

# SECTION VI - UTILITIES PLAN ELEMENT

## TELECOMMUNICATIONS

The Township is served by a variety of telecommunications facilities operated by private sector businesses providing landline, cellphone, video and internet services for the general public through individual subscription. Municipal services like the police, fire and public works departments complement those services with radio frequency transmission. Wireless access (wi-fi) service is available to the public at isolated locations within the Township.

New technologies suggest the possibility of a municipally sponsored, privately operated, wireless broadband system available throughout the Township. Such a system would enable our residents, businesses, community service and not-for profit organizations, whether operating in their homes, places of business, open spaces such as parks and recreation areas, or throughout our business districts, to have reliable, always available, high-speed wireless internet access.

A wideband wireless system would supplement and improve communications via voice, data and video for the police and fire services, Department of Public Works, Water, Building, and Recreation Departments, Library, First Aid Squad, schools, other municipal activities, and hospitals.

Communications between businesses and their customers would be facilitated, particularly with the growth of internet access through cellphones. Beyond that, the rapid advance of technological development suggests that ubiquitous availability of wideband transmission would stimulate development of a variety of new services benefiting the entire community.

**Recommendation:** That the Township, in cooperation with the BID, engage a knowledgeable consultant to analyze the economic and technical aspects of providing a town-wide wideband wireless communications facility with the objective of improving communications services, while reducing costs to both the municipality and its residents, by contracting with a vendor that would assume all of the costs associated with building and operating a broadband wireless network under a revenue sharing agreement with the Township. Business plans arising from the study should examine the costs to individual subscribers, the division of income between the Township and the service provider, and the range of services to be enabled.

1 **WATER SUPPLY**

2  
3 The 1985 Master Plan and the 1992 Master Plan Review expressed concerns about the adequacy  
4 of the Township water supply and the ability to meet water needs of future growth. Those  
5 concerns have since been addressed.

6  
7 The Township’s water supply system is divided into two High Service areas and one Low  
8 Service area. All are administered and maintained by the Livingston Water Department. The  
9 High Service areas serve the higher altitude portions of the Township, primarily the Riker Hill  
10 area and the easterly portions of the community near the West Orange border.

11  
12 The Township owns and operates twelve wells that produce water for the Low Service Area and  
13 the Riker Hill High Service Area. Because of service and maintenance needs, there are times  
14 when fewer than twelve wells are in use. Three water storage tanks owned by the Township and  
15 fed from the wells provide distribution for the Low Service Area and the Riker Hill High Service  
16 Area. Emergency water supply can be provided in the Low Service Area through an  
17 interconnection on East Hobart Gap Road with the City of East Orange Water Reserve and the  
18 New Jersey-American Water Company.

19  
20 Distribution in the Easterly High Service Area is provided from two storage tanks owned by the  
21 Township. The Township purchases the water supply for this area from New Jersey-American  
22 Water Company, which draws groundwater from the Brunswick Shale, the Buried Valley  
23 Aquifer, and the Gneiss Rock Formation, and also takes surface water from the Canoe Brook  
24 Reservoir, Passaic River and the Wanaque Reservoir.

25  
26 In 2004, the Township commissioned an evaluation of its water storage tanks. Mumford-  
27 Bjorkman Associates, of Newcastle, Delaware, evaluated each of the tanks and submitted a  
28 report that included ten-year capital improvement program recommendations.

29  
30 A scheduled new connection with New Jersey-American Water Company, to be installed at the  
31 intersection of East Northfield Road and East Cedar Street, and the replacement of a 6-inch water  
32 main by a 10-inch water main on East Cedar Street to Westmont Drive, will meet anticipated  
33 requirements and demands for future needs in the Easterly High Service Area.

34  
35 In the Low Service Area, Wells numbered 3, 4, 5, 8, 9 and 11 are equipped with air strippers for  
36 the removal of any volatile chemicals in the water. The remaining six wells are running  
37 efficiently without the need for strippers. The Township has implemented several Groundwater  
38 Protection Techniques that include sealing off old test wells, sampling groundwater runoff, and  
39 drilling monitoring test wells.

40  
41 A connection to New Jersey-American Water Company’s 36-inch water main in Roseland has  
42 been completed. Pipelines, regulating valves and meters are in place and operational. This  
43 booster system will increase water capacity in both the Low Service Area and the Riker Hill  
44 High Service Area.

45  
46 The Federal Public Health Security and Bio-Terrorism Preparedness and Response Act of July  
47 12, 2002 requires that most water systems in the United States conduct drinking water  
48 vulnerability assessments. The Township completed a Vulnerability Assessment of its water

1 utility infrastructure in 2004, and has developed a Water System Emergency Response Plan. The  
2 Township has not yet prepared an analysis of its full water distribution system. However, an  
3 analysis of the distribution system's fire protection capabilities, which includes fire hydrants and  
4 their mains throughout the Township, conducted by the Insurance Services Organization (ISO) in  
5 2003, found the system to be satisfactory.

6  
7 The Township has entered into a long-term water purchase agreement with the New Jersey -  
8 American Water Company to guarantee additional water resources for the Township as required  
9 by the New Jersey Department of Environmental Protection.

10  
11 In general, the water system is in excellent condition as a result of ongoing programs of  
12 infrastructure rehabilitation and improvements.

13  
14 **Recommendation:** Carry out the 2004 Mumford-Bjorkman Associates' ten-year  
15 capital improvement recommendations.

16  
17 **Recommendation:** When the infrastructure improvements that are now planned have  
18 been completed, a full analysis of the distribution system and its  
19 capabilities should be made.

## 20 21 22 **WASTEWATER COLLECTION AND TREATMENT**

### 23 24 25 **COLLECTION SYSTEM**

26  
27 The existing wastewater management planning area is defined by the municipal boundary except  
28 for the following:

- 29  
30 • A small area in the northeastern section of Livingston Township was incorporated into the  
31 Caldwell Borough Wastewater Management Plan planning area in November of 1990.
- 32  
33 • Small areas in the southeastern section of Livingston Township were incorporated into the  
34 Joint Meeting of Essex and Union Counties' Wastewater Management Plan planning area  
35 in June of 1991 and November of 1997.
- 36  
37 • Sewage from the Fairways development on the western border of Livingston is currently  
38 transferred to the Parsippany-Troy Hills Sewer Treatment Plant.
- 39  
40 • The East Orange Water Reserve lands and Essex County Park Commission lands along  
41 the Florham Park border are excluded from future sewer service.

### 42 43 44 **WATER POLLUTION CONTROL FACILITY**

45  
46 The Township owns and operates its own water pollution control facility. The Sewerage  
47 Treatment Plant is located on Naylon Avenue in the northeast portion of the Township. Seven

1 pumping stations augment gravitational input flow. Treated effluent is discharged to the Passaic  
2 River.

### 3 4 **Permitted Capacity**

5  
6 The State establishes and controls standards for wastewater management by municipalities. The  
7 plant was upgraded in 1987 to provide for Level 4 treatment, and the New Jersey Department of  
8 Environmental Protection (NJDEP) approved a Wastewater Management Plan (WMP) to permit  
9 a 12-month average flow of 4.2 mgd (millions of gallons per day) and a permitted maximum  
10 monthly average flow not to exceed 6.5 mgd.

11  
12 A 1999 WMP identified the need for additional treatment plant capacity for the expected  
13 increase in wastewater flow during the 20-year planning period. That WMP proposed an upgrade  
14 to the plant capacity by 10% to a permitted 12-month average flow of 4.62 mgd.

15  
16 In 2000, the NJDEP approved an amended WMP that addressed the potential development of the  
17 remaining parcels of vacant land within the Township, and a revised, final New Jersey Pollutant  
18 Discharge Elimination System Permit was issued. It allows a 12-month average flow of 4.60  
19 mgd and a maximum monthly average flow of 7.15 mgd.

20  
21 A review conducted in October 2005 showed a current 12-month average flow of 2.41 mgd and a  
22 maximum monthly average of 3.91 mgd.

### 23 24 25 **Effluent Control**

26  
27 The Township tests effluent quality parameters in compliance with NJDEP requirements as  
28 shown in Table VI-1.

29  
30 Table VI-1

<i>Parameter</i>	<i>Frequency of Tests</i>
Volumetric flow	Continuous
Temperature, pH, Chlorine Residual,	Twice per day
Suspended solids, CBOD5, Ammonia, Nitrogen, Nitrate, Dissolved Oxygen, Total Phosphorus	Weekly
Fecal Coliform	Four times per month
Arsenic, Silver, Zinc, Copper, Mercury	Monthly
Lead, Cadmium	Quarterly
Whole Effluent Toxicity.	Semi-annually

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32  
33 In addition, sludge and effluent are screened, on semi-annual and annual schedules, for a variety  
34 of metals, pesticides, volatile organics, and bases.

1 **Sludge Disposal**

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3 Sludge is treated in the Water Pollution Control Facility by anaerobic digestion (at a temperature  
4 of 95° C.) in two 0.6 million gallon digesters. In 2005, 3.3 million gallons of sludge were  
5 removed from the plant and transported in a liquid state to a facility in Newark operated by the  
6 Passaic Valley Sewerage Commission (PVSC). There it is further treated by using high heat, and  
7 disposed of following procedures of the PVSC.  
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9 **Future Population and Flow**

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11 Approximately 0.13 mgd in treatment flow capacity is committed for the vacant commercial  
12 buildings in the Township. Additional projections are based on preliminary or final site plan  
13 approvals and developable vacant land, on environmental constraints, and the Township zoning  
14 ordinance. The estimated increase in flow from build-out of developable land is approximately  
15 0.72 mgd, with 0.16 mgd generated from commercial users. According to the 1999 WMP, the  
16 estimated increase in population from build-out development is 5,678 people. As a result, the  
17 2017 Future Population Served estimate then applied was 32,756 people, and the treatment plant  
18 capacity was projected to be able to serve that population.  
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20 **Septic Systems**

21  
22 Septic systems are used by less than one percent of the households and are scattered throughout  
23 the Township.  
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25 In most cases, when existing septic systems fail the property is tied into the existing Township  
26 sanitary system. No permits have been submitted for installation of new septic systems within  
27 the last fourteen years.  
28

29 **Recommendation:** Establish capital projections for replacement of collection systems  
30 due to normal wear and tear.  
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32 **Recommendation:** Continue to evaluate capacity against population projections.  
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34 **Recommendation:** Evaluate adequacy of plant, and possible improvements or  
35 expansion required, to meet anticipated additional NJDEP  
36 requirements.  
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