

SECTION 332900 – WELL ABANDONMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 SUMMARY

- A. This section includes the abandonment of the private water wells listed in Exhibit A.

1.3 REFERENCES

- A. Except as herein specified or as indicated on the Drawings, the work of this section shall comply with the following: Michigan Public Health Code, Act 368, P.A. of 1978, Part 127 - Ground Water Quality Control Act and Administrative Rules.

1.4 SUBMITTALS

- A. Manufacturer's Literature: For Granular Bentonite:
 - 1. Name of manufacturer.
 - 2. Size and composition of material.
- B. Written Report:
 - 1. Within 30 days from project completion provide a written report on well abandonment. Specify for each well abandoned:
 - a. Building address.
 - b. Type of well abandoned.
 - c. Method of abandonment.
 - d. Plugging material: Type and volume.
 - e. Diameter and lineal feet of casing removed.

1.5 QUALITY ASSURANCE

- A. Personnel Qualifications:
 - 1. Trained and experienced in the abandoning of wells.
 - 2. Licensed well driller registered in the State of Michigan.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in original, unbroken, brand marked containers.

- B. Handle and store materials in a manner which will prevent deterioration, damage, contamination with foreign matter, damage by weather or elements, and in accordance with manufacturer's directions.
- C. Reject damaged, deteriorated or contaminated material and immediately remove from the site. Replace rejected materials with new materials at no additional cost to Owner.

1.7 SEQUENCING AND SCHEDULING

- A. Coordinate well abandonment with Engineer to ensure that property owner is receiving water from the public water supply system prior to commencing well abandonment.

PART 2 - PRODUCTS

2.1 PLUGGING MATERIALS

- A. Bentonite:
 - 1. Preformed pellets.
 - 2. Sodium bentonite.
 - 3. Minimum size 1/4-inch diameter.
 - 4. Maximum size 3/4-inch diameter.

2.2 WATER

- A. Obtain potable water from property occupant.

PART 3 - EXECUTION

3.1 PREPARATION

- A. General:
 - 1. Verify well has been disconnected from building plumbing.
 - 2. Verify location of well to be abandoned.
 - 3. Protect surrounding work area from damage.

3.2 CASING REMOVAL

- A. Remove well screen and casing where:
 - 1. Specified in Appendix, or
 - 2. As specified herein.
- B. Remove well screen and casing if well depth measurements and local geological information indicate that the existing contaminated well terminates in the same formation as the completed replacement well (if applicable), penetrates non-casing overburden (clay, hardpan) or has a visible open annular space around the casing.
- C. Remove the casing by applying a lifting force to the casing with a drilling rig, jacks, jarring head, or trip casing spear.

- D. In overburden, the plugging material shall be laced into the well after the screen is removed and prior to the removal of the casing so that the plugging material is in contact with the formation material as the casing is being pulled.

3.3 PLUGGING PROCEDURE

A. Preparation:

1. Remove materials which may hinder proper abandonment including pumping equipment, drop pipe, packer jets and check valves.
2. Removal of bremer check valves not required.

B. Plugging:

1. Pour bentonite slowly into the well at an even rate, not to exceed 5 minutes per 50 pounds of material.
2. Measure height of accumulated material with a work pipe or weighted string to check for possible bridging after each 50 pounds of material is placed. If bridging has occurred, a work pipe, drill rod, or other device shall be run into the casing to break the bridging.
3. Fill casing to within 12 inches of finished grade.
4. Fill casing with water to promote expansion of bentonite.
5. Cut casing at 12 inches below grade.
6. Weld or thread steel cap to new top of casing, or pour 6-inch concrete cap over well to 6 inches below grade.

3.4 SALVAGE RIGHTS

- A. Casing, drop pipe, packer jets, check valves, screens or other fittings removed from the well shall be the property of the property occupant, unless property occupant requests materials to be removed from site.

3.5 SITE RENOVATION

- A. Restore site to original condition.
- B. Regrade area to conform to existing ground contours.
- C. Restore topsoil in accordance with Division 31 Section "Earthwork" in preparation for seeding by Owner.
- D. Remove well materials as directed by property occupant.
- E. Remove plugging material from work area.

END OF SECTION 332900