

HAYDEN LAKE IRRIGATION DISTRICT

REQUIREMENTS FOR WATERLINE CONSTRUCTION

Before Construction Begins

1. IDEQ letter of approval is required prior to any construction.
2. All work shall conform to ISPWC (latest edition) and Hayden Lake Irrigation District (HLID) standards. In case of conflict, HLID standards shall prevail.
3. All plans must be submitted to HLID for review and approval by HLID and/or district engineer. The cost for reviews shall be invoiced to and paid by the owner/developer. See item # 1
4. Water main sizing and locations shall be determined by HLID and District engineer. Valves shall be installed at all intersecting points (i.e. all sides of tee's, etc) and where required by HLID.
5. If any aspects of the plans change; i.e. phasing, relocation of mains, services, etc., revised plans must be approved by HLID before continuing.
6. HLID must have these standards signed and returned, and contractor must have an HLID approved (stamped) set of plans on site before water system construction begins.
7. Developer is responsible to verify depth and location of existing mains. Wherever existing mains are to remain in service, adjustments to depth may be required to properly connect to proposed improvements.
8. Within the scope of the project the following shall be properly replaced, relocated and/or removed at the developers' expense: Any existing asbestos cement (AC) pipe shall be removed (if possible) and replaced; any existing meter services or service lines shall be relocated, replaced and reconnected. *See item # 7 below*
9. Any contractor working on the District water infrastructure must hold a valid current Idaho Public Works License and provide the District with a copy of license along with an insurance certificate indemnifying HLID.

Materials:

ALL MATERIALS SHALL BE DOMESTIC, UNUSED, NEW AND IN GOOD OR BETTER CONDITION

1. Water mains shall be: AWWA C-900 or C-905 DR-18 PVC, fittings and valves shall be ductile iron; conforming to American Water Works standards AWWA C153 (compact fittings), AWWA C504 (butterfly valves) and AWWA C509 (gate valves), valves shall be epoxy coated.
2. Valves 3" to 12" shall be resilient seat gate valves (RSGV) with a 2" operating nut opening counterclockwise (CCW) and a correctly sized BoxLok installed under the operating nut.
3. Valves greater than 12" shall be butterfly valves with a 2" operating nut opening CCW and a correctly sized BoxLok installed under the operating nut.
4. All valve boxes shall be Tyler Union Foundry or District approved equal.
5. Fire hydrant locations shall be approved by HLID and the fire department. Fire hydrants shall have a Storz adaptor, USA Bluebook HydrantLok and RoDon Hydra-Finder locating device installed. *See standard detail for fire hydrants*
6. All service lateral locations shall be determined by HLID and constructed of 250 PSI high density polyethylene (HDPE). Curb stops shall have a 4" PVC valve stack installed and must have a Tyler Union Foundry top valve box with lid. Commercial services shall be 2" minimum to downstream side of meter. *See standard detail for commercial and residential services*
7. All HLID approved meter sets shall be provided by the owner/developer and located as per HLID with a meter spacer installed. Depth of spacer to be 16" under lid for residential and commercial installations apart from the coil pit meter setters. No connections are allowed within 5 feet of the meter pits. *See standard detail for residential and commercial services*
8. All commercial buildings, and others deemed necessary by HLID, shall have an approved reduced pressure zone backflow prevention assembly (RP) installed after the meter service and before any unprotected connections, with a 5-foot delineation before first connection.

Construction:

Connections to Existing Mains

SCHEDULE WITH HLID AT LEAST 2 WORKING DAYS BEFORE EXCAVATION

Where the connection of new work to old requires the following: install the properly sized valve (**operated by District staff only**) followed with temporary jumper. The jumper must be properly sized. The backflow assembly must be tested after installation by the district, or a district approve license tester with the test results provide to the district and the contractor. The backflow assembly sizing must achieve a minimum flushing velocity of 2.5 fps or current AWWA flushing velocities. A radio read meter will be provided to meet the sizing of the engineer's recommendations and installed by the district upstream of the backflow assembly for a \$250 dollar fee (meter is district property, any damages that occur will be paid by the contractor or the developer). Construction water will be billed at the district's current fee schedule (see HLID web site) per thousand (monthly). Once the water testing has passed (see testing procedures following the Standards), the tie-in may be scheduled (48-hour notice is required) to the district system. The tie-in will consist of all restraint joints, clean sanitized mechanically plugged pipe at each end and MJ long barrel sleeve. The Contractor shall mutually agree with the district upon a date for connection which will allow the Owner to provide 48 hour written notification to the district customers affected. The interruption will not exceed 10 hours in any given day. The District and the contractor will notify all effected customers as well. When available contractor may connect to the District fire hydrant with District's backflow and hydrant water.

1. All water mains, services, fittings and appurtenances shall be installed to manufactures specifications in a clean professional manner. Contractor shall maintain a clean pipe interior, mechanical pipe plugs must be placed in each end and left in there until the connection is made to the adjacent pipe. As each length of pipe is placed in the trench, the end shall be centered, and the pipe forced home and brought to correct line and grade. The pipe shall be secured in place with approved bedding material tamped under it. Precautions shall be taken to prevent dirt from entering the joint space, and the exposed open end of pipe shall be plugged until the next length of pipe is installed.
2. Contractor shall not bury pipe, fittings, services and service lines without HLID inspection. All construction of water mains and services shall be inspected by HLID **prior** to bury. HLID requires 2 working days' notice before inspections.
3. All mains and services shall be bedded in coarse sand with a minimum of 4" bedding all around and 12" over the top. Top of pipe shall be 60" bury depth unless specified by HLID. Water mains shall be laid to a flat datum rather than follow ground contour wherever possible.
4. All mains shall be laid with the manufactures pipe specifications placed towards the top (between 11 and 1 o'clock) of the trench. **Contractor will always maintain a clean pipe interior.**
5. All bell and spigot water main shall be assembled to the pipeline side of the insertion (stab) line **and no further**. Slip joints made by 'bottoming out' the pipe shall be removed, and new pipe re-laid at contractor's expense.
6. All installation shall be straight, true and plumb.
7. Locating wire shall be #10 solid copper and properly joined with HLID approved watertight splice. It shall be attached to the mains along the top center using tape, valves, fire hydrants and meter sets as directed by HLID.
8. Fire hydrants shall be placed 1.5 feet +/- back side of sidewalk, or appropriately located back from the road edge as directed by HLID. Dead end Fire Hydrants are not allowed, all hydrants must be looped when possible.
9. Blow offs shall be either Kupferle Foundry 4" Mainguard model # 7600, or fabricated to HLID specifications, capable of 2.5 feet per second velocity, with 48" bury and installed on all dead-end mains.
10. Sampling stations shall be installed at the discretion of HLID and will be Kupferle Foundry Eclipse Model No. 88.
11. All water mains must be disinfected in accordance to AWWA Standard C651. A written plan shall be presented to the District and IDEQ depicting the chlorination ratio in ppm and method i.e. injection, tabs, granular, contact time (baking), including means of dichlorination, flushing velocities, and adequate flushing point for the water, to achieve zero chlorine residual. If chlorine tablets (Calcium Hypochlorite) are used, they shall be applied to the inside top of the mains with an NSF 61 approved contact adhesive. Clear PVC glue (no primer) is recommended. Tablets shall meet AWWA B300 and contain no trichloroisocyanuric acid (TriChlor) nor be intended for swimming pool use.
12. Water mains shall be chlorinated to a minimum of 200ppm, flushed to zero total chlorine, and have two consecutive laboratory test results 48 hours apart absent of total coliform bacteria. Passing bacteria sampling and pressure test does not constitute acceptance. **See attached Flushing Sampling and Pressure Test Procedure instructions**

13. Pressure test of 150 PSI for a minimum duration of 3 (three) hours with HLID personnel inspecting all procedures (see attached instructions). A 48-hour notice from contractor to District prior to beginning is required. Passing pressure test does not constitute acceptance.
14. Existing services that require relocation and reconnection shall be completed at the developers' expense. Relocation and reconnection shall be made at the direction of HLID and in accordance with current HLID standards. *See item # 8 Before Construction Begins.*
15. Final inspection shall be at the request of developer or contractor. Completion of all items noted, to District standards, must be made prior to acceptance, delivery of water and beginning of warranty period.
16. Owner/developer shall deed all water lines and appurtenances to HLID after inspection and acceptance by HLID. Warranty of workmanship and materials shall be provided for a minimum of one year after time of acceptance by HLID.
17. Easements shall be provided to HLID for all water mains or service laterals up to the downstream side of the meter, when not placed in the public right of way. Easements must be recorded with the county in accordance with HLID requirements.
18. A complete set of accurate as-built plans (record drawings), street address list for each lot generated and project costs must be provided to HLID for acceptance before building permits are signed.
19. Non-potable water trucks are not accepted method to fill or chlorinate watermains. All water trucks or portable water tanks must be certified potable water vessels no exceptions.

The undersigned have read and understand these requirements

SIGNED:

PROJECT OWNER: _____

DATE: _____

PROJECT ENGINEER: _____

DATE: _____

CONTRACTOR: _____

DATE: _____

MUST BE SIGNED AND RETURNED TO HLID BEFORE THE PROJECT STARTS.

Created on 4/2/2004

Revised November 18, 2019

Hayden Lake Irrigation District

FLUSHING, SAMPLING AND PRESSURE TEST PROCEDURE

Hayden Lake Irrigation District (HLID) must receive appropriate notice from the contractor at least 2 working days **before any of these steps are taken.**

HLID reserves the right to charge or assess the developer or contractor for HLID technicians' time in cases of; contractors' inability to be prepared for the following steps when the contractor notifies HLID it is ready, or where excessive time is necessary to resolve problems which are not reasonably the responsibility of HLID.

Only HLID personnel shall operate valves supplying water to the project.

Unless otherwise specified the contractor is responsible for all following steps. Completion of the following does not constitute acceptance of infrastructure or steps. Acceptance is achieved only as depicted above, or thereafter as determined by HLID.

FLUSHING

1. All installed mains shall be flushed after initial filling and disinfection process has taken place.
2. Flushing shall occur at sufficient velocity to remove any debris left in pipes and appurtenances.
3. Proper disposal or removal of flushed water shall be the contractors' responsibility. Adjacent property, roads and streets, or other areas not controlled by the contractor shall not be damaged.
4. All water lines, services, hydrants shall be flushed to achieve a non-measurable total chlorine (disinfectant) residual.
5. The developer or contractor is responsible for all water used. District will charge for water at its excess water rate in effect at the time of the use.

SAMPLING

1. Initial water quality sampling shall be completed after flushing. HLID will select sampling locations and quantity. *At least 10% of new subdivision lots shall be sampled.* Contractor will complete initial sampling with HLID present and HLID shall deliver the sample(s) to the laboratory. Sampling shall be completed in a method accepted by IDEQ. Developer or contractor shall be responsible for the costs of all sampling necessary to this project.
2. Upon completion of initial sampling, after successful lab results are received and after 48 hours, the second sample(s) may be completed. Sampling process shall be same as above; HLID selects locations, is present during sampling and transports samples.
3. Upon confirmation from the laboratory that all samples in both sets of sampling are absent from total coliform bacteria, and HLID has reason to believe that the sampling represents water quality present in the newly installed water mains.
4. If any samples are found present with total coliform bacteria, then it shall be the developer/contractors' responsibility to:
 - a. Provide HLID a written plan demonstrating an appropriate course of action that will result in proper disinfection and representative samples absent of coliform bacteria.
 - b. Pay all associated costs for flushing, sampling and HLID staff time.
 - c. HLID shall require a sitting duration and re-sampling in cases of persistent bacteria. Duration to be determined by HLID. Persistent is described as any more than two samples present with bacteria.

PRESSURE TESTING

1. All valve boxes and curb stops shall be exposed for inspection prior to the test.
2. HLID inspector will confirm that all valves and curb stops are in their proper position.
3. HLID will install a pressure recorder prior to beginning initial test procedure.
4. HLID inspector will confirm the minimum 150-psi initial pressure.
5. The contractor shall not open, close, or adjust any valves during the pressure test without the express written permission of the District Administrator or District Engineer.
6. An acceptable pressure test will demonstrate a maximum allowable leakage of less than 1 psi per hour over a period of 2 (two) hours. The test will consist of a minimum (three) hours.
7. HLID will then inform engineer of record, and /or contractor the "pass or fail" results of the pressure test.

The undersigned have read and understand these requirements

SIGNED:

PROJECT OWNER: _____

DATE: _____

PROJECT ENGINEER: _____

DATE: _____

CONTRACTOR: _____

DATE: _____

MUST BE SIGNED AND RETURNED TO HLID BEFORE THE PROJECT STARTS

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