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ARTICLE 1 - GENERAL SPECIFICATIONS

- **1.0** IVGID shall give an approximate location and size of all district utility lines, It's the property owner's responsible and their agents to field locate and confirm utility locations and sizes before digging or cutting any street(s). All street cut permits are approved by the Washoe County Road Division not IVGID.
- **1.01** These requirements are applicable within the jurisdiction of the Incline Village General Improvement District (The District) for the building of water and sewer service lines from the property or easement line to the house or building and within existing rights-of-way (ROW). Service lines on private property shall be constructed and maintained by the property owner in accordance with these requirements.
- **1.02** Codes: Building sewer and water service lines shall be constructed in accordance with the latest edition of:

The current Uniform Plumbing Code adopted by the Board of Trustees, as prepared by the International Association of Plumbing and Mechanical Officials, except for particular requirements in excess of the Codes, as stated herein.

The Nevada Administrative Code, 445A Water Operations.

The Incline Village General Improvement District Ordinances as passed by the Board of Trustees.

- 1.03 Plans: All connection fees must be paid before the District will approve plans for construction, inspect service lines, or install water meters. The Washoe County Building Department requires evidence that the District has examined the plans prior to building permit issuance for all water, sewer and trash related projects within the District. Water and sewer taps require scheduling for inspections at least 48 hours in advance. Line locations must be confirmed prior to any excavations. Any application that has been accepted by the District shall be considered vacated if the Applicant fails to commence construction and connection to the District's water system within 540 days of such acceptance. The fees collected for such application shall be returned to the Applicant, upon written request, and a new application and payment of fees will be required before service will be provided. Connection fees shall be charged at the rate in effect on the day of application for a Building Permit from Washoe County. Connection(s) not made within 540 days will be subject to the current rates in effect at the time of connection. Previously paid connection fees shall be credited to the new connection fee rate. Payment of connection fees constitutes acceptance of a new service connection application by the District. No fees will be refunded after connection.
- **1.04 Fire Marshal Review:** The District does <u>not</u> review a project to determine the need for fire sprinkler lines. The applicant is advised to contact the North Lake Tahoe Fire Protection District (NLTFPD) at 831-0351 to determine the availability of adequate fire protection and the potential need of a fire sprinkler system. A sprinkler system may require a separate service line tapped to the Districts water main as determined by the Fire Dept. In some cases a modified D-13 system may be allowed, eliminating the need for a new tap and street cuts. All unmodified systems will be referred to as R-13 systems. The potable water service line if used in conjunction with fire service must be approved by the District and delineation at the property line by separate valving, a riser pipe with a properly boxed enclosure. All Fire lines shall be metered. The NLTFPD will make available their "Fire Prevention Bureau Standard Operation Procedure" upon request. Their formal review of the plans will occur in conjunction with the District approval may not be gained prior to NLTFPD approval.
- **1.05 Inspection:** No backfilling shall be performed until the District has inspected and approved the installation for covering. The contractor shall schedule all inspections at least forty-eight (48) hours in advance. All testing shall be performed in the presence of an authorized representative of the District. Inspection fees shall be set by the District and charged for each inspection.
- **1.06** <u>Corrections:</u> Work completed as a result of a District Correction Notice must comply with IVGID Ordinances.

- **1.07** <u>**Re-inspection:**</u> If not ready for scheduled inspection, please call 832-1224 for cancellation. A fee may be charged at a rate set by the District for re-inspection if the site is not ready for inspection, or if the initial inspection fails.
- **1.08** <u>Utility Connections</u>: All water service and building sewer connections shall comply with one of the following conditions, whichever is applicable:
- **1.09 Single Family Residence:** Where a single-family residence is constructed on a single parcel, direct connection to the public water and sewer system shall be made. Should the parcel not border upon the easement or dedicated right-of-way containing the public utilities, it is the property owner's responsibility to obtain the necessary easements and/or construct main extensions as determined to be necessary by the District. Reimbursement for main extensions is provided should additional connections be made to the extended main within a ten-year period in accordance with the standard "District Main Extension Agreement."
- **1.10** Multiple Residences with Common Land Ownership and Commercial Development: A development with more than one residential building with common land ownership shall be served by communal water and sewer systems. The development shall be metered near the point where the service line crosses the property line and each unit shall be served by an individual meter, however the only meter read for billing purposes is the master meter. The District shall approve the number, location and size of meter(s). IVGID reserves the right to meter parcels as it sees fit for the benefit of the general public. The operation and maintenance of the system as well as payment of fire protection fees shall be the responsibility of the owner(s) of the property served or of the association having legal responsibility for buildings and grounds.

ARTICLE 2 - WATER SERVICE LINE SPECIFICATIONS

2.01 Service line requirements 2 inch and smaller: For each service line upgrade required per the Uniform Plumbing Code, each lot shall be serviced by a separate service connection of required size from the District main water line to the water meter. Fire service and domestic water service shall use the same main line water tap with separation downstream of the water meter. The fire line shall continue through an iron body gate valve with a two inch (2") operating nut with an epoxy coated body and terminate at structure. The domestic water line shall be connected off a tee fitting downstream of water meter and upstream of fire gate valve. The domestic line shall continue through an iron body gate valve with a two inch (2") operating nut with an epoxy coated body and then through a curb stop and terminate at structure. See Combined Domestic and Fire Water Service detail on page 10. The District requires that all approved piping must be installed to within five feet (5') of foundation and capped for pressure testing.

For 4 inch and larger applications see Water Services for Metered Domestic and Detector Check Fire Water Services detail on page 14.

- 2.02 <u>Pipe Materials</u>: Water service lines shall conform to the Uniform Plumbing Code and applicable AWWA standards and be Type K Copper tubing or 250-200 PSI PE 4710 Tubing SDR-9 ASTM D-2737, SDR-11 D-3035 copper tube size. PVC C-900 and Ductile Iron Pipe, is allowable for services 4-inch and larger. If copper is used, service lines two inches in diameter and smaller shall be Type K copper conforming to ASTM B-88. Customer service valve boxes must be Christy G-5 or equivalent concrete box with steel lid marked water. Line sizes are to be commensurate with health standards to ensure that no stagnant water will accumulate. All service line fittings shall be mechanical compression type or soldered with non-lead UPC approved solder. Solder spools shall be available for inspection. FROM THE DISTRICT'S MAIN LINE TO METER, ONLY MECHANICAL JOINTS WILL BE ALLOWED. UNDER NO CIRCUMSTANCES WILL PIPE CRIMPING BE ACCEPTED BY IVGID.
- 2.03 <u>Curb Stops</u>: Curb stops for all service lines shall be Ford ball valve or Mueller Oriseal 2 or equivalent. Curb stops shall be installed no more than two feet (2') to the downstream side of

meter setters, with an appropriate valve key and capped enclosure; waste ports & stop and waste valves shall not be allowed.

2.04 <u>Air Relief Valve</u>: Air relief valve shall be single-housing style, cast-iron body, stainless steel trim, one inch (1") inlet and outlet connections, and or 5/16" diameter orifice for a working maximum pressure of 300 psi, equal to Val-Matic model 201C.

Contact the District for specifications on the installation of Air Relief Valves 832-1224.

- 2.05 <u>Trenching</u>: All trenching for water and sewer lines must meet OSHA Requirements.
- **2.06 Separation:** All water lines shall be placed at and maintain a minimum depth of thirty six inches (36") and be on an undisturbed shelf. All water utility lines, domestic and fire sprinkler systems, must keep a twelve inch (12") separation at all times. All sewer service lines shall maintain at least 12 inches (12") vertical separation below the water line, and maintain a minimum horizontal separation of twelve inches (12") from water line at all times. If the sewer line is pressurized than the vertical separation is twelve inches (12") below the water line and the horizontal separation is five feet (5') in a separate trench. Any other installation must be approved by the District Compliance Department. *THIS IS AN IVGID REQUIREMENT*.
- **2.07 Trace Wire:** All pipe materials, **except copper**, require an approved #10 tracer wire attached to the pipe every five feet (5') by means of tape and made accessible at the meter yoke.
- **2.08** <u>Caution Tape:</u> Warning Tape shall be blue in color, three inches (3") in width, 5 mil in thickness, permanently printed "CAUTION: BURIED WATER LINE BELOW", installed twelve inches (12") above the pipe.
- **2.09 Bedding:** Material used for the pipe zone shall be sand, cinder, or Class A backfill with no mineral material larger than three eighths of an inch (3/8") as stated in Section 200, Aggregate, of the Standard Specifications for Public Works Construction for Washoe County. The bottom of trench shall be level and smooth, and excavated as needed to maintain a minimum of six inches (6") of bedding below the grade required by the underside of the pipe barrel, with twelve inches (12") above the pipe. Minimum allowable cover for water service lines is thirty-six inches (36").
- **2.10 Backfill:** All backfill shall meet the requirements of Class E backfill as stated in Section 200, Aggregate, of the Standard Specifications for Public Works Construction for Washoe County, with no rock larger than four inches (4"). If native material does not meet the requirements then backfill material shall be imported. Minimum allowable cover for water service lines is thirty six inches (36").
- **2.11** <u>Main line tapping:</u> When making a new service connection to the District main line, all taps shall maintain a minimum of two feet (2') separation between all fittings and appurtenances. This applies to all main line pipe. Any other installation must be approved by the District.

2.12 Tapping Saddles and Tapping Sleeves:

Tapping Saddles for services shall be epoxy coated ductile iron body with two stainless steel straps. Saddles shall be suitable for 250-psi service.

Tapping Sleeves shall be Stainless Steel and shall be Romac "SST" or equivalent for all taps larger than two inches (2").

2.13 <u>Cathodic Protection</u>: This is not required on any District approved plastic piping. Installation of Cathodic protection is required for all water services. A 5 pound "high potential" magnesium anode packaged in chemical backfill with ten feet (10') of #12 lead wire shall be used. The anode shall be buried at a minimum depth of forty eight inches (48"). A bronze or brass clamp shall be used to attach the lead wire to the meter yoke. The anode must be a minimum of thirty six inches (36") from the meter yoke, service line or water main. If a locating wire is installed

on the water service line, Cathodic protection shall be installed a minimum of once every five hundred feet (500') and at each intersection in that line.

- 2.14 Pressure Regulator and Isolation Valve: At all service locations, property owners are required to furnish individual pressure regulators set at sixty (60) pounds per square inch to protect plumbing fixtures. Pressure regulators shall be Watts 25AUB or equivalent. All pressure regulators must be installed under house within ten feet (10') of access door, readily accessible, and approved by the District. If house is slab built the pressure regulator must be located in a readily accessible and District approved location. An isolation valve is required directly upstream of the pressure regulator for service of the regulator and isolation of the structure plumbing.
- **2.15** <u>**Testing:**</u> The Contractor shall provide all labor, tools, and equipment necessary to perform the required tests. Any faulty equipment shall be replaced before any test is accepted. Water lines four inches (4") and greater shall be tested as the following: (Length x Pipe Diameter x Square Root of pressure Divided by 148,000.) All water lines smaller than four inch (4") will be tested at the District's main line pressure.

<u>Testing time</u>: Minimum time frame of 1Hr IVGID engineering may require a longer testing time based on scope of work.

Example: L = $\frac{\text{SD (square root of pressure)}}{148,000}$ (1000 lineal feet of 6" pipe tested at 180psi) Example = 1000' x 6" x 13.41 = 80,460 = .54 gallons

Example = $1000^{\circ} \times 6^{\circ} \times 13.41 = 80,460 = .54$ gallons 148,000

32oz. = 1 qt 64 oz. = 2qt 96 oz. = 3qt 128oz. = 4qt/1 gallon

- 2.16 <u>Chlorine Test:</u> Chlorine tests must be conducted on four inch (4") or greater water lines. Chlorine Tests one (50ppm) and two (10ppm) will only be performed Monday through Thursday, as the tests must be conducted within a twenty-four (24) hour contact time. Chlorine residual test and Bac-T tests must be completed before line may be placed into operation. The District may charge for any failed test or inspection that results in an additional visit by a District employee.
- 2.17 <u>Service Line Test</u>: After the meter is set, the water will be turned on and the line tested for leakage and proper installation. The service line shall be exposed at this time and all visible leaks shall be repaired. Once approved, the water service line may be backfilled. Water lines shall be ready for testing and valve key provided for curb stop before calling for inspection.
- **2.18** <u>As-Built:</u> Contractor is responsible to submit As-Built plans to the District upon completion of work. This As-Built map must be on a CD as a PDF file for any project larger than a Triplex. Smaller projects may be submitted on an 8.5" X 11" sheet of paper. These will be reviewed and approved by the District.

ARTICLE 3 - WATER METER SPECIFICATIONS

- 3.01 <u>Meters</u>: Upon payment by the owner, meters are furnished and installed by the contractor.
- **3.02** <u>**Temporary Meter Sets:**</u> A temporary meter may be set upon request. A temporary meter rental form must be completed and approved by a district compliance inspector.
- **3.03** <u>Meter setters:</u> Meter setters are required and, for ³/₄ and1-inch services shall be the Mueller Easy Setter Meter Pit with no bypass and 1.5 and 2-inch services shall be the Mueller EZ Vault Meter Setter with no bypass. No Coils will be permitted.
- 3.04 <u>Meter boxes:</u> Meter boxes for ¾ and1-inch services shall be the Mueller Easy Setter Meter pit with no bypass and 1.5 and 2-inch services shall be the Mueller EZ Vault Meter Setter with no bypass NO COILED PITS WILL BE PERMITTED. Cover shall be cast iron with a pentagon nut lock with reader and be marked "Water." Meter Vault for larger than 2-inch services must be approved by IVGID and accommodate all appurtenances with a 2' clearance on all sides within the boxes the lid must be a steel spring loaded bolt down type. Meter installations shall be made at the property line in the Right Of Way (ROW)
- **3.05** <u>Meter Installation:</u> Meters of any size must be installed per current District requirements. Please see diagram below or contact IVGID Utilities Department at 832-1224 for more information.











ARTICLE 4 - FIRE SYSTEM SPECIFICATIONS

- 4.01 Fire Service Requirements: The North Lake Tahoe Fire Protection District will determine the size of connection required for fire service and adequacy of system for fire protection. Fire service taps will be made using the same materials and methods as stated herein for service taps. The District recognizes that the beginning point of the fire system shall be on the downstream side of the Backflow Prevention Device. Service line requirements 2 inch and smaller: For each service line upgrade required per the Uniform Plumbing Code, each lot shall be serviced by a separate service connection of required size from the District main water line to the water meter. Fire service and domestic water service shall use the same main line water tap with separation downstream of the water meter. The fire line shall continue through an iron body gate valve with a two inch (2") operating nut with an epoxy coated body and terminate at structure. The domestic water line shall be connected off a tee fitting downstream of water meter and upstream of fire gate valve. The domestic line shall continue through an iron body gate valve with a two inch (2") operating nut with an epoxy coated body and then through a curb stop and terminate at structure. Please see diagram Combined Domestic and Fire Water Service on page 10 or contact IVGID Utilities Department at 832-1224 for more information. The District requires that all approved piping must be installed to within five feet (5') of foundation and capped for pressure testing.
- **4.02 <u>R-13 vs. D-13 Fire Systems;**</u> R-13 Fire systems may be allowed by The North Lake Tahoe Fire Protection District. These types of systems eliminate the requirement of a street cut and a new tap at the main, 1" taps are acceptable, however a 1" meter will be required on these systems with an Easy Setter meter pit without by-pass or coils. D-13 system shall be typical of the diagram on page 12.

For 4 inch and larger applications please see diagram Metered Domestic and Detector Check Fire Water Services on page 14 or contact IVGID Utilities Department at 832-1224 for more information.

4.03 Separation: All fire sprinkler systems must be separated from the District water system with an approved backflow prevention device. This device must be approved by the District and installed to all State and Local Codes.

Double Check backflow prevention devices shall be approved for class one (1), two (2), three (3) or four (4) fire systems when chemical additives are not being used. When a Double Check backflow prevention device has approval from the District to be installed on class one (1), two (2), three (3), or four (4) fire systems the installation must meet all State and local codes. The District also requires a sign to be placed in an approved location, with two inch (2") red letters on a white background stating the class of system, water only, absolutely no additives of any kind.

Reduced pressure backflow prevention devices shall be approved for class four (4), five (5) or six (6) fire systems when chemical additives are being used. The installation must meet all State and local codes







ARTICLE 5 – DISTRICT REGULATIONS FOR BOILER/MECHANICAL SYSTEMS

- **5.01 Boiler Backflow:** All boiler/mechanical systems must be separated from the District water system with an approved Reduced Pressure backflow prevention device or an approved air gap. It must be installed to all State and local codes. This device must be plumbed from a domestic cold water supply only.
- **5.02** <u>Heat Exchangers:</u> All heat exchangers used for domestic hot water service must be Double Walled.

ARTICLE 6 - DISTRICT REGULATIONS FOR IRRIGATION SYSTEMS

- **6.01** <u>Irrigation Requirements:</u> All irrigation systems require a Washoe County Irrigation permit for construction. All work must comply with the District landscape packet, Appendix B.
- **6.02 Separation:** All irrigation/sprinkler systems must be separated from the District water system with an approved backflow prevention device installed to all State and local codes.
- 6.03 <u>Irrigation Materials:</u> Materials shall comply with the District specifications as type K copper or brass. All fittings must be approved curb stops, Drain Valves and unions for winter time removal. Devices shall be plumbed so no water shall be in stand pipes when device is removed for winter time.
- **6.04 Inspections:** All inspections of connections to the domestic water line is required, please call the utility compliance office at 832-1224 to schedule an appointment. On-site inspection prior to installation is suggested to assure compliance with District regulation.

ARTICLE 7 - REGULATIONS FOR PRIVATE BACKFLOW TESTING

- **7.01 Forms:** All Incline Village General Improvement District Backflow testing forms must be properly filled out. All testing forms must be submitted to the district within two (2) working days from the date of the test. All testers must be licensed AWWA testers.
- **Device Certification:** Any backflow device that did not pass the initial certification test must be repaired and retested. If repairs require delay due to parts, etc the district shall allow five (5) working days for such repairs and retest. If a repair & retest require longer than the five (5) working days, the extension must be approved by the district.
- **7.03 Compliance:** Failure to comply with 7.01 or 7.02 will result in the tester's name being given to the Northern Nevada Backflow Administrator for AWWA.
- 7.04 <u>License/Calibration:</u> Proof of current AWWA license and approved annual gauge calibration must be submitted to the Incline Village General Improvement District with every test or group of tests, these shall be faxed, hand delivered or mailed.

ARTICLE 8 - SEWER SERVICE SPECIFICATIONS

- 8.01 <u>Materials</u>: Acceptable pipe materials are DUCTILE IRON or POLYVINYL CHLORIDE PIPE SDR 35, all of which shall conform to the specifications set forth in the Uniform Plumbing Code. Joints shall be of the same material as the pipe using internal rubber or plastic gaskets, or an external rubber sleeve using stainless steel bands, all as manufactured strictly for use with particular type of pipe. Solvent weld joints and ABS pipe shall not be permitted. Where different pipe materials are jointed the connection shall be made by the use of an approved mechanical coupling specifically manufactured for use with the different pipes to be joined. These couplings shall be similar and equal to Caulder couplings and shall be approved by the District. POLYVINYL CHLORIDE PIPE shall not be used where the cover is less than thirty-six inches (36") or greater than eighty-six inches (86"). DUCTILE IRON may be used when eighteen inches (18") of cover is available. For shallower depths, concrete encasement or other special means approved by the District must be used to protect the pipe.
- **8.02** <u>Size</u>: Building sewer shall be a minimum diameter of four inches (4") or six inches (6") for single family residences. Building sewers for apartments, motels, and commercial establishments shall be sized in accordance with the requirements of the Uniform Plumbing Code and shall be four inch (4") minimum size.
- 8.03 <u>Trenching</u>: All trenching for water and sewer lines must meet OSHA Requirements.
- **8.04** Separation: All water lines shall be placed at and maintain a minimum depth of thirty six inches (36") and be on an undisturbed shelf. All sewer service lines shall maintain at least 12 inches (12") vertical separation below the water line, and maintain a minimum horizontal separation of twelve inches (12") from water line at all times. If the sewer line is pressurized than the vertical separation is twelve inches (12") below the water line and the horizontal separation is five feet (5') in a separate trench. Any other installation must be approved by the District Compliance Department. THIS IS AN IVGID REQUIREMENT.
- 8.05 Building Sewer Construction: Where building sewer main line connections have not been provided by the District to the property and/or the properties were not assessed for the building sewer installation, the property owner shall assume the cost of providing the required connection. The owner shall be responsible for obtaining the necessary Washoe County Street cut permits and also coordination with other utility agencies for their utility locations. The property owner requesting the tap will be responsible for cutting pavement and excavating the trench to proper depth and grade. The Owner shall be responsible for the tap to the main. Owner is responsible for laying building sewer with all required appurtenances.

Connection to the existing sewer main shall be through the use of an approved **Romac style** "**CB**" or equivalent double strap saddle for transite, plastic, cast iron, or concrete mains. For vitreous clay main, a section must be removed and a wye installed with **Romac style couplers** or other approved by IVGID. The pipe grade for four inch (4") must be two percent grade (2%) or a minimum of 1/4" per foot of fall or greater. Six inch (6") diameter pipe must be one percent grade (1%) or a minimum of 1/8" per foot of fall or greater. The District requires that all approved piping must be installed to within five feet (5') of foundation and capped for pressure testing.

- **8.06** <u>**Trace Wire:**</u> All pipe materials, **except copper**, require an approved #10 tracer wire attached to the pipe every five feet (5') by means of tape and made accessible at the clean outs.
- **8.07** <u>Caution Tape:</u> Warning Tape shall be green in color, three inches (3") in width, 5 mil in thickness, permanently printed "CAUTION: BURIED SEWER LINE BELOW", installed twelve inches (12") above the pipe.



- **8.08** Testing: The Contractor shall provide all labor, tools, and equipment necessary to perform the required tests. Any faulty equipment shall be replaced before any test is accepted. The Contractor shall supply a pressure gage that can be read in increments of between one and five psi, in accordance with the Uniform Plumbing Code (UPC). Installation must pass the standard five pound per square inch (5 psi) for fifteen (I5) minute pressure tests. This can be found within the approved Uniform Plumbing Code. Mandrel testing will be required on all new sewer piping, Mandrels shall be specifically designed for the piping being tested. This testing is typical of 4" and larger piping.
- **8.09** <u>Manholes</u> shall be tested with the ring and cover and grade adjustment rings installed. All pipes entering the manhole shall be plugged and braced and a vacuum of ten inches (10") of mercury shall be drawn. The vacuum pump shall be turned off and the time monitored as the vacuum drops one inch (1"). The vacuum must not drop more than one inch (1") for the duration of the time indicated in the following table.

Diameter	Time	Mercury Level	Allowable Loss
48 Inches	1 minute	10 Inches	1 Inch Max.
60 Inches	1 min. 15 sec.	10 Inches	1 Inch Max.
72 Inches	1 min. 30 sec.	10 Inches	1 Inch Max.

Manholes, which fail the vacuum test, shall have the defects located and repaired and the test shall be repeated. Repair and repeat testing shall be continued until the testing requirements are met.

- **8.10** <u>As-Built:</u> Contractor is responsible to submit As-Built plans to the District upon completion of work. This As-Built map must be on a CD as a PDF file for any project larger than a Triplex. Smaller projects may be submitted on an 8.5" X 11" sheet of paper. These will be reviewed and approved by the District.
- **8.10 Bedding:** Material used for the pipe zone shall be sand, cinder, or Class A backfill with no mineral material larger than three eighths of an inch (3/8") as stated in Section 200, aggregate, of the Standard Specifications for Public Works Construction for Washoe County. The bottom of trench shall be level and smooth, and excavated as needed to maintain a minimum of six inches (6") of bedding below the grade required by the underside of the pipe barrel, with twelve inches (12") above the pipe. Minimum allowable cover for sewer service lines is twelve inches (12").
- **8.11 Backfill:** All backfill shall meet the requirements of Class E backfill as stated in Section 200, Aggregate, of the Standard Specifications for Public Works Construction for Washoe County, with no rock larger than four inches (4"). If native material does not meet the requirements then backfill material shall be imported. Minimum allowable cover for sewer service lines is twelve inches (12").
- 8.12 <u>Clean outs</u>: A clean out shall be provided by the property owner within five feet (5') outside of the foundation. A clean out must also be installed where the building sewer crosses the property or easement line. All clean outs shall be installed at intervals not to exceed three hundred feet (300'); variances in this length must be approved by District Compliance Department. In a change of direction ninety (90) degrees or more a clean out must be installed within one foot (1') of that transition. All clean outs shall be cut to grade, plugged, and have a concrete box with metal lid marked sewer. Plugs shall be two piece expansion types similar to ETCO, T-cone stopper or equivalent. (No metal on plug.) Property owners shall be responsible for keeping clean out boxes from being buried or damaged.
- 8.13 **Backwater Valves:** Installation of a backwater valve on lots with fixtures lower than the next upstream manhole, as more specifically explained in the Uniform Plumbing Code, shall be enforced. Backwater valves must be installed in an accessible location inside or outside of the structure. Outside installations will be required to be properly boxed, upstream of foundation cleanout.



One of the keys to preventing a sewer backup in your basement is knowing your location in relation to the sanitary sewer system that serves your building or home. A sewer backup valve (backwater valve) can make the difference between having your basement or home flooded knee deep with raw sewage and staying high and dry.

•Home #1 Does not need a backwater valve because water would drain from the first upstream sanitary sewer manhole which is lower than the inlet to the drain pipe in this home's basement. This home should not experience a flooded basement due to a sewer backup.

• Drains located on the first floor of Home #2 might be safe as it is slightly higher (must be at least 24" higher) than the first upstream sanitary sewer manhole cover, but there are some cases in which pressure builds enough to temporarily allow water to flow at a level above the lowest drain. When in doubt, and especially when the second floor living space is installed, it is wise to install a back water valve. However, any drain fixture in the basement of Home #2 would be below the level of the first upstream manhole and sewage backups could occur without a backwater valve.

• Any drain opening in Home #3 would be located below the level of the first upstream sewer manhole cover so this home would definitely require the installation of a backwater valve.

All Backwater Valves shall be placed within the crawl space or confides of the home and be made readily accessible for maintenance and repairs. Exceptions can be made if the home is slab built. Please contact the IVGID Compliance Department for more details.

8.14 <u>Trap/Interceptor/Separator Installation Requirements and Test Procedure.</u>

Traps/Interceptors and Separators shall be required when and where necessary for the removal of grease, oil, sand, or other waste components not present in normal residential wastewater. No such device shall be required for residential service. Traps/Interceptors and Separators shall be constructed to prevent any bypass of matter prohibited in the wastewater system.

8.15 Plan Requirements.

Plans submitted to the Washoe County Building Department for permitting Traps/Interceptors and Separators shall include the following.

- 1. The design, operation, and sizing of all Traps/Interceptors and Separators shall be performed by a licensed engineer using the formula from the most recent District adopted Uniform Plumbing Code.
- 2. No food waste disposal unit or dishwasher shall be connected to or discharge into any grease trap. This applies to traps only, not interceptors.
- 3. Make, Model, and size of unit to be constructed.
- 4. Location of unit to be constructed.

8.16 Setting and Installation.

The Trap/Interceptor/Separator shall be constructed following the Manufacturer Installation Procedures including accessibility, setting unit on level base, installing inlet and outlet pipes, inlet vented flow control(s), vents, grouting, sealing, setting and adjusting of grade rings, risers, frames, covers, and all other hardware and appurtenances.

8.17 <u>Water Testing Policy and Procedure.</u>

The Trap/Interceptor/Separator shall be tested to insure that the system as a whole is watertight. The unit is designed to be watertight so the Trap/Interceptor/Separator shall be filled with water to the cover frame and hold water with no measurable loss for a period of sixty (60) minutes. Concrete units will be allowed time for complete adsorption within unit, and then be refilled for the sixty (60) minute test. Watertight testing must be completed and approved after installation and before the Trap/Interceptor/Separator is put into service.

8.18 The Trap/Interceptor/Separator Final Inspection.

A final inspection shall be made of the unit before the Washoe County Building Permit is signed off by IVGID. The Trap/Interceptor/Separator shall be accessible, have accessible vented flow control(s), sealed covers, and be connected to all required fixtures ready for service. At the approved final inspection IVGID will issue a Commercial Wastewater Discharge Permit and authorize the unit to be put into service. IVGID will also issue a Customer Information Packet explaining the District policy on use, maintenance, and record keeping.

8.19 Specifications for Individual Sewer Pump Stations

General: If an individual sewage pump station is to be installed outside of the foundation, it falls within the jurisdiction of the District and will be constructed to meet the following specifications. Individual sewage pump stations shall not be used in the District unless the property is too low to be served by gravity to an existing sewer line, the property owner shall install an individual pump station as approved by the District. The property owner shall install the pressure building sewer with his own contractor or employees. However, the District will approve materials and inspect and approve the construction. All pump stations will discharge into a manhole unless otherwise specified by the District. Where individual sewage pump stations are authorized, they shall be designed, constructed, and maintained in conformance with these specifications. District inspection of newly installed pumping facilities shall be completed in accordance with the procedures outlined within this document.

The District may periodically inspect any individual sewage pump station to determine if it is being properly maintained. Where stations are not being maintained in conformance with these specifications, service may be terminated. Resumption of service will not be allowed until all discrepancies are corrected and the District has approved the work. Any expense incurred by

the District to discontinue and resume service shall be paid by the property owner at the time of reconnection.

- 8.20 <u>Materials</u>: Unless previously accepted in writing by the District, pressurized pipe from individual sewer pump stations shall be of engineered size to provide a minimum velocity of two feet (2') per second, and not less than two inches (2") in diameter. Piping approved by the District is RING-TITE CLASS 200 SDR 21 or 200 PSI PE3408 or 3608 TUBING SDR-9 ASTM D-2737. The discharge piping connection to the pressurized line from the pump station shall be made with a barbed connection made of either SCH80 PVC or Stainless Steel material; solvent welded joints shall not be used.
- 8.21 <u>Pumps:</u> A minimum of two pumps shall be provided at each individual sewage pump station. Where pumps are used, they shall be either grinder pumps or non-clog sewage pumps (dual compressor pneumatic ejector shall be utilized only with prior approval by the District) engineered to serve the dwelling and overcome the head pressure within the pressure ejector line.
- **8.22** <u>Valves:</u> Each pump shall be equipped with a check valve and an isolating gate or ball valve. Valves and check shall be located in the dry chamber area outside of the actually wet well area so repairs can be completed.
- 8.23 <u>Controls and Alarm:</u> Pumps shall be automatically controlled by the level in the wet well. The lag pump shall be controlled in such a manner that it will automatically take the place of the lead pump in the event of failure. An alternating system shall be installed to balance wear on both pumps. An audible alarm and a red high water level light shall be installed in a moisture-proof enclosure adjacent to the station. This light must be visible from the street in public view and approved by the District. This light shall be controlled by a separate level setting above the lag pump control range.
- 8.24 Wet Wells and Storage Chambers: A minimum of three hundred (300) gallons of storage per living unit shall be provided above the normal pump operation level, variances in storage capacity must be approved by the District Compliance Department. Such storage shall be provided either in the wet well or in an adjacent structure with a drain back feature. Storage is provided primarily to allow continued use during brief outages. Wet wells and storage chambers shall be concrete, polyethylene, or fiberglass. A manhole opening shall be provided into wet wells and storage chambers. The wet well shall be equipped with the required inlets and outlets.
- **8.25** Sewage Pump Station Vault: An acceptable weather proof, insulated box with adequate waterproof insulation below the box lid directly above the holding tank.
- 8.26 <u>Testing</u>: Pressurized sewer pipe shall be hydrostatically tested for fifteen minutes (15) at 1.5 times the pump capacity or meet sewer pipe class specifications. Installation standard shall be manufacturer's specifications and shall meet all of the District's installation requirements. Wet well shall be hydrostatically tested for sixty minutes (60) with no loss. All functions of the station will be tested and approved by the District.

ARTICLE 9 - COMMUNAL UTILITY SYSTEM SPECIFICATIONS

9.01 Communal systems have additional requirements. Contractors are encouraged to submit a set of preliminary plans and meet with the District Compliance Department. Contact the District for specifications: (775) 832-1224.

ARTICLE 10 - JOINT TRENCHING SPECIFICATIONS

10.01 Joint Trenching: Joint trenching of utility service lines is allowed; however, jurisdictional standards must be met within the public right-of-way and District easements. All water service(s) shall be installed and maintain a minimum of one foot (1') above and one foot (1') horizontally away from all building sewer on undisturbed soil. All water services lines in joint trenching shall maintain a twelve inch (12") minimum separation at all times and have their own #10 tracer wire attached to the water service line every five feet (5') by means of tape. Water mains constructed within the public right-of-way and District easements shall be installed twelve inches (12") minimum above the sewer main and a minimum of ten feet (10') horizontally away from the sewer where possible. Joint trenching is not allowed with the District main systems. No other utilities shall be installed within three feet (3') horizontally of the District main lines and/or within one foot (1') from service building sewers.

Appendix A



Landscape Ordinance

In August of 2003, Incline Village General Improvement District's, Board of Trustees, passed an additional water conservation measure requiring new construction, expansions over 15%, and individuals installing an irrigation meter to meet landscaping and irrigation standards.



Quick Tips for the New Landscaping Standards

- Turf area limited to 33% of pervious coverage
- Plants must be arranged according to hydrozones
- All irrigation systems shall be designed to avoid run-off, overspray, or similar.
- Plants which require different amounts of water shall be isolated by separate valves.
- A landscaping plan must be submitted to IVGID prior to construction.

If one of the above instances applies to your property, submit the Landscaping Standards Checklist– Plan Review sheet and a



For more information, contact: IVGID Public Works (775) 832-1246 1220 Sweetwater Road Incline Village, Nevada 89451



Visit www.ivgid.org!

LANDSCAPING STANDARDS PACKET

Applicability

1. Any plans with landscaping as defined in Article 18, Ordinance 4

Required Elements of Landscape Plans

- 1. Landscape Design
 - The following requirements shall be submitted as part of the Landscaping Plans. <u>The landscape</u> design proposal shall be drawn on project base sheets at a scale that accurately and clearly identifies:
 - A. A calculation of the total turf area compared to property size. Turf area is limited to 33% of pervious coverage.
 - B. Irrigation system type, location and designation of hydrozones. Hydrozones are areas in which plants with similar water requirements are grouped together for efficient watering.
 - C. Landscape materials, trees, shrubs, groundcover, turf, and other vegetation. Planting symbols shall be clearly drawn and plants labeled by botanical name, common name, container size, spacing, and quantities of each group of plants indicated. Natural features such as rock outcroppings, existing trees, shrubs that will remain, shall be indicated
 - D. Pools, ponds, water features, fences, and retaining walls.
 - E. Maintenance plan.
 - F. Contact information, property lines and street names, streets, driveways, walkways, and other paved areas. Existing and proposed buildings and structures including elevation if applicable.
- 2. Irrigation System Design

The following conditions shall be submitted as part of the Landscaping Plans. Refer to the <u>Home</u> <u>Landscaping Guide for Lake Tahoe and Vicinity</u>, Chapter 4 for more information on Irrigation System Design

- A. Runoff and Overspray: All irrigation systems shall be designed to avoid runoff, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Special attention shall be given to avoid runoff on slopes and to avoid overspray in planting areas with a width less than ten feet, and in median strips.
- B. Control Valves: Plants which require different amounts of water shall be isolated by separate valves. If one valve is used for a given area, only plants with similar water use shall be used in that area. Anti-drain (check) valves shall be installed to minimize or prevent low-head drainage.
- C. Backflow Devices: All irrigation systems shall be protected with the appropriate backflow prevention device.
- 3. Plant Selection

A list of plants proposed in landscape shall be submitted as a part of the Landscaping Standards Package. A Recommended Plant List is provided in the <u>Home Landscaping Guide for Lake Tahoe and Vicinity (pg. 70-98)</u>. These are the "proven" plants that grow successfully in the Tahoe Basin recommended and approved by Tahoe Regional Planning Agency for landscape design and revegetation.

- A. Plants having similar water use shall be grouped together in distinct hydrozones.
- B. Plants shall be selected appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the site. Protection and preservation of native species and natural areas is encouraged.
- C. Erosion control and Best Management Practices (BMPs) shall be addressed in all required areas.
- 4. Water Features

A. Recirculating water only shall be used for decorative water features.

5. Maintenance Plan

A regular maintenance schedule satisfying the following conditions shall be submitted as part of the Landscaping Plans:

- A. Landscapes shall be maintained to ensure water efficiency. A regular maintenance schedule shall include but not be limited to checking, adjusting, repairing irrigation equipment and resetting of automatic controllers.
- 6. Contact Information
 - Contact Information shall be provided on the copy of the landscape plans including:
 - A. Name, Address, Phone, Fax, Physical Address, APN#, Date and Proposed Occupancy Date
 - B. Project Site Description, Project Number and Contractor Contact Info

Landscaping Standards Checklist – Plan Review				
			C	Date:
Project	Site:	Project Number:	Project De	scription:
Name:		Phone:	Fax:	
APN #:		Propos	sed Occupancy Date:	
Project	Physical Address:	N	lailing Address:	
Contrac	ctor Contact Info:		Phone:	
	Turf Coverage - <i>turf l</i> site plan Allowable T	imited to 33% of total proper iurf (SF)=	rty less impervious coverag Proposed Turf (SF)=	e shall be indicated on the
	Irrigation System Design - mark location and type of irrigation system; system should include timer type written on site plan			
	Plant List –use (Home Landscaping Guide for Lake Tahoe and Vicinity) as a reference; list major plant types on site plan			
	Water Features -all water features shall be indicated on site plan; recirculating pumps and covers are required			
	Contact Info for reside	ent or property managemen	t company -contact info wr	itten directly on the site plans
	Designer			
		Name	Address	Phone
	Comments:			
	I/we certify that work	has been proposed in acco	rdance with the contract do	cuments.

Contractor/Homeowner Signature, Date, (State License Number-if applicable)

I/we certify that irrigation systems will be maintained to a working level.

Contractor/Homeowner Signature, Date, (State License Number-if applicable)

I/we certify that based upon a plan review that the landscape planting and irrigation installation proposed conforms to the approved specifications.

Incline Village GID Staff Reviewer Signature, Date

Turf Coverage Calculations:

Total Lot Area=	Square Feet (SF)
Proposed Impervious Coverage (footprint)= <	> <u>SF</u>
Remaining Pervious Coverage=	SF
Find Total Lot Area & Proposed Impervious Coverage from La	indscape Plan.
Maximum Allowable Turf (33%) (SF)=	* 0 33=
(Remaining Pervious Coverage *0.33)	0.55
Proposed Turf Area (SF)=	
(Find on Landscape Plane)	
Proposed Turf Area (%)=	/ *100 =
(Proposed Turf Area SF/Max Allowable Turf SF*100)	/ 100
1	

Turf Coverage Calculations:

Total Lot Area=	SF
Proposed Impervious Coverage (footprint)= <	> <u>SF</u>
Remaining Pervious Coverage=	SF

Find Total Lot Area & Proposed Impervious Coverage from Landscape Plan.

Maximum Allowable Turf (33%) (SF)= (Remaining Pervious Coverage *0.33)	* 0.33=
Proposed Turf Area (SF)= (Find on Landscape Plane)	
Proposed Turf Area (%)= (Proposed Turf Area SF/Max Allowable Turf SF*100)	/ *100 =

Turf Coverage Calculations:

Total Lot Area=	SF
Proposed Impervious Coverage (footprint)= <	> <u>SF</u>
Remaining Pervious Coverage=	SF

Find Total Lot Area & Proposed Impervious Coverage from Landscape Plan.

Maximum Allowable Turf (33%) (SF)= (Remaining Pervious Coverage *0.33)	* 0.33=
Proposed Turf Area (SF)= (Find on Landscape Plane)	
Proposed Turf Area (%)= (Proposed Turf Area SF/Max Allowable Turf SF*100)	/ *100 =

Appendix B

Enhanced wildlife resistance bins, enhanced wildlife resistant carts and bear sheds satisfy the District's enclosure policy for commercial customers. Property owners may still elect to enclose enhanced wildlife resistant bins, enhanced wildlife resistant carts and bear sheds for aesthetic, access control or other purposes to remain in compliance with other sections of the District's Solid Waste Ordinance.

All trash enclosure requires a pre-approval meeting which involves the following:

IVGID Fire Department Waste Management Property Owner

This pre-approval meeting is to determine the location of future enclosure. After the pre-approval meeting the owner must submit plans to the Washoe County Building department for a request for permit.

The following information must be provided on the plans before submittal for permit.

Enclosure Specifications for: 1 yard -6 yard Containers

Locations

- 1. Placed in a location where Waste Management vehicles can services the container in a straight-line approach.
- 2. Placed in a location where Waste Management vehicles do not have to back up more than 70 feet, back up around corners or back up into traffic.
- 3. The enclosure and apron must be constructed on a hard level surface.

Dimensions

- 1. See Typical Dumpster Enclosure Specifications Sheet.
- 2. The enclosure must have a minimum of 24" walk around area on the entire container.
- 3. Enclosure area must have a concrete stops, these stops prevent the dumpster from hitting the enclosure walls (12" wide x 36" long x 8" height) centered on each wall.

<u>Slab</u>

- 1. See Concrete Specifications Sheet.
- 2. This minimum specification is due to the weight of Waste Management vehicles servicing the dumpster.
- 3. Disposal Services is not responsible for pavement damage.

<u>Drain</u>

1. As required by the Health Department & IVGID.

<u>Walls</u>

- 1. Walls may be constructed of either chain link fencing with slats or concrete blocks.
- 2. Local Planning Department may require solid walls and solid gate sheeting.
- 3. If concrete blocks are preferred the cinderblocks must be filled solid with grout and with steel reinforcing bar in accordance with local building codes

Appendix B

Concrete Specifications

Enclosure

Frontloader

Dumpster (1 yard thru 6 yard)

- 1. 6 inches thick
- 2. 6.5 city sack mix w/fiber (3000 psi minimum)
- 3. 1 mat #4 rebar on 16" center, each way
- 4. Curing/ Hardener spray
- 5. Slope
 - a. Level on the inside w/o drain
 - b. ¼ inch per 1 foot slope w/drain

Dropbox

Roll-Off (Dropboxes & compactors)

- 1. 8 inches thick
- 2. 6.5 city sack mix w/fiber (3000 psi minimum)
- 3. 1 mat #4 rebar on 16" center, each way
- 4. Curing/Hardener spray
- 5. Slope
 - a. Level on the inside w/o drain
 - b. 1/4 inch per 1 foot slope w/drain

Apron

Frontloader

Dumpster (1 yard thru 6 yard)

- 1. Same as Enclosure concrete specifications
- Must have a ¼" inch per 1 foot slope (back to front)

 No side slope (must be level)

Dropbox

Roll-Off (Dropboxes & Compactors)

- 1. Same as Enclosure concrete specifications
- Must have a ¼ inch per 1 foot slope (back to front)

 No side slope (must be level)

Appendix B

<u>Gates</u>

- 1. The gate must be made from chain link fencing with slats or steel frame gate with wood fencing.
- 2. Local Planning Department may require solid walls and solid gate sheeting.
- 3. The gate must not be attached to the enclosure walls, they must be attached to separate galvanized poles on each side of the enclosure.
- 4. Size of the poles depending on the span of the gates.
- 5. Gates must have a locking attachment when open. This will prevent the gates from swinging during service of the dumpster.

Clearances

- 1. Must have a minimum of 10' in overhead clearance height.
- 2. Must be clear of overhead obstructions for a minimum distance of 30' in front of the enclosure. i.e.: wires, eaves, stairways, etc.

Note: If your company orders a container with wheels your company must sign an indemnity agreement.

If you would like any additional information when constructing an enclosure, please feel free to contact:

Earl E Roberts Will Serve Representative Waste Management 775-326-2316

Or

IVGID Compliance Department Inspection Hotline 775-832-1224







Appendix B



Appendix C

Please direct any questions to the IVGID Compliance Department. Thank you for your cooperation.

Brad Johnson	Director of Asset Management
	1-775-832-1268 Office 1-775-832-1331 Fax <u>baj@ivgid.org</u>
Tim Buxton	Chief Inspector
	1-775-832-1246 Office 1-775-354-5664 Cell 1-775-832-1260 Fax <u>tlb@ivgid.org</u>
Darel Barlow	Senior Inspector
	1-775-832-1399 Office 1-775-745-7080Cell 1-775-832-1260 Fax <u>dcb@ivgid.ord</u>
Jeff Donahue	Inspector
	1-775-832-1314 Office 1-775-313-4088 Cell 1-775-832-1260 Fax jad@ivgid.org
Inspection Hotline	1-775-832-1224 All inspections require 48 hour notice