

Approved Materials List for Sewer

Materials Testing and Inclusion Procedures

Manufacturers who would like materials considered for the approved materials list shall:

1. Comply with all the design criteria set forth for the approved materials.
2. Supply, at the manufacturer's expense, the materials to be tested. (Quantity to be determined by the Nibley City Public Works Department)
3. 4. Preference will be given to materials manufactured and assembled in the United States.

Once the materials have been received, the Sewer Division will visually inspect materials for defects and compliance with all City standards. The Sewer Division will install or oversee the installation of all materials in the distribution system or other test sites as determined to be in the best interest of the City. Materials will be tested and evaluated for a minimum of one year, commencing on the date of installation. Evaluations will include but are not limited to:

1. Ease of installation
2. Availability of parts
3. Operational issues
4. Quality of manufactured materials
5. Number of moving parts
6. Reliability of service

If the materials supplied, at any time in the testing period fail, the testing will be concluded immediately. If the materials successfully complete the testing period, City staff will recommend the product to be included in the Nibley City Approved Materials List.

The Approved Materials List will be updated annually at the first of each year if an update is needed. New Manufacturers and Models that have been approved by the City for inclusion on the list will be added at that time.

A maximum number of manufacturers will be approved for each category. Once a category has been satisfied, manufacturers successfully completing the test requirements will be added to a waiting list. Pending materials will be listed sequentially according to successful completion of testing. Materials presently on the Approved Materials List may be omitted from the list due to:

1. Change in service/availability.
2. Change in product design.
3. Bankruptcy
4. Consistent product failure
5. Other issues that found to reasonably be cause for omission as determined by the City Engineer.

If an approved material is taken off the list for any of the above reasons, the first pending material will be added to the list.

Sewer Collections Materials

Manholes

Requirements

- Manholes shall be either 4’ or 5’ in diameter according to City Standard specifications.
- Pre-Cast Concrete Manholes shall meet APWA Standard 411 as amended by Nibley City and ASTM C-478
- Corrosion resistant Manholes shall be precast concrete with anchored HDPE liner meeting Geneva Perfect Manhole specifications and warranty
- See City standard modifications to APWA details for standard manhole Construction and specific details for manholes that accept force main Discharge or drop manholes (when allowed).



Watertight Manhole Seals (1 Manufacturer)

Requirements

- Provide cam locks with locking bolts to secure the cover against neoprene gasket to form a tight seal to minimize water infiltration
- Manhole lid shall have lettered cover labeled “SEWER”
- Manhole frame shall be bolted/secure to manhole riser and have a watertight rubber composite seal.



MANUFACTURER	MODEL
EJ	Compression Access Assembly

Manhole Coatings

Requirements

- Corrosion protection is not typically required on manholes but may be required in special cases such as: converting a standard manhole into a manhole that receives discharge from a force main, manholes that have noticeable deterioration, etc.
- Coatings shall be performed by an operator certified by the manufacturer for the application of the specific coating. The certificate shall be at the job site when the application is being performed and is subject to inspection by the City.
- All materials shall be delivered to the jobsite unopened and in original containers.
- Coatings shall only be performed after the manhole is prepared in accordance with the manufacturer’s recommendations, and after all sewer lines and benches have been installed.


Coatings shall extend the full depth of the manhole.


- Coatings are allowed only upon approval by the City Engineer.

MANUFACTURER
Neo Epoxy NPR 5300
Raven 405

Gravity Pipe

Requirements

- PVC Pipe shall be green in color
 - SDR-35 (4' to 15' in depth and up to 15" in diameter) ASTM D 3034 or
 - SDR-26 (15' to 20' in depth and up to 24" in diameter) ASTM F 679.
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- All pipes shall be bell and spigot with push-on joints
 - Push-on joints shall be integral bell joint with a single rubber gasket conforming to ASTM F 477, D 3212, and ANSI A21.11 with the exception that gaskets shall be neoprene or other synthetic rubber. Natural rubber will not be accepted.
- DR-11 HDPE Pipe shall be used for depths greater than 20', at crossings of streams, or when otherwise required by the City Engineer.
 - Joints shall be fused by an operator certified in the operation of the fusing machine. Certificate shall be available on site at all times and presented to the City inspector upon request.
 - Material for pipes larger than 24" shall be approved in writing by the City Engineer.
 - When required by the City Engineer, the sewer main shall be installed in a protective sleeve when crossing certain facilities or for future extension of the system.
 - Sleeves shall be welded DR-11 HDPE pipe as specified above and of a diameter 1.5 times larger than the largest outside diameter of the force main.
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Manhole Joint Mastic Seal

Requirements

- 1" Wide
- Double seal required on all joints
- Must be warmed prior to placing in temperatures below 60 degrees
- Moisture resistant
- Adheres to concrete
- Non-corrosive, pressure-sensitive adhesive
- Does not require moisture or other manner of preparation to apply



MANUFACTURER	MODEL
Kent Seal	No 2 Butyl Rubber Sealant

Manhole External Joint Mastic Seal

Requirements

- Minimum 8" Wide
- Rubberized mastic meeting ASTM C 877 (Type II)
- Must be warmed prior to placing in temperatures below 30 degrees
- Moisture resistant
- Adheres to concrete
- Non-corrosive, pressure-sensitive adhesive
- Does not require moisture, or other manner of preparation to apply



Manhole Internal Joint Seal (Multiple Manufacturers)

Requirements

- Seal shall prevent infiltration
- Applied at annular space at penetrations into manhole (including pipes)
- Non-shrink grout with Hydrophylic compound
- Equivalent products as approved by the City Engineer

<u>MANUFACTURER</u>	<u>MODEL</u>
Quikrete	Hydraulic Water-stop Cement



Tracer Wire

Requirements

- #12 AWG solid wire
- 2,500-foot minimum roll length
- Grease Connectors – 3M Direct Bury Kit DBR/Y-6, or Hughes Dri-Splice DS-100; DS-400; DS-500, or equal



Buried Sewer Line Marking Tape

Requirements

- 3" minimum width
- 4 Mill minimum
- Green in color
- Black lettering "BURRIED SEWERLINE"



LIFT STATIONS

Wet Wells

- Permanent wet wells shall be constructed of polymer material that meets Armorock equivalent specifications and warranty.
- Existing concrete wet wells that are modified or upgraded shall have an approved coating applied as defined in manhole coatings.

Pumps (1 Manufacturer)

Requirements

- Pump components shall be gray cast iron ASTM A-48, class 35B
- Pump motors shall be NEMA B-design
- Pumps shall be equipped with a 3 to 120 HP, submersible electric motor connected for operation on 480 volts, 1 to 3 phase, 60 hertz, 3 wire service, with 50 feet of submersible cable.
- Power cable shall be sized according to NEC and ICEA standards and also meet with P-MSHA approval.
- All exposed nuts and bolts shall be AISI type 431 stainless steel construction
- All metal surfaces that come into contact with the pumps, other than stainless steel or brass shall be protected by a factory applies spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.
- Sealing design shall incorporate metal-to-metal contact between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined fitted with Nitrite or Viton rubber O-rings.



MANUFACTURER	MODEL
Flygt	Submersible Sump Pump

Generators (1 Manufacturer)

Requirements

- The equipment supplied and installed shall meet the requirements of the National Electric Code and all applicable local codes and regulations.
- The engine/generator, controls, transfer switch, disconnect shall be complete and wired by the generator manufacture and locally



authorized dealer to ensure one-source responsibility for warranty, parts, and service through factory-trained service personnel.

- Submittal shall include specification sheets showing all standards and optional accessories to be supplied, schematic wiring diagrams, dimensional drawings, and interconnection diagrams.
- The standby generator set shall be rated as standby power (defined as continuous operation for the duration of any power outage). Kilowatt ratings for three-phase voltages are based on a 0.8 power factor, single-phase voltages are based on a 1.0 power factor. Ratings are established on 150 feet altitude and 110 Fahrenheit. Vibration isolators shall be provided between the engine-generator and the steel subbase, fuel tank or directly to mounting pad. In all applications in sewage lift stations the generator shall be capable of starting both sewage pump motors at the same time.

<u>MANUFACTURER</u>	<u>MODEL</u>
Cummins	Diesel

Pressurized Sewer Pipe (Force Main)

Requirements

- PVC Pipe shall be green in color
 - PVC class 150 pressure pipe with minimum wall thickness of DR18 unless otherwise required.
 - All pipes shall have joints pressure rated to the rating of the pipe and at least 1.25 times the working pressure the system.
- DR-11 HDPE Pipe may also be used and is required at all stream crossings, or when crossing other facilities as required by the City Engineer.
 - Joints shall be fused by an operator certified in the operation of the fusing machine. Certificate shall be available on site at all times and presented to the City inspector upon request.
- When required by the City Engineer, the force main shall be installed in a protective sleeve when crossing certain facilities or for future extension of a system.
 - Sleeves shall be welded DR-11 HDPE pipe as specified above and of a diameter 1.5 times larger than the largest outside diameter of the force main.



Air/Vacuum Release Valves (1 Manufacturers)

Requirements

- All metal parts and surfaces that come into contact with the valve or are enclosed in the vault/housing shall be stainless steel

<u>MANUFACTURER</u>	<u>MODEL</u>
ARI	No. D-020 – Combination air valve “SAAR”

