

# ARTICLE 20

## ROUTE 20 SEWER DESIGN AND PERMITTING



# Town of Sudbury

Sewer Assessment Technical Advisory Committee

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<http://www.sudbury.ma.us>

email: [sewertech@sudbury.ma.us](mailto:sewertech@sudbury.ma.us)

## Members:

Elizabeth D. Eggleston, Chair  
Parker L. Coddington  
William J. Cossart  
John C. Drobinski  
Robert Leupold

Planning Board Representative  
Conservation Commission Representative  
Sudbury Water District Representative  
Selectmen Representative  
Board of Health Director

## Staff:

Jody Kablack, Director of Planning and Community Development

## Consultants:

Weston & Sampson

Adam Ploetz, AICP

**Weston & Sampson**<sup>®</sup>  
environmental/infrastructure consultants

# On-Site Constraints

- Soil Types – Moderate to Severe Limitations
- Shallow Depth-To-Groundwater
- Town Drinking Water – Underground Aquifers (DEP Zone II)
- Hop Brook – List of Impaired Surface Waters

# Wastewater Needs Matrix

- System Age
- Condition of System
- Soils Classification
- Groundwater Levels
- Lot Size
- Environmental Concerns

TABLE 3-1 (Cont'd.)

Street Number	Assessor's Number	Use - Business Name	Design Flow [gpd]	Built Before 1978	Built Between 1978-1995	Required Leach Field Repair	Insufficient land area for Repair or Expansion	Disposal > 10,000 gpd without GW Discharge Permit	Severe Soil Restrictions	Depth To Groundwater (< 5')	Setback for Resource Area or within Floodplain	Frequency Of Pumping (>2/yr)	Within Nitrogen Sensitive Area	Nitrogen Sensitive Area with >440 gpd per acre	Total
				(4 pts)	(3 pts)	(4 pts)	(4 pts)	(4 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	(2 pts)	
378 BP	K08-037	DUNKIN DONUTS	910		X						X	X			7
394 BP	K08-082	LOTUS BLOSSOM <sup>1</sup>	2,100				X		X	X	X		X	X	14
400 BP	K08-081	PRUDENTIAL REALTY	200	X			X		X	X	X		X		16
410 BP	K08-080	RUGGED BEAR PLAZA	1,740		X		X			X	X		X	X	15
415 BP	K08-006	POLICE STATION	400		X		X			X			X	X	13
418-420 BP	K08-079	RETAIL/RESTAURANT/OFFICE	1,030		X		X			X			X	X	13
423 BP	K08-004	SUDBURY CROSSING MALL	4,200		X		X			X			X		11
424-428 BP	K08-078, 079	BLOCKBUSTER, SDBY PIZZA	540	X		X	X			X		X	X	X	20
430 BP	K08-077	COLONIAL AUTO	656		X		X			X			X	X	13
432 BP	K08-069	GAS STATION - MOBIL	600	X						X			X	X	10
439 BP	K08-003	RETAIL-SUDBURY FARMS <sup>1</sup>	7,706		X	X	X		X		X		X		17
440 BP	K08-067	JEWELRY STORE	315		X				X	X			X	X	11
442 BP	K08-058	RETAIL - WESTPORT GAS	300	X					X				X	X	10
450 BP	K08-066	OFFICE - COMMUNITY	188	X					X	X	X		X		12
454 BP	K08-065	CLAPPERS	570		X		X			X	X		X		13
465 BP	K08-002	SUDBURY GAS STATION	200	X			X		X				X		12
470 BP	K08-064	SUDBURY GULF (Public Petro)	300	X			X		X				X	X	14
474 BP	K07-008	RETAIL - KAPPY'S LIQUORS	420		X		X		X				X	X	13
477 BP	K07-007	SULLIVAN TIRE COMPANY	500	X						X			X		8
480 BP	K08-062	VACANT	420	X					X	X	X		X		12
490 BP	K07-018	INDUST. - CHISWICK PARK	6,441		X				X	X			X		9
505, 507-525 BP	K07-05, 06	RETAIL - STAR PLAZA	6,630		X	X							X		9
526-528 BP	K07-011-013	R&D - RAYTHEON	50,000		X								X		5
593 BP	K06-026	RETAIL - DUDLEY SQUARE	696		X										3
616 BP	K06-012	SUDBURY MEDICAL CENTER	1,532		X	X	X			X			X	X	17
621 BP	K06-028	BARNSTEAD SHOPS	1,231		X		X					X			9
642 BP	K06-04	NURSING HOME (in failure)	14,000	X		X		X		X		X	X	X	20
642 BP	K06-05	VACANT (nursing home)	0							X			X		4
655 BP	K06-501	LONGFELLOW GLEN/ 4 Systems	32,000		X			X							7
684 BP	K05-019	AUTO REPAIR	712	X			X			X					10
694 BP	K05-017	RESTAURANT - BLUE LION	4,900	X						X		X			8
708 BP	K05-015	DENTIST	820	X						X					6
712 BP	K05-013	SUDBURY RENTAL	260	X											4
730 BP	K05-012	RETAIL - WAYSIDE PLAZA	1,724		X		X					X			9
736 BP	K05-011	FRUGAL FLOWERS	592								X				2
738 BP	K05-07	HOTEL - CLARION CARRIAGE	5,500		X		X					X			9

# Site Screening

- 86 Sites Screened
- Initial Testing/Investigation Performed at 6 Sites
  - Meader, Sykes, Bushey, Mahoney, Young, Shylovsky
- Hydrogeological Testing at 3 Sites
  - DPW
  - Haskell Field
  - Old Lancaster Road
  - Curtis Middle School

# Curtis Middle School

- Depth-to-groundwater:
  - Approximately 29 feet
- Sand and gravel deposits
- Estimated capacity of 100,000 – 400,000 gpd
- June 2010 Meeting with School Committee












TOWN OF SUDBURY,  
MASSACHUSETTS

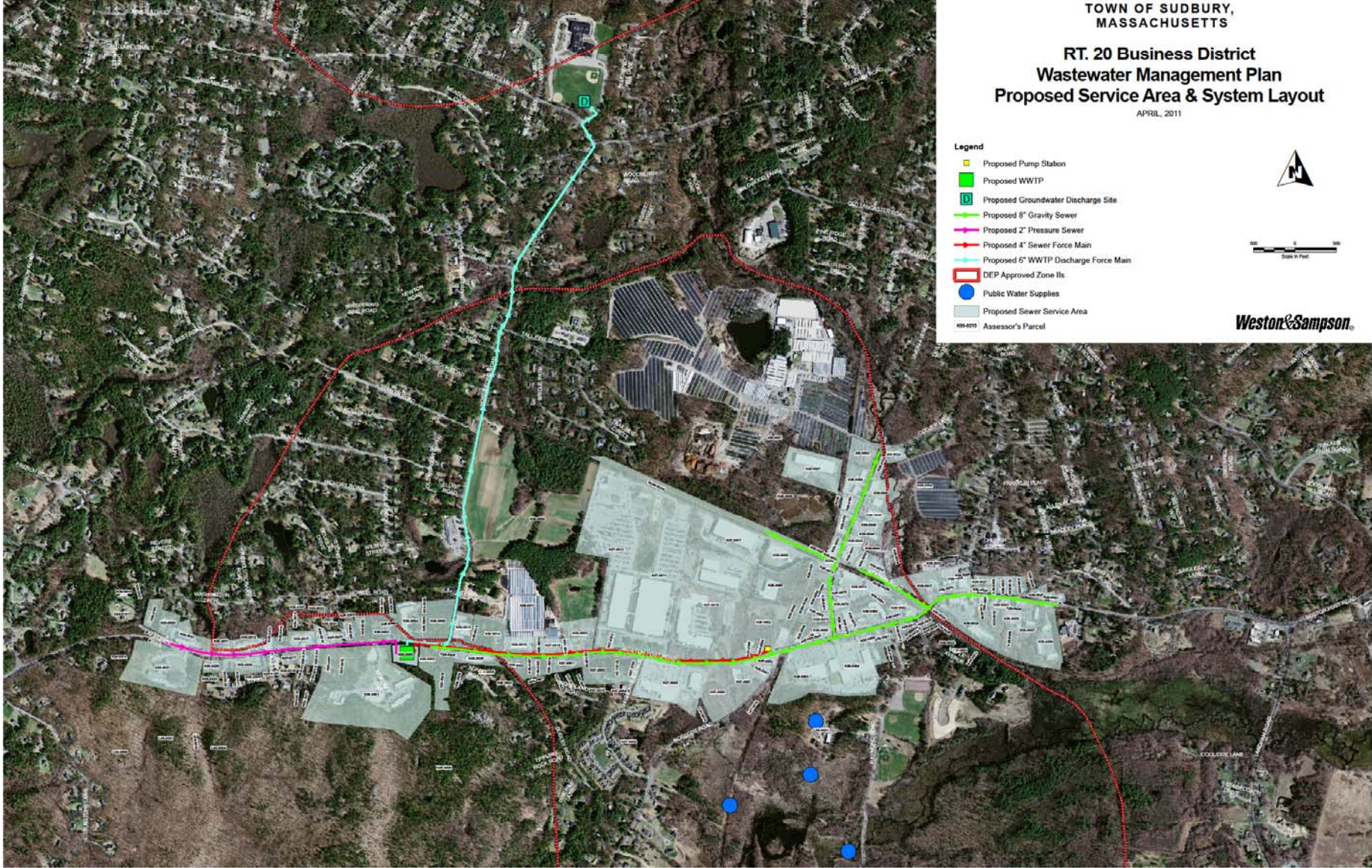
**RT. 20 Business District  
Wastewater Management Plan  
Proposed Service Area & System Layout**

APRIL, 2011

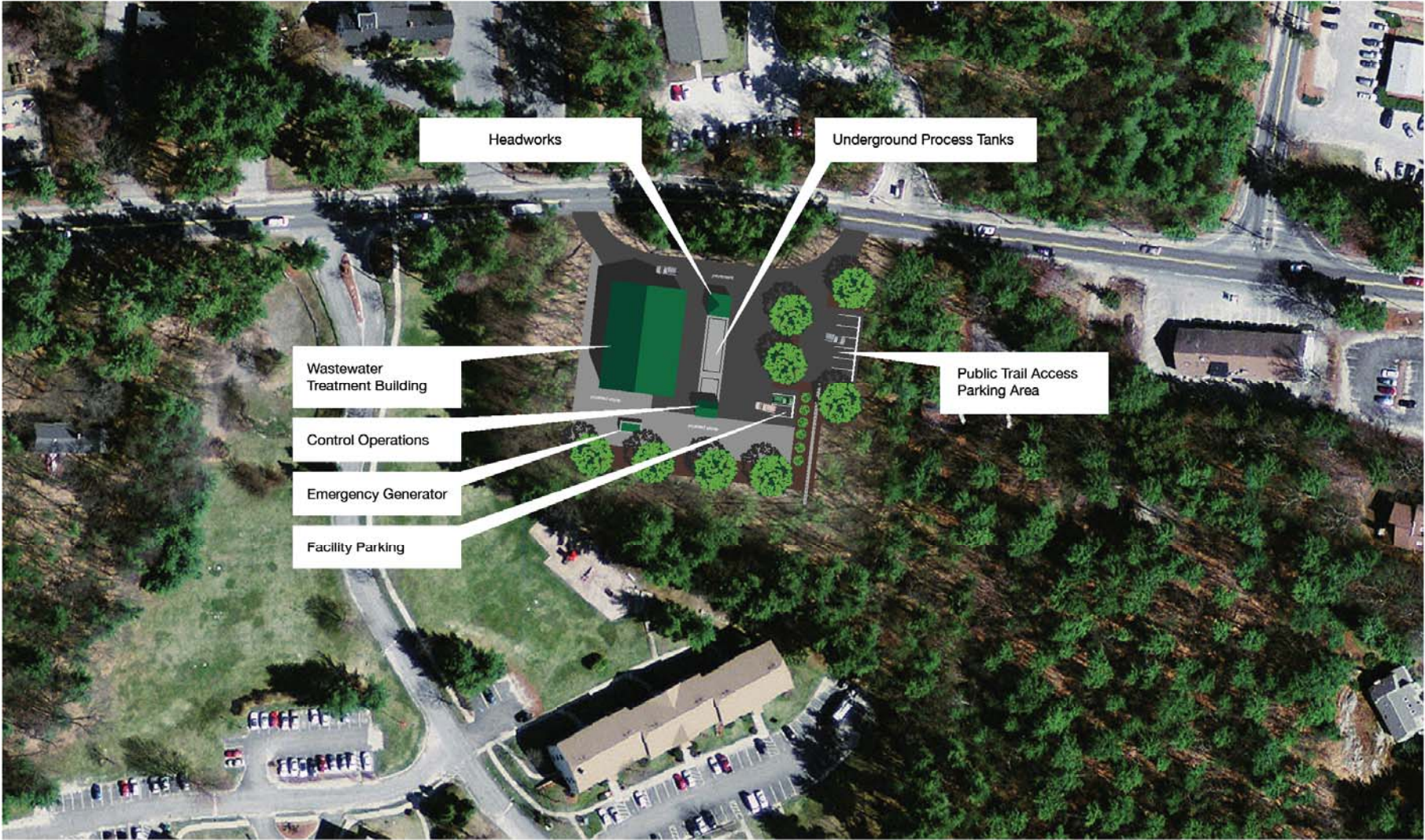
- Legend**
-  Proposed Pump Station
  -  Proposed WWTP
  -  Proposed Groundwater Discharge Site
  -  Proposed 6" Gravity Sewer
  -  Proposed 2" Pressure Sewer
  -  Proposed 4" Sewer Force Main
  -  Proposed 5" WWTP Discharge Force Main
  -  DEP Approved Zone IIs
  -  Public Water Supplies
  -  Proposed Sewer Service Area
  -  Assessor's Parcel



**Weston & Sampson**





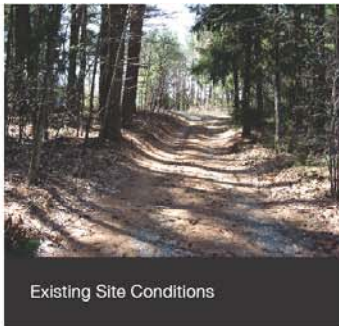


SUDBURY DECENTRALIZED WASTEWATER TREATMENT FACILITY — CONCEPTUAL SITE PLAN





Conceptual Site Plan



Existing Site Conditions

Conceptual Rendering of  
 Sudbury Decentralized Wastewater  
 Treatment Facility and Tipling Rock Trail  
 Parking Area as Viewed from Eastern  
 Access Road

(for conceptual purposes only — not to exact scale)



SUDBURY DECENTRALIZED WASTEWATER TREATMENT FACILITY — CONCEPTUAL RENDERING

**Weston & Sampson.**

### ***Phase 1 – Planning***

- Hydrogeologic Investigations – November 2010 thru December 2010
- Project Engineering Report (PER) – December 2010 thru May 2011
- Town Meeting Authorization of Design Funding – May 2011

### ***Phase 2 – Design, Permitting and Funding***

- MEPA Process – July 2011 thru October 2011
- Final Design and Permitting – October 2011 thru March 2013
- Groundwater Discharge Permit – December 2011 thru December 2012
- Re-Submittal of Project Evaluation Form (PEF) – August 2012
- Submittal of State Revolving Fund (SRF) Loan Application – March 2013
- Town Meeting Authorization of Construction Funding – April 2013
- Permission to Advertise – May 2013

### ***Phase 3 – Bidding and Construction***

- Public Bid/Award Process – May 2013 thru August 2013
- Construction – September 2013 thru June 2015

**Scenario Assumptions –  
Residential Taxpayers**

Amount	<b>1,000,000</b>
Issuance Costs	<b>20,000</b>
Total Bonding	<b>1,020,000</b>
Term/years	5
Rate	2.500%
Average value	628,000
Res Value	3,599,570,656
Resid share	90.92%
Amortization	straight line

					<b>Residen</b>	<b>1,000</b>	<b>100,000</b>	<b>628,000</b>	
	<b>Year</b>	<b>Balance</b>	<b>Principal</b>	<b>Interest</b>	<b>total</b>	<b>Share</b>	<b>Tax Impact</b>	<b>Tax Impact</b>	<b>Prop Tax Impact</b>
	1	1,020,000	204,000	25,500	229,500	208,671	\$0.06	\$5.80	\$36.41
	2	816,000	204,000	20,400	224,400	204,033	\$0.06	\$5.67	\$35.60
	3	612,000	204,000	15,300	219,300	199,396	\$0.06	\$5.54	\$34.79
	4	408,000	204,000	10,200	214,200	194,759	\$0.05	\$5.41	\$33.98
	5	204,000	204,000	5,100	209,100	190,122	\$0.05	\$5.28	\$33.17
	<b>Total</b>		1,020,000	76,500	1,096,500	996,982	\$0.28	\$27.70	\$173.94



**Scenario Assumptions –  
Commercial Taxpayers**

Amount	<b>1,000,000</b>	
Issuance Costs	<b>20,000</b>	
Total Bonding	<b>1,020,000</b>	
Term/years	5	
Rate	2.500%	
CIP share	9.076%	
Average value	\$ 810,357	
C&I Value	274,711,172	strictly CIP
C&I Parcels	339	strictly CIP
Amortization	straight line	

					131% shift			
					Comm-	1,000	100,000	810,357
					ercial	Tax	Tax	Prop
Year	Balance	Principal	Interest	Total	Share	Impact	Impact	Tax Impact
1	1,020,000	204,000	25,500	229,500	20,829	\$0.08	\$7.58	\$61.44
2	816,000	204,000	20,400	224,400	20,367	\$0.07	\$7.41	\$60.08
3	612,000	204,000	15,300	219,300	19,904	\$0.07	\$7.25	\$58.71
4	408,000	204,000	10,200	214,200	19,441	\$0.07	\$7.08	\$57.35
5	204,000	204,000	5,100	209,100	18,978	\$0.07	\$6.91	\$55.98
Total		1,020,000	76,500	1,096,500	99,518	\$0.36	\$36.23	\$293.56



April 25, 2011

Mr. John Drobinski  
Mr. Lawrence O'Brien  
Mr. Robert Haarde  
Sudbury Board of Selectmen  
Flynn Building  
278 Old Sudbury Road  
Sudbury, MA 01776

Re: Business Community's Support for Article 20

Gentlemen:

We write to express our support for the Town's efforts to design, permit and construct a sewer system along the Route 20 business corridor. We are hopeful that Sudbury's residents will act favorably on Article 20 at Town Meeting, and authorize appropriation of the \$1 million dollars required to complete the design and permitting phase of the project.

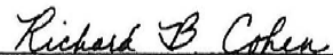
The need to sewer the commercial district is acute as businesses are faced with costly septic system repairs and fewer options to discharge wastewater in an area of high groundwater and poor soils. Sudbury's commercial corridor is at a competitive disadvantage due to these challenges, and reliance on on-site septic systems severely limits our ability as property owners to attract new tenants, particularly restaurants and food services.

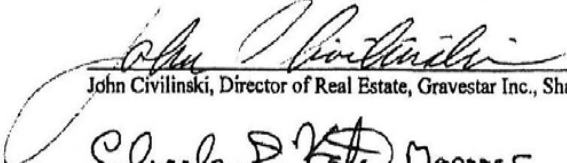
We understand that the design, permitting and construction of the sewer system is a costly endeavor. We are also cognizant of the costs we are likely to face in having to constantly repair and replace our septic systems over time. Therefore, we in the business community are amenable to discussing scenarios whereby a significant portion of the cost to design and construct the system will be paid by its users.

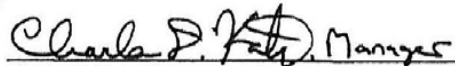
Mr. John Drobinski  
Mr. Lawrence O'Brien  
Mr. Robert Haarde  
April 25, 2011  
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Thank you for your efforts to move this important project forward.

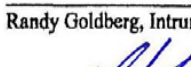
Sincerely,

  
Hal Garnick/Richard Cohen, Sudbury Crossing (TJ Maxx)

  
John Civilinski, Director of Real Estate, Gravestar Inc., Shaw's Plaza

  
Charles D. Katz, Katz Irrevocable Trust, The Rugged Bear Plaza

  
Faith Kaplan, 1776 Plaza (Sudbury Farms Plaza)

  
Randy Goldberg, Intrum Corporation, Mill Village

  
Louis B. Stephan, Prudential Stephan REALTORS (Sudbury Chamber of Commerce)