project the impacts of development on flood hazard areas and vulnerability. The state of Massachusetts applied buildout analysis to encourage all of its cities and towns to look to the future and consider policy changes to preserve and enhance their quality of life. The Massachusetts Audubon Society applied buildout analysis to assess the impacts of sprawl.

## WHAT IS HAZUS?

HAZUS-MH is a powerful risk assessment software program for analyzing potential losses from floods, hurricane winds, and earthquakes. In HAZUS-MH, current scientific and engineering knowledge is coupled with the latest Geographic Information Systems (GIS) technology to produce estimates of hazard-related damage before, or after, a disaster occurs. HAZUS-MH takes into account various impacts of a hazard event, such as:

- physical damage: damage to residential and commercial buildings, schools, critical facilities, and infrastructure;
- economic loss: lost jobs, business interruptions, repair and reconstruction costs; and
- social impacts: impacts to people, including requirements for shelters and medical aid.

Source: Federal Emergency Management Agency website at [www.fema.gov/hazus/index.shtm](http://www.fema.gov/hazus/index.shtm).

## ASK THE AUTHOR JOIN US ONLINE!

From April 3 to 14, go online to participate in our “Ask the Author” forum, an interactive feature of *Zoning Practice*. David R. Godschalk, FAICP, will be available to answer questions about this article. Go to the APA website at [www.planning.org](http://www.planning.org) and follow the links to the Ask the Author section. From there, just submit your questions about the article using an e-mail link. The author will reply, and *Zoning Practice* will post the answers cumulatively on the website for the benefit of all subscribers. This feature will be available for selected issues of *Zoning Practice* at announced times. After each online discussion is closed, the answers will be saved in an online archive available through the APA *Zoning Practice* web pages.

### About the Author

David R. Godschalk, FAICP, is an emeritus professor of city and regional planning at the University of North Carolina at Chapel Hill and a coauthor of the fifth edition of *Urban Land Use Planning* (University of Illinois Press, 2006).

### MECKLENBURG COUNTY FLOOD HAZARD ANALYSIS

Mecklenburg County, including the city of Charlotte, wanted its citizens to be aware of their exposure to flooding. In 1999, they invested federal, state, and local funds in updating their flood maps. The new maps show not only where the floodplain is currently but also where it will be when the area is completely developed.

To replace its out-of-date floodplain maps, which FEMA created in 1975 using predicted 1995 land use, the county used hydrologic/hydraulic computer models to develop new maps based on current (1999) land-use and watershed data. These maps became the official FEMA Flood Insurance Rate Maps (FIRMs). FEMA, however, does not draw floodplain maps based on future land use. The county therefore used buildout analysis to prepare local Floodplain Land Use Maps (FLUMs) to limit new development in the future flood hazard area.

County planners derived ultimate buildout from local district plans to create GIS coverages of future land use. They added these into the hydrologic/hydraulic computer models and computed new flood elevations and floodplain areas. They then prepared revised zoning and stream setback regulations to ensure the safety of future development, including a minimum base flood elevation, or “freeboard,” of one foot above the projected future flood height.

In order to build community support for adopting the Future Conditions Floodplain maps and new regulations, the county decided to quantify the benefits of the new approach in terms of potential flood losses avoided. In 2000, the county hired a consulting team to use the HAZUS Flood Loss Estimation Methodology to compare estimates



Figure 1. The FEMA floodplain (flood insurance required) is shown in light shading. The Future Conditions Floodplain (local regulations apply, but flood insurance is not required) is shown in dark gray. This FLUM is available in color on the county website, <http://maps.co.mecklenburg.nc.us/website/floodzone>.

of potential flood damage under the new FEMA maps and the FLUMs.

The results were convincing. The analysis found that using the new maps and regulations would avoid losses to building content and structures of up to \$333 million. These appear in Figure 2 on page 4.

- The first run combined current land use and the 1975 floodplain. It calculated a potential loss of about \$213 million.

- The second run combined the current land use with the FEMA Year 2000 Floodplain. It calculated a loss of about \$318 million.

- The third run combined the land use at buildout and the Year 2000 Floodplain. It calculated a loss of about \$651 million.

The difference of some \$333 million between the second and third runs persuaded

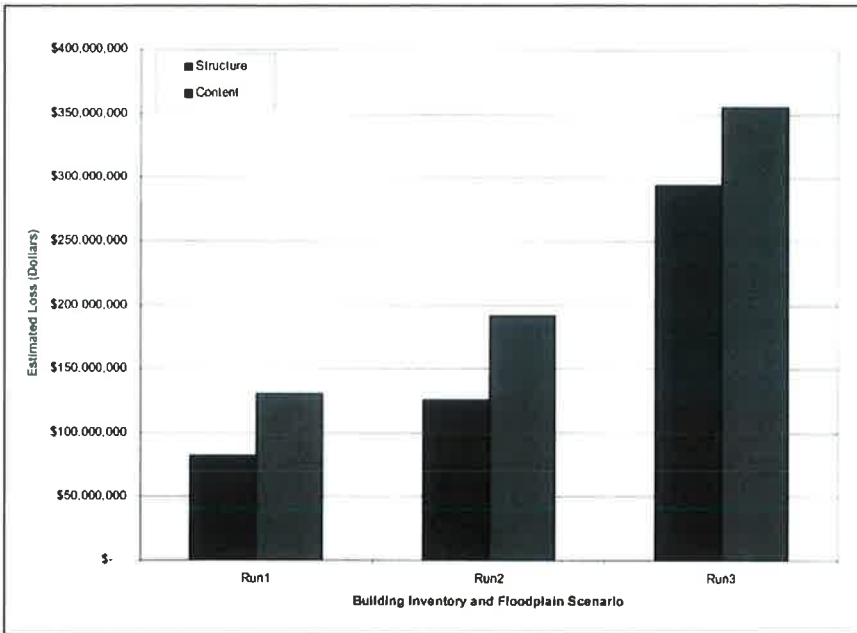


Figure 2. The three runs of the damage estimation model are shown; the left bar in each represents losses from building content, the right bar structure damage.

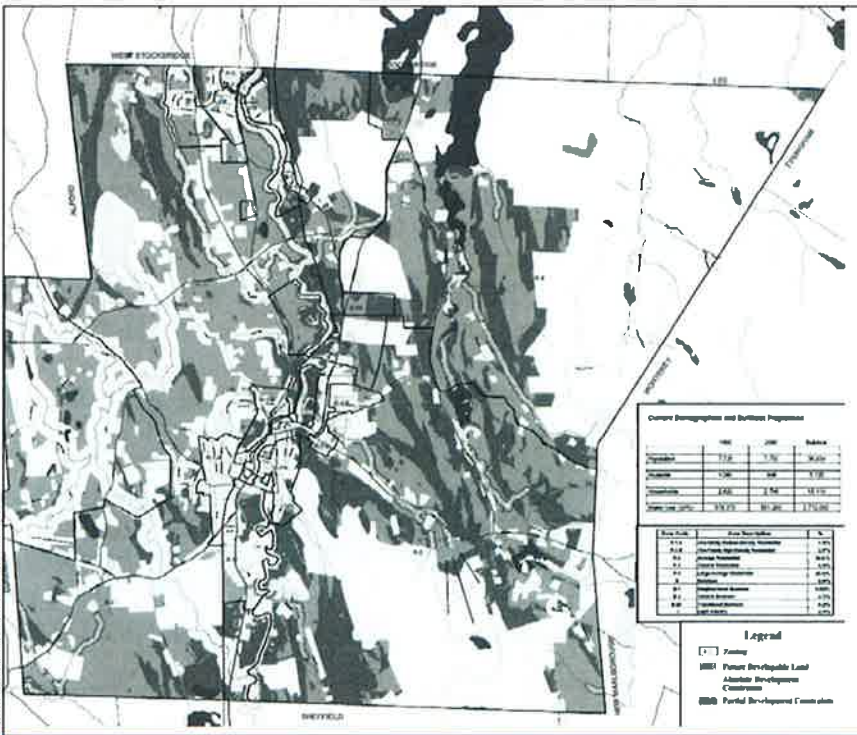


Figure 3. GIS Map of Greater Barrington, Massachusetts, showing developable land (grayish areas), partial constraints (darkest), and absolute constraints (light color).

the local leaders that it would be wise to adopt the new maps and regulations in order to keep future development out of harm's way.

### MASSACHUSETTS STATEWIDE BUILDOUT ANALYSIS

The state of Massachusetts completed buildout analyses for all of its 351 communities in 2002, as part of the Community Preservation Initiative of the Executive Office of Environmental Affairs. Outputs of the analyses included number of housing units, population and number of school children, square feet of commercial and industrial space, gallons of water demand, and miles of roads. These analyses were presented to local decision makers to help them evaluate potential impacts of future development and to create a receptive environment for discussion of alternatives such as zoning changes, open space protection, and regional cooperation.

MassGIS—the state geographic information agency—provided developed land-use data. Analyses were conducted by regional planning agencies and consultants. Undeveloped land in each zoning district was identified through interpretation of orthophotographs (photographs prepared from perspective photographs by removing distortions and displacements of points caused by tilt, relief, and perspective), ignoring parcel boundaries. Using overlay and spreadsheet tools, standard formulas were applied to generate yields of future residential units and commercial/industrial areas. The state provided a buildout analysis methodology and scope of services for contractors. Because the Office of Environmental Affairs contracted in bulk for the buildout analyses for the entire state, there were significant economies of scale and each buildout map series cost only \$7,000 per community.

By using a consistent methodology and set of land-use categories, the buildout analysis maps could be aggregated across regions. The Office of Environmental Affairs held meetings in five high-growth regions to show composite regional buildout maps and to facilitate discussions of coordinating regional growth management efforts.



In addition to community orthophotographs and zoning districts, the Massachusetts map products include:

- **Zoning and Absolute Development Constraints Map:** Absolute development constraints include permanently protected open space and other no-build areas.
- **Developable Lands and Partial Constraints Map:** Partial constraints include wetlands or floodplains that can be included in gross building lot minimums (even though not built on), soil types that limit development due to poor drainage, and the like.
- **Composite Development Map:** A visual summary showing developable lands and developed or protected lands, along with a chart summarizing potential impacts at buildout.

For example, the composite development map (Figure 3) for the town of Great Barrington depicts the pattern of future developable land, the land with absolute development constraints, and the land with partial development constraints. The map also includes three tables: the percentage of land in each zoning district, current demographics and buildout projections comparing buildout values with those from the year 1990 and 2000, and summary of buildout impacts.

#### MASS AUDUBON SPRAWL ANALYSIS

The Massachusetts Audubon Society used buildout analysis and U.S. Census housing permit data to illustrate two “sprawl frontiers.” They found high levels of development in areas of relatively low buildout west of I-495 and in lower southwestern Massachusetts. This combination of high rates of construction with relatively unbuilt land acts as a sprawl frontier pushing its way west and southeast across the state (see Figure 4). While high construction levels on Cape Cod proceed despite a high level of buildout there, this was attributed to ongoing infill and teardown development.

#### CONDUCTING A BUILDOUT ANALYSIS

Buildout analysis can be done manually or on a computer. The use of hand-drawn overlays to show what a landscape could look like and mathematical calculations to tabulate what its

resulting population could be is described in Jeff Lacy’s *The Manual of Build-Out Analysis*. The use of a GIS computer mapping program and a computer database and spreadsheets increases the efficiency and consistency of buildout analysis, as described in the Massachusetts buildout program.

Localities considering conducting a buildout analysis need to ask themselves a number of questions. How would they use a buildout analysis? What method is best suited to their needs? What data are available?

future problems); the level of detail needed (e.g., a parcel level or a zoning district level, only residential development or all development); and the time period to be studied (e.g., complete buildout whenever that occurs or the level of buildout at some future periods, such as 10- or 20-year increments). For example, Mecklenburg County analyzed the areas adjacent to its streams because it was concerned with the impact of future development on flooding. It used parcel-level data, which were needed as inputs to the flood

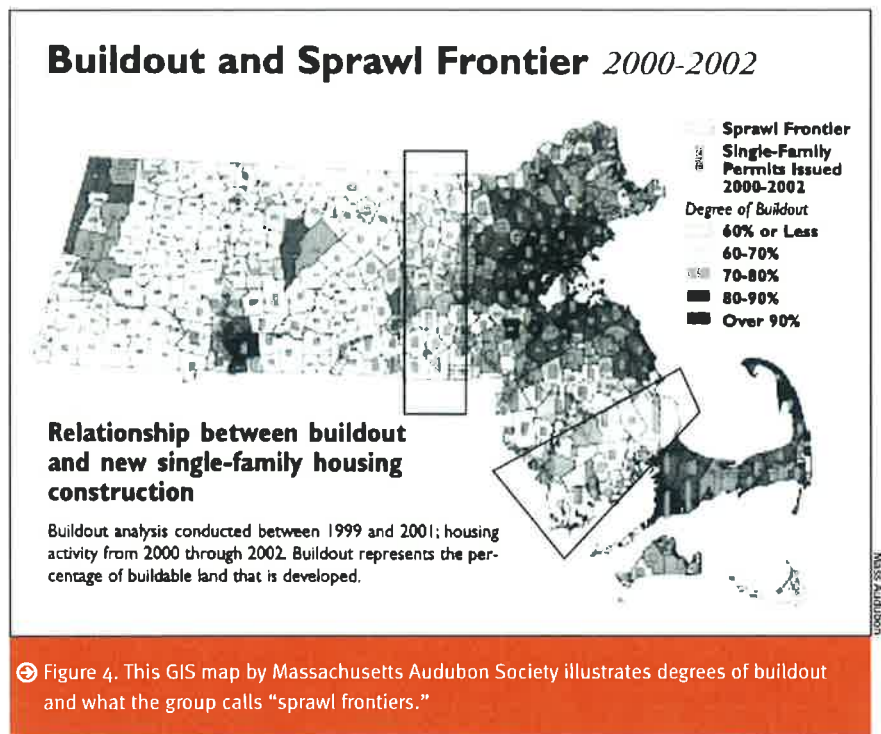


Figure 4. This GIS map by Massachusetts Audubon Society illustrates degrees of buildout and what the group calls “sprawl frontiers.”

#### EXPECTED USE

Buildout analyses can be used to assess and amend development regulations, including zoning and subdivision ordinances, which may contribute to the potential of future disasters. They can be used to revise a comprehensive plan in order to build consensus on an alternative vision of the future community. They can be used to create a greenprint plan based on an assessment of the potential damage to natural systems from projected development.

The desired use will influence the analysis area (e.g., the whole jurisdiction or only a portion where development is likely to cause

model and the HAZUS model. It looked at full buildout under its adopted district plans.

#### SUITABLE METHOD

Choosing a suitable method for a buildout analysis will involve issues such as the staff, time, and budget available to carry it out. Buildout analyses can be relatively simple or very complex. Whether they are done manually with hand-drawn overlays or with a computer-based GIS program will depend upon staff competencies.

The U.S. Environmental Protection Agency’s Green Communities program lays out the procedure for a simple manual buildout

## Providing a standard, regionwide set of land-use classes and a consistent methodology can produce more efficient and affordable buildout analyses.

analysis, in which possible development lands are overlaid on a community base map and the relevant changes in impervious surface, population, housing, and the like are calculated.

The Massachusetts Community Preservation Initiative lays out a procedure for a simple zoning district buildout analysis using a GIS computer program. A more complex parcel-based buildout analysis for Charlestown is described in Matthew Amengual's 2001 Brown University land-use thesis, available at <http://envstudies.brown.edu/Thesis/2001/amengual/index.html>.

No matter how the analysis is conducted, there are two stages in the process. Stage 1 depicts the existing development and projected development changes on maps. Stage 2 calculates the quantitative impacts of the changes and summarizes the critical information in tables.

### **Stage 1. Development map preparation.**

The *existing development* base maps should depict:

- community boundaries
- existing roads and land use
- existing zoning districts
- permanently protected or constrained open space
- partially constrained lands (e.g., steep slopes, floodplains, wetlands, utility easements, public ownership)
- recent subdivisions.

For a manual analysis, these maps will be separate overlays; for a GIS analysis, these maps will be separate digital layers.

The *projected development change* maps should depict:

- undeveloped areas (e.g., vacant buildable land with no constraints)

- underdeveloped areas (e.g., land that contains significantly less density or intensity of use than allowed, such as a single-family house on farmland or on land zoned for commercial use)
- possible infill areas (e.g., neighborhoods or commercial districts with the potential for increased density or intensity through use of vacant lands or redevelopment of lower-intensity areas)
- a composite map of all future development area potential at buildout.

**Stage 2. Quantitative analysis.** Moving from the potential development areas to quantities of housing units and of commercial and industrial square feet, or the project buildout "yield," requires the calculation

of a number of factors that affect the net yield.

For *residential units*, deductions for roads, lot size variations, and other constraints can subtract 10 to 30 percent from potentially buildable acreage. The result is total net buildable area, expressed as the formula:  $Raw\ Land \times Adjustments\ (for\ roads\ and\ other\ constraints) = Total\ Net\ Buildable\ Area$ . The net buildable area is then divided by the minimum lot sizes required in the various residential zones to find the total number of new housing units.

For *commercial and industrial areas*, the analysis is based on determining an "effective FAR" (Floor Area Ratio) that takes account of zoning requirements and limitations. Typical limiting factors include the FAR or the percent lot coverage and height limits specified in the zoning ordinance, along with parking and open space requirements. To avoid overestimating the potential square footage, the effective FAR should be based on the most limiting of the requirements. This calculation requires professional judgment and knowledge of the community to select realistic mixes of alternative future land uses within each zoning district.

### RESOURCES

- ABS Consulting. 2003. *Determination of Financial Impacts from Flood Studies. Mecklenburg County Water and Land Resources Division*. Final Report. Prepared for Mecklenburg County Engineering & Building Standards: Charlotte, N.C.
- Berkshire Regional Planning Commission. [www.berkshireplanning.org](http://www.berkshireplanning.org).
- Charlotte Mecklenburg County Government. Countywide Floodplain Remapping Project. <http://charmack.org/Departments/LUESAWater+Land+Resources>
- Lacy, Jeff. 1990. *The Manual of Build-Out Analysis*. Amherst: Center for Rural Massachusetts.
- Mass Audubon 2003. *Losing Ground: At What Cost?* [www.massaudubon.org/losing-ground](http://www.massaudubon.org/losing-ground).
- Massachusetts Executive Office of Environmental Affairs. [www.mass.gov/envir](http://www.mass.gov/envir).
- Massachusetts Geographic Information System (MassGIS). "Scope of Services for Buildout Analysis." [www.mass.gov/mgis/buildout.htm](http://www.mass.gov/mgis/buildout.htm).
- Massachusetts Geographic Information System (MassGIS). "GIS-based Buildout Analyses for All the Cities and Towns in Massachusetts." [www.mass.gov/mgis/mgpr2.htm](http://www.mass.gov/mgis/mgpr2.htm).
- U.S. Environmental Protection Agency. Green Communities Program. [www.epd.gov/greenkit/build\\_out.htm](http://www.epd.gov/greenkit/build_out.htm).

Finally, *multipliers*, based on existing demographic and public facility data, can be used to derive impacts of buildout development for each new residential unit or each increment of commercial or industrial square footage. These multipliers can include increases in projected future population, future additional school students, future demand for water supply or sewage treatment, as well as potential tax revenue and service costs.

#### DATA AVAILABILITY

An important consideration in planning a buildout analysis is the availability of data. In the ideal case, the community will have digital versions of its zoning, existing and future land use, roads and transit, wetlands and floodplains, open space, orthophotographs, and recent development maps, as well as natural hazard areas, and parcel and tax assessment maps. In many cases, however, much of this information will be unavailable or out of date and will have to be supplemented and updated.

The availability of data can be a major budget constraint. In order to realize economies of scale, regional planning agencies can coordinate data needs for a number of communities. Providing a standard, regionwide set of land-use

#### WEB ENHANCEMENTS

All four figures are reproduced in color on the *Zoning Practice* web pages. In Figure 1, the FEMA floodplain (flood insurance required) is depicted in light blue. The Future Conditions Floodplain appears in dark gray. This FLUM map is available on the county web site, <http://maps.co.mecklenburg.nc.us>.

In Figure 2, the losses from building content are in blue and from structure damage in green.

Figure 3 depicts the pattern of future developable land in blue gray, the land with absolute development constraints in yellow, and the land with partial development constraints in light red.

classes and a consistent methodology, as in the Massachusetts case, can produce more efficient and affordable buildout analyses.

#### CONCLUSION: THE PAST, PRESENT, AND FUTURE OF BUILDOUT ANALYSIS

Buildout analysis is the most recent incarnation of such venerable planning tools as carrying capacity analysis and cumulative impact

analysis. It takes the principles of these earlier efforts at integrative, forward thinking into the present era of geographic information systems and computer-based analyses. At the same time, buildout analysis makes these earlier methodologies more widely accessible by deriving operational methods for injecting the resulting scenarios of development impacts into participatory planning and visioning.

Such a useful tool is bound to expand the effectiveness of planning programs, scenario construction, and citizen involvement in goal setting. It is not difficult to imagine buildout analyses becoming standard, required elements of all growth management, natural hazard mitigation, and future land-use plan making.

Cover graphic: ArcGis 3D Analyst software was used to depict the maximum allowable building envelopes permitted under the development regulations of Tacoma, Washington's "Destination Downtown" code for primary and secondary "transit impact zones," the potential development influence areas surrounding the northern terminus of the recently built light rail line. The 3D map analysis was done by Heather Jones, GIS Analyst. Copyright City of Tacoma, Community and Economic Development Department.

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### The Principles of Smarter Development Review

Monday, April 24, 11:00 a.m.–12:15 p.m.

How do organizational culture, agency management, and a results-oriented approach combine to cut through bureaucracy and make for smarter development review? Find out how cities as varied as Milwaukee; Aspen, Colorado; and Irvine California, have established an environment for review and decision making that meets community goals and achieves great projects.

### Market and Economic Feasibility Considerations for Zoning Professionals

Monday, April 24, 1:30 p.m.–2:45 p.m.

Learn how market and economic feasibility analysis can inform zoning efforts. The growing popularity of such tools as design guidelines, form-based codes, and discretionary design review suggests increased interest in carefully controlling development to achieve specific goals. As this focus on guiding and harnessing market and economic forces becomes more prevalent, learn why planners should consider these underlying forces and the potential interactions with regulations.

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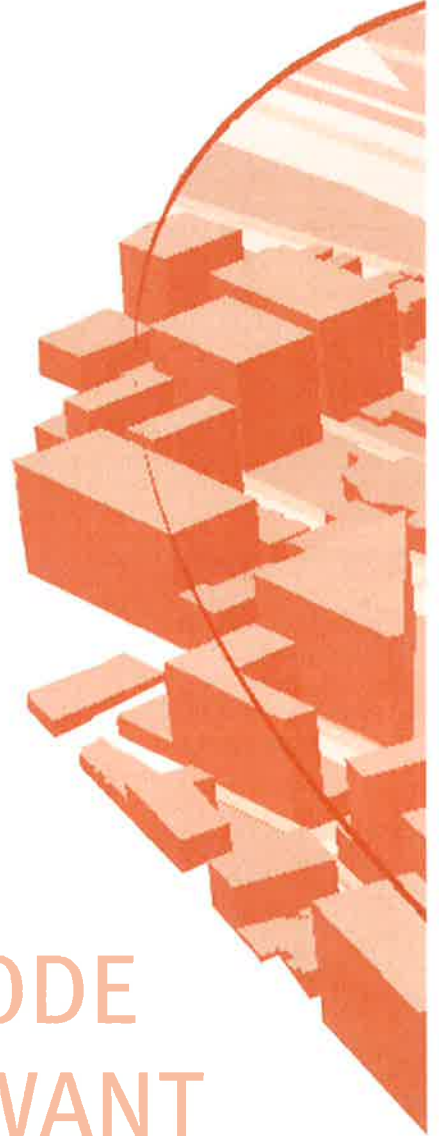
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**3**