

RESOLUTION NO. 2015096

RE: ESTABLISHING ZONES "S" AND "T" ZONES OF ASSESSMENT IN  
THE DUTCHESS COUNTY WATER DISTRICT IN THE  
TOWN OF HYDE PARK, DUTCHESS COUNTY

Legislators MICCIO, SAGLIANO, PERKINS, FARLEY, and IGNAFFO offer the following and move its adoption:

WHEREAS, the New York State Legislature, by Chapter 592 of the Laws of 1991 (§1142, Public Authorities Law), created the Dutchess County Water & Wastewater Authority (WWA), and established the Dutchess County Water District covering all the areas within the boundaries of Dutchess County, and

WHEREAS, the WWA is entering into an Agreement with the Town of Hyde Park, owner of the Greenfields Water System, regarding the WWA's acquisition of that system which is located in the Town of Hyde Park; and

WHEREAS, the WWA's ability to close on this acquisition and provide water service to the customers of the Greenfields Water System is contingent on the creation of two Water District Zones of Assessment encompassing all properties in the said water system, which said Zone of Assessment "S" will include a total of two hundred and eighty-four parcels, consisting of one hundred ninety-four (194) single family residential properties, seventy-nine (79) townhouse properties, eight (8) two-family residences, one water plant parcel, one sewer plant parcel, and one undevelopable vacant parcel; and which said Zone of Assessment "T" will include a total of one hundred and nineteen (119) parcels consisting of one hundred and eighteen (118) vacant townhouse lots and one vacant open space parcel, and

WHEREAS, the WWA has presented to this Legislature a notice of project pursuant to Section 1124 of the Public Authorities Law which outlines the WWA's plan to establish Zones of Assessment "S" and "T" for the Greenfields Water System, located in the Town of Hyde Park, and

WHEREAS, this Legislature has before it a Map, Plan and Report entitled "Map, Plan and Report, County Water District Zones of Assessment "S" and "T" which was submitted to it by the WWA with the Notice of Project pursuant to Section 1124, and

WHEREAS, WWA proposes to enter into a Twelfth Restatement of the Amended Service Agreement with Dutchess County (County), on behalf of the proposed Zones of Assessment "S" and "T" whereby the District will provide water service to customers within the Zones at rates established by WWA, and

WHEREAS, said Map, Plan and Report identifies the parcels to be included in the Zones of Assessment, describes the infrastructure to be used to provide water service, and provides the estimated annual cost for water service for the typical property in the proposed Zones of Assessment, and

WHEREAS, in order to properly allocate the capital costs and assessments within the Greenfields Water System service area, it is necessary to create two Zones of Assessment, Zone of Assessment "S" and Zone of Assessment "T", as described in Attachment A attached hereto, and

WHEREAS, the first year cost to the typical single family home in Zone of Assessment S is estimated to be three hundred and twenty-five dollars (\$325), and

WHEREAS, the first year cost to the typical undeveloped townhouse parcel in Zone of Assessment T is estimated to be zero dollars (\$0.00), and

WHEREAS, this Legislature must create Zones of Assessment "S" and "T" covering the area of the Greenfields Water System described in "Attachment A," and

WHEREAS, this Legislature conducted a public hearing on this proposal on April 13, 2015, and heard all persons interested, and

WHEREAS, the establishment of said Zones of Assessment "S" and "T" will ensure an efficient water system for all properties within the service area, now, therefore, be it

RESOLVED that this Legislature hereby waives the notice provisions of Section 1124 of the Public Authorities Law and by this Resolution consents to this project, and be it further

RESOLVED, that it is hereby determined that all the property and property owners within the proposed Zones of Assessment "S" and "T" are benefited thereby and all the property and property owners benefited are included within the proposed Zones of Assessment "S" and "T" and it is in the public interest to create the Zones of Assessment "S" and "T" in the County Water District, and be it further

RESOLVED, that two Zones of Assessment in the County Water District, to be known as Zones of Assessment "S" and "T" (Greenfields Water) in the Town of Hyde Park, more particularly described in "Attachment A" attached hereto, are hereby established, and be it further

RESOLVED, that this resolution is subject to permissive referendum.

CA-072-15  
CRC/BB/kvh G-1217-N  
3/12/15  
Fiscal impact: see attached statement

STATE OF NEW YORK

ss:

COUNTY OF DUTCHESS

This is to certify that I, the undersigned Clerk of the Legislature of the County of Dutchess have compared the foregoing resolution with the original resolution now on file in the office of said clerk, and which was adopted by said Legislature on the 13<sup>th</sup> day of April 2015, and that the same is a true and correct transcript of said original resolution and of the whole thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and seal of said Legislature this 13<sup>th</sup> day of April 2015.

CAROLYN MORRIS, CLERK OF THE LEGISLATURE

FISCAL IMPACT STATEMENT

NO FISCAL IMPACT PROJECTED

APPROPRIATION RESOLUTIONS  
(To be completed by requesting department)

Total Current Year Cost \$ \_\_\_\_\_

Total Current Year Revenue \$ \_\_\_\_\_  
and Source

Source of County Funds (check one):  
 Existing Appropriations,  Contingency,  
 Transfer of Existing Appropriations,  Additional Appropriations,  Other (explain).

Identify Line Items(s):

Related Expenses: Amount \$ \_\_\_\_\_  
Nature/Reason:

Anticipated Savings to County: \_\_\_\_\_

Net County Cost (this year): \_\_\_\_\_  
Over Five Years: \_\_\_\_\_

Additional Comments/Explanation:

Prepared by: Bridget Barclay, DCWWA

Prepared On: 03/09/15

APPENDIX "A"

DUTCHESS COUNTY WATER DISTRICT  
ZONE OF ASSESSMENT "S"  
*Greenfields Water System*

DESCRIPTION OF ZONE

(map and parcel listing)

The Dutchess County Water District Zone of Assessment "S" shall include all those tax parcels presently indicated on the attached boundary map. These parcels are further described by the following list of tax parcel grid numbers:

6264-02-542510-0000	6264-57-588473-0000	6264-57-568441-0000
6264-02-560508-0000	6264-04-545453-0000	6264-57-609444-0000
6264-01-497502-0000	6264-04-531470-0000	6264-03-473444-0000
6264-02-523511-0000	6264-57-576466-0000	6264-57-604441-0000
6264-01-497513-0000	6264-57-577467-0000	6264-57-570442-0000
6264-04-544484-0000	6264-57-609465-0000	6264-57-562440-0000
6264-04-502480-0000	6264-57-587477-0000	6264-57-564440-0000
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APPENDIX "B"

DUTCHESS COUNTY WATER DISTRICT  
ZONE OF ASSESSMENT "T"  
*Greenfields EAST Water System*

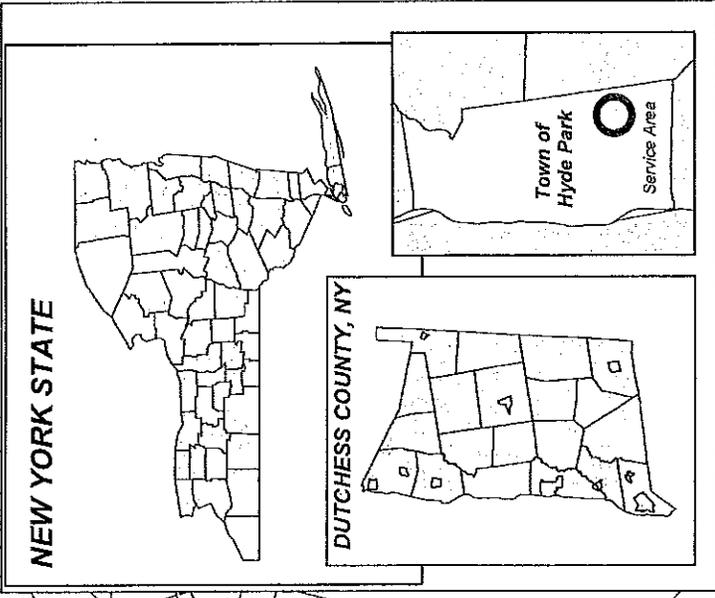
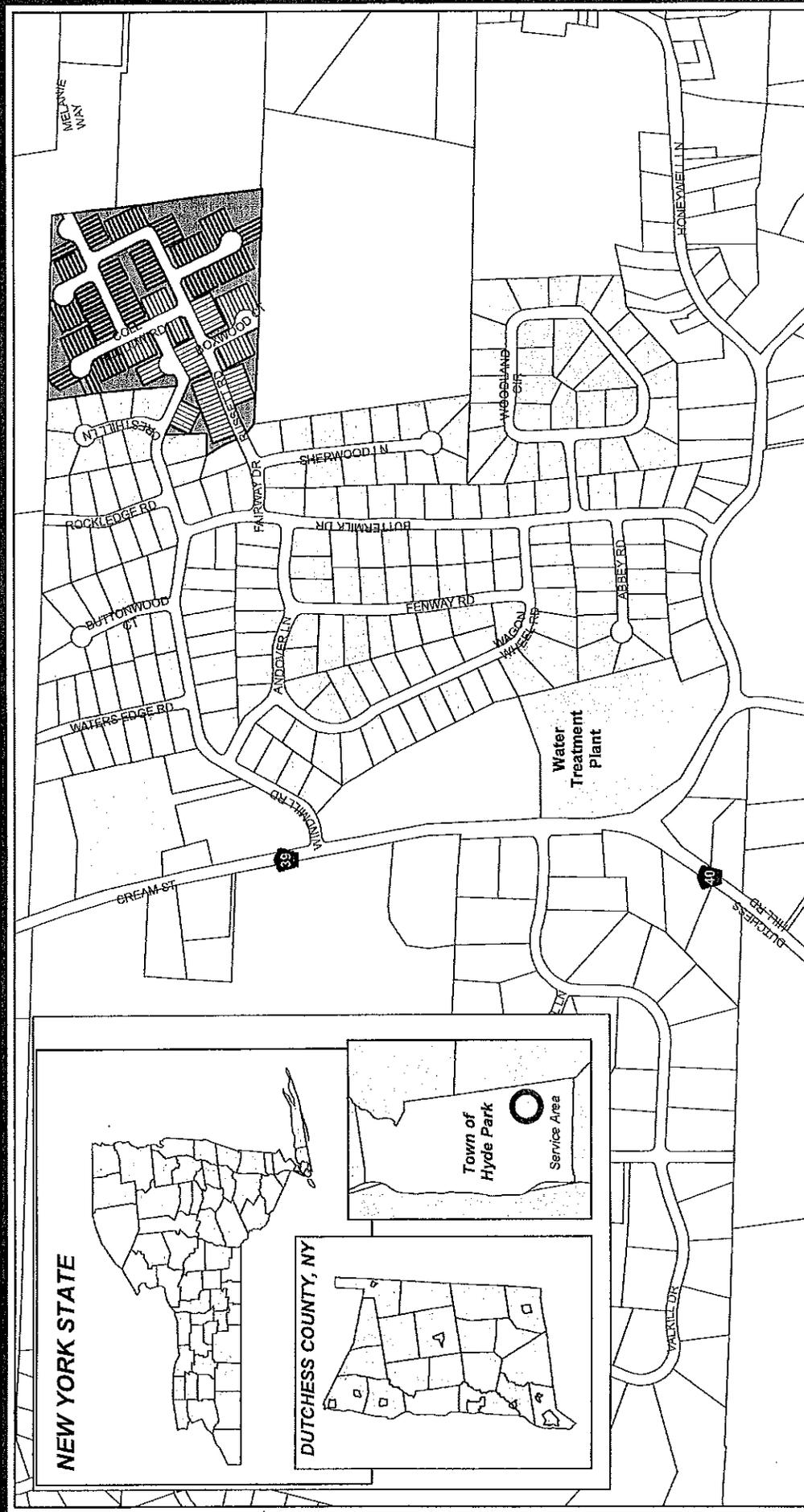
DESCRIPTION OF ZONE

(map and parcel listing)

The Dutchess County Water District Zone of Assessment "T" shall include all those tax parcels presently indicated on the attached boundary map. These parcels are further described by the following list of tax parcel grid numbers:

6264-49-603510-0000	6264-58-626486-0000	6264-57-617449-0000
6264-57-624485-0000	6264-57-583484-0000	6264-58-634448-0000
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<p><b>Greenfields Water System</b> Hyde Park, NY Dutchess County Water District Zone of Assessment S &amp; T</p>	<p>Greenfields Zone "S" Greenfields East Zone "T"</p>	<p><b>DUTCHESS COUNTY</b> Water &amp; Wastewater Authority 27 High Street Poughkeepsie, NY 12601</p>	<p>Sheet No. 1 of 1</p>	<p>Data Source: Dutchess County Real Properties Tax Service Agency Prepared by: Dutchess County Water and Wastewater Authority Drawn By: Jonathan Durkin, Project Engineer Date: February 2015</p>
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**DUTCHESS COUNTY**

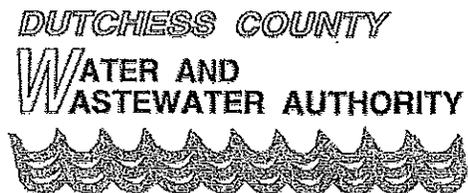
**Proposed County Water District  
Zones of Assessment "S" and "T"**

(Greenfields Water System)  
Hyde Park, NY

**MAP, PLAN AND REPORT**

March 2015

Dutchess County Water and Wastewater Authority  
Poughkeepsie, NY



**PROPOSED COUNTY WATER DISTRICT ZONES OF ASSESSMENT "S" and T  
(GREENFIELDS WATER SYSTEM)**

**MAP, PLAN AND REPORT**

**INTRODUCTION**

This Map, Plan and Report contains the information required for the formation of the proposed County Water District Zone of Assessment "S" (Zone S) and Zone of Assessment T (Zone T.) Together Zones S and T include an area of approximately one hundred twenty (120) acres located southeast corner of the Town of Hyde Park and situated near the intersection of County Route 39 (Cream Street) and Windmill road, all part of the Greenfields residential subdivision. All developable parcels within proposed Zone of Assessment S are developed with residences, while all developable parcels within proposed Zone of Assessment T are vacant. It is anticipated that, when developed, properties in Zone of Assessment T will connect to, and receive water service from, the existing Greenfields Water System, however significant system improvements will be required to meet the additional demand. These improvements will be separately funded by Zone of Assessment T.

Upon successful formation of proposed Zone S and Zone T (the "Zones") by the Dutchess County Legislature, ownership and operation of the Greenfields Water System will transfer to the Dutchess County Water and Wastewater Authority ("DCWWA", "Authority") in accordance with the terms and conditions set forth in an agreement between the Authority and the Town of Hyde Park (Town.) Information provided herein includes the proposed Zone boundaries and a list of the tax parcels that will comprise the future Zones, as well as a description of the current and proposed infrastructure by which potable water will be produced, treated and delivered to customers.

In addition, budgetary estimates for the first year operation and maintenance costs, and capital costs, as well as a cost allocation formula, have been included with this report.

The DCWWA will enter into a contract (the "Service Agreement") with Dutchess County on behalf of the Zones for the purpose of administering the retail sale of water services to all properties within the proposed Zones, with such service to be provided through the water system facilities as described below. The Authority will administer the Zones pursuant to guidelines established by the Service Agreement and collect water revenues. Water service rates will be set annually by the Authority.

**HISTORY**

The Greenfields Water System was originally constructed in the mid-1960s by a private developer. The water system gained its initial approval from the Dutchess County Health Department in 1967 and was modified in 1974. The Town acquired the Water System from the

private developer in 1977, and established the Greenfields Water District. Wells number 11 and 12 were developed under the Town's ownership. The Engineer's Report for the Formation of the Greenfields Sewer District and Water District (July 1976) detailed that the Water System at that time provided service to one hundred and eighty-six (186) developed house lots, sixty-seven (67) developed townhouse lots, and an additional twelve (12) undeveloped house lots and one hundred thirty (130) undeveloped townhouse lots, for a total of 395 developed or developable lots.<sup>1</sup> At the time of this report, there have been constructed one hundred and ninety-four (194) single family residences, eight (8) two-family residences, and seventy-nine (79) townhouses. The undeveloped portion of the project makes up the majority of what is commonly referred to as Greenfields East, and is comprised of one hundred and eighteen (118) townhouse lots and one common open space parcel.

In 2009 the Town entered into an agreement (Greenfields East Agreement dated June 23, 2009) with the then owner ("Developer") of the one hundred and nineteen remaining vacant parcels in the "Greenfields East" section of the Greenfields subdivision. The Agreement stated in part that, "The infrastructure for water and sewer supply within the proposed Greenfields East development and the connection to the existing Greenfields water and sewer systems, and any capital improvements required in the wastewater treatment plant and water treatment plant to accommodate the new development, shall be installed at the sole cost of the Developer and at no cost to the existing homeowners." As of the date of this report, the 118 lots in proposed Zone of Assessment T remain undeveloped.

In 2011 the Town of Hyde Park was awarded a Local Government Efficiency Grant from the New York State Department of State. The purpose of the grant was to support an independent evaluation of the Greenfields Water System, with a focus on opportunities to streamline and improve the service delivery. The grant provided for an engineering evaluation of the system and consideration of the option to transfer the assets and management of the system to the DCWWA (Engineering Evaluation.) Pursuant to the grant, the Town completed a Reorganization Study and Proposed Dissolution Plan for the Greenfields Water District (February, 2015) and, on February 19, 2015 conducted a public hearing on the Study and Plan. On February 23, 2015 the Town Board passed a resolution of intent to transfer ownership and management of the Town's water and sewer systems, including Greenfields Water, to the DCWWA.

#### **COUNTY WATER DISTRICT ZONE OF ASSESSMENT "S"**

The Greenfields Service Area Zone S (Water District Map: Appendix A) consists of two hundred eighty-four (284) properties including one hundred ninety-four (194) detached residential properties, seventy nine (79) attached residential properties, eight (8) two family dwellings, one (1) water treatment plant, one (1) sewage treatment plant, and one (1) undevelopable parcel.

#### **COUNTY WATER DISTRICT ZONE OF ASSESSMENT "T"**

The Greenfields Service Area Zone T (Water District Map: Appendix A) consists one hundred and nineteen (119) properties including one hundred eighteen (118) developable vacant lots and one (1) open space lot.

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<sup>1</sup> A subsequent purchase agreement noted 129 additional undeveloped townhouse lots, for a total of 394 lots.

## **PHYSICAL FACILITIES**

### **Water Supply and Treatment System**

The Greenfields Water System uses ground water from four functional wells, out of the twelve that have been developed over time. The remaining eight wells have been abandoned due to quality and/or quantity concerns. Sodium tri-polyphosphate is added to the water to sequester iron and manganese. The ground water from the wells is disinfected with sodium hypochlorite, and stored in three buried tanks. Water is again disinfected and then sent to the system on demand using system supply pumps and two hydropneumatic tanks. There are no booster stations within the distribution system.

### **Transmission and Distribution**

The Greenfields Water System distribution system, located solely within proposed Zone of Assessment S, includes approximately 4,300 linear feet of 8-inch asbestos cement (AC) pipe and 15,600 linear feet of 6-inch asbestos cement (AC) pipe. Service laterals include ¾-inch copper to the single family residences and individual condominium units within Greenfields. There are currently eighteen flushing hydrants located in the system. The water system as originally designed and built does not provide fire protection.

## **SOURCE CAPACITY AND QUALITY EVALUATION**

The Greenfields Water System has four active groundwater supply wells – Wells 9, 10, 11, and 12. The System formerly included Wells 1 through 8, which have each been abandoned over the years due to either insufficient yield or poor water quality. The four active wells provide variable quality and production capability.

The System has historically had issues with high iron and manganese levels dating back to 1976, when iron and manganese treatment was first recommended. Violations of manganese as well as total iron/manganese were noted in 2001, 2004, 2006, 2007, 2012, 2013 and 2014. Most manganese samples are greater than the New York State MCL of 0.3 mg/L, and the combined iron and manganese levels are above the MCL of 0.5 mg/L as well. Official correspondence from DCDOH regarding the exceedences began in 2001, when levels of both iron and manganese exceeded the DOH requirement, and DOH required that the System provide an iron and manganese treatment facility.

There is currently no physical removal process for iron and manganese at the facility. However, sodium tri-poly phosphate is used to sequester iron and manganese, with some effectiveness according to historical reports. While the Town Engineer, Morris Associates, maintains that this form of treatment is in accordance with 10 State Standards, DCDOH has continued to issue violation notices, most recently in 2014, for failure to install suitable treatment. The effectiveness of the sequestering agent will need to be monitored moving forward to determine if additional action will be required. Additionally, Morris Associates has noted (in a 2004 report) that bacteria has been a problem in the distribution system, most likely due to iron and manganese reducing chlorine levels in the distribution system.

The installation date and depth of the wells are based on a Well Supply Application and Permit submitted in 1987 several years after the Town took ownership of the System. The following is a summary of the four active wells:

- Well 9 – An 8-inch diameter 265-foot deep bedrock well installed in 1975 with a recent production of 36 gpm (Well completion report in 1975 listed the rated source capacity as 90 gpm.)
- Well 10 – A 200-foot deep bedrock well installed in 1977 with a recent production of 34 gpm (Rated capacity was originally listed as 25 gpm but the well was deepened in 2002 and re-tested and noted as 75 gpm.)
- Well 11 – A 240-foot deep bedrock well installed in 1980 with a recent production of 44 gpm (Estimates of the actual rated capacity were unavailable.)
- Well 12 – A 300-foot deep bedrock well installed in 1984 with a recent production of 34 gpm (The 1984 installation report noted the source capacity as 50 gpm)

There have been no recent pump tests completed to determine the actual yield of the wells, and recent operating information has suggested that the actual yields are much less than the original reported yields.

According to 10 States Standards, the total developed groundwater source capacity shall equal or exceed the design maximum day demand with the largest producing well out of service. Average and maximum day demands for the current customer base (proposed Zone S) were calculated using the most recent consecutive 12-months of data available as of the preparation of the Engineering Evaluation. Average day demand during the period was 42,723 gallons per day (gpd) or 30 gallons per minute (gpm) and the maximum day demand was 70,200 gpd or 49 gpm. With the largest production well out of service (Well 9), the total groundwater source capacity is 112 gpm, which meets the maximum day demand of 49 gpm. However, the Engineering Evaluation notes that, based on a review of historical documentation, there are several additional factors that must be considered as it relates to the adequacy of the Greenfields supply:

1. Recharge of aquifer – A 2005 report by HDR (Greenfields Water District Hydrogeologic Study) indicated that, during periods of drought, the production rate of the wells exceed the recharge rate of the aquifer. This problem was observed in the summer of 1999, when Well 10 reportedly went dry during drought conditions, and again in 2002, when water had to be trucked into the System. Following this time, Well 10 was deepened by 100 feet. In September 2005, a significant reduction in yield from Wells 9 and 11 were reported. Most recently, the System experienced a source capacity issue when both Wells 10 and 11 were experiencing operational problems.

2. Well Capacity over time – As noted previously, prior to Wells 9 through 12, the original System wells (1 through 8) were abandoned due to water quality or production issues that developed over the lifetime of the well. Also, current production rates for the wells versus the original rated capacities suggest that the capacity of the wells may be decreasing over time.

There is limited atmospheric storage provided by three 15,000 gallon water storage tanks, which provides a limited amount of emergency storage. Under maximum day demand, the current storage would provide water for approximately 0.6 days if none of the groundwater wells were operating. Based on the average day demand of 42,723 gpd and the total atmospheric storage volume of 45,000 gallons, the average residence time of the tanks is approximately 1.1 days.

### **FUTURE DEMAND**

All developable parcels within proposed Zone of Assessment S have been developed, and there are no plans to expand Zone S beyond the current service area. There is the potential for the development of 118 parcels, within the "Greenfields East" area, proposed Zone of Assessment T. Based on accepted water demand design standards, the anticipated potential future flows as the result of development of the proposed Zone of Assessment T parcels are 82,000 gpd (57 gpm) average day demand and 135,000 gpd maximum day demand (94 gpm). Based on the capacity related issues of the existing wells, developing the remaining 118 parcels would strain the capacity of the wells beyond an acceptable level, and would potentially exacerbate the existing water quality related issues. In 1985 a Dutchess County Department of Health directive prohibited additional connections to the existing system due to the limit on the available source of supply. The Engineering Evaluation has recommended that additional sources of supply would be required prior to connection of additional services to the existing system. The Engineering Evaluation further recommended that a hydrologic study be completed to determine the current capacity of the groundwater wells.

### **FUTURE CAPITAL ISSUES**

The Engineering Evaluation of the Greenfields Water System, completed as part of the Reorganization Study, and included as Appendix A to the Study, included recommendations for system improvements, organized by priority level.

#### **Source and Treatment Improvements**

The Engineering Evaluation identified several mechanical and safety issues that need to be identified immediately. DCWWA proposes to undertake the following improvements during the first year of system ownership, funded by current dollars and system fund balance:

- Install Lockable Well Caps
- Provide Fire Extinguisher
- Provide Eye Wash Station
- Install Screen Vents on Atmospheric Tanks
- Provide Lock on Atmospheric Tank Manhole
- Conduct Iron and Manganese Sampling for Raw Water
- Replace Piping in Building
- Protection for Propane Piping
- Flow Test Wells to Determine Capacity
- Install Level Instruments for Wells
- Replace Flow Meters
- Regrade Around Wells #9, 10 and 11

- Provide Redundant Metering Pump
- Clean and Inspect Atmospheric Tank
- Replace Emergency Light Fixture
- Install Dehumidifier and Sump Pump
- Repair Well #9 Conduit

Total Estimated Expense: \$110,000

Further evaluation of water quantity and quality issues will be required to determine the nature and scope of future improvements. As identified above, the DCWWA will install level instruments for wells and undertake flow testing to better quantify the current capacity of the wells. Iron and manganese sampling of raw water will provide additional information to assess necessary actions to address high iron and manganese levels. The effectiveness of the sequestering agent will need to be monitored moving forward to determine if additional action will be required.

The Engineering Evaluation identified additional treatment systems to be made over the next five years, including replacement of the booster pump skid, replacement of the control panel boards, and repairs to the treatment building including replacement of the roof. The estimated cost for these items is approximately two hundred thousand (\$200,000.) DCWWA recommends that the replacement of the booster pump skid and electric panel boards, and building repairs and improvements be deferred until a determination is made of the most appropriate response to the iron and manganese issue, as the selection of the option could significantly impact the system's treatment building, pumping capacity and electrical requirements.

### **Distribution System**

While the number and location of hydrants is generally sufficient for flushing purposes, there are five dead ends in the system that lack flushing hydrants. The Engineering Evaluation recommended that over the long term (next twenty years) five additional flushing hydrants be installed.

### **Improvements for Zone of Assessment T**

It is anticipated that, when developed, properties in Zone of Assessment T will connect to, and receive water service from, the existing Greenfields Water System, however significant system improvements will be required to meet the additional demand.

As noted above, potential future demands from the development of the Zone of Assessment T parcels would strain the capacity of the wells beyond an acceptable level and would likely exacerbate the existing water quality related issues. Accordingly, it is recommended that additional sources of supply would need to be developed to support the development of the 118 existing vacant lots. Also, any new townhouse or condominium type construction would be required to be constructed in accordance with current standards, which require adequate fire protection. Accordingly, the storage capacity of the system would also need to be upgraded to supply the potential expansion. Dutchess County Department of Health would be unlikely to

allow expansion of the existing service area without installation of an iron and manganese removal system.

At the time of this report, there are no water distribution facilities within proposed Zone of Assessment T. Water mains, hydrants and other appurtenances, and individual service laterals would need to be constructed to support the development of the 118 existing vacant lots.

A 2007 study ("Cost Evaluation Study for Greenfields Water District Extension to Serve Future Townhouses," Morris Associates, P.S., L.L.C., October 2007) estimated total source, treatment, storage and distribution system improvements required to provide water service to proposed Zone of Assessment T would be \$1,715,000. Applying the ENR construction cost index to update the costs to current (February 2015) values results in a capital cost estimate of approximately \$2,150,000.

As there are no current plans before the Town to develop the vacant lots in proposed Zone T estimated capital improvement costs provided are order-of-magnitude only. Actual costs will depend on the timing of the development, type of construction, and consideration of all applicable standards at the time of development.

### **PROJECTED CAPITAL COSTS AND ALLOCATIONS**

The Greenfields Water District currently has no outstanding bonded indebtedness. The initial improvements and water quality and quantity investigations will be funded through system fund balance and current revenues.

It is anticipated that additional capital improvements to the system will be required, the scope of which will depend on the course of action determined to address the iron and manganese issues, and the extent to which additional well improvements must be made. Upon the determination of the scope and cost of the improvements, DCWWA would issue bonds to finance the project.

Further, as discussed above, significant capital improvements to source, treatment, storage and distribution systems will be required to provide capacity for the development of vacant parcels in Zone T. These improvements may be financed by the project developer, by bonds issued by the DCWWA on behalf of Zone of Assessment T, or by a combination of the two.

For any bonds issued by the DCWWA, an annualized capital cost, being the cost to pay debt service and associated administrative charges, will be apportioned between the two Zones of Assessment in a manner proportionate to the benefit to be received by each Zone of Assessment. System improvements to provide for water distribution within Zone T, and to provide additional source, treatment and storage capacity to meet the needs of Zone T, will be apportioned solely to Zone of Assessment T. The capital costs apportioned to each Zone will then be allocated equitably among all parcels within each respective Zone of Assessment through the assignment of benefit units to each parcel. The methodology for the assignment of benefit units is attached (see Appendix C.)

### **OPERATION AND MAINTENANCE (O&M) COSTS**

The O&M Budget Projection is the total cost to the DCWWA to operate the Greenfields Water System; ground water withdrawal, chemicals, electricity, alarms, laboratory fees, labor, insurance, typical repairs and other ongoing costs. The DCWWA has developed an O&M budget projection to illustrate estimated First Year costs of the Greenfields Water System under Authority ownership, based on the Authority's prior operating expenses and history for comparable size water systems, and possible anticipated repairs to the system. A copy of the O&M budget projection, using 2015 as a base year for demonstration purposes of those First Year costs, has been included as Appendix "B". The first year operational cost (2015 dollars) is estimated at \$91,702. With 281 connected customers, and assuming collection of late fees at historical levels, the cost per a typical single family residential customer would be three hundred and twenty-five dollars per year (\$325.)

Should the system ownership be transferred mid-year, the budget would be pro-rated for the portion of the year DCWWA would own the system. All future O&M system budgets, rates, fees and other charges are reviewed annually and subject to change by the DCWWA Board of Directors.

### **CONNECTION CHARGES**

For any properties within the proposed Zones of Assessment that are not connected and receiving water service from the Greenfields Water System at the time that the Authority acquires the Water System, an "Application for Water Service" and a related fee will be required at the time water service is requested. Generally, for a typical residential connection, the costs for the water meter, plan review and/or inspections, and tap on the main are covered by the Water Service Application (tapping fee) fee which is paid by the property owner to the DCWWA at the time of their request for service. As of the date of this report, the application fee for a standard ¾-inch water service connection is \$500 per service and is a one-time charge. The cost to install, repair and/or maintain the water service line from the Authority's curb valve to the property owner's house or other structure shall be the sole responsibility of the respective property owner.

### **Annual Cost per a Typical Property – First Year**

The total annual cost for a typical property in a zone is generally a combination of the long-term capital charges (debt service) and water usage charges.

In the proposed Zone of Assessment S a typical property will be a single family dwelling unit. Given the assumptions and estimates described above, the projected "First Year" total cost for a typical single family dwelling, on less than three (3) whole acres, in County Water District Zone of Assessment S will be three hundred and twenty five dollars (\$325.) A system budget based on these rates will build appropriate fund balances to maintain the public water system in good working order.

At this time, as there are no developed parcels within Zone of Assessment T, and no capital charges against the parcels in the Zone, the First Year cost for a typical parcel in Zone T, a vacant residential parcel, is zero (\$0.00.)

## APPENDICES

Appendix A – Description of County District Zone of Assessment S and T (Map & Parcel List)

Appendix B – Description of County District Zone of Assessment T (Map & Parcel List)

Appendix C – Proposed Operation & Maintenance Budget

Appendix D - Proposed Benefit Assessment Methodology

APPENDIX "A"

DUTCHESS COUNTY WATER DISTRICT  
ZONE OF ASSESSMENT "S"  
*Greenfields Water System*

DESCRIPTION OF ZONE

(map and parcel listing)

The Dutchess County Water District Zone of Assessment "S" shall include all those tax parcels presently indicated on the attached boundary map. These parcels are further described by the following list of tax parcel grid numbers:

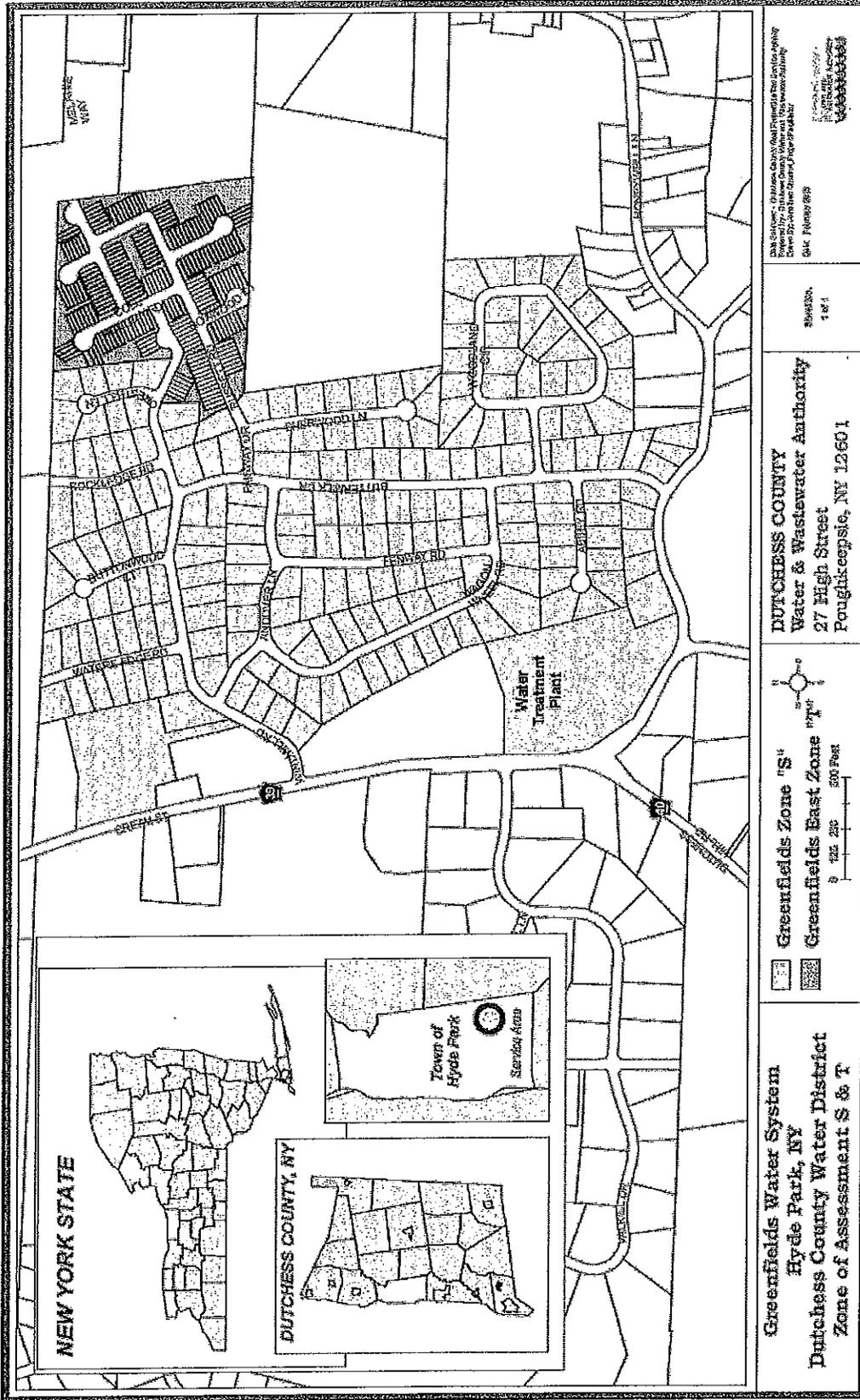
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**APPENDIX "B"**

**DUTCHESS COUNTY WATER DISTRICT  
ZONE OF ASSESSMENT "T"  
*Greenfields EAST Water System***

**DESCRIPTION OF ZONE**

**(map and parcel listing)**

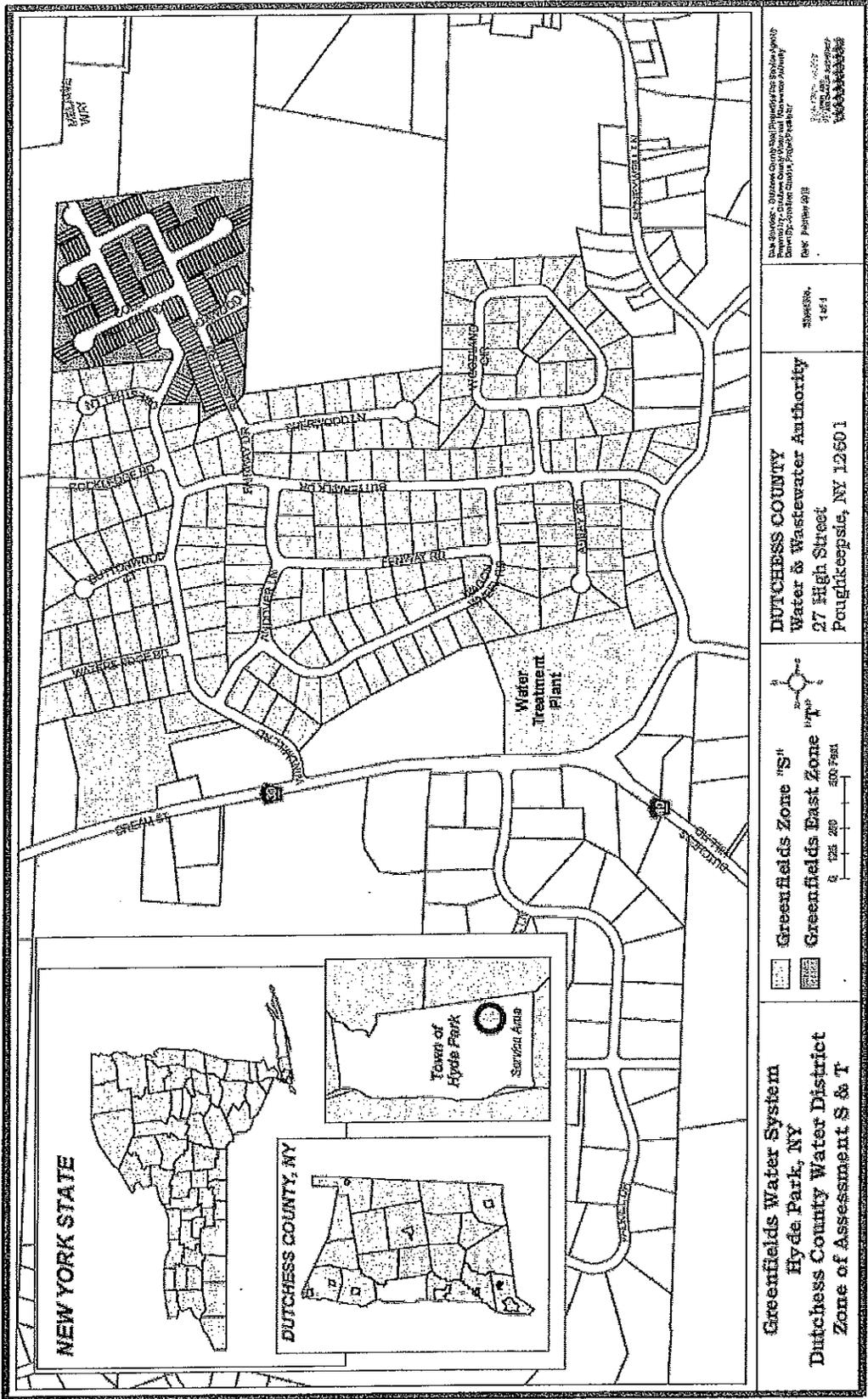
The Dutchess County Water District Zone of Assessment "T" shall include all those tax parcels presently indicated on the attached boundary map. These parcels are further described by the following list of tax parcel grid numbers:

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6264-58-628469-0000



**APPENDIX "C"**

Greenfields Water System

Proposed Operation & Maintenance Budget

**DCWWA 2015 BUDGET PROJECTION**  
**Greenfields Water District**

<b>Beginning Fund Balance</b>	<b>139,031</b>
<b>Annual Expenses</b>	<b>91,702</b>
Power/Chemicals	18,270
Operations	25,215
ERM	20,500
Lab/Sampling/Permit	5,348
Administration	20,619
Legal/Engineering	750
Insurance	1,000
<b>Annual Revenues</b>	<b>91,702</b>
Water Sales/Penalties	91,702
Transfer from Fund Balance	-
<b>Ending Fund Balance</b>	<b>139,031</b>

**APPENDIX "D"**

Greenfields Water System (Dutchess County Water District Zones of Assessment S and T)

**Proposed Benefit Assessment Methodology  
COUNTY WATER DISTRICT  
ZONES OF ASSESSMENT C, D, H, M, O, P, Q, R, S, T and U (Not J or K)**

**PART COUNTY SEWER DISTRICT #1, 2, 3, 6 & 7**

**BENEFIT ASSESSMENT METHODOLOGY**

**DEVELOPED LAND (Use the higher of either LAND USE/WATER USE or ACREAGE)**

**LAND USE/WATER USE**

**RESIDENTIAL**

**FIRST DWELLING UNIT 10**  
**EACH ADDITIONAL DWELLING UNIT 8**

**COMMERCIAL/INSTITUTIONAL:**

**FIRST 500 GPD WATER USAGE 20**  
**EACH ADDITIONAL 100 GPD 4**

**ACREAGE**

**FIRST 2 ACRES 10**  
**EACH ADDITIONAL WHOLE ACRE 2**

**UNDEVELOPED LAND**

**FIRST 2 ACRES 8**  
**EACH ADDITIONAL WHOLE ACRE 2**

**STATE PARK LANDS**

**FIRST 500 GPD WATER USAGE 20**  
**EACH ADDITIONAL 100 GPD 4**