HAYDEN **L**AKE **I**RRIGATION **D**ISTRICT

REQUIREMENTS FOR WATERLINE CONSTRUCTION

Before Construction Begins

1. IDEQ letter of approval is required before 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 the district engineer. The review cost shall be invoiced to and paid by the owner/developer. See item # 1

4. Watermain 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., HLID must approve revised plans before continuing.

6. HLID must have these standards signed and returned, and the contractor must have an HLID approved (stamped) set of plans on site before water system construction begins.

7. Developer is responsible for verifying the depth and location of existing mains. Wherever existing mains are to remain in service, depth adjustments may be required to connect to proposed improvements properly.

8. Within the scope of the project, the following shall be properly replaced, relocated, and 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 the license and 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 (Alpha coupled or HLID approved equivalent).

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. HLID and the fire department shall approve fire hydrant locations. Fire hydrants shall have installed a Storz adaptor, USA Bluebook HydrantLok, and RoDon Hydra-Finder locating device. *See standard detail for fire hydrants*

6. All lateral service 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 a lid. Commercial services shall be 2" minimum to the downstream side of the 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. The depth of the spacer is to be 16" under the 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 the first connection.

Construction:

Connections to Existing Mains

SCHEDULE WITH HLID AT LEAST 2 WORKING DAYS BEFORE THE EXCAVATION

The connection of new work to old requires installing the appropriately sized valve (operated by District staff only) followed by a temporary jumper. The jumper must be appropriately sized. The backflow assembly must be tested after installation by the district or a district approve license tester, with the test results provided to the district and the contractor. The backflow assembly sizing must achieve a minimum flushing velocity of 2.5 fps or the current AWWA flushing velocity. 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 (the meter is district property, the contractor or the developer will pay any damages that occur). Construction water will be billed at the district's current fee schedule (see HLID website) 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, a clean, sanitized, mechanically plugged pipe at each end, and an Alpha coupler. 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 on any given day. The District and the contractor will notify all affected customers as well. When available, the 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 the manufacturer's specifications cleanly and professionally. The contractor shall maintain a clean pipe interior. Mechanical pipe plugs must be placed in each end 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 the correct line and grade. The pipe shall be secured with approved bedding material tamped under it. Precautions shall be taken to prevent dirt from entering the joint space, and the
The exposed open end of the pipe shall be plugged until the next length of pipe is installed.

2. Contractor shall only bury pipe, fittings, services, and service lines with HLID inspection. HLID shall inspect all construction of water mains and services **before** burial. HLID requires two working days' notice before inspections.

3. All mains and services shall be bedded in coarse sand with a minimum of 4" bedding and 12" over the top. The top of the pipe shall be 60" bury depth unless specified by HLID. Water mains shall be laid to a flat datum instead, then follow ground contour wherever possible.

4. All mains shall be laid in accordance with the manufacturer's pipe specifications. And all pipe labeling is placed towards the trench's top (between 11 and 1 o'clock). **The 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 the contractor's expense.

6. All installations shall be straight, accurate, and plumb.

7. Locating wire shall be #10 solid copper and correctly joined with an HLID-approved waterproof 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 the 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 per 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. Calcium Hypochlorite (powder) is used with an NSF 61-approved contact adhesive. **No Chlorine** Tablets shall be used for the disinfection process. The use of swimming pool shock or 4" pool tables is not allowed—no mixing of any chemicals, I.E., Calcium Hypochlorite (powder) or Sodium Hypochlorite (liquid).

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 tests 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 the contractor to the District before beginning is required. Passing the 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 by current HLID standards. *See item # 8 Before Construction Begins.*

15. Final inspection shall be at the request of the developer or contractor. All items noted to District standards must be completed before acceptance, water delivery, and the beginning of the 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 the 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 by HLID requirements.

18. A complete set of accurate as-built plans (record drawings), street address lists 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 an 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: _____

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

Created on 4/2/2004 Revised April 2023 by Branden Rose

Hayden Lake Irrigation District

FLUSHING, SAMPLING, AND PRESSURE TEST PROCEDURE

Hayden Lake Irrigation District (HLID) must receive appropriate notice from the contractor at least two working days **before 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 that 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 the following steps. Completion of the next does not constitute acceptance of infrastructure or steps. Acceptance is achieved only as depicted above or after that as determined by HLID.

FLUSHING

1. All installed mains shall be flushed after the initial filling and disinfection process.
2. Flushing shall occur at sufficient velocity to remove the debris left in pipes and appurtenances.
3. Proper disposal or removal of flushed water shall be the contractors' responsibility. Adjacent property, roads, streets, or other areas not controlled by the contractor shall not be damaged.
4. All water lines, services, and hydrants shall be flushed to achieve non-measurable total chlorine (disinfectant) residual.
5. The developer or contractor is responsible for all water used. The 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 quantities. *At least* 10% of new subdivision lots shall be sampled. The contractor will complete the initial sampling with HLID present, and HLID shall deliver the sample(s) to the laboratory. Sampling shall be conducted in a method accepted by IDEQ. The developer or contractor shall be responsible for the costs of all sampling necessary for 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. The sampling process shall be the same as above; HLID selects locations, is present during sampling, and transports samples.
3. Upon confirmation from the laboratory that all samples in both sampling sets are absent from total coliform bacteria. HLID believes the sampling represents water quality 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 with 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. Time 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 before the test.
2. HLID inspector will confirm that all valves and curb stops are correctly positioned.
3. HLID will install a pressure recorder before the initial test procedure begins.
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 one psi per hour over 2 (two) hours. Therefore, the test will consist of a minimum (of three) hours.
7. HLID will then inform the engineer of record and /or contractor of 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