**Permit Number** (*to be completed by DWR*): WI

**I. APPLICATION INFORMATION**

1. Project is: [ ] New [ ] Modification [ ] Renewal *without* modification [ ] Renewal *with* modification

2. If this application is being submitted for Renewal and/or Modification to an existing permit, provide:

(a.) Existing permit number WI Issued Date: & Expiration Date:

***For all Renewals****, submit a status report including monitoring results of all injection activities to date.*

***For Renewal without modification only****, fill out sections I & II only, sign the certification on the last page of this form,*

*and obtain the property owner’s signature to indicate consent (if the applicant is not the owner).*

**II. WELL OWNER(S)/PERMIT APPLICANT** (generally the responsible party)

1. Name(s):
2. Signing Official’s Name\*: Title:

\* Signing Official must be in accordance with instructions in **Part X** on page 5.

1. Mailing address of Permittee/Applicant:

City: State: Zip:

4. Telephone number: Email:

5. Status (choose one): Individual Business/Org. Federal State County Municipality

**III. PROPERTY OWNER(S)** (if different than well owners)

1. Name(s):
2. Mailing address:

City: State: Zip:

1. Telephone number: Email:

**IV. PROJECT CONTACT –** (generally the environmental/engineering consultant).

1. Name: Title:

2. Company:

3. Address:

4. City: State: Zip:

5. Telephone number: Email:

**V. FACILITY INFORMATION**

1. Facility name: Phone No. if available:
2. Physical address:

City: County: Zip:

3. Geographic Coordinates: Latitude: Longitude:

Reference Datum: Accuracy:

Method of Collection (i.e., Google Earth, GPS, etc.):

4. Brief description of business:

### **VI. INCIDENT DESCRIPTION**

1. Source and date of contamination:
2. List all contaminants present in soils or groundwater at the site (*contaminants may be listed in groups, e.g., gasoline, diesel, jet fuel, fuel oil, chlorinated ethenes, chlorinated ethanes, metals, pesticides/herbicides, etc*):

1. Has LNAPL or DNAPL ever been observed at the site (even if outside the injection zone)?

[ ] Yes If yes, list maximum measured separate phase thickness: **feet**

[ ] No If no, list maximum concentration of total VOCs observed at site: **ppb**

1. Agency managing the contamination incident:

[ ] UST Section [ ] Superfund Section (including REC Program and DSCA sites)

[ ] DWR Aquifer Protection Section [ ] Solid Waste Section

[ ] Hazardous Waste Section [ ] Other:

1. Incident manager’s name: Phone No.:
2. Incident number or other incident mgmt. agency tracking number:

### **VII. PERMITS**

List all applicable permits or construction approvals issued for the **facility or incident:**

1. Previous or other UIC permits issued by DWR (e.g., NOIs)
2. Other Non-Discharge or NPDES permit issued by DWR:
3. County or DEH subsurface wastewater disposal permits:
4. Hazardous waste management or other environmental permits required by state or federal law:

### **VIII. INJECTION SUMMARY**

1. List all proposed injectants/additives.

***NOTE****: Only injectants approved by the epidemiology section of the NC Division of Public Health, Department of Health and Human Services can be injected. Approved injectants can be found online at* <http://deq.nc.gov/about/divisions/water-resources/water-resources-permits/wastewater-branch/ground-water-protection/ground-water-approved-injectants>. *All other substances must be reviewed by the DHHS prior to use. Contact the UIC Program for more info (919-807-6496) if you wish to get approval for a different additive. However, please note it may take 3 months or longer.*

Injectant: Total Amt. to be injected (gal)/event

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1. Number of separate injection events: Duration of Event:
2. Estimated Injection rate per well: gallons per minute (GPM)
3. Estimated Injection pressure: pounds/square inch (PSI)
4. Temperature at point of injection: oF
5. Injection will be via:

Existing well(s); Total No.: ; Well Type (DPT, Permanent, etc.):

Proposed well(s); Total No.: ; Well Type (DPT, Permanent, etc.):

1. NC Certified Well Drilling Contractor’s Name (if known):

NC Well Contractor Certification No.:

1. Date to be constructed if proposed: (attach GW-1s for existing injection wells)
2. Screened interval/Injection interval of injection wells:

Depth from \_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_ feet below land surface (BLS)(if multiple intervals, indicate shallowest to deepest depth)

1. Well casing (leave blank if Geoprobes®):

Type: PVC Stainless steel Other:

Casing depth: \_\_\_\_\_\_\_\_to\_\_\_\_\_\_\_\_ ft. BLS

Type: PVC Stainless steel Other:

Casing depth: \_\_\_\_\_\_\_\_to\_\_\_\_\_\_\_\_ ft. BLS

1. Grout (leave blank if Geoprobes):

Type: Cement Bentonite Other:\_

Grout depth: \_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_ ft. BLS

Type: Cement Bentonite Other:\_

Grout depth: \_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_ ft. BLS

**IX. ATTACHMENTS –** provide the following information in separate attachments. The attachments should be clearly identified and presented in the order below to expedite review of the permit application package.

1. INJECTION ZONE – Per [15A NCAC 02C .0225(e)(2)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), specify the horizontal and vertical portion of the subsurface within which the proposed injection activity will take place and beyond which no violations of groundwater quality standards shall result from the injection as determined by an approved monitoring plan. The determination shall be based on the hydraulic properties of the specified zone. Provide any supporting documentation in a separate attachment.

2. HYDROGEOLOGIC EVALUATION – Per [15A NCAC 02C .0225(e)(3)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), provide a hydrogeologic evaluation of the injection zone that includes all of the following:

(A) Regional and local geology and hydrology;

(B) Changes in lithology underlying the facility;

(C) Depth to bedrock;

(D) Depth to the mean seasonal high water table;

(E) Hydraulic conductivity, transmissivity, and storativity, of the injection zone based on tests of site-specific material, including a description of the test(s) used to determine these parameters;

(F) Rate and direction of groundwater flow as determined by predictive calculations or computer modeling; and

(G) Lithostratigraphic and hydrostratigraphic logs of any existing test and injection wells.

3. INJECTANT INFORMATION – Per [15A NCAC 02C .0225(e)(5)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), provide information on each injectant as indicated below:

(A) MSDS, concentration at the point of injection, and percentage if present in a mixture with other injectants;

(B) The source of fluids used to dilute, carry, or otherwise distribute the injectant throughout the injection zone. If any well within the area of review of the injection facility is to be used as the fluid source, then the following information shall be submitted: location/ID number, depth of source, formation, rock/sediment type, and a chemical analysis of the water from the source well, including analyses for all contaminants suspected or historically recognized in soil or groundwater on the site;

(C) A description of the rationale for selecting the injectants and concentrations proposed for injection, including an explanation or calculations of how the proposed injectant volumes and concentrations were determined;

(D) A description of the reactions between the injectants and the contaminants present including specific breakdown products or intermediate compounds that may be formed by the injection;

(E) A summary of results if modeling or testing was performed to investigate the injectant’s potential or susceptibility for biological, chemical, or physical change in the subsurface; and

(F) An evaluation concerning the development of byproducts of the injection process, including increases in the concentrations of naturally occurring substances. Such an evaluation shall include the identification of the specific byproducts of the injection process, projected concentrations of byproducts, and areas of migration as determined through modeling or other predictive calculations.

4. INJECTION PROCEDURE – Per [15A NCAC 02C .0225(e)(6)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), submit a table with a detailed description of the proposed injection procedure that includes the following:

(A) The proposed average and maximum daily rate and quantity of injectant;

(B) The average maximum injection pressure expressed in units of pounds per square inch (psi); and

(C) The total or estimated total volume to be injected.

5. FRACTURING PLAN (if applicable) – Per [15A NCAC 02C .0225(e)(7)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), submit a detailed description of the fracturing plan that includes the following:

(A) Material Safety Data Sheets of fracturing media including information on any proppants used;

(B) a map of fracturing well locations relative to the known extent of groundwater contamination plus all buildings, wells, septic systems, underground storage tanks, and underground utilities located within the Area of Review;

(C) a demonstration that buildings, wells, septic systems, underground storage tanks, and underground utilities will not be adversely affected by the fracturing process;

(D) injection rate and volume;

(E) orientation of bedding planes, joints, and fracture sets of the fracture zone;

(F) performance monitoring plan for determining the fracture well radius of influence; and

(G) if conducted, the results of geophysical testing or pilot test of fracture behavior conducted in an uncontaminated area of the site.

6. WELL CONSTRUCTION DETAILS – Per [15A NCAC 02C .0225(e)(8)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), submit the following information in tabular or schematic form as appropriate for each item:

(A) number and depth of injection wells;

(B) number and depth of borings if using multi-level or “nested” well systems;

(C) indication whether the injection wells are existing or proposed;

(D) depth and type of casing;

(E) depth and type of screen material;

(F) depth and type of grout;

(G) indication whether the injection wells are permanent or temporary “direct push” points; and

(H) plans and specifications of the surface and subsurface construction details.

7. MONITORING PLAN – Per [15A NCAC 02C .0225(e)(9)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), submit a monitoring plan that includes the following:

(A) target contaminants plus secondary or intermediate contaminants that may result from the injection;

(B) other parameters that may serve to indicate the progress of the intended reactions;

(C) a list of existing and proposed monitoring wells to be used; and

(D) a sampling schedule to monitor the proposed injection.

*Monitoring wells shall be of sufficient quantity and location to detect any movement of injection fluids, injection process byproducts, or formation fluids outside the injection zone. The monitoring schedule shall be consistent with the proposed injection schedule, pace of the anticipated reactions, and rate of transport of the injectants and contaminants.*

8. WELL DATA TABULATION – Per [15A NCAC 02C .0225(e)(10)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), provide a tabulation of data on all existing or abandoned wells within the area of review of the injection well(s) that penetrate the proposed injection zone, including monitoring wells and wells proposed for use as injection wells. Such data shall include a description of each well's type, depth, and record of construction or abandonment.

9. MAPS AND CROSS-SECTIONS – Per [15A NCAC 02C .0225(e)(11)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0225.pdf), provide scaled, site-specific site plans or maps depicting the location, orientation, and relationship of facility components including the following:

(A) area map based on the most recent USGS 7.5’ topographic map of the area, at a scale of 1:24,000 and showing the location of the proposed injection site;

(B) topographic contour intervals showing all facility related structures, property boundaries, streams, springs, lakes, ponds, and other surface drainage features;

(C) all existing or abandoned wells within the area of review of the wells listed in the well data tabulation that penetrate the proposed injection zone;

(D) potentiometric surface map(s) that show the direction of groundwater movement, existing and proposed wells;

(E) contaminant plume map(s) with isoconcentration lines that show the horizontal extent of the contaminant plume in soil and groundwater, and existing and proposed wells;

(F) cross-section(s) to the known or projected depth of contamination that show the horizontal and vertical extent of the contaminant plume in soil and groundwater, major changes in lithology, and existing and proposed wells; and

(G) any existing sources of potential or known groundwater contamination, including waste storage, treatment, or disposal systems within the area of review of the injection well or well system.

**X. CERTIFICATION** (to be signed as required below or by that person’s authorized agent\*)

[NCAC 15A 02C .0211(e)](http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20c/15a%20ncac%2002c%20.0211.pdf) requires that all permit applications shall be signed as follows:

1. for a corporation: by a responsible corporate officer
2. for a partnership or sole proprietorship: by a general partner or the proprietor, respectively
3. for a municipality or a state, federal, or other public agency: by either a principal executive officer or ranking publicly elected official
4. for all others: by the well owner.

###### **\*If an authorized agent is signing on behalf of the applicant, then supply a letter signed by the applicant that names and authorizes their agent.**

*“I hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments therein, and that, based on my inquiry of those individuals immediately responsible for obtaining said information, I believe that the information is true, accurate, and complete. I am aware that there are penalties, including the possibility of fines and imprisonment, for submitting false information. I agree to construct, operate, maintain, repair, and if applicable, abandon the injection well(s) and all related appurtenances in accordance with the approved specifications and conditions of the Permit.”*

Printed Name and Title:

Signature: Date:

**XI. CONSENT OF PROPERTY OWNER** (if the property is not owned by the permit applicant)

### “Owner” means any person who holds the fee or other property rights in the well being constructed. A well is real property and its construction on land shall be deemed to vest ownership in the land owner, in the absence of contrary agreement in writing.

“*As owner of the property on which the injection well(s) are to be constructed and operated, I hereby consent to allow the applicant to construct each injection well as outlined in this application and agree that it shall be the responsibility of the applicant to ensure that the injection well(s) conform to the Well Construction Standards (*[*15A NCAC 02C .0200*](http://portal.ncdenr.org/c/document_library/get_file?uuid=6bc67e83-e925-4975-bb8a-d3084da0de4f&groupId=38364)*).”*

Printed Name and Title:

Signature: Date:

Submit **TWO hard** copies of the completed application package **with** an electronic version in CD or USB Flash Drive to:

**Division of Water Resources – UIC Program**

1636 Mail Service Center

**Raleigh, NC 27699-1636**

**Telephone (919) 807-6464**