NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SYSTEM ENGINEERING
TECHNICAL REVIEW FORM

PRETREATMENT
(N.J.A.C. 7:10-11.13)

Water Purveyor	PWSID#	Municipality
_____	_____	_____

Type of Process: ☐ Rapid Mixing, Flocculation, and Sedimentation
☐ Solids-Contact Units

Type(s) of Treatment: ☐ Flocculation ☐ Softening
☐ Settling ☐ Iron and Manganese Removal
☐ Other: _____

	YES	NO	N/A
General			
1. With a single unit out of service, are the minimum required detention times maintained? (N.J.A.C. 7:10-11.13(a)1)	☐	☐	☐
2. With a single unit out of service, are the surface loading rates maintained? (N.J.A.C. 7:10-11.13(a)1)	☐	☐	☐
3. For surface water treatment plants, are a minimum of two pretreatment units provided? (N.J.A.C. 7:10-11.13(a)1)	☐	☐	☐
4. Has a Technical Review Form for Chemical Handling and Feeding been prepared for chemical feeds?	☐	☐	☐
5. Is each pretreatment basin equipped with a drain or drains to permit dewatering? (N.J.A.C. 7:10-11.13(a)3)	☐	☐	☐
6. Are adequate means provided for the removal of sludge and is sludge disposed of in accordance with applicable State and Federal Laws and Regulations? (N.J.A.C. 7:10-11.13(a)5)	☐	☐	☐
7. Is adequate agitation provided to ensure rapid and uniform dispersion of each chemical throughout the water? (N.J.A.C. 7:10-11.13(b))	☐	☐	☐
Flocculation			
1. Is flocculation provided for surface water treatment plants? (N.J.A.C. 7:10-11.13(c)1)	☐	☐	☐

	YES	NO	N/A
2. Is the flow through velocity no less than 0.5 feet per minute nor greater than 1.5 feet per minute with a minimum detention time for floc formation of not less than 30 minutes? (N.J.A.C. 7:10-11.13(c)2)	☐	☐	☐
3. Is flocculation accomplished by agitation under mixing conditions with agitators driven by variable speed drives with the peripheral speed of the paddles ranging from 0.5 to 3.0 feet per second? (N.J.A.C. 7:10-11.13(c)3)	☐	☐	☐
4. Are the flocculation units designed to prevent short-circuiting? (N.J.A.C. 7:10-11.13(c)4)	☐	☐	☐
5. Is the velocity of flocculated water through pipes or conduits to settling basins no less than 0.5 feet per second nor greater than 1.5 feet per second? (N.J.A.C. 7:10-11.13(c)4)	☐	☐	☐

Sedimentation

1. Is sedimentation provided for surface water treatment plants? (N.J.A.C. 7:10-11.13(d)1)	☐	☐	☐
2. Is the depth of the sedimentation basin at least 10 feet with ample allowance for sludge accumulation or sludge removal equipment and a depth of water flow of at least 6 feet? (N.J.A.C. 7:10-11.13(d)2)	☐	☐	☐
3. Are the sedimentation basins designed to prevent short-circuiting? (N.J.A.C. 7:10-11.13(d)3)	☐	☐	☐
4. Are submerged inlet ports located so as to avoid creating a disturbance of the settled floc? (N.J.A.C. 7:10-11.13(d)3)	☐	☐	☐
5. Are the sedimentation basins designed so as not to exceed the maximum surface loading rate (in gallons per minute) as given below: (N.J.A.C. 7:10-11.13(d)4)	☐	☐	☐

	Flocculation or Iron or Manganese Removal	Lime Softening
Ground Water	0.5	1.0
Surface Water	0.375	0.75

6. For around-end baffling, are the sedimentation basins designed so as not to exceed one-half the maximum surface loading rates given above? (N.J.A.C. 7:10-11.13(d)5)	☐	☐	☐
7. For horizontal units, is the minimum detention time at least 4 hours for surface water treatment plants? ? (N.J.A.C. 7:10-11.13(d)6)	☐	☐	☐

	YES	NO	N/A
8. For horizontal units, is the minimum detention time at least 2 hours for lime softening treatment plants? (N.J.A.C. 7:10-11.13(d)6)	☐	☐	☐
9. Are the settling basins designed so that the water velocity through the basins does not exceed 0.5 feet per second? N.J.A.C. 7:10-11.13(d)7)	☐	☐	☐
10. Are the settling basins designed so that the outlet weir flow does not exceed 20 gallons per minute per foot of length of settled weir? N.J.A.C. 7:10-11.13(d)9)	☐	☐	☐

Solids-Contact Units

	YES	NO	N/A
1. Are the solids-contact units designed so as not to exceed the maximum surface loading rate (in gallons per minute) as given below: N.J.A.C. 7:10-11.13(e)4)	☐	☐	☐

	Flocculation or Iron or Manganese Removal	Lime Softening
Ground Water	1.0	2.0
Surface Water	0.75	1.5

2. Is each solids-contact unit equipped with sample taps to facilitate collection of water samples from various locations within the unit to ensure its efficiency? N.J.A.C. 7:10-11.13(e)5)	☐	☐	☐
3. Are the solids-contact units designed so that the outlet weir flow does not exceed 20 gallons per minute per foot of length of softened water or 10 gallons per minute per foot of length of flocculated water? N.J.A.C. 7:10-11.13(e)6)	☐	☐	☐
4. Is each solids-contact unit equipped for effective concentration of sludge and to facilitate sludge draw-off and disposal? N.J.A.C. 7:10-11.13(e)7)	☐	☐	☐
5. Is sludge piping a minimum diameter of 3 inches and arranged so as to facilitate operation and cleaning? N.J.A.C. 7:10-11.13(e)8)	☐	☐	☐

	YES	NO	N/A
6. Are sludge valves located outside the solids contact unit? N.J.A.C. 7:10-11.13(e)9)	☐	☐	☐
7. Are solids-contact units designed to allow for manual override of any preset automatic intermittent withdrawal of sludge? N.J.A.C. 7:10-11.13(e)10)	☐	☐	☐

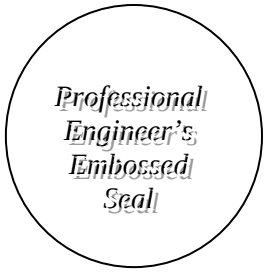
Submit appropriate engineering plans, specifications, reports, etc. to substantiate your answers

I hereby certify that answers provided herein are accurate and reflective of the project being considered for approval.

_____ _____ _____

Signature of Engineer Date N.J.P.E. #

Professional Engineer's Embossed Seal



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Type or Print Name of Engineering Firm

PA13 (09/13)