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August 9, 2004

Harry F. Bailey
Environmental Engineer
Public Water Supply Section
Department of Environment and Natural Resources
943 Washington Square Mall
Washington, NC 27889

Subject: Well Completion Documents for Production Well Wilbur
Dare County Water System
PWS ID 04-28-030, Dare County

Dear Mr. Bailey:

On behalf of Dare County Water, CDM is pleased to inform you that Dare County's Production Well Wilbur has been constructed and tested by A.C. Schultes of Carolina, Inc. Attached for your information and review are four sets of well completion documents that include the following information:

- Signed Well Drillers Log
- Well Yield and Drawdown Report
- TDH and Pump Head Calculations
- Engineer's Well Construction Verification
- Well Site Deed and Plat
- Water Quality Analyses

An Application for Approval of Engineering Plans and Specifications for this replacement well project was received by NCDENR on January 9, 2004 (Tracking No. 04-00061) and pulled for review on March 4, 2004. The referenced application included Production Wells Wilbur, Orville, 15, and 17. **We are requesting authorization to finish all construction associated with Production Well Wilbur.**

It is our professional opinion, based upon our review of the water quality and hydrogeologic characteristics of this new well, that the NCDENR should be able to authorize the construction of the permanent facility.



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Thank you for your attention and assistance to this critical project for the County. If you have any questions or I can be of further assistance, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. St. John'.

Gary A. St. John, P.E.
Associate
Camp Dresser & McKee Inc.

cc: Robert Oreskovich - Dare County Water
W. Scott Manahan - CDM

Section 1

Dare Regional Wholesale Public Water Supply System

DURING LAST PEAK DAY JULY 5, 2002

Peak Day to Date - July 5th, 2002 = 9,574 MG

	Jul-02 Residential				Jul-02 Commercial				Total Calculated Peak Day	
	No. of Res. Accounts Jul-02	Res. Avg. Use Per Day	Peak to Average Ratio	Calculated Peak Day	No. of Comm. Accounts Jul-02	Comm. Avg. Use Per Day	Peak to Average Ratio	Calculated Peak Day		
1 Kitty Hawk	2,119	143	2.873	870,568	164	695	2.873	327,465	1,198,032	
2 Southern Shores	2,362	185	2.873	1,255,415	55	859	2.873	135,735	1,391,150	
3 Duck	1,958	178	2.873	1,001,309	110	847	2.873	267,677	1,268,987	
4 Collington	1,713	143	2.338	572,224	79	699	2.338	128,996	701,220	
5 Roanoke Island	171	165	2.470	69,691	44	1,586	2.470	172,366	242,058	
6 Kill Devil Hills	5,149	135	2.061	1,432,632	233	983	2.061	472,049	1,904,681	
7 Nags Head	3,804	135	2.439	1,252,524	362	983	2.439	867,908	2,120,432	
8 Manteo	1,017	135	2.470	339,119	171	983	2.470	415,190	754,308	
Total	18,293	152	2.549	6,793,482	1,218	954	2.549	2,787,387		
Total Number of Res. & Comm. Accounts =				19,511				Total Est. Usage=		9,580,869

Section 2

IF PEAK DAY WAS JAN. 1, 2004

	Dec-03 Residential				Dec-03 Commercial				Total Calculated Peak Day	
	No. of Res. Accounts Dec-03	Res. Avg. Use Per Day	Peak to Average Ratio	Calculated Peak Day	No. of Comm. Accounts Dec-03	Comm. Avg. Use Per Day	Peak to Average Ratio	Calculated Peak Day		
1 Kitty Hawk	2,237	143	2.765	884,499	167	695	2.765	320,920	1,205,418	
2 Southern Shores	2,575	185	2.765	1,317,177	59	859	2.765	140,133	1,457,310	
3 Duck	2,094	178	2.765	1,030,604	111	847	2.765	259,957	1,290,561	
4 Collington	1,922	143	2.880	791,556	78	699	2.880	157,023	948,580	
5 Roanoke Island	202	165	2.211	73,693	48	1,586	2.211	168,319	242,012	
6 Kill Devil Hills	5,294	135	2.139	1,528,722	289	983	2.139	607,662	2,136,384	
7 Nags Head	4,082	135	2.348	1,293,912	376	983	2.348	867,840	2,161,752	
8 Manteo	1,107	135	2.211	330,423	172	983	2.211	373,627	704,250	
Total	19,513	152	2.511	7,250,586	1,300	954	2.511	2,895,681		
Total Number of Res. & Comm. Accounts =				20,813				Total Est. Usage=		10,146,267

Section 3

* Estimated based on previous percent of total.

	Jul-02 Res.	Comm.	Dec-03 Res.	Comm.	Res. Comm. Average of Jul-02 & Dec-03	
1 Kitty Hawk	92.8%	7.2%	Kitty Hawk	93.1%	6.9%	92.9% 7.1%
2 Southern Shores	97.7%	2.3%	Southern Shores	97.8%	2.2%	97.7% 2.3%
3 Duck	94.7%	5.3%	Duck	95.0%	5.0%	94.8% 5.2%
4 Collington	95.6%	4.4%	Collington	96.1%	3.9%	95.8% 4.2%
5 Roanoke Island	79.5%	20.5%	Roanoke Island	80.8%	19.2%	80.2% 19.8%
6 Kill Devil Hills	95.7%	4.3%	Kill Devil Hills	94.8%	5.2%	95.2% 4.8%
7 Nags Head	91.3%	8.7%	Nag Head	91.6%	8.4%	91.4% 8.6%
8 Manteo	85.6%	14.4%	Manteo	86.6%	13.4%	86.1% 13.9%
Avg.	91.6%	8.4%		92.0%	8.0%	91.8% 8.2%

Section 4

BEST ESTIMATE FOR THIS SUMMER '04 PEAK DAY

	Jul-04 Residential				Jul-04 Commercial				Total Calculated Peak Day	
	No. of Res. Accounts Jul-04	Res. Avg. Use Per Day	Peak to Average Ratio	Calculated Peak Day	No. of Comm. Accounts Jul-04	Comm. Avg. Use Per Day	Peak to Average Ratio	Calculated Peak Day		
1 Kitty Hawk	2,282	143	2.765	902,137	170	695	2.765	327,437	1,229,573	
2 Southern Shores	2,622	185	2.765	1,341,176	60	859	2.765	142,707	1,483,883	
3 Duck	2,140	178	2.765	1,053,005	113	847	2.765	265,776	1,318,781	
4 Collington	1,977	143	2.880	814,056	80	699	2.880	161,790	975,846	
5 Roanoke Island	205	165	2.211	74,862	49	1,586	2.211	171,101	245,963	
6 Kill Devil Hills	5,349	135	2.139	1,544,674	292	983	2.139	613,458	2,158,133	
7 Nags Head	4,169	135	2.348	1,321,447	384	983	2.348	886,613	2,208,060	
8 Manteo	1,133	135	2.211	338,131	176	983	2.211	382,904	721,035	
Total	19,876	152	2.511	7,389,489	1,325	954	2.511	2,951,786		
Total Number of Res. & Comm. Accounts =				21,201				Total Est. Usage=		10,341,275

Section 5

July 2004 - Peak Day Gallons per Potential Number of Accounts = 10,341,275

WTP - Production Capacities

10.382 MGD Total for Skyco, NRO and Fresh Pond WTP's

Figure based on residential & commercial usage per account

Calculated best estimate of the Production minus Potential Surplus (+/-) =	With Fresh Pond	Without Fresh Pond	Gallons/Day
	40,725	-1,269,275	
	0.39%	-12.27%	