

GREEN CREEK TOWNSHIP

The township is located in the southeast central area of Sandusky County and the 2010 census stated that 3,646 people live in the unincorporated portions of the Township. The total land area is 35.1 square miles at an elevation of 643 feet. Most of the City of Clyde is located in the eastern area of the township and part of the Village of Green Springs is in the southwestern area.

The City of Clyde's 2010 Census listed the population at 6,325 and its total land area is at 5.04 square miles at an average elevation of 696 feet. There are 1,255 people per square mile. Additional demographic and population projections for both Green Creek Township and the City of Clyde are as follows:

	2010 Census	Square Mile	Population/ Square Mile	MHI	LMI %
Green Creek Township	3,646	35.1	103.8	\$57,103	37.2
City of Clyde	6,325	5.04	1,255	\$46,827	38.4
Village of Green Springs	1,368	1.21	1,131	\$39,470	39.9

	2010 Population	2010 Estimated Water Demand (100 gpcd)	2010 Estimated Water Demand/ Square Mile	2030 Population Estimate*	2030 Estimated Water Demand (100 gpcd)	2030 Estimated Water Demand/ Square Mile
Green Creek Township	3,646	364,600 gpd	10,387 gpd	3,431	343,100 gpd	9,775 gpd
Village of Clyde	6,325	632,500 gpd	125,496 gpd	5,952	595,200 gpd	118,095 gpd
Village of Green Springs	1,368 (738)**	136,800 gpd	113,058 gpd	1,287 (694)**	128,700 gpd	106,363 gpd
* Ohio Department of Development - Sandusky County Projected Rate of Change - .059% to 2030						
** Part of the community that is in Sandusky County						

In anticipation of future growth contiguous to the Sandusky County Regional Airport, the Green Creek Township Trustees (as well as the Airport Board, Comprehensive Plan Advisory Board, and County Commissioners) selected an area around the airport as an Airport-related growth area.

Denoted as such, it is encouraged that future land uses in this growth area be airport-related and be a "value-added" asset for the regional airport. Such examples of land uses and development "user-friendly" to airport operations are:

- ▶ Fixed Base Operator
- ▶ Air Freight Terminals and Air Cargo Forwarders
- ▶ Aircraft & Parts Manufacturers and Aircraft Repair Shops
- ▶ Aerial Survey Companies
- ▶ Aviation Research & Testing
- ▶ Trucking Terminals and Taxi & Bus Terminals
- ▶ Car Rental Agencies
- ▶ Restaurants and Motels
- ▶ Storage Facilities, Warehouses and Wholesale Distribution Centers
- ▶ Golf Courses

Another area north of Dewey Road to US 20 is also selected as a growth area and is designated as such to encourage airport-related (if possible) development.

The portion of the Fremont-Clyde-Bellevue corridor that runs through Green Creek Township is also a likely candidate for growth. The area between US 20 and the parallel railway is ripe for industrial and commercial growth. The township should expect to see the City of Fremont and the City of Clyde expand through this corridor over the long term.

The township is also looking for some growth along SR 19 north of Green Springs, whether for commercial or residential purposes because of the proximity to existing water and sewer.

Clyde City officials selected a variety of industrial growth areas to be included in the future land use map. These areas, as denoted on the Future Land Use map, are primarily located on the US 20 corridor and are contiguous to the city's boundaries, with utilities and infrastructure readily available. Residential growth areas were selected in areas adjacent to existing residential uses and currently served with public utilities.

Green Springs wishes to encourage growth in areas most suitable to the village's existing infrastructure, village officials designated areas at the northern-most boundary limits as future growth areas. Village officials indicated a desire to let the market dictate the appropriateness of the development, providing it is compatible with the village's ability to properly serve it with public utilities.¹

Groundwater Resources - Green Creek Township is divided by two different carbonate aquifers. The eastern half of the township has bedrock at 50 to 80 feet which would require wells to be drilled for municipal and/or industrial use down to 250 feet. This area's water quality is high in hardness, dissolved solids, hydrogen sulfide, and sulfates. Bedrock in the western half of the township ranges between 80 to 125 feet. The Village of Green Springs has abandoned their well supply and water treatment plant.

Surface Water Resources - Green Creek and South Creek provide surface water drainage west of Clyde and both of the streams flow north into Riley Township. Raccoon Creek also flows north through the City of Clyde and provides drainage for Clyde and the southeast area of Green Creek Township.

Public Water Systems - The City of Clyde is the primary water supplier in Green Springs. Clyde provides potable water to the Village of Green Springs which the northern portion of the Village is in the Township. The Clyde water plant is located at 1041 Smith Street. The raw water source is from Beaver and Raccoon Creek. The water is pumped and stored in two reservoirs with a total capacity at 900 million gallons. The facility provides settling, softening, recarbonation, disinfection, and fluoridation. The plant design is at 2.40 mgd with an average daily flow currently at 1.50 mgd and the peak daily demand is 1.8 mgd. Additional capacity is currently available. There are no private public water systems in Green Creek Township.

The Northern Ohio Rural Water Authority provides potable water to rural areas within the township.

Wastewater Treatment Systems - The City of Clyde provides secondary wastewater treatment at an average daily design flow of 1.9 mgd. The facility is located at 749 West McPherson Highway and the effluent discharge is to Raccoon Creek. The City of Clyde provides treatment for the Village

of Green Springs. The treatment facility's design capacity is at 4.8 mgd with an average daily flow at 1.9 mgd. The process consists of an oxidation ditch, clarifiers, tertiary lagoons, and disinfection. The peak flow has been as high as 4.0 mgd which is well below the facility's peak flow capabilities. Clyde should be able to provide service for some future service areas. There are two (2) private Ohio EPA permitted wastewater plants in Green Creek Township. R&E Entertainment, Inc. located at 2460 West McPherson Highway operates a 2,000 gpd packaged treatment plant that discharges to an unnamed tributary of Green Creek. Cornerstone Industries Group located at 767 State Highway 19 discharges into a tributary to Green Creek at a design flow rate of 3,000 gpd.

Proposed Water Service

Water service needs within Green Creek Township would be provided by the City of Clyde or Northern Ohio Rural Water Authority. There are no planned water service connections at the present time.

Critical Sewage Areas:

The Sandusky County Health Department, Ohio EPA, and TMACOG has identified Critical Sewage Areas which would include failed or failing onsite sewage systems. System failures could lead to surface and/or groundwater contamination or public health nuisances. These areas have been determined to be places where onsite sewage problems cannot be solved by conventional system upgrade or replacement. These areas became a priority for the Health Department and Ohio EPA to conduct sanitary surveys and general plans for providing public sanitary collection system and treatment alternatives.

Woodland Heights (SA-06), Limerick Road (SA-17), and Timpe/Township Line/Cole Roads (SA-16) have been identified as Critical Sewage Areas in Green Creek Township. The first two (2) critical areas are in the City of Clyde's 208 Planning Area. The Timpe/Township Line/Cole Roads (SA-16) Critical Sewage Area is mostly in Ballville Township, but Township Line borders Green Creek Township.

Proposed Sanitary Sewer Service

The Woodland Heights (SA-06) Critical Sewage Area is located west of the City of Clyde southwest of the intersection of Dewey Road and Woodland Avenue. Franks Avenue, Coe Road, and a

portion of Woodland Place are also unsewered and are included in this Critical Sewage Area. This area has approximately 40 residences.

The Limerick Road (SA-17) Critical Sewage Area is on the south side of the City of Clyde. The area extends to the intersection of South Ridge Road. The area along State Route 101 south to South Ridge Road is also in the planning area the Limerick Road area consists of approximately 50 homes at this time.

The Timpe/Township Line/Cole Roads (SA-16) Critical Sewage Area is discussed more thoroughly in the Ballville Township section. For Green Creek Township, only Township Line Road is included.



- SA-06 Exist MH
- SA-06 Prop MH
- SA-06 Exist Sanitary
- SA-06 Prop Sanitary



D. HEYMAN
4/27/2014
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PLATE15.MXD

**CRITICAL AREA- SA-06
GREEN CREEK TOWNSHIP
SANDUSKY COUNTY, OHIO
PLATE B-1**

**SANDUSKY COUNTY
COMPREHENSIVE WATER & SEWER
GENERAL PLAN**



Estimated construction costs for sanitary sewer service are listed as follows:

TABLE B-1 GREEN CREEK TOWNSHIP CRITICAL AREA SA-06 CONVENTIONAL GRAVITY SEWER					
Item No.	Description	Quantity	Unit	Unit Cost	Cost
1	12" Sewer Pipe	1,010	L.F.	\$85	\$85,850
2	8" Sewer Pipe	2,470	L.F.	\$65	\$160,550
3	Manholes	15	Each	\$3,500	\$52,500
4	Service Laterals	48	Each	\$1,100	\$52,800
5	Connection to Existing Manholes	2	Each	\$5,000	\$10,000
6	Asphalt Pavement Replacement	404	S.Y.	\$40	\$16,160
7	Driveway Replacement	548	S.Y.	\$45	\$24,660
8	Preconstruction Video	1	L.S.	\$2,500	\$2,500
9	Traffic Maintenance	1	L.S.	\$7,500	\$7,500
10	Mobilization and Bonds	1	L.S.	\$27,000	\$27,000
	SUBTOTAL				\$353,670
	Contingencies (10%)				\$35,367
	TOTAL OPINION OF CONSTRUCTION COST				\$389,037
	Other Fees (20%) Legal, Design, Engineering, Financing, Construction Observation, Testing, Interest During Construction, and Review Fees				\$70,734
	TOTAL OPINION OF PROBABLE COSTS				\$459,771



- SA-17 Exist MH
- SA-17 Prop MH
- SA-17 Exist Sanitary
- SA-17 Prop Sanitary



D. HEYMAN
4/27/2014
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PLATE 16.MXD

**CRITICAL AREA- SA-17
GREEN CREEK TOWNSHIP
SANDUSKY COUNTY, OHIO
PLATE B-2**

**SANDUSKY COUNTY
COMPREHENSIVE WATER & SEWER
GENERAL PLAN**



TABLE B-2
 GREEN CREEK TOWNSHIP
 CRITICAL AREA SA-17
 COLLECTION BY CONVENTIONAL GRAVITY SEWERS
 FLOWS TREATED AT CLYDE WWTP

Item No.	Description	Quantity	Unit	Unit Cost	Cost
1	15" Sewer Pipe	1,585	L.F.	\$95	\$150,575
2	12" Sewer Pipe	3,043	L.F.	\$85	\$258,655
3	8" Sewer Pipe	4,111	L.F.	\$65	\$267,215
4	Manholes	25	Each	\$3,500	\$87,500
5	Service Laterals	83	Each	\$1,100	\$91,300
6	Connection to Existing Manholes	2	Each	\$5,000	\$10,000
7	Asphalt Pavement Replacement	119	S.Y.	\$40	\$4,760
8	Driveway Replacement	930	S.Y.	\$45	\$41,850
9	Preconstruction Video	1	L.S.	\$2,500	\$2,500
10	Traffic Maintenance	1	L.S.	\$7,500	\$7,500
11	Mobilization and Bonds	1	L.S.	\$27,000	\$27,000
	SUBTOTAL				\$539,625
	Contingencies (10%)				\$53,963
	TOTAL OPINION OF CONSTRUCTION COST				\$593,588
	Other Fees (20%) Legal, Design, Engineering, Financing, Construction Observation, Testing, Interest During Construction, and Review Fees				\$107,925
	TOTAL OPINION OF PROBABLE COSTS				\$701,513

The Critical Sewage Area SA-16 which is located in Ballville Township as illustrated on Plate B-3 has been included in the Green Creek Township section due to its proximity to the township line. The project area estimate for the sewers on County Road 198 is listed on Table B-3.



- SA-18 Proposed Grinder Pump
- SA-18 Proposed Manhole
- SA-18 Proposed Forcemain
- SA-18 Proposed Sanitary
- Existing Gravity Sewers
- Existing Forcemain



D. HEYMAN
4/27/2014
PDG JOB# 3185-039
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CRITICAL AREAS - SA-16 & SA-18
BALLVILLE AND GREEN CREEK AND SANDUSKY TOWNSHIPS
SANDUSKY COUNTY, OHIO
PLATE B-3

**SANDUSKY COUNTY
COMPREHENSIVE WATER & SEWER
GENERAL PLAN**



Estimated construction costs for sanitary sewer services on County Road 198 are listed as follows:

TABLE B-3 BALLVILLE TOWNSHIP COUNTY ROAD 198					
Item No.	Description	Quantity	Unit	Unit Cost	Cost
1	8" Sewer Pipe	2,842	L.F.	\$65	\$184,730
2	Manholes	7	Each	\$3,500	\$24,500
3	Service Laterals	33	Each	\$1,100	\$36,300
4	Grinder Pumps	3	Each	\$7,500	\$22,500
5	Force Main 1 ½"	1,000	L.F.	\$20	\$20,000
6	Asphalt Pavement Replacement	19	S.Y.	\$40	\$760
7	Driveway Replacement	268	S.Y.	\$45	\$12,060
8	Preconstruction Video	1	L.S.	\$2,000	\$2,000
9	Traffic Maintenance	1	L.S.	\$3,500	\$3,500
10	Mobilization and Bonds	1	L.S.	\$13,500	\$13,500
	SUBTOTAL				\$319,850
	Contingencies (10%)				\$31,985
	TOTAL OPINION OF CONSTRUCTION COST				\$351,835
	Other Fees (20%) Legal, Design, Engineering, Financing, Construction Observation, Testing, Interest During Construction, and Review Fees				\$63,970
	TOTAL OPINION OF PROBABLE COSTS				\$415,805

TABLE B-4
 COUNTRY CLUB ESTATES (COUNTY ROAD 198) AREA - SA-18
 CONVENTIONAL GRAVITY, LOW PRESSURE, PUMP STATION, AND FORCE MAIN

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
1	10" Gravity Sanitary Sewers	2,382	L.F.	\$75	\$178,650
2	6" Sanitary Laterals	1	Each	\$1,300	\$1,300
3	Manholes	7	Each	\$3,500	\$24,500
4	Asphalt Pavement Replacement	19	S.Y.	\$40	\$760
5	Driveway Replacement	268	S.Y.	\$45	\$12,060
6	Storm Sewer Replacement	300	L.F.	\$11	\$3,300
7	1 ½" Service Line	1,300	L.F.	\$12	\$15,600
8	3" Force Main	200	L.F.	\$13	\$2,600
9	Grinder Pump	15	Each	\$7,200	\$108,000
10	Flushing Connection	3	Each	\$750	\$2,250
11	12" Steel Casing Pipe	120	L.F.	\$250	\$30,000
12	Seeding, Mulching, & Rest.	1	L.S.	\$20,000	\$20,000
13	Preconstruction Video	1	L.S.	\$2,000	\$2,000
14	Traffic Maintenance	1	L.S.	\$3,500	\$3,500
15	Mobilization and Bonds	1	L.S.	\$20,000	\$20,000
	SUBTOTAL				\$424,520
	Contingencies (10%)				\$42,452
	TOTAL OPINION OF CONSTRUCTION COST				\$466,972
	Other Fees (20%) Legal, Design, Engineering, Financing, Construction Observation, Testing, Interest During Construction, and Review Fees				\$84,904
	TOTAL OPINION OF PROBABLE COSTS				\$551,876
	Notes: Project estimate assumes no rock excavation required and abandonment of septic tanks is the responsibility of the homeowner				