

Utility Impact Statement **For** **Evergreen Walk**

South Windsor, Connecticut

Revised October 27, 2015
Revised December 14, 2015
Revised May 10, 2017
Revised December 18, 2017
Revised January 31, 2019
Revised April 12, 2019
Revised October 7, 2019
Revised December 13, 2019
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Developer: Evergreen Walk Associates, LLC
c/o John Finguerra
1109 Rose Lane
Virginia Beach, VA 23451



Engineer: Civil and Environmental
Fuss & O'Neill
146 Hartford Road
Manchester, CT 06040

Project No. 2000481.Y20



UTILITY IMPACT STATEMENT
FOR
EVERGREEN WALK
SOUTH WINDSOR, CONNECTICUT

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EXHIBITS

1. Site Location Plan
2. Water Supply Exhibit
3. Sanitary Sewer Exhibit
4. Will Serve Utility Letters



I. INTRODUCTION

A. Purpose and Scope

This Utility Impact Statement has been prepared in accordance with the most current revisions to the Town of South Windsor Zoning Regulations. Its purpose is to define, in a general way, the projected impact that the proposed land uses and intensities will have on the Town's infrastructure, with particular emphasis on:

1. Water supply and distribution system
2. Sanitary sewers
3. Stormwater management

B. Site Location

The development site is located in the south central part of the Town of South Windsor north of the Manchester town line. It is approximately 243 acres in size and is generally bounded on the north by Deming Street, on the east by Buckland Road, on the south by Smith Street and on the west by Plum Gulley Brook (Exhibit 1). On-site existing topographic elevations range from 70 to 150 feet above mean sea level. The major roadway network that provides primary access to this project was reviewed during permitting by the Town and the State Traffic Commission / OSTA and was further discussed in associated Traffic Impact Studies.

C. Project Description

The 243 acre site was used for farming for many years. The majority of the overall campus has been constructed or is under construction. These include:

- Shoppes at Evergreen Walk (a retail center)
- ECHN and ECHN II (medical office buildings)
- Esporta Fitness (formerly LA Fitness) (an indoor recreation center)
- Independently owned medical office building
- Tempo Apartments
- The Learning Experience preschool and daycare
- Evergreen Crossing Retirement Community
- HarbourChase Assisted Living Facility
- Cambria Suites Hotel (Under Construction)
- Costco (Under Construction)

Future uses will include additional retail, office uses, and residential/institutional. When fully built, Evergreen Walk is anticipated to include the following development:

TABLE 1			
Land Use	Previous Size	Proposed Change	Proposed Size
Hotel	108 Rooms	No Change	108 Rooms
Indoor recreation	45,000 SF	No Change	45,000 SF
Office	220,440 SF	-30,950 SF	189,490 SF
Commercial - Daycare	10,000 SF	No Change	10,000 SF
Retail	591,271 SF	+9,209 SF	600,480 SF
Residential	200 Units	+165 Units	365 Units
Institutional - Residential	400 Units	No Change	400 Units

The location of Evergreen Walk is shown on the accompanying Location Plan (Exhibit 1). The utilities necessary to support the proposed development area are shown on Exhibit 2 (Water Supply) and Exhibit 3 (Sanitary Sewer). The storm drainage watershed for the site is shown on Exhibit 1.

II. WATER SUPPLY

A. Projected Public Water Supply Requirements

Based on the table of uses indicated in Table 1 and as shown on the Land Use Study, a projection of domestic water requirements was prepared. This projection is detailed in Table 2 below:

TABLE 2						
Land Use Description	Size (S.F.)/ Units/ Bedrooms/ Beds	Unit Flow (Gal/Day)	Average Daily Flow (Gal/Day)	Peak Daily Flow ⁽¹⁾ (Gal/Day)	Peak Hourly Flow ⁽²⁾ (Gal/Day)	Peak Hourly Flow (Gal/Min)
Hotel	108 Rooms (No Change)	150/Rm	16,200 (No Change)	32,400 (No Change)	64,800 (No Change)	45 (No Change)
Indoor Recreation	45,000 (No change)	0.15/S.F.	6,750 (No Change)	13,500 (No Change)	27,000 (No Change)	19 (No Change)
Office	189,490 (+42,000)	0.11/S.F.	20,844 (+4,620)	41,688 (+9,240)	83,376 (+18,480)	58 (+13)
Commercial - Daycare	10,000 (No Change)	0.11/S.F.	1,100 (No Change)	2,200 (No Change)	4,400 (No Change)	3 (No Change)
Retail	600,480 (+9,209)	0.10/S.F.	60,048 (+921)	120,096 (+1,842)	240,192 (+3,684)	167 (+3)
Residential	365 Units 548 Rooms (+165 Units +248 Rooms)	150/Rm	82,200 (+37,200)	164,400 (+74,400)	328,800 (+148,800)	229 (+104)

TABLE 2						
Institutional – Residential ⁽³⁾	400 Units 606 Rooms (No Change)	150/Rm	90,900 (No Change)	181,800 (No Change)	363,600 (No Change)	252.5 (No Change)
⁽¹⁾ Peak daily flow is 2.0 times the flow demand for an average day.						
⁽²⁾ The peak hour demand (gallons per day) is 2.0 times the peak daily flow rate.						
⁽³⁾ The Institutional – Residential category includes independent living units, which are assumed to have similar flow when compared to typical residential sources.						

In accordance with the usual and customary practice, the tabulated flows must be available for usage at residual pressures in the ranging from a low of 25 pounds per square inch to a maximum of about 110 pounds per square inch.

Requirements for water for fire protection purposes were determined based on the proposed development. Relative to retail areas, current standards indicate that a fire flow of 2,000 to 3,000 gpm at a 25 psi minimum residual pressure for up to a three hour period may be required. As necessary, flow tests and calculations will be performed for the various phases to confirm adequate fire flow service.

B. Existing Water System

The existing public water system is owned and operated by The Connecticut Water Company (CWC) with offices at 446 Smith Street, Middletown, CT 06457. A 12 inch water main fronts the site on three sides, Deming Street on the north, Buckland Road on the east, and Smith Street on the south (Exhibit 2).

A fire flow test conducted by the CWC on September 24, 2014 at a hydrant on Tamarack Road (South End) yielded a flow of 1,463 gallons per minute (gpm) with a residual pressure of 72 pounds per square inch (psi). The static pressure was 90 psi. The hydrant tested is located to the south and west of The Shoppes at Evergreen Walk.

Additional fire flow tests were conducted by the CWC on March 22, 2018 at a hydrant adjacent to LA Fitness. The hydrant yielded 1,300 gpm with a residual pressure of 64 psi. The static pressure was 86 psi.

Currently, one 8-inch water main serves ECHN and ECHN II. It branches off of the 12-inch Deming Street water main and extends south along Tamarack Avenue toward ECHN II. It then continues along the connector road between Evergreen Way at LA Fitness and Tamarack Avenue at ECHNII and connects the 8-inch mains in Evergreen Way and Tamarack Avenue. The service for LA Fitness branches off of Buckland Road and extends west along Cedar Avenue. The Tamarack Avenue extension at the north end of the site is now connected with the Cedar Avenue to create a loop.



A 12-inch water main branches off of Buckland Road at the southern end of Evergreen Walk and extends west along Tamarack Avenue. This 12-inch water line follows Evergreen Way north for a portion, splits, and then recombines and continues north to the water main located at the intersection of Evergreen Way and Cedar Ave to create a loop.

At the southern end of Evergreen Walk, a 12-inch water main continues in the westerly direction on Tamarack Avenue and past the intersection with Evergreen Way. The 12-inch main then tees at the intersection of Tamarack Avenue and Longleaf Lane and continues north on Tamarack Avenue, and west on Longleaf Lane. The 12-inch main on Tamarack ends just south of the bridge with a fire hydrant and blow-off assembly. Currently in construction, the section of water main to continue the 12-inch main north and connect to the existing water main by Evergreen Crossing Retirement Community will be completed. This will complete the southernmost loop of the water main.

The 12-inch main on Longleaf Lane extends in the westerly direction and just past the entrance to the Tempo Apartments. There are two 8-inch water main connections to the 12-inch main on Longleaf that loop through the Tempo Apartments development. There is also an 8-inch main that loops the Tempo Apartments main to the east and connects to the 12-inch water main in Tamarack Avenue.

C. Proposed Improvements

In order to support the future residences development located on Unit 7C the 12-inch water main located in the Tempo Apartments development will be extended in the westerly direction and loop to connect to the existing 8-inch water main located in Unit 7B.

The Connecticut Water Company (CWC) and Town of Manchester have executed an agreement that includes the connection of Manchester Water Department's Buckland Hills system to the CWC system in Buckland Road. This connection provides additional water for fire protection to the Gateway Development Zone.

There is an increase of 14% to the projected water demand as a result of the most recent revisions to the General Plan of Development.

D. Conclusion

It is our opinion that the existing and proposed water facilities will provide adequate water service for domestic and firefighting purposes in the quantities and pressures required to support the development proposed herein. As necessary, calculations will be performed for the various phases to confirm adequate fire flow service, and the necessary improvements will be proposed to address those needs.

III. SANITARY SEWERS

A. Projected Sewage Flows from Proposed Project

This General Plan of Development proposes seven land uses: office, hotel, recreation, retail, commercial, residential, and institutional. It is anticipated that sewage will be generated from this project in the following amounts:

TABLE 3			
Typical Land Use Description	Size(S.F./Units/ Rooms/Beds)	Unit Flow ⁽¹⁾ (Gal/Day)	Average Daily Flow (Gal)
Hotel	108 Rooms (No Change)	150/Rm	16,200 (No Change)
Indoor Recreation	45,000 (No Change)	0.15/S.F.	6,750 (No Change)
Office	189,490 (+42,000)	0.11/S.F.	20,844 (-3,405)
Commercial - Daycare	10,000 (No Change)	0.11/S.F.	1,100 (No Change)
Retail	600,480 ⁽²⁾ (+9,209)	0.10/S.F.	60,048 (+921)
Residential	365 Units/548 Rooms (+165 Units/+248 Rooms)	150/Rm	82,200 (+37,200)
Institutional – Residential	400 Units/606 Rooms (No Change)	150/Rm	90,900 (No Change)
⁽¹⁾ All units of flow were estimated from data generated by Fuss & O'Neill for similar types of establishments/uses.			
⁽²⁾ Including restaurants.			

The following table summarizes the total average daily flow and includes a contribution from groundwater inflow:

TABLE 4					
Sewage Source	Average Daily Flow (Gal)	Peak Daily Flow ⁽¹⁾ (Gal)	Contributing Area (Acres) 243 Ac x 60%	Peak Infiltration ⁽²⁾ Flow (Gal)	Peak Design Flow (gal/day)
Project Site	278,042 (+34,716)	1,112,168 (+138,864)	146	146,000	1,258,168 (+138,864)
⁽¹⁾ Assumes a Peaking Factor of 4.0 for the mixed-use development.					
⁽²⁾ Peak Infiltration = acreage x 1000 gallons/day					

B. Existing Sewerage Facilities

The Evergreen Walk site lies within the watershed area of the Clark Street sewage pump station. Gravity sewers are located in Buckland Road, east of Deming Street (northern boundary of the site), Clark Street (west of the site),

Wheeler Road (south of the site) and in Smith Street west of Wheeler Road (southwest of the site). The sewers from Clark Street, Smith Street, and Wheeler Road flow by gravity to the Clark Street pump station. The Buckland Road sewer flows by gravity north.

Sewage from the Original ECHN building at Buckland Road and Deming Street as well as from Manchester Pediatric Associates currently flows by force main to the Buckland Road gravity system. In addition, ECHN II and ECHN III sewage flows southerly by force main to the gravity branch located west of LA Fitness.

In 1995, Weston and Sampson performed a sewer study of the Buckland Road watershed, and determined the most cost effective sewer plan for the watershed. The most cost effective sewer alignment to serve what is now the Evergreen Walk site was found to be a gravity sewer which connected to the existing sewer system on Clark Street. Such an alignment included the installation of 1,900 lineal feet of 12 inch sewer from a manhole north of the Clark Street pump station to the western property line of Evergreen Walk, generally as shown on Exhibit 3. From that point, the entire site could be served. The new alignment is in place and referred to as the Gateway Trunk Sewer. This alignment required the crossing of wetlands and Plum Gulley Brook.

The Clark Street pump station should be evaluated not expected to accommodate sewage flows anticipated by the proposed General Plan of Development as the projected flows have not increased.

C. Proposed Improvements

Although there is a projected sewer flow increase of 12% as a result of the most recent revisions to the General Plan of Development, the December 14, 2015 utility report approved at that time exceeded the now projected sewer flows.

D. Conclusion

The quantity of sewage to be discharged from the uses proposed in the development plan can be adequately served by the existing Town of South Windsor sewerage facilities.

IV. **STORMWATER MANAGEMENT**

A. Existing Conditions

The proposed project is situated on a parcel of land containing 243 acres located west of Buckland Road, north of Smith Street and south of Deming Street. Plum Gulley Brook flows near the westerly boundary of the project and is actually within the project area for a distance of about 2400 feet. There are two unnamed streams on the site that are tributary to Plum Gulley Brook. One of the streams flows along the southerly boundary and originates south of Smith Street. The larger stream flows west to east from Buckland Road about 2,000



feet north of Smith Street. This second stream, which originates on the east side of Buckland Road, joins Plum Gulley Brook within the project area.

In addition to the stormwater runoff from within the project area, there are about 190 acres east of Buckland Road that drain to the project. Part of this flow is from the detention basin constructed as a part of the Lowe's/Target project. It is assumed that any future construction within the drainage area east of Buckland Road will include detention facilities that will maintain flow rates equal to existing levels.

All of the stormwater runoff from the site and the area east of Buckland Road discharges to Plum Gulley Brook. A little over one mile downstream of the proposed development, Plum Gulley Brook and Whaples Brook join at Vintons Mill Pond to form the Podunk River.

B. Proposed Detention and Storm Sewer System

In order to minimize negative environmental impacts and the possibility of increased runoff overloading downstream drainage facilities, low impact development design techniques as well as stormwater best management practices (BMPs) will be utilized both during and after construction. A series of sedimentation and detention basins have been and will be constructed to control sediment and peak storm flows from development at Evergreen Walk. Infiltration of stormwater will be utilized where geologic conditions permit. During the design stage, efforts will be made to create detention and infiltration basins that are aesthetically pleasing and nuisance free.

Stormwater detention is currently provided for all developed and undeveloped units within Evergreen Walk with the exception of Unit 7C. Additional development on Unit 7C will require new detention system to be provided.

During construction, erosion control measures will be installed to minimize erosion and sedimentation. Hay bale erosion checks and silt fence will be installed where needed. Sedimentation basins will be constructed when needed. In some cases, detention basins may be used as temporary sedimentation basins. All erosion control measures will be constructed in accordance with the requirements of the latest edition of Connecticut "Guidelines for Soil Erosion and Sediment Control".

V. OTHER UTILITIES

A. Electric Power

There is adequate infrastructure at Evergreen Walk to supply future development areas with electricity.

New service to the future Apartments on Unit 7C site will come from existing infrastructure located to the east of the proposed development site.



Infrastructure was planned and constructed into the Tempo Apartments residential project.

B. Gas

Eversource has a main line in Deming Street and Buckland Road as well as though out the Evergreen Walk site that is adequate to serve the proposed development.. The Deming Street gas line serves ECHN. The Buckland Road gas line branches off onto the southern Tamarack Avenue by The Shoppes and along Cedar Avenue south of LA Fitness. The Cedar Avenue branch has recently been extended to the south and west to serve the assisted living facility currently under construction and also serves LA Fitness, ECHN II, and will serve the Harbor Chase Retirements facility currently under construction.

Gas service to the Unit 7C development site will come from the existing gas infrastructure currently in place at the Tempo Apartments.

C. Communications

There is adequate telephone and data service available to the proposed development. Data and telephone service will be provided to the development site via the existing services provided within the Unit 7C development.

[illegible]

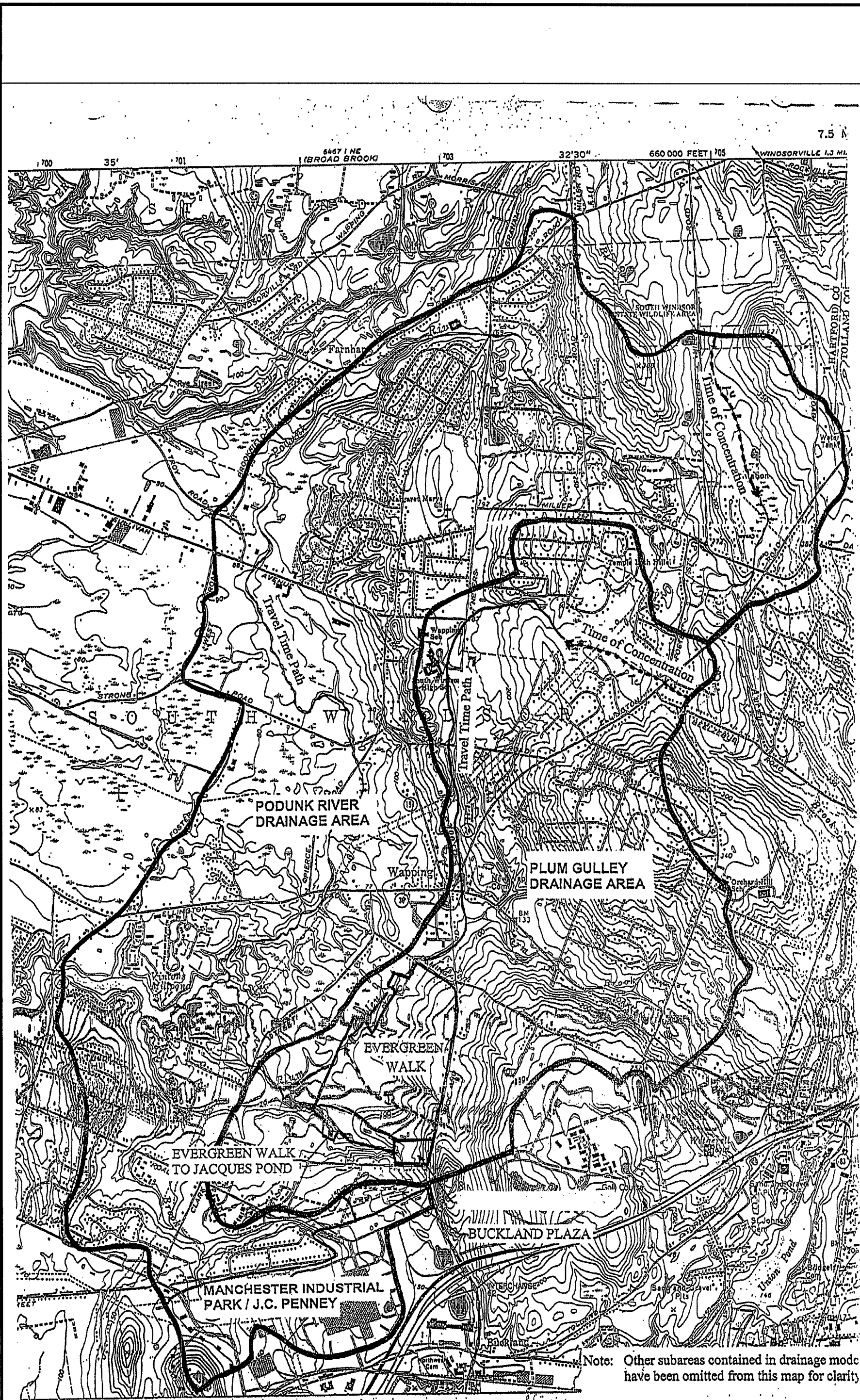
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HORZ.:	
VERT.:	
DATUM:	
HORZ.:	
VERT.:	
0	
GRAPHIC SCALE	

146 HARTFORD RD
MANCHESTER, CT 06040
860.646.2469

EVERGREEN WALK, LLC
EXHIBIT 1 - LOCATION MAP
GENERAL PLAN OF DEVELOPMENT
SOUTH WINDSOR

CONNECTICUT

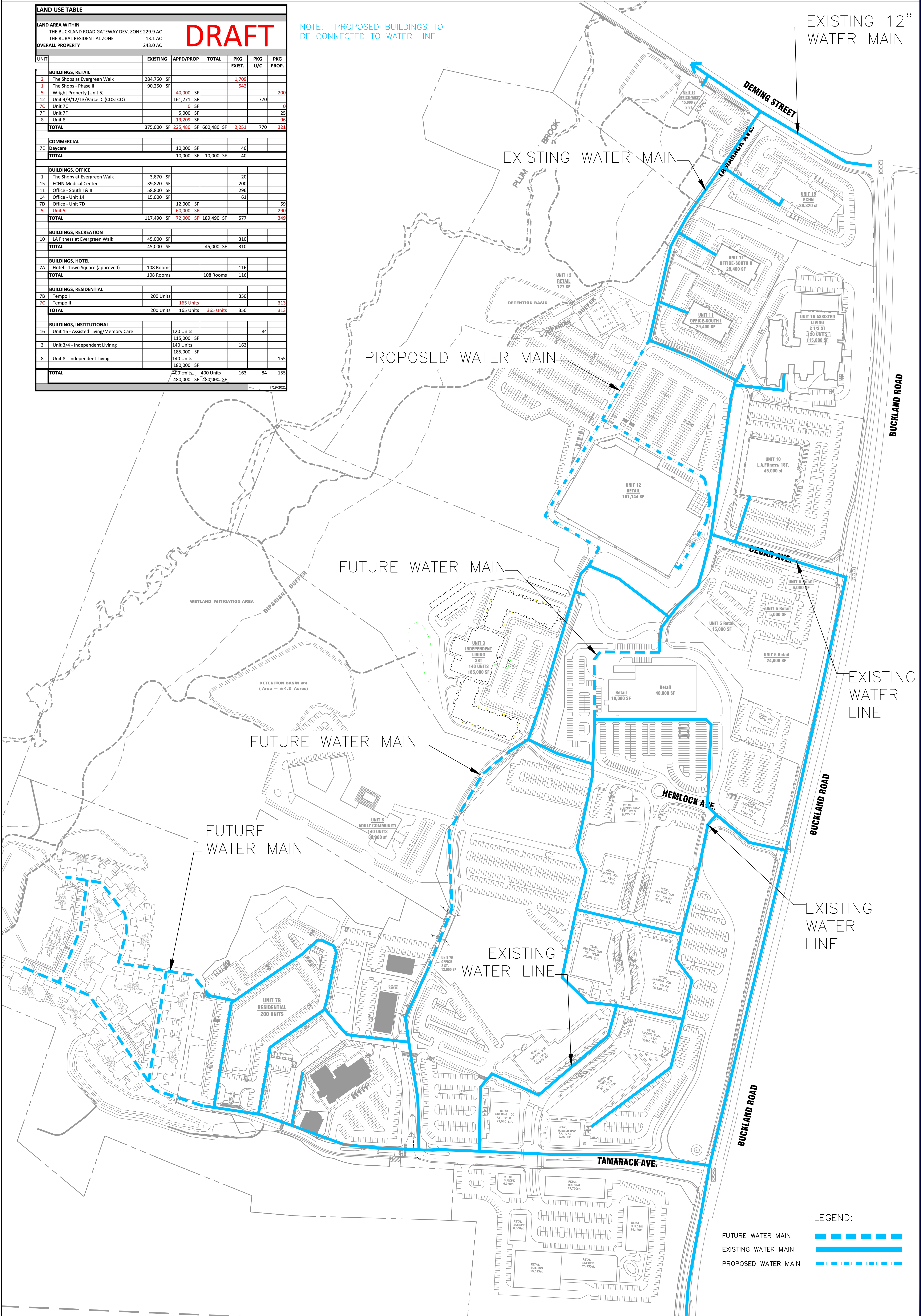
PROJ. NO.: 2000 481 A30
DATE: 7/9/07
EX-1



MAPPING FROM MANCHESTER CT USGS QUADRANGLE. REVISED 1992

LAND USE TABLE						
LAND AREA WITHIN						
THE BUCKLAND ROAD GATEWAY DEV. ZONE 229.9 AC						
THE RURAL RESIDENTIAL ZONE 13.1 AC						
OVERALL PROPERTY 243.0 AC						
DRAFT						
UNIT		EXISTING	APPD/PROP	TOTAL	PKG EXIST.	PKG U/C PROP.
BUILDINGS, RETAIL						
2	The Shops at Evergreen Walk	284,750 SF			1,709	
1	The Shops - Phase II	90,250 SF			542	
5	Wright Property (Unit 5)		40,000 SF			200
12	Unit 4/9/12/13/Parcel C (COSTCO)		161,271 SF			770
7C	Unit 7C		0 SF			0
7F	Unit 7F		5,000 SF			25
8	Unit 8		19,209 SF			96
TOTAL		375,000 SF	225,480 SF	600,480 SF	2,251	770
COMMERCIAL						
7E	Daycare		10,000 SF			40
TOTAL			10,000 SF			40
BUILDINGS, OFFICE						
1	The Shops at Evergreen Walk	3,870 SF			20	
15	ECHN Medical Center	39,820 SF			200	
11	Office - South I & II	58,800 SF			296	
14	Office - Unit 14	15,000 SF			61	
7D	Office - Unit 7D		12,000 SF			59
5	Unit 5		60,000 SF			290
TOTAL		117,490 SF	72,000 SF	189,490 SF	577	349
BUILDINGS, RECREATION						
10	LA Fitness at Evergreen Walk	45,000 SF			310	
TOTAL		45,000 SF		45,000 SF	310	
BUILDINGS, HOTEL						
7A	Hotel - Town Square (approved)	108 Rooms			116	
TOTAL		108 Rooms		108 Rooms	116	
BUILDINGS, RESIDENTIAL						
7B	Tempo I	200 Units			350	
7C	Tempo II		165 Units			313
TOTAL		200 Units	165 Units	365 Units	350	313
BUILDINGS, INSTITUTIONAL						
16	Unit 16 - Assisted Living/Memory Care	120 Units				84
		115,000 SF				
3	Unit 3/4 - Independent Living	140 Units			163	
		185,000 SF				
8	Unit 8 - Independent Living	140 Units				155
		180,000 SF				
TOTAL		400 Units	400 Units		163	84
		480,000 SF	480,000 SF			155
7/19/2021						

NOTE: PROPOSED BUILDINGS TO BE CONNECTED TO WATER LINE



LAND USE TABLE							
LAND AREA WITHIN							
THE BUCKLAND ROAD GATEWAY DEV. ZONE 229.9 AC							
THE RURAL RESIDENTIAL ZONE 13.1 AC							
OVERALL PROPERTY 243.0 AC							
UNIT		EXISTING	APPD/PROP	TOTAL	PKG EXIST.	PKG U/C	PKG PROP.
BUILDINGS, RETAIL							
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7C	Unit 7C		0 SF				0
7F	Unit 7F		5,000 SF				25
8	Unit 8		19,209 SF				96
TOTAL		375,000 SF	225,480 SF	600,480 SF	2,251	770	321
COMMERCIAL							
7E	Daycare		10,000 SF		40		
TOTAL			10,000 SF	10,000 SF	40		
BUILDINGS, OFFICE							
1	The Shops at Evergreen Walk	3,870 SF			20		
15	ECHN Medical Center	39,820 SF			200		
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TOTAL		117,490 SF	72,000 SF	189,490 SF	577		349
BUILDINGS, RECREATION							
10	LA Fitness at Evergreen Walk	45,000 SF			310		
TOTAL		45,000 SF		45,000 SF	310		
BUILDINGS, HOTEL							
7A	Hotel - Town Square (approved)	108 Rooms			116		
TOTAL		108 Rooms		108 Rooms	116		
BUILDINGS, RESIDENTIAL							
7B	Tempo I	200 Units			350		
7C	Tempo II		165 Units				313
TOTAL		200 Units	165 Units	365 Units	350		313
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16	Unit 16 - Assisted Living/Memory Care	120 Units					84
		115,000 SF					
3	Unit 3/4 - Independent Living	140 Units			163		
		185,000 SF					
8	Unit 8 - Independent Living	140 Units					155
		180,000 SF					
TOTAL		400 Units	400 Units		163	84	155
		480,000 SF		480,000 SF			
							7/19/2021

NOTE: PROPOSED BUILDINGS TO BE CONNECTED TO SANITARY LINE

EXISTING SANITARY SEWER LINE
1.5" SDR 9 HDPE IPS

PROPOSED FORCE MAIN SANITARY SEWER SERVICE (TYP.)

EXISTING 8" SANITARY SEWER MAIN

PROPOSED FORCE MAIN SANITARY SEWER SERVICE

EXISTING 12" SANITARY SEWER MAIN

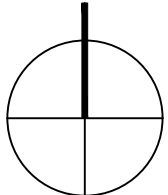
FUTURE FORCE MAIN SANITARY SEWER SERVICE (TYP.)

EXISTING 12" SANITARY SEWER MAIN

FUTURE SEWER MAIN
EXISTING SEWER MAIN
PROPOSED SEWER MAIN

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EX-3	DATE 04/12/2018	CHECKED ATL	DESIGNED FH	SCALE AS SHOWN	SHEET TITLE PRELIMINARY PLAN OF DEVELOPMENT EXHIBIT 3 - SANITARY SEWER
	JOB NAME EVERGREEN WALK				
	EVERGREEN WALK, LLC.				



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FLB Architecture & Planning, Inc. 19 Silver Lane East Hartford CT 06118
(860)568-4030 fax: (860)568-5129 e-mail: flb@flbarch.com web: www.flbarch.com