

PART 1

GENERAL IMPROVEMENT REQUIREMENTS

1.0. INTRODUCTION

This section defines the engineering and design requirements within Ivins City. These requirements should be used along with professional judgment to serve as a guide to establish consistency in design. In no instance shall any plan deviate from these standards without the approval of the City Engineer on a case by case basis.

This part addresses the following areas of engineering and design:

- 1.1 Definitions
- 1.2 Required City Permits
- 1.3 Other Permits
- 1.4 Applicable Ordinances
- 1.5 Construction Drawings/Plans
- 1.6 Coordination

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1.1. DEFINITIONS

- A. Wherever used in these specifications the following terms have the meanings indicated which are applicable to both the singular and plural thereof.
1. **APPROVED DOCUMENTS:** The approved drawings, standard specifications, standard drawings, and any other approved supplemental specifications and conditions.
 2. **APPROVED DRAWINGS:** The graphic and pictorial portions of the approved documents approved by the City's Representative showing the design, location and dimensions of the work, and generally include, the plan, profiles, elevations, cross sections, details, schedules and diagrams, etc.
 3. **APWA:** The American Public Works Association
 4. **APWA Manual of Standard Specifications:** The specifications published by the Utah LTAP Center, Utah State University, Logan, UT in conjunction with the Utah Chapter of APWA, adopted by Ivins City with the modifications contained within this document.
 5. **APWA Manual of Standard Plans:** The graphical and text displays published by the Utah LTAP Center, Utah State University, Logan, UT in conjunction with the Utah Chapter of APWA, adopted by Ivins City with the modifications contained within this document.
 6. **BONDS:** An instrument of security submitted by the owner and approved by the City to guarantee and/or warranty the required improvements.
 7. **CITY:** Ivins City, Utah, a governmental entity having authority to adopt and enforce ordinances.
 8. **CITY ENGINEER:** The officially appointed Professional Engineer designated as the "City Engineer" to act in behalf of and for Ivins City. May also refer to the City Engineer's designated representative.
 9. **CITY'S REPRESENTATIVE:** The person designated to act for and in behalf of Ivins City.
 10. **CONTRACTOR:** The person, firm or corporation with whom the owner has entered into an agreement to construct the necessary work.
 11. **DEVELOPER:** The authority, corporation, association or firm which undertakes the development or subdivision of land or properties and with whom the Contractor has entered into an agreement and for whom the work is to be provided.

12. DEVELOPMENT: The process of constructing a building or group of buildings for residential, commercial, industrial or other uses or the general changing of land or property into something other than its current or natural state or condition.
13. DRAWING OF RECORD: The drawing(s) or plan(s) which show the locations and dimensions of constructed facilities, based on actual measurements taken in the field, as governed by City policy and ordinances.
14. ENGINEER: A Civil Engineer registered with the Utah State Department of Business Regulation and licenced to practice as a Professional Engineer in the State of Utah.
15. JOINT UTILITY COMMITTEE (JUC): A formal group of representatives from public and private utility companies in the Ivins area that meet monthly to review and approve utility plans as required.
16. OWNER: The authority, corporation, association or firm with whom the Contractor has entered into an agreement and for whom the work is to be provided. This can refer to the Developer or the Owner of the property being developed.
17. OWNER'S ENGINEER (OR THE ENGINEER): The professional engineer or engineering firm (registered with the Utah State Department of Business Regulation) which has been retained by the Owner to produce plans, specifications, oversee work, etc. required by the Owner in the prosecution of the development of said Owner's properties. (See engineer).
18. OWNER'S REPRESENTATIVE: The person, firm, or corporation designated to act for and in behalf of the owner.
19. PLANS (DRAWINGS): The graphic and pictorial portions of the documents approved by the City's Representative showing the design, location and dimensions of the work, which generally include all details, schedules and diagrams required for construction of the project.
20. PRIVATE IMPROVEMENTS: The work or improvements which are undertaken by the Owner or Developer for the benefit of a select group of private individuals and are not maintained or repaired by the City and are not dedicated to the City for public use.
21. PROJECT: The total work to be provided under the approved documents.
22. PUBLIC IMPROVEMENTS: The work or improvements which are dedicated to and maintained by the City for the benefit of the public-at-large.
23. SPECIFICATIONS: Those portions of the approved documents consisting of these Standard Specifications as well as other requirements for materials, equipment, construction systems, standards and workmanship as applied to the work and certain applicable administrative details.

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24. STANDARD SPECIFICATIONS: The specifications as contained and as referenced in these documents including the APWA Standard Specifications.

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1.2. REQUIRED CITY PERMITS

1.2.1. ENCROACHMENT PERMIT

- A. Required when:
 - 1. Excavating within any right-of-way
 - 2. Removing, undermining, or tunneling under any pavement or other material within any right-of-way
- B. See Encroachment Permit Form (IC Form 5011) for additional information on requirements and fees.
- C. Not required when excavation is part of a project that is covered by a construction permit.

1.2.2. CONSTRUCTION PERMIT

- A. Required for any of the following:
 - 1. Construction of improvements required for a subdivision.
 - 2. Construction of improvements required for a commercial and multi-family site development or site developments that include public improvements.
 - 3. Site grading of areas greater than 1 acre.
- B. No permit shall be issued, and no construction shall be started until:
 - 1. Construction/Site Plans are approved.
 - 2. Qualifications of Contractor hired by developer/owner are verified.
 - 3. Storm Water Pollution Prevention Plan is approved and UPDES NOI has been issued.
 - 4. Other necessary permits have been obtained.
 - 5. When applicable, developer agreements are signed and executed.
 - 6. When applicable, final plat application is approved.
 - 7. When applicable, restoration bond has been posted.
- C. Expires after 1 year unless contractor is showing diligent effort to complete the project in a timely manner. Additional fees will apply for any reapplication.
- D. See Construction Permit Form (IC Form 5009) for additional information on requirements and fees.

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1.3. OTHER APPLICABLE PERMITS

1.3.1. UPDES STORMWATER PERMIT

- A. A UPDES (Utah Pollutant Discharge Elimination System) Permit from the State of Utah is required for all projects that disturb greater than 1 acre or are less than 1 acre and part of common plan of development or sale that is greater than 1 acre.
- B. Refer to Section 2.5 of these documents for additional City requirements regarding this permit and pollution controls.

1.3.2. BUILDING PERMITS

- A. No building permit shall be issued for a subdivision until:
 - 1. Roadbase is placed, graded, compacted, and approved on entire road surface.
 - 2. Curb and gutter is in place.
 - 3. Street signs are installed.
 - 4. All underground utilities are in place, accepted, and functional.
 - 5. It is reasonable to expect the subdivision improvements to be completed prior to the occupancy of the buildings.

1.3.3. OCCUPANCY PERMITS

- A. A developer shall not sell any portion of an approved development without informing the prospective buyer or builder that occupancy may not be obtained until all permanent improvements are installed and approved by the City.
- B. A certificate of occupancy may be issued upon compliance with the items listed in the Ivins subdivision ordinance Section 15.05.1002.

1.3.4. BLASTING PERMITS

- A. The use of explosives or blasting is generally not allowed within the City, however, if explosives or blasting are permitted, their use is controlled by the adopted Fire Code. The Contractor shall obtain a special permit from the City Public Works for the use of explosives. A copy of this permit shall be delivered to the City's Representative prior to the use of explosives. The approval by the City for the use of explosives shall not relieve the Contractor from his responsibilities for proper use and handling of the explosives or for any and all damages resulting from their use. Explosives shall be transported, stored, handled and used in accordance with the provisions and requirements of all applicable laws, ordinances and regulations.
 - 1. Permits and Blast Plan. When any blasting is to occur within the city a permit for such activity shall be applied for at least three working days prior to the desired

blasting day. A detailed blast plan shall be submitted for review at the time of application for a permit. The blast plan shall contain the following information:

- Number of holes per blast
 - Blast pattern
 - Depth of holes
 - Maximum holes per delay
 - Numbers of the delays used
 - Type of explosives used
 - Total pounds of explosives
 - Maximum pounds per delay
 - Method of detonation
 - Proximity to nearest structure
 - Expected duration of blasting activity
 - Name of independent monitoring company
 - Whether or not a pre-blast survey is required and the name of the company doing such a survey
 - Plan outline for notification of Fire Marshall, Fire Chief, or governing agency one hour prior to detonation of each blast and approximate time of each blast
2. General Blasting Criteria. Blasting activity that is to occur within one thousand (1,000) feet of any school (public or private), university, day care center, church, library, medical facility, or any public building shall be conducted during off hours where possible and shall require seismic monitoring of each blast to insure the integrity of the building as well as the safety of the occupants of said buildings. Since there is a wide variety in the type density, specific gravity, velocity and general characteristics within the graphical area of southern Utah, there are varied methods that can be employed to attain the desired results. These methods, if used and however varied, shall adhere to the appropriate limit criteria.
3. Any blasting that is intended within five hundred (500) feet of any structure (building, tunnel, underground utilities, gas lines, overhead transmission lines, pump station, piping, radio tower, or any other structure of any kind) requires that the blast be monitored with a seismograph capable of measuring peak particle velocities in three spatial components of horizontal, vertical and transverse and be capable of printing this data into a permanent record as digital as well as wave form and air blast overpressure in terms of millibar, PSI or decibel (dB) recording of each event. Any structure such as residential homes, commercial buildings, public buildings, storage facilities, or any other permanent structure that lies within five hundred (500) feet of blasting activity shall be required to have a pre-blast survey performed at the expense of the Contractor and/or the blaster by an independent company whose primary nature of business is to conduct and perform these types of services. The said company shall furnish to the Fire Chief a copy of the pre-blast survey report prior to issuance of the blasting permit. A certificate of insurance issued by an underwriter

legally doing business within the State of Utah showing Contractor and/or blaster to be properly insured for the express purpose of blasting and showing the issuing agency as additional insured, shall be submitted with the application of the blasting permit. The amount of insurance shown on the certificate of insurance shall be in the amount required by City's Fire Department or Owner's Representative. A blasting permit shall be site specific and expire thirty days from issuance.

4. Furnish and erect special signs to warn the public of blasting operations. Said signs shall be located and maintained so as to be clearly evident to the public during all critical periods of blasting operations.
5. Notify each public utility company, having structures or facilities adjacent to the work, of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies to advise the Contractor of any precautions that should be taken to protect their structures from damage.
6. Make a survey of adjacent properties, before commencing blasting operations, locating on drawings and by photographs all existing cracks and damages to structures. A copy shall be filed with the Representative, including a report of any property owners who refused to cooperate and permit entry and inspection.
7. Blasting shall be accomplished in such a manner that nearby buildings, structures, railways, highways, etc. will be safe from rocks and other projectiles. Adequate blasting mats or other means of protection shall be employed when blasting in congested area or close proximity to any of the above improvements. Steel mats shall not be allowed within two thousand (2,000) feet of powerlines.
8. Immediately prior to the time of firing, the Contractor shall station certified flaggers along the road(s) at sufficient distance from the blasting operation to control traffic as required.
9. The City reserves the right to order the discontinuance of blasting operations at any time.
10. Logs. The blaster shall, at the request of The City, surrender logs and records, or a copy thereof, for review within twenty-four hours of receiving such request. Failure to keep current and/or surrender the logs to the City will result in the immediate cancellation of any and all permits issued. No further permits will then be issued within thirty days of submission of said records.

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1.4. APPLICABLE ORDINANCES

1.4.1. ZONING ORDINANCE

- A. The Developer and his Engineer must familiarize themselves with the existing zoning ordinances and requirements.

1.4.2. SUBDIVISION ORDINANCE

- A. The Developer and his Engineer must familiarize themselves with the existing subdivision ordinances and requirements.

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1.5. CONSTRUCTION DRAWINGS

1.5.1. CITY APPROVAL OF DRAWINGS REQUIRED FOR

- A. Subdivisions
- B. Site Developments that include any of the following:
 - 1. Grading more than one acre.
 - 2. Installation of improvements required by City.
 - 3. Installation of any improvements intended to become public.
 - 4. When determined to be necessary by the City Engineer.

1.5.2. GENERAL STANDARDS

- A. Final approval of the project shall not be granted until the plans have been reviewed and recommended for approval by the city engineer.
- B. Standards are set for the purpose of standardizing the drawings and to obtain uniformity in appearance, clarity, size and reproduction.
- C. All drawings and prints shall be clear and legible and conform to good engineering and drafting practices.
- D. Size of drawings shall be 24 inches x 36 inches.
- E. Title block is located on the right side of the sheet and includes:
 - 1. Project Title
 - 2. Sheet Title
 - 3. Sheet Number
 - 4. Name, address, and phone number of engineer
- F. Engineer's stamp and signature with date is required on all sheets.
- G. Include north arrow and graphical scale on all plan sheets.
- H. Minimum text size is 0.08 inches.

1.5.3. CONSTRUCTION DRAWING STANDARDS

- A. Title sheet
 - 1. Showing:
 - Sheet index

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- Project title
- Vicinity map
- Engineer's certification
- Project benchmark information
- Basis of bearings
- General project boundary and layout map

2. Include Utility and City signature block:

- Required City Signatures: City Engineer, Public Works Director, Building and Zoning Administrator, Public Safety Officer, Parks and Recreation Director.
- Required Utility Signatures: Gas, Power, Phone, Postmaster, Cable, Others if applicable (i.e. Ivins Irrigation Co., Interlynx Fiber Optics, St. George City, Santa Clara City, WCWCD).

B. Construction Notes Sheet

C. Erosion Control Plan and Details

1. Showing:

- Management practices to be employed
- Temporary and permanent facilities to be installed to control soil erosion and prevent sedimentation impacts to adjacent properties and public facilities during and after construction.

D. Grading Plan and Cross Sections

1. Minimum scale is 1"=50'

2. Showing:

- Relationship of street to curb, gutter, and sidewalk
- Top of curb elevations at lot lines and curb returns
- Curve data for curb returns
- Existing and proposed contour topography (maximum 2' contour interval)
- Slopes
- Building pad elevations
- Cross sections
- Top of wall and bottom of wall elevations on retaining walls
- Drainage flow arrows

E. Utility Plans

1. Shows the size, type, and location of the following:

- Culinary water laterals, mains, meters, valves, and fire hydrants

- Secondary and irrigation water laterals, mains, valves, etc.
 - Sanitary sewer pipes, manholes, cleanouts, and laterals
 - Storm drain pipes, inlets, catch basins, manholes, headwalls, subdrains, and outfalls
 - Power, natural gas, and cable television
 - Street lights including conduit, pullboxes, and appurtenances.
 - Any other utility the City may require.
2. Sewers and storm drains must have a profile drawing showing depths of pipes, slopes, lengths, and clearances at all pipe crossings. This may be combined with the street profile.
 3. Shows all existing utilities

F. Street and Project Entrance Lighting Plan

G. Street Plan and Profiles

1. Minimum scale is 1"=50'
2. Shows all of the following:
 - Existing profile of centerline and at both right-of-ways and labeled accordingly
 - All existing elevations
 - All existing conditions and structures
 - Stationing
 - Top back of curb elevations
 - Centerline elevations
 - Curve data
 - Typical cross section for all street sizes and variations
 - Pavement and Base thickness design per Geotechnical Evaluation (include in typical cross section).
 - Benchmark location and elevation
 - Street names
 - Tapers
 - Traffic control devices such as signage and striping. (May use separate sheet for traffic plans)

H. Landscaping Plan

1. Includes a Planting Plan (plant list).
2. Includes an Irrigation System Plan
 - Show location, size, and material for all valves, controllers, and trunklines.

I. Detail Sheets (as needed)

1. Do not include standard details in the detail sheets that can be referenced directly on plan sheets.

1.5.4. APPROVAL PROCESS

A. First Submittal of Construction Plans:

1. Submit Construction Drawing Checklist (IC Form 7033), as included in Appendix K of these documents.
2. Submit construction cost estimate.
3. Submit 3 sets of construction drawings, copies or original
4. Must be stamped by a professional engineer.
5. The approximate review period for the first submittal is 14 to 21 calendar days.
6. Upon review, one set of marked up construction drawings will be returned identifying the required changes for approval.

B. Subsequent Submittals of Construction Plans:

1. Submit markup copy of construction drawings from previous submittal.
2. Submit one original set of revised construction drawings with all utility signatures and stamped and signed by professional engineer.
3. City intends to keep the original set in its files. If the owner/developer or engineer wants to have a set of originals, additional originals may be provided.
4. Submit updated construction cost estimate, if necessary.
5. The approximate review period for the subsequent submittals is 7 to 14 calendar days.
6. Upon review, if all marked changes were corrected in the submittal, the original set of construction drawings will be returned with all necessary city signatures.

C. Final Submittal of Approved Construction Plans:

1. Submit original signed and stamped set of construction drawings.
2. Submit 2 additional copies of construction drawings.
3. Submit electronic copies of construction drawings and any final approved plats in AutoCAD format and in a scanned PDF format.

1.5.5. DESIGN REVISIONS

- A. The approved drawings may be amended on or after the effective date to provide for additions, deletions and revisions in the work thereof.
- B. All amendments, supplements, changes and directives require approval of the City Engineer or its Authorized Representative.
- C. Process for Drawing Revisions
 1. Submit revised drawings using clouds to highlight revised areas and referenced to a revision block that provides brief descriptions.
 2. Drawing revisions must be stamped and signed by professional engineer.
 - If not the same professional engineer in the original sheet, provide a written consent from the original engineer for the revision, or a reasonable justification for not being able to provide the consent.
 3. Include location in the revision block for City Engineer and Public Works Director to initial for approval.
 4. Submit 4 review copies with at least one original for City files.
 5. If approved, City will return one copy and keep 3 copies including the one original, or if not approved, a markup copy will be returned.
 6. If deemed necessary, it may be required to receive consent from any affected utilities prior to approval of a revision.
 7. No work on revision shall be allowed until approval of drawing.
- D. Process for Field Revisions
 1. No field revisions shall be allowed without the consent of the City Engineer or its authorized representative.
 2. No field revision shall be allowed without the consent of the professional engineer that stamped the plans.
 3. Any field revision that has the potential to impact more than three segments of a utility or more than an acre of area shall be required to submit a revised drawing unless otherwise approved by the City Engineer.
 4. Field revisions shall be noted on the plans held by the City Engineer, the City Inspector and the Contractor.

1.5.6. EXPIRATION OF CONSTRUCTION DRAWING APPROVAL

- A. Approval of construction drawings shall expire one year after approval by the city if no construction work has begun on the development.
- B. Construction drawings shall also expire if construction of improvements is stopped during the construction for one year, unless an extension is granted by the city council prior to the expiration date or is included in the development agreement.

1.5.7. DRAWING OF RECORD REQUIREMENTS

- A. Drawing of Record required to be submitted prior to request for final inspection.
- B. Developer shall submit record drawing for all utilities and other improvements required.
- C. Developer shall provide 3 sets of the drawing of record for review by city staff.
- D. Upon approval of submitted record drawing, developer shall provide:
 - 1. One corrected set of record drawings
 - 2. Electronic version as a scanned pdf or tif version.
 - 3. Electronic version as an AutoCAD file.
 - 4. Text file of survey points collected for production of record drawing using State Plane NAD83 (Utah South) coordinate system.
- E. Drawing of Record shall be prepared by a licensed surveyor or professional engineer and shall be stamped and signed.
- F. Shall include the following:
 - 1. Actual surveyed locations of the sewer mains and manholes (tied to acceptable positions) with their depths, grades, sizes and types. Also, the distance from the closest property line of each lot or parcel to the sewer lateral service shall be shown.
 - 2. Actual surveyed locations with ties to all valves for the culinary water, secondary water and irrigation company water shall be shown. An approximation of the water mains, with their sizes and the type of water main, shall also be shown.
 - 3. Actual surveyed location of the storm drain and sub-drain manholes, catch basins, inlet boxes and pipes with their depths, grades, sizes and types.
 - 4. Actual surveyed location of above ground dry utility appurtenances and approximation of buried dry utility lines.
 - 5. Benchmarks (at least 2) established and shown on the drawing of record that shall be located on or near the development.

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6. The drawing of record shall reflect all field changes or any aspect of the original construction plans.
 7. An elevation shall be established at the ends of all new curb and gutter, waterways and sidewalks, which are stubbed at the ends of the development.
 8. Actual surveyed building pad elevations shall be shown and shall not vary from the construction plans by more than 0.5 feet
 9. Detailed landscaping plans for landscape areas to be maintained by the City
 10. Actual surveyed top and bottom elevations of walls adjacent to city streets at least every 100 feet with elevation of nearest curb.
- G. Drawing of record must be approved prior to final acceptance and start of warranty period.

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1.6. COORDINATION

1.6.1. COORDINATION WITH JOINT UTILITY COMMITTEE

- A. The Joint Utility Committee is comprised of Ivins City and all private utilities that provide services including Questar Gas, Rocky Mountain Power, Qwest Communications (phone), Baja Broadband (cable), and Santa Clara Branch USPS Postmaster.
- B. Depending on location of site, other utilities may be invited to participate such as Interlinx (fiber optic), St. George Water (Water Transmission), Santa Clara City (Water Transmission), Washington County Water Conservancy District (Water Transmission).
- C. The Joint Utility Committee regularly meets on the 2nd Wednesday of each month at 9 A.M. unless otherwise rescheduled.
- D. The purpose of the committee is to provide a tool for the City and utilities to communicate and coordinate regarding upcoming construction projects.
- E. The committee is also useful for a developer and its engineer to coordinate with each utility as a whole rather than individually.
- F. Developer projects are not required to submit to the Joint Utility Committee, however, it is recommended.
- G. All utilities involved in a project, including Post Master and Address Coordinator, must submit a letter of approval to the City, or sign off on the construction drawings, for the design of their own utility. The letter will address how the utility will be installed and when.
- H. Utility approval does not grant a right to proceed with construction.

1.6.2. PRIOR TO STARTING CONSTRUCTION

- A. All work completed in the right of way shall use a qualified contractor.
 - 1. Contractor shall be licensed in accordance with state laws.
 - 2. When Ivins City is unfamiliar with a contractor, the contractor may be required to submit information regarding past experience with contact information of references from other municipalities for whom the contractor has completed public works type projects.
 - 3. The City may refuse a contractor from public works construction for any of the following reasons from the past 5 years:
 - Failure to pay suppliers or subcontractors on previous work.
 - Poor communication.
 - Threatening or intimidating communications.
 - Willful and deceptive efforts to perform defective or substandard work.
 - Defective or substandard work on previous projects.

- Unethical acts.
 - 4. Any contractor banned from public works construction in any local municipality within Washington County shall not be allowed to perform any public works construction in Ivins.
 - 5. Contractor shall have proper insurance.
 - Liability: \$1 million per person, \$2 million per event
 - Workers Compensation Insurance
- B. Construction Permit Required (See Section 1.2.2)
- C. Preconstruction Meeting
1. Required on all development or public works construction projects.
 2. Verify:
 - Construction Permit Issued
 - Storm Water Pollution Prevention Plan is approved and UPDES NOI has been issued.
 - Other necessary permits have been obtained.
 - When applicable, developer agreements are signed and executed.
 - When applicable, final plat application is approved.
 - When applicable, restoration bond has been posted.
 3. Attendance is required by contractor project manager and site supervisor(s), design engineer, geotechnical engineer, surveyor, significant subcontractors, significant suppliers, Public Works Director, City Engineer, City Inspector unless otherwise approved.
 4. Discuss:
 - Site supervisors and 24-hour contacts
 - Coordination
 - Schedule
 - Required Submittals – Review form in Appendix B
 - Geotechnical issues
 - Survey Issues
 - Inspection
 - Specifications & Standards

1.6.3. SUBMITTALS

- A. As required in Standard Specifications. Appendix B is a summary list of all submittals required.

- B. Submit prior to manufacture, delivery, or installation unless otherwise indicated in the specifications.
- C. Material suppliers may submit general product submittals for approval for all work in the City.
 - 1. Submit to office of City Engineer.
 - 2. Such submittals shall expire at the end of the calendar year.

1.6.4. INSPECTIONS AND TESTING

- A. All work and materials must be inspected to insure that they comply with all related requirements and standards.
- B. No materials or work of a required improvement shall be installed and buried or otherwise covered without inspection by the City.
- C. Requests for inspection shall be the responsibility of the Developer and Contractor and must be submitted at least twenty four (24) hours in advance of the work; however, the work shall be available for inspection at all times.
- D. All testing and reporting shall be the sole responsibility of the Developer and Contractor; however, the City can require additional testing if it is deemed necessary.
- E. The minimum required testing is as listed in Appendix A.
- F. All tests shall be performed by an independent testing firm and the test results shall become the property of the City.
- G. All test results must be submitted to the City in a timely manner. Any failed test shall be immediately reported to the City.
- H. The City shall be notified of the appointed time for testing at least 4 hours prior to any testing and shall have authority to direct the testing technician in selecting locations and materials for testing.
- I. A Final Grading Report shall contain:
 - 1. an organized copy of all tests performed (with pertinent identifying information),
 - 2. and a map of test locations.
- J. The final grading report shall be submitted to the City by the testing firm prior to conditional acceptance of the improvements by the City.
- K. The City shall halt all work that has not been inspected or tested or for which test results have not been submitted.

- L. Any work for which testing is required, but for which the testing was not performed, shall be subject to a 150% cash penalty (non-refundable and based on the cost to repair, remove and/or replace the work) or the work must be removed and replaced by the Contractor and properly tested.
- M. The Contractor shall be responsible to insure that each portion of the work requiring testing complies fully with the standards.
- N. Any item of work that fails its test must be brought into compliance by an acceptable method and retested by the same firm that performed the original test, or it will be assessed a cash penalty commensurate with the potential seriousness of failure and the degree of non-compliance.
- O. Any deviations from the standards must be approved in writing by the City Engineer or Public Works Director.
- P. The City shall have the right to halt construction for any violation or non-compliance with any provisions of this or other related ordinances, resolutions or policies established by the Local, State or Federal Governments.
- Q. Any work for which inspection is required, but for which the inspection was not ordered and done as stated above, shall be subject to a 150% cash penalty (non-refundable and based on the cost to repair, remove and/or replace the work) or the work must be removed and replaced by the Contractor and properly inspected.

1.6.5. EXISTING UTILITIES

- A. The contractor shall be responsible to physically locate all existing utilities which may be affected by construction activities.
- B. Any existing utilities that must be raised, lowered, or relocated to accommodate the development, shall be done at the expense of the contractor and developer.
- C. No interruption in existing service shall occur before affected residents are notified.
- D. Notification shall be given no less than 24 hours, and no more than 72 hours in advance of a scheduled disruption in service.

1.6.6. FINAL INSPECTION PRIOR TO CONDITIONAL ACCEPTANCE

- A. After all construction work is complete, the Developer shall request a "Construction Completion Inspection" (final inspection).
- B. The initial submittals of the drawing of record and the final grading report shall be delivered prior to any final inspection.
- C. Upon receipt of the request the City shall schedule the final inspection with the appropriate parties. Any missing, faulty or defective work shall be detailed in the City's inspection report or punchlist.

- D. All faulty and defective work shall be corrected within 30 days from the date of the City's inspection report.
- E. It is the responsibility of the Developer/Contractor to contact the City when all punchlist items are complete.
- F. Conditional acceptance of the project will not be granted and the guarantee period will not commence until all faulty work has been corrected.

1.6.7. CONSTRUCTION CLOSEOUT

- A. The following items shall be provided prior to starting the warranty period.
 - 1. All required improvements have been installed.
 - 2. All punchlist items have been corrected.
 - 3. Final inspection and conditional acceptance has been provided by the City Public Works department.
 - 4. The final grading report has been submitted, reviewed and approved by the City.
 - 5. The record drawings has been submitted (including all electronic documents), reviewed and approved by the City.
 - 6. Notice of termination (NOT) for the UPDES construction stormwater discharge permit is filed with the State of Utah, Division of Water Quality. The contractor must provide appropriate evidence to the City.

1.6.8. WARRANTY PERIOD

- A. Due to the commonality in Ivins of expansive and collapsible soils, and in some areas high groundwater, the warranty period shall be 2 years for all site construction projects.
 - 1. The Developer shall warrant and guarantee that the improvements provided for hereunder, and every part thereof, will remain in good condition
 - 2. The Developer agrees to make all repairs to and maintain the improvements and every part thereof in good condition during the time with no cost to the City.
 - 3. The Developer shall post a cash bond or other approved security for an amount equal to 25 percent of the cost of the improvements to be warranted. A City Contractor shall have bonding in place to cover the warranty period.
 - Improvements to be warranted include but are not limited to streets, curbs, gutters, sidewalks, public utilities, private utilities, landscaping, privacy walls, and other accessories such as to include all improvements that were required as part of the development.

- The warranty bond shall not be calculated based from the cost of site grading, building structures, and private parking lots.
- B. If the developer/engineer submits in writing with an opinion from a geotechnical engineer that the site is free from expansive and collapsible soils, high groundwater, or other similar geologic hazards, the City may reduce the warranty period to 1 year.
- C. The determination for necessity of replacement, repairs and/or maintenance of the work rests with the City Engineer, Public Works Director or its authorized representative.
- D. It is further agreed and understood that the determination for necessity of repairs and maintenance of the work rests with the City Engineer or Public Works Director. Their decision upon the matter shall be final and binding upon the Developer, and the guarantee hereby stipulated shall extend to and include, but shall not be limited to, the entire street base, and all pipes, joints, valves, backfill, hydrants, and compaction, as well as the working surface, curbs, gutters, sidewalks, and other accessories that are, or may be affected by the construction operations.

1.6.9. FINAL ACCEPTANCE AFTER WARRANTY

- A. Prior to the end of the guarantee period, a final walk through will be conducted. The Owner and the Contractor should contact the City's Representative to schedule the walk through. All work found to be defective shall be corrected within 30 days. This is preparatory to final acceptance by the City.
- B. If, on the basis of Owner's and Contractor's request that work be given final acceptance and City's Representative is satisfied that the work has been satisfactorily completed and after a final walk through has taken place, the City's Representative will give written notice to Owner that the work is acceptable and the guarantee period will end. Otherwise, City's Representative will indicate in writing to Owner the reasons for refusing to recommend final acceptance, in which case Owner shall make the necessary corrections and resubmit request for final acceptance approval.