

# ENF Environmental Notification Form

*For Office Use Only*  
 Executive Office of Environmental Affairs  
 EOEA No.: 13516  
 MEPA Analyst: Bill GAGE  
 Phone: 617-626-1025

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: <b>Crooked Springs Water Treatment Plant</b>		
Street: <b>Crooked Springs Road</b>		
Municipality: <b>Chelmsford</b>	Watershed: <b>Merrimack River Basin</b>	
Universal Transverse Mercator Coordinates:	Latitude: <b>42°37'30" N</b> Longitude: <b>71°23'13" W</b>	
Estimated commencement date: <b>11/05</b>	Estimated completion date: <b>11/06</b>	
Approximate cost: <b>\$7,020,000</b>	Status of project design: <b>25</b> %complete	
Proponent: <b>Chelmsford Water District</b>		
Street: <b>20 Watershed Lane</b>		
Municipality: <b>Chelmsford</b>	State: <b>MA</b>	Zip Code: <b>01824</b>
Name of Contact Person From Whom Copies of this ENF May Be Obtained: <b>Randall Christensen, Environmental Scientist</b>		
Firm/Agency: <b>Dufresne-Henry</b>	Street: <b>136 West Street, Suite 203</b>	
Municipality: <b>Northampton</b>	State: <b>MA</b>	Zip Code: <b>01060</b>
Phone: <b>413-584-4776</b>	Fax: <b>413-584-3157</b>	E-mail: <b>rchristensen@dufresnehenry.com</b>

- Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?  
 Yes  No
- Has this project been filed with MEPA before?  
 Yes (EOEA No. \_\_\_\_\_)  No
- Has any project on this site been filed with MEPA before?  
 Yes (EOEA No. **12262**)  No
- Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:
- a Single EIR? (see 301 CMR 11.06(8))  Yes  No
  - a Special Review Procedure? (see 301 CMR 11.09)  Yes  No
  - a Waiver of mandatory EIR? (see 301 CMR 11.11)  Yes  No
  - a Phase I Waiver? (see 301 CMR 11.11)  Yes  No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres): **This project is not receiving any funding, financial assistance or land transfer from the state.**

Are you requesting coordinated review with any other federal, state, regional, or local agency?  
 Yes (Specify \_\_\_\_\_)  No

List Local or Federal Permits and Approvals:  
**Order of Conditions (local Conservation Commission), Site Plan Review (local Planning Board), Sewer Connection Permit (DEP), 401 Water Quality Certification (DEP), 404 PGP Category II (USCOE), Approval to Construct a Facility to treat greater than 1 MGD (DEP) and**

**NPDES Phase II Construction General Permit/SWPPP (EPA).**

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- |   |                                       |  |
|---|---------------------------------------|--|
| <input type="checkbox"/> Land             | <input type="checkbox"/> Rare Species | <input checked="" type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input checked="" type="checkbox"/> Water | <input type="checkbox"/> Wastewater   | <input type="checkbox"/> Transportation                              |
| <input type="checkbox"/> Energy           | <input type="checkbox"/> Air          | <input type="checkbox"/> Solid & Hazardous Waste                     |
| <input type="checkbox"/> ACEC             | <input type="checkbox"/> Regulations  | <input type="checkbox"/> Historical & Archaeological Resources       |

Summary of Project Size & Environmental Impacts	Existing	Change	Total	State Permits & Approvals
<b>LAND</b>				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input type="checkbox"/> Chapter 91 License <input checked="" type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input checked="" type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input checked="" type="checkbox"/> Other Permits (including Legislative Approvals) – Specify: <b>Site Plan Review by local planning board</b>  <b>Ma DEP Approval to Construct a Facility to Treat greater than 1 MGD</b>  <b>404 CGP Category II by USCOE</b>  <b>NPDES Phase II Construction General Permit/SWPPP (EPA)</b>
Total site acreage	37.6 (WTP site) 3 (Pump Station at Meadow Brook Well #3 Site)			
New acres of land altered		5.72		
Acres of impervious area	0.02	1.66	1.68	
Square feet of new bordering vegetated wetlands alteration due to new production well #3		12,960 SF (Permanent)		
Square feet of new other wetland alteration due to water main installation and new production well #3		Riverfront 545 SF (Temp) 4,426 SF (Perm) BLSF 13,395 SF (Perm)		
Acres of new non-water dependent use of tidelands or waterways		N/A		
<b>STRUCTURES</b>				
Gross square footage	825 SF Crooked Springs Pump Stations	11,940 SF (WTP) 900 SF (new pump station)	13,665 SF	
Number of housing units	N/A	N/A	N/A	
Maximum height (in feet)	12	35 (WTP) 12 (Pump Station)	35 (WTP) 12 (Pump Station)	
<b>TRANSPORTATION</b>				
Vehicle trips per day	1	4 (WTP) 1 (Pump Station)	6	
Parking spaces	0	4	4	

<b>WATER/WASTEWATER</b>			
Gallons/day (GPD) of water use  * There will be no increase in permitted withdrawal rates.	2,793,600 (all existing wells that are currently online and to be treated at WTP)	1,152,000 (Meadow Brook #3 not currently online)  576,000 (Jordan well not currently online)	4,521,600
GPD water withdrawal	Same as above	Same as above	Same as above
GPD wastewater generation/treatment	0	72,750 GPD (Backwash water)  2,000 GPD (Sanitary waste)	72,750 GPD (Backwash water)  2,000 GPD (Sanitary waste)
Length of water/sewer mains (in miles)	0.24 (WTP site)	0.56 (to connect wells to WTP)	0.8

**CONSERVATION LAND:** Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

Yes (Specify \_\_\_\_\_)  No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

Yes (Specify \_\_\_\_\_)  No

**RARE SPECIES:** Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

Yes (Specify \_\_\_\_\_)  No

**HISTORICAL /ARCHAEOLOGICAL RESOURCES:** Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

Yes (Specify \_\_\_\_\_)  No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Yes (Specify \_\_\_\_\_)  No

**AREAS OF CRITICAL ENVIRONMENTAL CONCERN:** Is the project in or adjacent to an Area of Critical Environmental Concern?

Yes (Specify \_\_\_\_\_)  No

**PROJECT DESCRIPTION:** The project description should include (a) a description of the project site, (b) a description of both on-site and off-site alternatives and the impacts associated with each alternative, and (c) potential on-site and off-site mitigation measures for each alternative (You may attach one additional page, if necessary.)

This project proposes to improve the drinking water quality of the Chelmsford Water District's Meadowbrook Wells, Jordan Avenue Well, and Crooked Springs Wells through the construction of a greensand filtration iron and manganese removal treatment plant and associated water main distribution system (See Project Plans). The project also involves upgrading existing test wells to a production well (Meadow Brook Well #3) and constructing a pump station with an associated gravel access road. An ENF (EOEA Number: 12262) was reviewed by MEPA in June of 2000 for the development of Meadow Brook Well #3, a certificate requiring no further review was issued on August 7, 2000, a NPC was reviewed by MEPA in February of 2003 for an increase in the capacity of the well field from 400,000 to 1,150,000 GPD, and MEPA

issued a certificate requiring no further review on March 10, 2003. The entire project exceeds the MEPA review threshold at 301 CMR 11.03 (3) (b) (1d): alteration of 5,000 or more SF of bordering vegetated wetland; and 310 CMR 11.03 (4) (b) (4): construction of a new drinking water treatment plant with a capacity of 1,000,000 or more GPD. The proposed project will improve the water quality within the water distribution system and allow the pumping of the aforementioned wells without introducing elevated levels of iron and manganese into the distribution system. The Town of Chelmsford is located in northeast Massachusetts and bordered by six towns: Westford, Tyngsborough, Lowell, Tewksbury, Billerica and Carlisle. The project site for the proposed water treatment plant is located at the existing Crooked Springs Wells site. The property is owned by the Chelmsford Water District. Construction of the water treatment plant will take approximately one year to complete. The proposed pump station and gravel access road is located at the DEP approved Meadow Brook #3 well site. This property is also owned by the Chelmsford Water District.

The Meadowbrook Wells, Jordan Avenue Well and Crooked Springs Wells have had a history of producing water with elevated concentrations of iron and manganese that are above the DEP Secondary Maximum Contaminant Levels. Jordan Avenue Well has a DEP approved yield of 400 GPM, Meadow Brook # 1 has an approved yield of 700 GPM, Meadow Brook # 2 has an approved yield of 560 GPM, Meadow Brook # 3 has an approved yield of 800 GPM, Crooked Spring #1 has an approved yield of 305 GPM, and Crooked Spring #2 has an approved yield of 375 GPM. In addition to greensand filtration, other methods available for iron and manganese removal are conventional treatment, sequestering and membrane filtration. Greensand filtration was selected for piloting and ultimate full-scale implementation as it has a proven ability to effectively remove high levels of iron and manganese from water at a reasonable cost. There will be no increase in water withdrawn from the existing well sites.

The proposed treatment building will be 1,000 feet north of Crooked Springs Road in between the two existing pumping stations associated with the Crooked Springs Wells. In addition to the construction of a 11,400 SF water treatment facility, an area of 58,315 SF will be paved with bituminous concrete to allow for four parking spaces, a 20' wide access road and a driveway for the loading dock to the water treatment facility. The 72,750 GPD of backwash water from the treatment plant will be contained within sedimentation basins and then in a 10,420 SF infiltration basin to be located west of the proposed treatment plant. Provisions will be made if (in the future) the backwash water is to be held in holding tanks then connected to a public sanitary sewer system. Detention basins will also be provided to properly manage stormwater at the site. Approximately, 1,000 LF of sewer main will be installed and connected to an existing sewer main on Maynard Circle for the sanitary facilities within the proposed water treatment facility. Approximately, 3,000 LF of new water main will be installed cross country and along a portion of Meadow Brook Road to connect the existing wells to the proposed treatment facility: 700 LF of water main will be installed underneath Stony Brook and bordering vegetated wetland, using horizontal directional drilling technology, from the Jordan Avenue Well site northeast to Meadow Brook Well #1; 600 LF of water main will be installed within Meadow Brook Road beginning at the intersection of Meadow Brook Road and the access road for Meadow Brook Well #1 north ending at the intersection of Meadow Brook Road and the access road for Meadow Brook Well #2; 650 LF of water main will be installed underneath Stony Brook and bordering vegetated wetland, using horizontal directional drilling technology, from the Meadow Brook Well #2 site southeast to the proposed Meadow Brook Well #3 site; 850 LF of water main will be installed cross country from the Meadow Brook Well #3 site southeast to the proposed Crooked Springs Water Treatment Facility site; and 1,400 LF of new water main will be installed to carry the treated water from the water treatment plant south to the distribution main within Crooked Springs Road. The proposed production wells (DEP Approved Meadow Brook Well #3) will be located within bordering vegetated wetland approximately 300 feet northeast of the Maynard Circle cul-de-sac. The proposed 900 SF pump station will be located approximately 150 feet northeast of the cul-de-sac and a 12-foot wide access road will be constructed for access to the wells.

Approximately, 12,960 SF of bordering vegetated wetland will be impacted due to modifying the existing Meadow Brook #3 test wells into a production wells and due to the construction of the access road to the wells. Approximately, 13,395 SF of bordering land subject to flooding will be impacted due to the construction associated with the new production wells, access road and pump station. Approximately, 4,426 SF of riverfront area will be impacted due to the construction associated with the new production wells, access road, pump station, directional drilling access/receiving pits, and water main installation within Meadow Brook Road. This portion of the project will require permits relative to Massachusetts Wetlands Protection Act, Federal Clean Water Act, United States Army Corps of Engineers and the local

Conservation Commission Wetlands Bylaw. In order to meet the requirements of these permits full mitigation will be provided for the proposed permanent impacts to the aforementioned resource areas. Specific details regarding the mitigation measures will be discussed during the NOI process. The project will be designed to comply with the MADEP Stormwater Management Policy. The majority of the work associated with the Crooked Springs Water Treatment Plant is outside of any wetland resource areas and there will only be temporary impacts to the 100-foot buffer zone of bordering vegetated wetland due to the installation of water main within the existing access road.

Crooked Springs Well Site contains suitable land for construction of the treatment facility, it is centrally located, and has adequate upland space for a water treatment facility. The Meadow Brook Well #3 site contains DEP approved wells that are permitted and approved pursuant to the Water Management Act. The construction of the pump station and access road are necessary to modify the existing test wells into a production wells. The treatment plant site is on a sand and gravel pit owned by the Chelmsford Water District and is not located within any wetland areas and the Meadowbrook Well #3 site is also located on land owned by the Water District. Overall, the actual alteration of the land on the 41-acre project site is small (6 acres) as it is the goal of public drinking water supplies to keep the land in its natural state.