

BURLINGTON DPW - WATER SYSTEM REVIEW

BHM_water&sewer_review042417

PROJECT: Burlington Harbor Marina (BHM)

LOCATION: 235 Penny Lane

OWNER: BHM LLC

ENGINEER: Civil Engineering Associates

DATE REC'D: 3/21/17

DATE REV'D: 3/21/17

PLAN DATE/REV: 4/24/17

REV'D BY: S. Roy

	Yes	No	N/A	Insuff. Info
1. Are the water mains located under/adjacent to the proposed street(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Are the public water mains C900 pipe, 8" minimum with tracer wire?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is the depth of all water mains between 6' and 9' below grade?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the proposed design avoid 90 degree bends?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Does the proposed design include dead ends?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Do new tee connections include valves on all three legs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. If the mains are shown bending vertically or horizontally, do they conform to allowable pipe deflection radii?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Do all mains meet horizontal and vertical separation from sewers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Are fire hydrants located every 500' residential and 300' commercial?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Are there fire hydrants located within 100' of a sprinklered building?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Are fire hydrants set back at least 3' from paved areas?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Do fire hydrants meet City specifications?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Are the fire hydrants connected to main with 6" pipe and valve?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Are there hydrants at high point(s) to aid in air removal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15. Are there mechanical thrust restraint and thrust blocks at all fittings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Do all valves meet City specifications (open right)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Are all valves and curbstops located within City right-of-way?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Are there any special easement requirements on this project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Do all valves include a valve box at grade w/covers marked "water"?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Are all services up to 2" using type K copper or CTS pipe?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Do all services leave water mains and enter buildings at right angles?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22. Do the plans include a water system specifications drawing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Do the plans include water use estimates using the applicable table from the latest Vermont Environmental Standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
24. Is the project large enough to require Needed Fire Flow (NFF) and/or hydraulic analysis for domestic and fire flow demands, or to prove whether or not the project may have an adverse impact to existing customers?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Does or should (circle one) the design include a looped water system?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
26. Do multifamily dwellings have means for separate metering?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
27. Do the plans include standards for pressure testing and disinfection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS

1. Water Resources is now using a Burlington specified Kennedy K81 hydrant. We will provide the applicable information.
2. Gate valves at tapping tee and hydrant are open right.

3. Sheet C2.2 references protection of the water plant's 30" clearwell pipes per the Dufresne Report. This needs to be designed, approved and constructed before the permeable pavers are installed.
4. Water Resources has no experience with above-grade water systems (marina end) and cannot approve that design.

BURLINGTON DPW - SEWER SYSTEM REVIEW

PROJECT: Burlington Harbor Marina (BHM) LOCATION: 235 Penny Lane
 OWNER: BHM LLC ENGINEER: Civil Engineering Associates
 DATE REC'D: 3/21/17 DATE REV'D: 3/21/17
 PLAN DATE/REV: 1/13/17 REV'D BY: S. Roy

	<u>Yes</u>	<u>No</u>	<u>N/A</u>	<u>Insuff. Info</u>
1. Are the sewers located under the proposed street(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Are the sewer pipes SDR 35 PVC or approved equal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Are the pipe depth(s) between 4 ft to 8 ft, or approved?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Are the sewer pipes sealed at the manholes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Do the service connections meet DPW standards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Are manholes located at changes in direction or grade?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are manholes every 400 to 600 feet, depending on sewer size?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Are manholes precast w/plastic rungs and cover marked "sewer"?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Do the manholes have adequate invert(s) and bench?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Does the project plans include ave. and peak estimated flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Does this project discharge into a combined sewer system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. If yes, is a capacity study warranted?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Does this project discharge to a pump station?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. If yes, is a capacity study warranted?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the station have adequate emergency storage for this project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Does the project require construction of a new pump station?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. If yes, does DPW want to take it over?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. If the developer wants DPW to own, does the station meet State and DPW standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Station type:Click here to enter text. Capacity:Click here to enter text.

COMMENTS

1. Per item #5 above, detail for project force main connection on sheet C4.1 is incorrect for this project.
2. Force main material of construction is unclear.
3. Water Resources has no experience with floating wastewater systems (marina end) and cannot approve that design.