Barrow County

North Barrow, SR 211 Corridor Sanitary Sewer Basin Study – Short-Term Needs

February 2020

Barrow County
Board of Commissioners
Barrow County Historic Courthouse
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Prepared By:

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Contents

I. Introduction

The Purpose of this report is to present the Barrow County Board of Commissioners the probable short-and long-term build out wastewater flows in the Barrow County, S.R. 211 Corridor study area and project major required sewer lines, sizes and locations within the area. Moreover, the study evaluates the Town of Braselton's existing and proposed infrastructure in the area that would logically receive the flows from future Barrow County sewer facilities in its collection basin. In addition, the Barrow County Board of Commissioners will be provided with a planning and engineering tool to provide framework for future projects in the S.R. 211 Corridor Sanitary Sewer Basin.

II. Location

The S.R. 211 Corridor Sanitary Sewer Basin is located in northwest Barrow County, Georgia along S.R. 211 and S.R. 124 and bounded on the southern side by Dee Kennedy Road, Flanagan Mill Road and Clyde Boyd Road. It is the grey shaded area in the general location map provided in **Figure 1**.

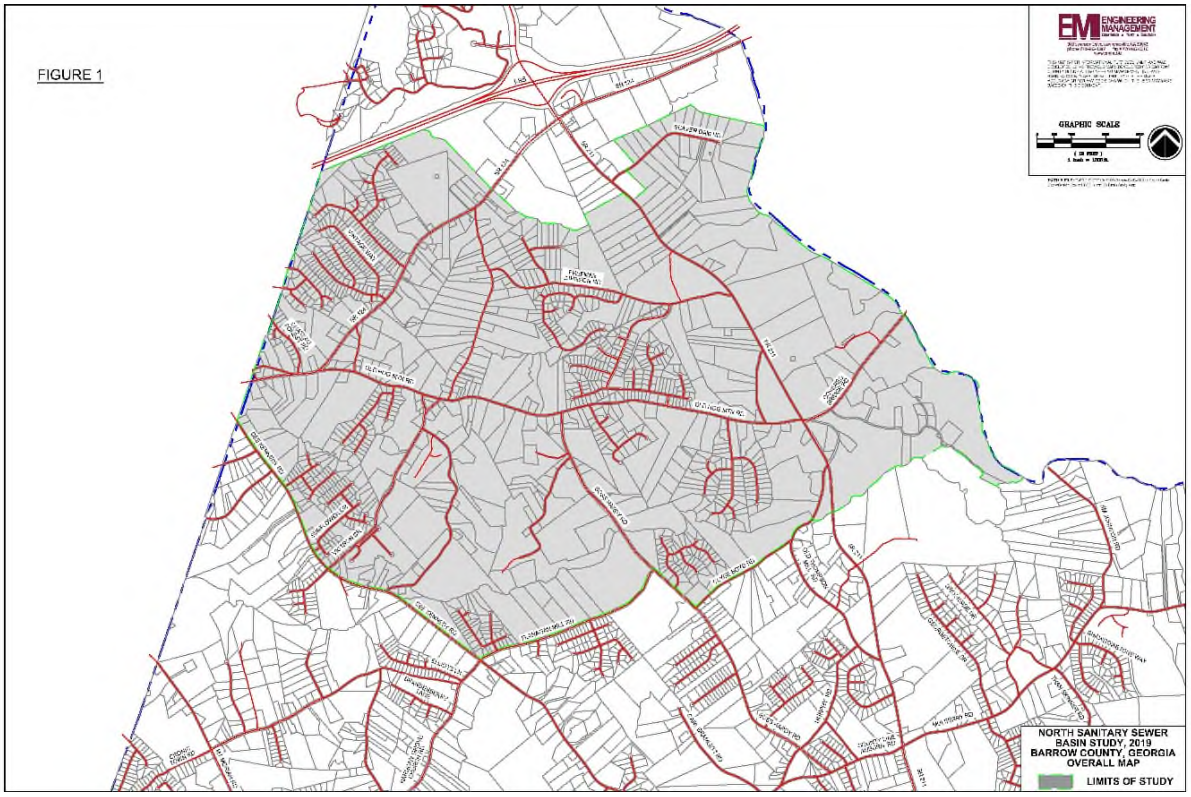

Figure 1: S.R. 211 Corridor Sanitary Sewer Basin

III. Background

Barrow County continues to be a high growth community and the North Barrow/SR 211 corridor is the narrowest portion of the County wedged between Gwinnett and Jackson Counties. The County currently maintains potable water service in this area but providing sanitary sewer service in this area would be expensive insofar as moving wastewater south to any portion of the County's existing facilities.

The Town of Braselton currently has wastewater collection and transport facilities in the northern section of Barrow County, as well as treatment facilities. The Town also currently has excess treatment capacity available and has expressed a willingness to partner with Barrow County to provide treatment capacity on a contract basis. This would be similar to the long-term contract that the Town currently has with the City of Oakwood for sanitary sewer capacity and treatment.

Moreover, the Town is in the planning process of a project that would extend sanitary sewer lines and a pumping facility in the vicinity of State Routes 211 and 124, which could well provide Barrow County with a regional point of confluence for future wastewater collection for a portion of the North Barrow service area. This station has not yet been constructed, so upgrades to accommodate future Barrow flows could be cost effective.

IV. Proposed Basins

The overall study area has been broken down into two significant study areas. The area north of Old Hog Mountain Road was considered the short-term build out basin. The area south of Old Hog Mountain Road was considered the long-term build out basin. Both study areas were broken down further to delineate basins that would be served by regional lift stations. The study area's land use was delineated based on the Barrow County Future Development Map and engineering judgement. The study area consists of future commercial development and future residential development. Also, there are areas of existing large lot development that was not considered in the evaluation; as it was assumed that these areas were previously developed as septic tank subdivisions and it would not be feasible to serve these areas with sanitary sewer. See Figure 2.

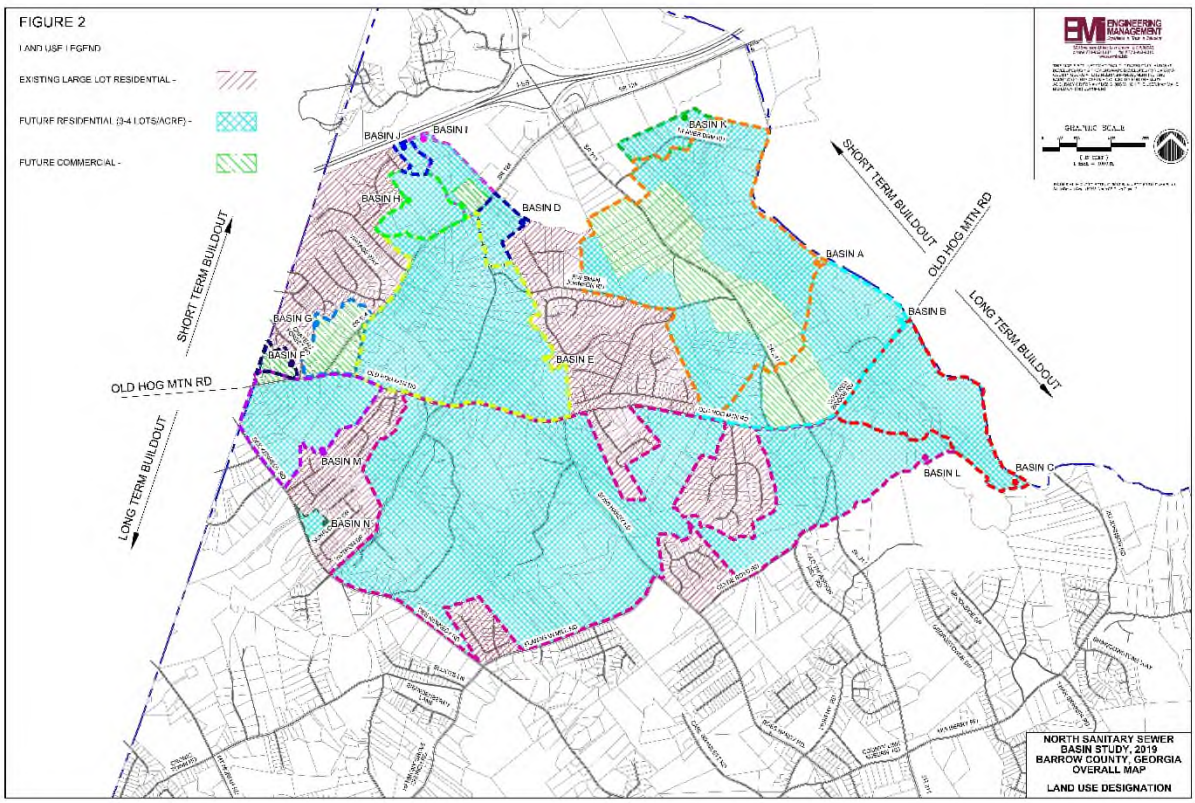

Figure 2: Land Use Designation with Sewer Basins

V. Flow Projections

Flow projection calculations were based on several assumptions which will be discussed in greater detail below. First, it was assumed that only 75% of the developable areas would be developed for either residential or commercial uses. Second, it was assumed that the residential areas would be developed based on an average of 3 – 4 lots/acre with an estimated flow of 200 GPD/home. Third, it was assumed that the commercial areas would be based on an estimated flow of 600 GPD/acre. Lastly, the peak flow calculations were based on a peaking factor of 2.5.

The short-term build out basin consists of 1,859 acres, of which 1,395 acres are assumed developable. The 1,395 acres breaks down as 1,056 acres of residential development with 3,695 lots and 339 acres of commercial development. The total average flow for this study area is 942,335 GPD with a peak flow of 1,636 GPM. The long-term build out basin consists of 1,917 acres, of which 1,438 acres are assumed developable. The 1,438

acres breaks down as 1,434 acres of residential development with 5,018 lots and 4 acres of commercial development. The total average flow for this study area is 1,005,781 GPD with a peak flow of 1,746 GPM. See Figure 3.

SHORT-TERM BUILD OUT BASIN						
Sewer Basin	Total acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
2020-2030 Study Area North of Old Hog Mtn Rd						
Residential	1407	1056	3,695	738,923	1,283	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	452	339	N/A	203,412	353	Based on 600 gpd/acre
			Total	942,335	1,636	

LONG-TERM BUILD OUT BASIN						
Sewer Basin	Total acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
Future Study Area South of Old Hog Mtn Rd						
Residential	1912	1434	5,018	1,003,663	1,742	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	5	4	N/A	2,118	4	Based on 600 gpd/acre
			Total	1,005,781	1,746	

Figure 3: Flow Projections

VI. Proposed Infrastructure

The short-term build out basin consists of 4 sub-basins (A, B, D, and E) that were analyzed further due to the potential basin sizes contributing to a regional lift station and/or proximity to existing or proposed Braselton facilities. These 4 sub-basins are the most relevant to be studied based on their projected chronology of development to be sooner than other basins in the area. Probable future sanitary sewer collection and outfall lines and potential future pumping facility locations and associated force mains were laid out for these sub-basins. Cost estimates were prepared and are included in the appendix. Figure 4 shows the 4 sub-basins and proposed infrastructure.

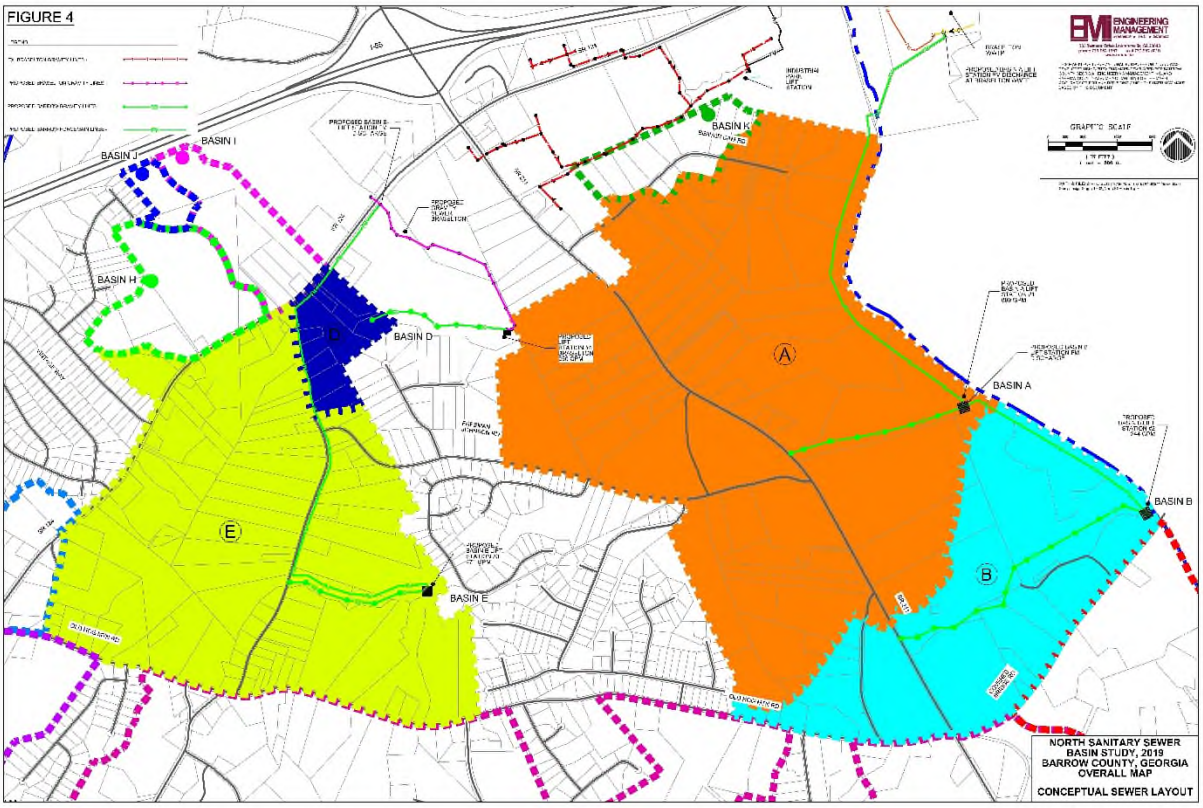

Figure 4: Conceptual Sewer Layout

Basin A

Basin A consists of a mix of commercial and residential development potential along S.R. 211. The total acreage within Basin A is 758 acres, of which 568 acres are assumed developable. The 568 acres breaks down as 363 acres of residential development with 1,271 lots and 205 acres of commercial development. The total average flow for this basin is 377,427 GPD with a peak flow of 655 GPM. For planning purposes, it was assumed that Basin B wastewater flow will pump to Basin A. The peak flow increase from Basin B is 244 GPM which results in a total peak flow of 899 GPM. Due to increasing development activity in the area of S.R. 124 and S.R. 211, the proposed pump station for Basin A was analyzed to pump the entire way to the Braselton Wastewater Treatment Plant east of the Mulberry River. Otherwise, costly upgrades to existing Braselton infrastructure would be required, as the existing gravity lines and lift station downstream cannot handle anywhere close to Barrow's flows. The initial Basin A infrastructure would include approximately 2,600 L.F. of 15" gravity sewer, 8 manholes, a sanitary sewer pump

station, 6,950 L.F. of 10" forcemain and associated appurtenances. The initial infrastructure cost including support costs is estimated at $1,259,000. Detailed cost breakdown included in Appendix 2.

Basin B

Basin B consists of a mix of commercial and residential development potential along S.R. 211 and Old Hog Mountain Road. The total acreage within Basin B is 280 acres, of which 210 acres are assumed developable. The 210 acres breaks down as 147 acres of residential development with 514 lots and 63 acres of commercial development. The total average flow for this basin is 140,630 GPD with a peak flow of 244 GPM. As stated above, Basin B is assumed to pump the wastewater flow to Basin A before continuing to Braselton. The initial Basin B infrastructure would include approximately 4,350 L.F. of 8" gravity sewer, 14 manholes, a sanitary sewer pump station, 3,200 L.F. of 6" forcemain and associated appurtenances. The initial infrastructure cost including support costs is estimated at $1,030,000. Detailed cost breakdown included in Appendix 2.

Basin D

Basin D consist of residential development potential along S.R. 124 and Old Victron School Road. The total acreage within Basin D is 39 acres, of which 29 acres are assumed developable. The 29 acres are proposed to include 103 residential lots. The total average flow for this basin is 20,534 GPD with a peak flow of 36 GPM. Basin D abuts a parcel proposed to house a new lift station currently being designed for Braselton. Basin D could gravity flow directly into the proposed lift station by Braselton just east of Basin D, without any additional pumping facilities. The new station is currently designed to pump 250 GPM as this is the max discharge that the downstream infrastructure can handle without additional upgrades. Of the 250 GPM, 196 GPM has been reserved for the mixed-use development proposed for the subject parcel. The initial Basin D infrastructure would include approximately 2,040 L.F. of 8" Gravity sewer, 7 manholes, and associated appurtenances. The initial infrastructure cost including support costs is estimated at $196,000. Detailed cost breakdown included in Appendix 2.

Basin E

Basin E consist of residential development potential along S.R. 124, Old Victron School Road, Evans Road, and Old Hog Mountain Road. The total acreage within Basin E is 517 acres, of which 388 acres are assumed developable. The 388 acres are proposed to include 1,357 residential lots. The total average flow for this basin is 271,377 GPD with a peak flow of 471 GPM. Basin E is proposed to pump to a proposed gravity system crossing S.R. 124. The gravity system is proposed to carry flow to the proposed Braselton lift station discussed above in Basin D. The initial infrastructure would include approximately 2,100 L.F. of 12" gravity sewer, 7 manholes, a sanitary sewer pump station, 8,150 L.F. of 8" forcemain and associated appurtenances. Basin E buildout would also require upgrades to the new lift station proposed for Braselton and downstream infrastructure. The initial infrastructure cost including support costs not including upgrades to the Braselton system is estimated at $1,143,000. Detailed cost breakdown included in Appendix 2.

VII. Conclusions

The northwest corner of Barrow County is currently limited with growth opportunities due to the lack of sanitary sewer facilities. However, the Town of Braselton has existing and proposed sanitary sewer facilities as well as treatment capacity that could be accessible by Barrow County. Braselton has expressed a willingness to partner with Barrow County to provide treatment capacity on a contract basis.

There are four basins adjacent to S.R. 211 and S.R. 124 that could provide major residential and commercial growth in the near term. The basins have a total land area of 1,594 acres and could potentially yield 3,245 residential lots and 268 acres of commercial development. These basins can access the existing and proposed Braselton sanitary sewer facilities with some initial infrastructure improvements. This document discusses these four areas in greater detail and provides Barrow County with a planning and engineering tool to provide framework for future projects in the S.R. 211 Corridor Sanitary Sewer Basin.

EMI is eager to assist the County with further investigation on any of the improvements recommended in this report. We are available at your convenience to discuss this report in more detail.

Thank you for allowing EMI to serve the County.

Respectfully submitted,

Kenneth L Peters

Russ Brink

Ken Peters, P.E.

Russ Brink, P.E.

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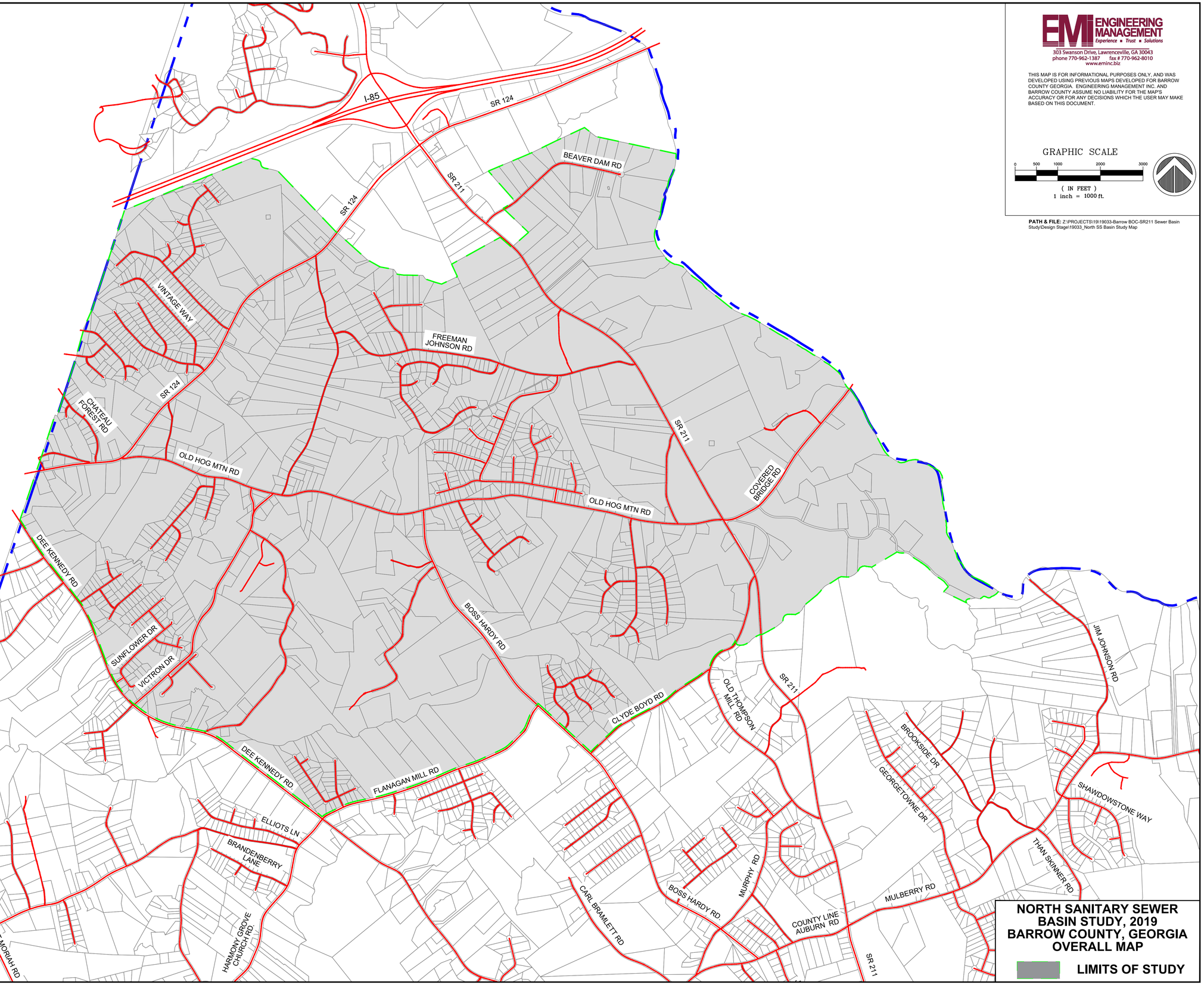
EXHIBIT A



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GRAPHIC SCALE

0 500 1000 2000 3000

(IN FEET)
1 inch = 1000 ft.

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NORTH SANITARY SEWER BASIN STUDY, 2019
BARROW COUNTY, GEORGIA
OVERALL MAP

LIMITS OF STUDY

EXHIBIT B

LAND USE LEGEND

EXISTING LARGE LOT RESIDENTIAL -

FUTURE RESIDENTIAL (3-4 LOTS/ACRE) -

FUTURE COMMERCIAL -

BASIN J
BASIN I
BASIN K
BASIN H
BASIN D
BASIN A
BASIN G
BASIN F
BASIN E
BASIN B
BASIN M
BASIN N
BASIN L
BASIN C

I-85
SR 124
SR 211
BEAVER DAM RD
VINTAGE WAY
FREEMAN JOHNSON RD
CHATEAU FOREST PT
OLD HOG MTN RD
COVERED BRIDGE RD
DEE KENNEDY RD
SUNFLOWER DR
VICTRON DR
BOSS HARDY RD
CLYDE BOYD RD
FLANAGAN MILL RD
OLD THOMPSON MILL RD
JIM JOHNSON RD
BROOKSIDE DR
GEORGETOWNE DR
SHAWDOWSTONE WAY
THAN SKINNER RD
MULBERRY RD
COUNTY LINE AUBURN RD
MURPHY RD
CARL BRAMLETT RD
ELLIOTS LN
BRANDENBERRY LANE
HARMONY GROVE CHURCH RD
CRONIC TOWN RD
MT MORIAH RD

SHORT TERM BUILDOUT
LONG TERM BUILDOUT
OLD HOG MTN RD
SHORT TERM BUILDOUT
OLD HOG MTN RD
LONG TERM BUILDOUT

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NORTH SANITARY SEWER BASIN STUDY, 2019
BARROW COUNTY, GEORGIA
OVERALL MAP

LAND USE DESIGNATION

EXHIBIT C

LEGEND

EX. BRASELTON GRAVITY LINES -

PROPOSED BRASELTON GRAVITY LINES -

PROPOSED BARROW GRAVITY LINES - SS

PROPOSED BARROW FORCEMAIN LINES - FM

I-85

SR 124

SR 211

BEAVER DAM RD

INDUSTRIAL PARK LIFT STATION

BRASELTON WWTP

PROPOSED BASIN A LIFT STATION FM DISCHARGE AT BRASELTON WWTF

PROPOSED BASIN E LIFT STATION FM DISCHARGE

PROPOSED GRAVITY SEWER BRASELTON

BASIN I

BASIN J

BASIN H

BASIN K

BASIN D

BASIN A

BASIN B

BASIN E

D

A

B

E

PROPOSED LIFT STATION #4 BRASELTON 250 GPM

PROPOSED BASIN A LIFT STATION #1 899 GPM

PROPOSED BASIN B LIFT STATION FM DISCHARGE

PROPOSED BASIN B LIFT STATION #2 244 GPM

PROPOSED BASIN E LIFT STATION #3 471 GPM

VINTAGE WAY

FREEMAN JOHNSON RD

OLD HOG MTN RD

COVERED BRIDGE RD

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GRAPHIC SCALE

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(IN FEET)
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NORTH SANITARY SEWER BASIN STUDY, 2019
BARROW COUNTY, GEORGIA
OVERALL MAP

CONCEPTUAL SEWER LAYOUT

APPENDIX 1

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

SHORT-TERM BUILD OUT BASIN						
Sewer Basin	Total acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
2020-2030 Study Area North of Old Hog Mtn Rd						
Residential	1407	1056	3,695	738,923	1,283	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	452	339	N/A	203,412	353	Based on 600 gpd/acre
			Total	942,335	1,636	

LONG-TERM BUILD OUT BASIN						
Sewer Basin	Total acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
Future Study Area South of Old Hog Mtn Rd						
Residential	1912	1434	5,018	1,003,663	1,742	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	5	4	N/A	2,118	4	Based on 600 gpd/acre
			Total	1,005,781	1,746	

BARROW COUNTY S.R. 211 SEWER BASIN STUDY
SANITARY SEWER LIFT STATIONS AND FORCEMAINS
CAPACITIES AND BASINS
SHORT-TERM NEEDS

OVERALL DEVELOPMENT

BASIN	LOTS/SF	GPD	Peak 2.5
A (Residential)	1,271	254,291	441
A (Commercial)	N/A	123,135	214
B (Residential)	514	102,893	179
B (Commercial)	N/A	37,738	66
D (Residential)	103	20,534	36
E (Residential)	1,357	271,377	471
TOTAL LOTS	**3,245**	**809,968**	**1,406**

Lift Stations

LS1-Basin A	LOTS	GPD	DEMAND (GPM)
A (Residential)	1,271	254,291	441
A (Commercial)	N/A	123,135	214
B (Residential)	514	102,893	179
B (Commercial)	N/A	37,738	66
TOTAL	**1,786**	**518,057**	**899**
Forcemain	6,950	LF 10"	Diameter

LS2-Basin B	LOTS	GPD	DEMAND (GPM)
B (Residential)	514	102,893	179
B (Commercial)	N/A	37,738	66
TOTAL	**514**	**140,630**	**244**
Forcemain	3,200	LF 6"	Diameter

LS3-Basin E	LOTS	GPD	DEMAND (GPM)
E (Residential)	1,357	271,377	471
TOTAL	**1,357**	**271,377**	**471**
Forcemain	8,150	LF 8"	Diameter

LS4-Panoz(Braselton)	LOTS	GPD	DEMAND (GPM)
Braselton Design Flow	720	144,000	250
D (Residential)	103	20,534	36
E (Residential)	1,357	271,377	471
TOTAL	**2,180**	**435,911**	**757**
Forcemain	3,320	LF 10"	Diameter

Single Pumps	1
Repumps	3

Forcemain Totals	10,270	LF 10"	Diameter
	8,150	LF 8"	Diameter
	3,200	LF 6"	Diameter
TOTAL FM	21,620	LF	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN A						
Residential	484	363	1,271	254,291	441	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	274	205	N/A	123,135	214	Based on 600 gpd/acre
			Total	377,427	655	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN B						
Residential	196	147	514	102,893	179	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	84	63	N/A	37,738	66	Based on 600 gpd/acre
			Total	140,630	244	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN C						
Residential	227	170	596	119,277	207	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	119,277	207	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN D						
Residential	39	29	103	20,534	36	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	20,534	36	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN E						
Residential	517	388	1,357	271,377	471	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	271,377	471	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN F						
Residential	0	0	0	0	0	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	16	12	N/A	7,368	13	Based on 600 gpd/acre
			Total	7,368	13	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN G						
Residential	0	0	0	0	0	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	66	49	N/A	29,476	51	Based on 600 gpd/acre
			Total	29,476	51	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN H						
Residential	71	53	185	37,048	64	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	37,048	64	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN I						
Residential	43	32	112	22,403	39	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	13	9	N/A	5,695	1	Based on 600 gpd/acre
			Total	28,098	40	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN J						
Residential	13	10	35	6,926	12	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	6,926	12	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN K						
Residential	45	34	117	23,452	41	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	23,452	41	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN L						
Residential	1506	1130	3,954	790,899	1,373	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	790,899	1,373	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN M						
Residential	168	126	441	88,101	153	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	5	4	N/A	2,118	4	Based on 600 gpd/acre
			Total	90,220	157	

NORTH BARROW, SR 211 CORRIDOR
SANITARY SEWER BASIN STUDY

Sewer Basin	Total Acreage	Developable Acreage (X 0.75)	Approx. No. of Lots	Estimated Flow (GPD)	Peak Flow 2.5 (GPM)	Comments
BASIN N						
Residential	10	8	27	5,386	9	Projected based on 3-4 lots/acre and 200 gpd/home
Commercial	0	0	N/A	0	0	Based on 600 gpd/acre
			Total	5,386	9	

APPENDIX 2

BARROW COUNTY, GEORGIA
S.R. 211 SEWER BASIN STUDY
ESTIMATE OF PROBABLE COSTS
FEBRUARY 2020
SEWER BASIN A

ITEM	UNIT	QTY.	UNIT PRICE	TOTAL COST
Silt Fencing	LF	16,000	3.00	48,000
Haybale Checkdams	EA	200	40.00	8,000
Grassing	AC	9	3,000.00	27,000
15" PVC Gravity Sewer	LF	2,600	100.00	260,000
Manholes	EA	8	4,000.00	32,000
10" PVC Forcemain	LF	6,950	30.00	208,500
Sewage Pump Station	LS	1	350,000.00	350,000
Air Release/Vacumn Valve	EA	5	7,000.00	35,000
TOTAL ESTIMATED CONSTRUCTION COST				$ 968,500
Estimated Project Support Costs				193,000
Construction Contigencies				96,800
TOTAL				$ 1,259,000

BARROW COUNTY, GEORGIA
S.R. 211 SEWER BASIN STUDY
ESTIMATE OF PROBABLE COSTS
FEBRUARY 2020
SEWER BASIN B

ITEM	UNIT	QTY.	UNIT PRICE	TOTAL COST
Silt Fencing	LF	16,000	3.00	48,000
Haybale Checkdams	EA	200	40.00	8,000
Grassing	AC	7	3,000.00	21,000
8" PVC Gravity Sewer	LF	4,350	50.00	217,500
Manholes	EA	14	4,000.00	56,000
6" PVC Forcemain	LF	3,200	20.00	64,000
Sewage Pump Station	LS	1	350,000.00	350,000
Air Release/Vacumn Valve	EA	4	7,000.00	28,000
TOTAL ESTIMATED CONSTRUCTION COST				$ 792,500
Estimated Project Support Costs				158,000
Construction Contigencies				79,200
TOTAL				$ 1,030,000

BARROW COUNTY, GEORGIA
S.R. 211 SEWER BASIN STUDY
ESTIMATE OF PROBABLE COSTS
FEBRUARY 2020
SEWER BASIN D

ITEM	UNIT	QTY.	UNIT PRICE	TOTAL COST
Silt Fencing	LF	4,080	3.00	12,240
Haybale Checkdams	EA	50	40.00	2,000
Grassing	AC	2	3,000.00	6,000
8" PVC Gravity Sewer	LF	2,040	50.00	102,000
Manholes	EA	7	4,000.00	28,000
TOTAL ESTIMATED CONSTRUCTION COST				$ 150,240
Estimated Project Support Costs				30,000
Construction Contigencies				15,000
TOTAL				$ 196,000

BARROW COUNTY, GEORGIA
S.R. 211 SEWER BASIN STUDY
ESTIMATE OF PROBABLE COSTS
FEBRUARY 2020
SEWER BASIN E

ITEM	UNIT	QTY.	UNIT PRICE	TOTAL COST
Silt Fencing	LF	10,200	3.00	30,600
Haybale Checkdams	EA	200	40.00	8,000
Grassing	AC	7	3,000.00	21,000
12" PVC Gravity Sewer	LF	2,100	80.00	168,000
Manholes	EA	7	4,000.00	28,000
8" PVC Forcemain	LF	8,150	25.00	203,750
Sewage Pump Station	LS	1	350,000.00	350,000
Air Release/Vacumn Valve	EA	10	7,000.00	70,000
TOTAL ESTIMATED CONSTRUCTION COST				$ 879,350
Estimated Project Support Costs				175,000
Construction Contigencies				87,900
TOTAL				$ 1,143,000