



REVISED TYPE II PERMIT

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Noncommunity & Drinking Water Supplies Unit

Agenda

- Revised permit application
- Fixture count sheet
- Methods in calculating peak demand
- Example of calculating peak demand
- Additional permit considerations

Original Permit Application

Previous Version:

DEQ	MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY WATER DIVISION APPLICATION AND PERMIT TO INSTALL WATER SUPPLY FACILITIES Completion is required under the authority of Part 13 Act 1976 P.A. Failure to comply will void this application	For DEQ/Health Department Use _____ Well Permit Number _____ Corresponding Sewage Permit No. _____ WSSN _____
Permit To: _____ _____ Construct a Public Well Under Act 399, P.A. 1976 or Sanitary Code _____ Alter a Public Water Supply Under Act 399, P.A. 1976 or Sanitary Code		
ESTABLISHMENT NAME _____ ADDRESS _____ CITY _____ ZIP _____ COUNTY _____ TOWNSHIP _____ TOWN _____ N/S RANGE _____ E/W SECTION _____ FRACTION _____ 1/4 _____ 1/4 _____ 1/4 _____ OWNER/MANAGER _____ ADDRESS _____ CITY _____ ZIP _____ BUSINESS TELEPHONE _____ / _____ OWNERSHIP: GOVERNMENT <input type="checkbox"/> PRIVATE <input type="checkbox"/> AVERAGE NO. OF PERSONS SERVED PER DAY _____ NO. OF SERVICE CONNECTIONS _____ PREMISE TYPE _____ LICENSE TYPE _____ (Campground, School, Airport, etc.) (Campground, Food, DSS, Migrant Labor, etc.) IF SEASONAL: FROM _____ TO _____ WELL CONTRACTOR _____ TELEPHONE _____ / _____ PUMP INSTALLER _____ APPLICANT'S NAME _____ ADDRESS _____ CITY _____ ZIP _____		
I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only, and that the well is not to be put into service until final approval has been granted. I further state the information given is accurate and complete.		
Applicant's Signature _____ Date _____ Phone _____ / _____ (FOR DEQ/HEALTH DEPARTMENT USE ONLY - DO NOT WRITE IN SHADED AREAS)		
WELL SITE EVALUATION INFORMATION DATE OF EVALUATION _____ BY _____ CLASSIFICATION: TYPE IIA _____ TYPE IIB _____ STANDARD ISOLATION AREA _____ FT. (IF ISOLATION DISTANCES ARE LESS THAN ESTABLISHED) MAJOR ISOLATION AREA _____ FT. MINIMUM STANDARDS, COMPLETE DEVIATIONS SECTION)		WELL CONSTRUCTION PERMIT: APPROVAL/DENIAL DO NOT PROCEED WITH CONSTRUCTION WITHOUT SIGNATURE FROM DEQ/HEALTH DEPARTMENT REPRESENTATIVE By _____ Date _____ (Not valid unless signed by the health department)
PERMIT CONDITIONS/DEVIATIONS _____		REQUIRED MINIMUM CAPACITY _____ GPM
FINAL INSPECTION DATE _____ BY _____ WELL: CASING TERMINATION APPROVED: YES <input type="checkbox"/> NO <input type="checkbox"/> WELL LOCATION APPROVED: YES <input type="checkbox"/> NO <input type="checkbox"/> WELL CONSTRUCTION SATISFACTORY: YES <input type="checkbox"/> NO <input type="checkbox"/> VENTED: YES <input type="checkbox"/> NO <input type="checkbox"/> BURIED SUCTION LINE PROTECTED: YES <input type="checkbox"/> NO <input type="checkbox"/> PUMP: SHALLOW WELL JET <input type="checkbox"/> DEEP WELL JET <input type="checkbox"/> SUBMERSIBLE <input type="checkbox"/> HAND PUMP <input type="checkbox"/> TURBINE <input type="checkbox"/> OTHER <input type="checkbox"/> PIPING MATERIALS: MATERIAL _____ PRESSURE RATING _____ PSI _____ ASTM# _____ STORAGE: TYPE _____ LOCATION _____ CAPACITY _____ GALLONS OPERATING RANGE _____ TREATMENT: TYPE (IF ANY) _____ LOCATION _____ TEST RESULTS: BACTERIOLOGIC (1 st) DATE COLLECTED _____ BACTERIOLOGIC (2 nd) DATE COLLECTED _____ NITRATE DATE COLLECTED _____ MG/L FUTURE BACTI SAMPLING: BY OWNER: <input type="checkbox"/> L.H.D. <input type="checkbox"/> OTHER <input type="checkbox"/> FREQUENCY: QUARTERLY <input type="checkbox"/> ANNUALLY <input type="checkbox"/> OTHER <input type="checkbox"/> WELL RECORD: DATE RECEIVED _____ WATER SUPPLY APPROVED: YES <input type="checkbox"/> NO <input type="checkbox"/> BY _____ DATE _____ COMMENTS: _____		SCALE DRAWING: Make a SCALE DRAWING, including dimensions, in the space provided below: Show well location in respect to all possible sources of contamination, including adjacent properties, sewer lines, septic systems, and major sources of contamination. This drawing must be approved by the local health department before installation of the well. Please indicate north.
DISTRIBUTION: White: Local Health Department 2024 (4-01)		Pink: Owner EQP

After well construction is completed, a water well record must be submitted, and the DEQ/health department notified for final inspection and sampling of the well.

Revised Permit Application

New Version:



Department of Environmental Quality
Office of Drinking Water and Municipal Assistance
Application and Permit to Install Water Supply System
Completion is required under the authority of Part 13, 1976 PA 399

Shaded areas for Local Health Department or DEQ use only.

Permit to: Construct a Public Well Under 1976 PA 399 Alter a Public Well Under 1976 PA 399
Well Permit Number _____ WSSN _____ Source ID _____

Establishment Name _____ Address _____
City _____ State MICHIGAN Zip _____
County _____ Township _____ Section _____
Owner/Manager Name _____
Address _____ Contact Phone _____
Average No. of Persons Served Per Day _____ No. of Service Connections _____
Premise Type _____ License Type _____
(Restaurant, Campground, School, etc.) (Food, Campground, DHS, etc.)
Seasonal No Yes From _____ To _____
Applicant Name _____ Address _____
City _____ State _____ Zip _____
I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only and that the well is not to be put into service until approval has been granted. I further state the information given is accurate and complete.
Applicant's Signature _____ Date _____ Phone _____

Provide scale drawing where indicated.
DO NOT PROCEED WITH CONSTRUCTION WITHOUT PERMIT APPROVAL FROM THE LOCAL HEALTH DEPARTMENT

Well Site Evaluation By _____ Date _____
Classification Type IIA Type IIB Required Minimum Pump Capacity _____ GPM
Standard Isolation Area _____ Ft. Major Isolation Area _____ Ft.
Permit Conditions/Deviations _____

Permit Approval/Denial By _____ Date _____
Not valid unless signed by local health department

Final Inspection By _____ Date _____

Casing Termination Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Tank Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Location Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Sample Tap Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Construction Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Relief Valve	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Record Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pump Capacity Adequate	Yes <input type="checkbox"/>	No <input type="checkbox"/>

1st Coliform Bacteria Test Result _____ Date _____ Nitrate Test Result _____ Date _____
2nd Coliform Bacteria Test Result _____ Date _____ Other _____ Result _____ Date _____
Water Supply Approved By _____ Date _____
Comments _____

SCALE DRAWING:

Make a SCALE DRAWING, including dimensions, in the space provided below or attach separate sheet. Show well location in respect to all possible sources of contamination, including adjacent properties, sewer lines, septic systems, and major sources of contamination. This drawing must be approved by the local health department before installation of the well. Please indicate north.

After well construction is completed, a water well and pump record must be submitted and approved, the local health department is to be notified for final inspection, and applicable sampling of the well and water supply system is to be completed.

Revised Permit Application



Department of Environmental Quality
Office of Drinking Water and Municipal Assistance
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Permit to: Construct a Public Well Under 1976 PA 399 Alter a Public Well Under 1976 PA 399

Well Permit Number _____ WSSN _____ Source ID _____

Establishment Name _____ Address _____
City _____ State MICHIGAN Zip _____
County _____ Township _____ Section _____
Owner/Manager Name _____
Address _____ Contact Phone _____
Average No. of Persons Served Per Day _____ No. of Service Connections _____
Premise Type _____ License Type _____
(Restaurant, Campground, School, etc.) (Food, Campground, DHS, etc.)
Seasonal No Yes From _____ To _____
Applicant Name _____ Address _____
City _____ State _____ Zip _____
I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only and that the well is not to be put into service until approval has been granted. I further state the information given is accurate and complete.
Applicant's Signature _____ Date _____ Phone _____

Revisions

- Well Contractor and Pump Installer
- + Added space for Permit Conditions & Deviations

Provide scale drawing where indicated.
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Well Site Evaluation By _____ Date _____
Classification Type IIA Type IIB Required Minimum Pump Capacity _____ GPM
Standard Isolation Area _____ Ft. Major Isolation Area _____ Ft.
Permit Conditions/Deviations _____

Permit Approval/Denial By _____ Date _____
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Final Inspection By _____ Date _____

Casing Termination Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Tank Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Location Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Sample Tap Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Construction Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Relief Valve	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Record Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pump Capacity Adequate	Yes <input type="checkbox"/>	No <input type="checkbox"/>

1st Coliform Bacteria Test Result _____ Date _____ Nitrate Test Result _____ Date _____
2nd Coliform Bacteria Test Result _____ Date _____ Other _____ Result _____ Date _____

Water Supply Approved By _____ Date _____
Comments _____

Revised Permit Application



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Office of Drinking Water and Municipal Assistance
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Well Permit Number _____ WSSN _____ Source ID _____

Establishment Name _____ Address _____
City _____ State MICHIGAN Zip _____
County _____ Township _____ Section _____
Owner/Manager Name _____
Address _____ Contact Phone _____
Average No. of Persons Served Per Day _____ No. of Service Connections _____
Premise Type _____ License Type _____
(Restaurant, Campground, School, etc.) (Food, Campground, DHS, etc.)
Seasonal No Yes From _____ To _____
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Well Site Evaluation By _____ Date _____
Classification Type IIA Type IIB Required Minimum Pump Capacity _____ GPM
Standard Isolation Area _____ Ft. Major Isolation Area _____ Ft.
Permit Conditions/Deviations _____

Permit Approval/Denial By _____ Date _____
Not valid unless signed by local health department

Final Inspection By _____ Date _____
Casing Termination Approved Yes No Pressure Tank Approved Yes No
Well Location Approved Yes No Sample Tap Approved Yes No
Well Construction Approved Yes No Pressure Relief Valve Yes No
Well Record Approved Yes No Pump Capacity Adequate Yes No
1st Coliform Bacteria Test Result _____ Date _____ Nitrate Test Result _____ Date _____
2nd Coliform Bacteria Test Result _____ Date _____ Other _____ Result _____ Date _____

Water Supply Approved By _____ Date _____
Comments _____

Revisions

- Well Contractor and Pump Installer
- + Added space for Permit Conditions & Deviations

- + Well Record Approved
- Well Record Date Received

Revised Permit Application



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Well Permit Number _____ WSSN _____ Source ID _____

Establishment Name _____ Address _____
City _____ State MICHIGAN Zip _____
County _____ Township _____ Section _____
Owner/Manager Name _____
Address _____ Contact Phone _____
Average No. of Persons Served Per Day _____ No. of Service Connections _____
Premise Type _____ License Type _____
(Restaurant, Campground, School, etc.) (Food, Campground, DHS, etc.)
Seasonal No Yes From _____ To _____
Applicant Name _____ Address _____
City _____ State _____ Zip _____
I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only and that the well is not to be put into service until approval has been granted. I further state the information given is accurate and complete.
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Classification Type IIA Type IIB Required Minimum Pump Capacity _____ GPM
Standard Isolation Area _____ Ft. Major Isolation Area _____ Ft.
Permit Conditions/Deviations _____

Permit Approval/Denial By _____ Date _____
Not valid unless signed by local health department

Final Inspection By _____ Date _____

Casing Termination Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Tank Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Location Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Sample Tap Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Construction Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Relief Valve	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Record Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pump Capacity Adequate	Yes <input type="checkbox"/>	No <input type="checkbox"/>
1 st Coliform Bacteria Test	Result _____	Date _____	Nitrate Test	Result _____	Date _____
2 nd Coliform Bacteria Test	Result _____	Date _____	Other	Result _____	Date _____

Water Supply Approved By _____ Date _____
Comments _____

Revisions

- Well Contractor and Pump Installer
+ Added space for Permit Conditions & Deviations.

+ Well Record Approved
- Well Record Date Received
+ Storage/Pressure Tank Approved
- Storage Type/Location

Revised Permit Application



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Office of Drinking Water and Municipal Assistance
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Well Permit Number _____ WSSN _____ Source ID _____

Establishment Name _____ Address _____
City _____ State MICHIGAN Zip _____
County _____ Township _____ Section _____
Owner/Manager Name _____
Address _____ Contact Phone _____
Average No. of Persons Served Per Day _____ No. of Service Connections _____
Premise Type _____ License Type _____
(Restaurant, Campground, School, etc.) (Food, Campground, DHS, etc.)
Seasonal No Yes From _____ To _____
Applicant Name _____ Address _____
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I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only and that the well is not to be put into service until approval has been granted. I further state the information given is accurate and complete.
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Classification Type IIA Type IIB Required Minimum Pump Capacity _____ GPM
Standard Isolation Area _____ Ft. Major Isolation Area _____ Ft.
Permit Conditions/Deviations _____

Permit Approval/Denial By _____ Date _____
Not valid unless signed by local health department

Final Inspection By _____ Date _____

Casing Termination Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Tank Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Location Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Sample Tap Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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Well Record Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pump Capacity Adequate	Yes <input type="checkbox"/>	No <input type="checkbox"/>
1 st Coliform Bacteria Test	Result _____	Date _____	Nitrate Test	Result _____	Date _____
2 nd Coliform Bacteria Test	Result _____	Date _____	Other	Result _____	Date _____

Water Supply Approved By _____ Date _____
Comments _____

Revisions

- Well Contractor and Pump Installer
+ Added space for Permit Conditions & Deviations.

+ Well Record Approved
- Well Record Date Received
+ Storage/Pressure Tank Approved
- Storage Type/Location
+ Pump Capacity Adequate
- Capacity/Pump Type

Revised Permit Application



Department of Environmental Quality
Office of Drinking Water and Municipal Assistance
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Permit to:	<input type="checkbox"/> Construct a Public Well Under 1976 PA 399	<input type="checkbox"/> Alter a Public Well Under 1976 PA 399
Well Permit Number	WSSN	Source ID
Establishment Name	Address	
City	State MICHIGAN	Zip
County	Township	Section
Owner/Manager Name	Address	
	Contact Phone	
Average No. of Persons Served Per Day	No. of Service Connections	
Premise Type	License Type	
	(Restaurant, Campground, School, etc.) (Food, Campground, DHS, etc.)	
Seasonal	No <input type="checkbox"/> Yes <input type="checkbox"/>	From To
Applicant Name	Address	
City	State	Zip
<i>I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only and that the well is not to be put into service until approval has been granted. I further state the information given is accurate and complete.</i>		
Applicant's Signature	Date	Phone

Revisions

- Well Contractor and Pump Installer
+ Added space for Permit Conditions & Deviations.

- + Well Record Approved
- Well Record Date Received
- + Storage/Pressure Tank Approved
- Storage Type/Location
- + Pump Capacity Adequate
- Capacity/Pump Type
- Future Bacteria Sampling
- Frequency (quarterly/annual)

Provide scale drawing where indicated.
DO NOT PROCEED WITH CONSTRUCTION WITHOUT PERMIT APPROVAL FROM THE LOCAL HEALTH DEPARTMENT

Well Site Evaluation By	Date	
Classification	Type IIA <input type="checkbox"/>	Type IIB <input type="checkbox"/>
Standard Isolation Area	Ft.	Major Isolation Area
		Ft.
Permit Conditions/Deviations		

Permit Approval/Denial By	Date
<i>Not valid unless signed by local health department</i>	

Final Inspection By	Date				
Casing Termination Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pressure Tank Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Well Location Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Sample Tap Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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Well Record Approved	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Pump Capacity Adequate	Yes <input type="checkbox"/>	No <input type="checkbox"/>

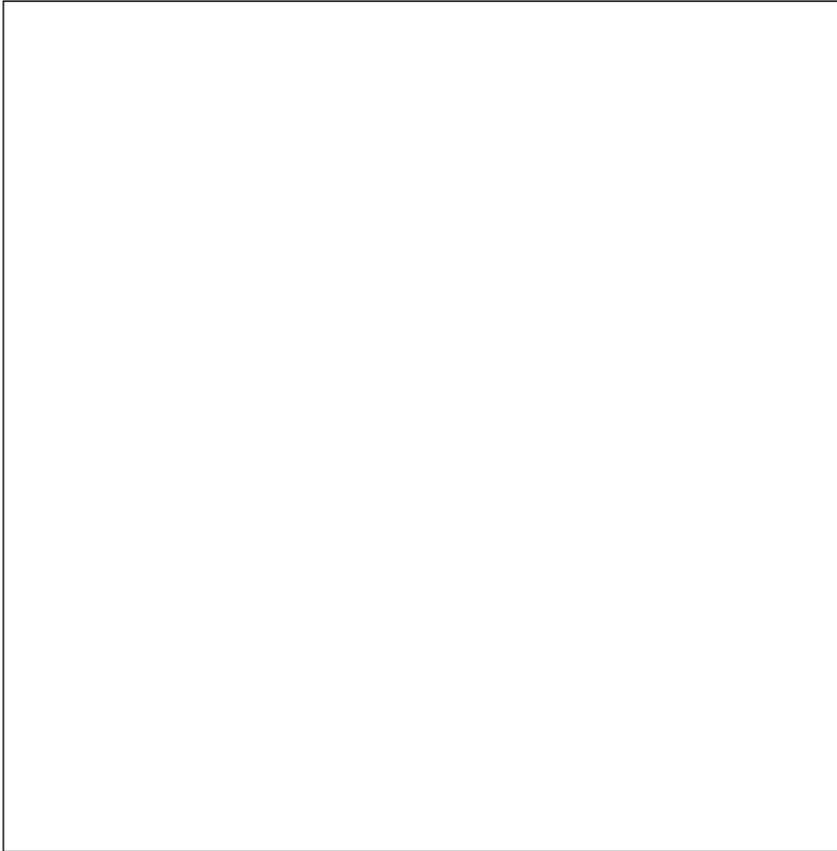
1 st Coliform Bacteria Test	Result	Date	Nitrate Test	Result	Date
2 nd Coliform Bacteria Test	Result	Date	Other	Result	Date

Water Supply Approved By	Date
Comments	

Revised Permit Application

SCALE DRAWING:

Make a SCALE DRAWING, including dimensions, in the space provided below or attach separate sheet. Show well location in respect to all possible sources of contamination, including adjacent properties, sewer lines, septic systems, and major sources of contamination. This drawing must be approved by the local health department before installation of the well. Please indicate north.



After well construction is completed, a water well and pump record must be submitted and approved, the local health department is to be notified for final inspection, and applicable sampling of the well and water supply system is to be completed.

Revisions (Page 2)

+ Additional space for site diagram

Fixture Count Sheet

- Recommended Use
 - Provide with application
 - Aid in determining peak demand
 - Aid in final inspection/sanitary survey



Department of Environmental Quality
Office of Drinking Water and Municipal Assistance

EXISTING AND PROPOSED FIXTURE COUNT

For Calculating Peak Demand

Facility Name _____ Date _____

Well Permit# _____ WSSN _____

Contact Name _____ Phone _____

Please fill in the quantity for each of the following fixtures.

1. Water closet, with tank _____	22. Spray rinse, hand operated _____
2. Water closet, with flush valve _____	23. Ice machine _____
3. Urinal, with tank _____	24. Ice cream machine _____
4. Urinal, with flush valve _____	25. Ice cream dipper well _____
5. Lavatory _____	26. Glass filling unit _____
6. Bathtub, or tub/shower Combination _____	27. Hot chocolate unit _____
7. Shower _____	28. Coffee unit/urn _____
8. Drinking fountain _____	29. Groundwater heat pump ** _____
9. Laundry tray _____	30. Air conditioner (water cooled) ** _____
10. Service/Mop sink _____	31. Evaporative cooler ** _____
11. Lawn sprinkler, per sprinkler head ** _____	32. Bulk chemical dispensing unit ** _____
12. Auto washing, hand spray type _____	33. Boiler unit/steam heating unit ** _____
13. Tractor and equipment washing _____	34. Washing machine _____
14. Water softener _____	A. $\frac{1}{2}$ " connection _____
15. Dental unit _____	B. $\frac{3}{8}$ " connection _____
16. Dental lavatory _____	C. $\frac{1}{4}$ " connection _____
17. Garbage disposal – domestic household _____	35. Hose bibb or Yard hydrant _____
18. Garbage disposal – Commercial _____	A. $\frac{1}{2}$ " connection _____
19. Kitchen sink – small _____	B. $\frac{3}{8}$ " connection _____
20. Kitchen sink – large/double _____	C. $\frac{1}{4}$ " connection _____
21. Automatic dishwasher ** _____	36. Other _____
	A. _____
	B. _____
	C. _____

** Please include manufacturer specifications for water demand (gpm) required per fixture.
Fixture count sheet to be completed and submitted with the permit application.

11/2012

Calculating Peak Demand

- Methods for determining peak demand Include:
 - Fixture Count Method
 - This method involves using the number of fixtures and water outlets and multiplying by the peak demand per fixture. Fixture values are provided in Table 1 of Appendix E-14 of the NCWS manual.

Calculating Peak Demand

- Methods for determining peak demand Include:
 - Fixture Count Method
 - Residential Unit Method
 - Estimated peak demand flow of similar buildings can be determined from using data from similar systems of comparable size and use. This method uses a predetermined water usage (gallons per person per day) and a formula derived from studies of water use patterns. Water usage for a variety of operations are provided in Table 2 of Appendix E-14 within the NCWS manual.

Calculating Peak Demand

- Methods for determining peak demand Include:
 - Fixture Count Method
 - Residential Unit Method
 - Fixture Method
 - This method utilizes a list of commonly used water fixtures, where each is assigned a value that reflects the demand. The sum of all values is then adjusted to compensate for the probability that as the number of fixtures increase, the relative number in use at any one time decreases. Fixture values are provided in Table 3 and Graph 1 or 2 of Appendix E-14 of the NCWS manual.

Calculation Worksheet

- Still in testing.....



Example

- Application

- Copy of Fixture Sheet

DEQ Department of Environmental Quality
Office of Drinking Water and Municipal Assistance
Application and Permit to Install Water Supply System
Completion is required under the authority of Part 13, 1976 PA 399

Shaded areas for Local Health Department or DEQ use only.

Permit to: Construct a Public Well Under 1976 PA 399 Alter a Public Well Under 1976 PA 399

Well Permit Number _____ WSSN _____ Source ID _____

Establishment Name Wellmade Manufacturing Address 123 Steely Lane
City Saint Johns State MICHIGAN Zip 48879
County Clinton Township Bingham Section 13
Owner/Manager Name Jack Smith
Address see above - same Contact Phone 989-224-1234
Average No. of Persons Served Per Day 340 No. of Service Connections 1
Premise Type manufacturing License Type N/A
(Restaurant, Campground, School, etc.) (Food, Campground, DHS, etc.)
Seasonal No Yes From _____ To _____
Applicant Name Jack Smith Address 123 Steely Lane
City St. Johns State MI Zip 48879
I hereby apply for this permit and have authorization to do so. I understand this is a construction permit only and that the well is not to be put into service until approval has been granted. I further state the information given is accurate and complete.
Applicant's Signature [Signature] Date 4-16-13 Phone 989-224-1234

Provide scale drawing where indicated.
DO NOT PROCEED WITH CONSTRUCTION WITHOUT PERMIT APPROVAL FROM THE LOCAL HEALTH DEPARTMENT

Well Site Evaluation By _____ Date _____
Classification Type IIA Type IIB Required Minimum Pump Capacity _____ GPM
Standard Isolation Area _____ Ft. Major Isolation Area _____ Ft.
Permit Conditions/Deviations _____
Permit Approval/Denial By _____ Date _____
Not valid unless signed by local health department

Final Inspection By _____ Date _____
Casing Termination Approved Yes No Pressure Tank Approved Yes No
Well Location Approved Yes No Sample Tap Approved Yes No
Well Construction Approved Yes No Pressure Relief Valve Yes No
Well Record Approved Yes No Pump Capacity Adequate Yes No
1ST Coliform Bacteria Test Result _____ Date _____ Nitrate Test Result _____ Date _____
2ND Coliform Bacteria Test Result _____ Date _____ Other Result _____ Date _____
Water Supply Approved By _____ Date _____
Comments _____

EQP 2024 (Rev. 11/2012)

DEQ Department of Environmental Quality
Office of Drinking Water and Municipal Assistance
EXISTING AND PROPOSED FIXTURE COUNT
For Calculating Peak Demand

Facility Name Wellmade Manufacturing Date 4-16-2013
Well Permit # _____ WSSN 1234567
Contact Name Jack Smith Phone 989-224-1234

Please fill in the quantity for each of the following fixtures.

1. Water closet, with tank _____	22. Spray rinse, hand operated _____
2. Water closet, with flush valve <u>24</u>	23. Ice machine _____
3. Urinal, with tank _____	24. Ice cream machine _____
4. Urinal, with flush valve <u>8</u>	25. Ice cream dipper well _____
5. Lavatory <u>24</u>	26. Glass filling unit _____
6. Bathtub, or tub/shower Combination _____	27. Hot chocolate unit _____
7. Shower <u>1</u>	28. Coffee unit/urn _____
8. Drinking fountain <u>8</u>	29. Groundwater heat pump ** _____
9. Laundry tray _____	30. Air conditioner (water cooled) ** _____
10. Service/Mop sink <u>2</u>	31. Evaporative cooler ** _____
11. Lawn sprinkler, per sprinkler head ** _____	32. Bulk chemical dispensing unit ** _____
12. Auto washing, hand spray type _____	33. Boiler unit/steam heating unit ** _____
13. Tractor and equipment washing _____	34. Washing machine _____
14. Water softener _____	A. 1/2" connection _____
15. Dental unit _____	B. 5/8" connection _____
16. Dental lavatory _____	C. 3/4" connection _____
17. Garbage disposal - domestic/household _____	35. Hose bibb or Yard hydrant _____
18. Garbage disposal - Commercial _____	A. 1/2" connection _____
19. Kitchen sink - small <u>6</u>	B. 5/8" connection <u>6</u>
20. Kitchen sink - large/double <u>1</u>	C. 3/4" connection _____
21. Automatic dishwasher ** _____	36. Other _____
	A. _____
	B. _____
	C. _____

**Please include manufacturer specifications for water demand (gpm) required per fixture. Fixture count sheet to be completed and submitted with the permit application.

11/2012

Example

- Fixture Count Method
 - 80 Fixtures per Fixture Sheet
 - Peak Demand per Fixture = .75 Gallons Per Minute (GPM)
 - Calculated Peak Demand
= 60 GPM

Type of Building	Total Number of Fixtures							
	25 or less	26-50	51-75	76-100	101-200	201-400	401-500	Over 500
Hospitals	1.00	1.00	0.80	0.70	0.60	0.50	0.45	0.40
Churches, Halls, Theaters	1.50	1.25	1.00	0.80	0.75	0.70	0.60	0.50
Mercantile Buildings	1.30	1.00	0.80	0.75	0.70	0.60	.055	0.50
Office Buildings	1.20	0.90	0.75	0.70	0.65	0.50	0.40	0.35
Factories, Warehouses	1.25	1.00	0.80	0.75	0.70	0.60	0.55	0.50
Schools	1.20	0.85	0.70	0.65	0.60	0.55	0.45	0.45
Motels, Hotels	0.80	0.65	0.55	0.50	0.45	0.40	0.35	0.30
Apartment Buildings	0.60	0.55	0.50	0.40	0.35	0.30	0.25	0.20

Example

- Fixture Count Method

= 60 GPM

- Residential Unit Method

- 340 employees

- Estimated water usage

- 35 gallons per person per day

- Apply information to formula

$$\sqrt{\quad} N = \text{Residential Units}$$

$$340 * 35 = 11900$$

$$11900 \div 350 = 34 (N = 34)$$

- Calculated peak demand

= 58 GPM

Type of Establishment	Gallon Per Person Per Day (Unless Otherwise Noted)
Airports (per passenger)	5
Bathhouses and swimming pools	10
Camps:	
Campgrounds	**
Construction camps (semi-permanent)	50
Day camps (no meals served)	16
Resort camps (night and day) with limited plumbing	50
Luxury camps	100
Church (per auditorium seat)	5
Church (with substantial kitchen wastes, per auditorium seat)	7-10
Cottages and small dwellings with seasonal occupancy	50
Country clubs (per resident member)	100
Country clubs (per non-resident member present)	25
Dwellings:	
Boarding houses	50
additional for non-resident boarders	10
Luxury residences and estates	150
Multiple family dwellings (apartments)	80
Rooming houses	40
Single family dwellings	75
Factories (gallons per person, per shift, exclusive of industrial wastes)	35
Hospitals (per bed space)	250+
Hotels with private baths (2 persons per room)	60
Hotels without private baths	50
Institutions other than hospitals (per bed space)	125
Laundries, self-service (gallons per wash, i.e., per customer)	50
Mobile home parks (per space)	200
Motels with bath, toilet, and kitchen wastes (per bed space)	50
Motels (per bed space)	40
Picnic parks (toilet wastes only) (per picnicker)	5
Picnic parks with bathhouses, showers, and flush toilets	10
Schools:	

Example

- Fixture Count Method

= 60 GPM

- Residential Unit Method

= 58 GPM

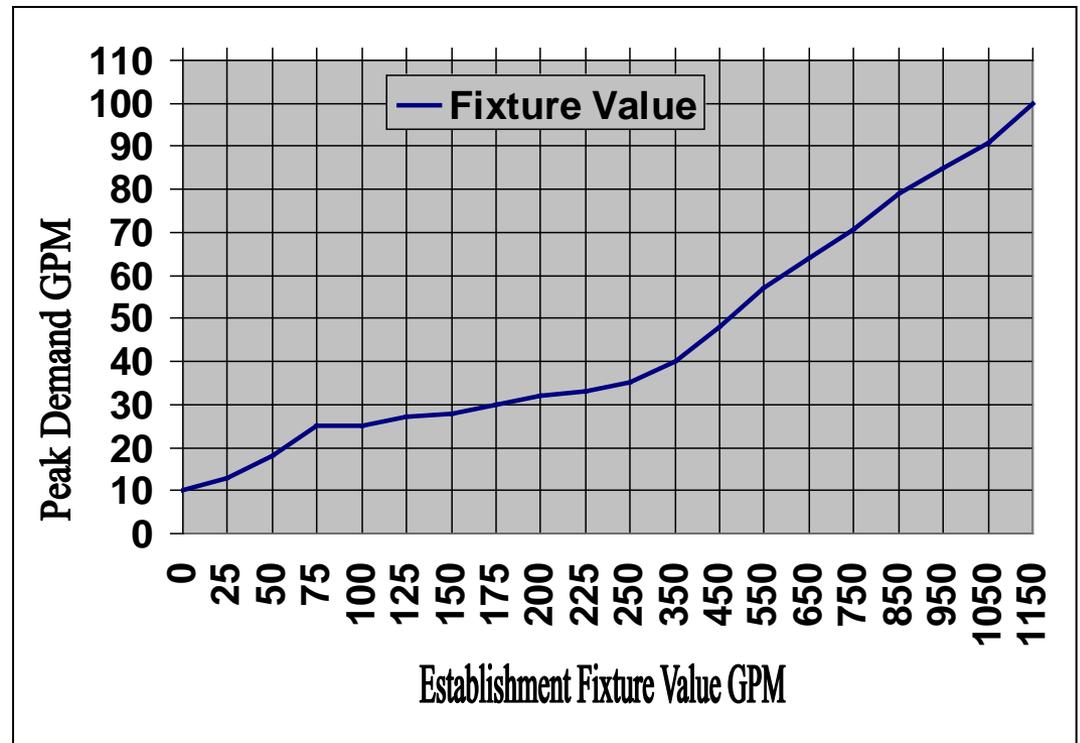
- Fixture Method

– Calculated Fixture Value

= 919 (GPM)

– Graph Value

= 85 (GPM)



Example

- Fixture Count Method
= 60 GPM
- Residential Unit Method
= 58 GPM
- Fixture Method
= 85 (GPM)

Average = 67.66 GPM
Rounded up to 68 GPM



Permit Considerations

- Capacity Development (technical, managerial, & financial obligations)
 - Required for
 - New nontransient water supply systems
 - Change in classification from transient to nontransient

Permit Considerations

- Capacity Development
- Deviation Issuance
 - Maximize isolation distance.
 - Should get request in writing.
 - Must be a written condition on permit/permit letter.

Permit Considerations

- Capacity Development
- Deviation Issuance
- Site Diagram (application/permit)
 - To be completed by applicant.
 - Upon modifications by LHD, applicant shall approve changes.

Permit Considerations

- Capacity Development
- Deviation Issuance
- Site Diagram (application/permit)
- **Final Approval Comments**
 - Collection of applicable water samples
 - Certified Operator
 - Copy of final approval acts as annual fee payment

Permit Considerations

- Capacity Development
- Deviation Issuance
- Site Diagram (application/permit)
- Final Approval Comments
- **Other**
 - Complete Sample Siting Plan.