

## CHAPTER 10 – CONSTRUCTION INSPECTION GUIDELINES

### 10.1 GUIDELINES

#### 1. GENERAL

- a. A pre-construction meeting shall be held prior to the start of construction.
- b. In order to keep nighttime noise at acceptable levels, permittees shall not conduct work between the hours of 9 P.M. and 5 A.M. in residential zones per the SUDC.
- c. Certain times throughout the year a limit will be placed on the time, type, and locations of traffic restrictions. This may include areas around schools during school hours, areas around major shopping areas during the holiday shopping season (November 15 to January 2), and any road that is used to travel to and/or from the Surprise Recreation Campus during sporting and special events. This includes but is not limited to the annual baseball spring training season. Refer to the City of Surprise Temporary Work Zone Traffic Management Policy for further information.
- d. The maximum slope allowed within the city right-of-way is 4:1 unless noted otherwise on approved drawings.
- e. The City Engineer or designee will actively enforce temporary safety construction fencing for excavations and trenches in residential zone construction areas, and near schools (where there may be a problem with trespassing children). The contractor shall abide by OSHA regulations for public safety, including, but not limited to 29 CFR, Part 1910, and Part 1926, as well as other applicable standards including Section 107.08 of the Arizona Department of Transportation (ADOT)'s regulations. Fencing shall consist of wire mesh fabric and shall be securely anchored to approved steel posts located six feet apart, center-to-center, with a minimum height of six feet.
- f. Prior to the start of any excavation or trenching, the developer shall submit a detailed plan to the City Engineer or designee for approval.
- g. Contractors have a duty to perform work in strict accordance with plans and specifications whether or not the City of Surprise inspects the work. The presence of a City of Surprise official does not legally relieve the Contractor of the responsibility to comply with all plans and specifications. Some judgment is required to verify that the Contractor's work is reasonably close to conformity.
- h. Haul Permit Information: Contractors hauling fill or excavation materials where the haul exceeds 5,000 cubic yards using unpaved on-site haul roads or where the haul lasts longer than ten working days shall submit a Control Plan to mitigate dust and tracking problems and present the proposed haul routes and a schedule of the operation. The Control Plan shall be submitted to the Public Works - Engineering Services Division for review prior to County Permit submittal to ensure that all elements of the planned operation are covered.

- i. Prior to the start of any on-site grading or paving operations, the contractor shall have an approved set of grading plans, all applicable permits from city, county, state, and federal agencies and any financial assurance. The contractor shall also notify the city at least 24 hours prior to the commencement of work by calling (623) 222-6150. Additional instructions concerning grading and paving inspections may be provided at that time by the City Engineer or designee.
- j. All construction operations encroaching into the right-of-way shall be subject to periodic and final inspection by the City of Surprise for compliance with all permit requirements, as well as applicability to city, county, state and federal laws. Permittee must notify the City of Surprise Public Works Department Engineering Development Services Division at (623) 222-6150 at least 48 hours prior to beginning permitted construction work in the right-of-way. Requests for city Civil inspections must be made 24 hours in advance.
- k. Permitting:
  - i. All city approved plans are valid for 180 days from plan approval date. All permits must be issued within 180 days or plans will expire and re-approval will be required along with any associated fees.
  - ii. Permits are valid for 180 days from date of issuance. Upon good faith of continued construction and at the discretion of the City Engineer, a one-time request for extension of permits may be requested at no additional fee. This request must occur prior to permit expiration. This extension will be granted for an additional 180 days.
  - iii. If permits are allowed to expire or construction has not begun within the first 180 days of permit issuance, an additional fee shall be required for an extension of permits in the amount of one half the original permit fee.

## 2. **PAVING**

- a. The city may order that load tests be performed to determine the suitability and adequacy of the trench backfill, paving subgrade, and base course. Such tests shall be performed with a vehicle loaded to approximately 18,000 pounds per axle. Movement or settlement shall be cause for rejection of the work.
- b. Refer to Maricopa Association of Government (MAG) Section 310.4 and Table 310-1 for corrective action for ABC related to plasticity deficiency types III and IV.
- c. Refer to MAG Section 321.10.2 and Table 321-4 for corrective action when the asphalt cement content is not within a +/- 0.40% tolerance of the mix design target value. Reference MAG Section 321.10 for corrective action for asphalt deficiencies.
- d. The city may require additional density testing on an as-needed basis.

- e. The developer shall provide correlation testing documentation for all sand cone and nuclear testing in the final submittal packet.
- f. Asphalt thickness test cores shall be per MAG Specifications Section 321.14.
- g. Stamped asphalt is not approved for use in public right-of-way unless approved by the City Engineer.
- h. Asphalt mix design for streets within the public right-of-way shall be C-3/4"-inch base course with either C-3/4-inch or D-1/2-inch surface course, with minimum lift thickness per MAG Section 710 and maximum lift thickness of 3 inches.

### 3. CONCRETE

- a. If a sidewalk is constructed adjacent to a curb, streetlights and power poles shall be located behind the sidewalk by a minimum of one foot. Other items must clear the vertical projection of the back edge of the sidewalk by a minimum of one foot.
- b. For concrete placements, curb pavement cuts shall extend at least two feet beyond the face of the gutter. A "T"-top may be required for areas that do not meet slope requirements or for pavement that requires reworking due to defects.
- c. Home builders who elect to use their own contractors to add the roll curb or vertical curb driveway approaches not shown on plans between the detached sidewalk and the back of curb or to perform R & R repairs or any concrete changes that encroach on the City of Surprise right-of-way are required to follow MAG and City of Surprise specifications, and the contractors must be licensed to perform work in the city. This will include obtaining a permit, notifying the city, and performing soil compaction and material testing as required by the city. Failure to do so may be grounds for rejection and removal of all concrete placements.
- d. A pre-inspection and replacement of concrete curbs, aprons, and driveways shall be performed prior to paving where workmanship appears to be of poor quality, flow lines are in question, or excessive ponding of water is verified.
- e. Subgrade compaction testing shall be performed for all concrete structures.
- f. All compactions shall be per MAG Standard Specification 301.3.
- g. Refer to MAG Section 725.8 for concrete tests and deficiencies. Concrete represented by a strength test of at least 95% of the required 28-day compressive strength for either standard cylinder or drilled core specimens are acceptable.
- h. All concrete replacement or repairs shall be Class A (3000 pounds per square inch). No site batch concrete is allowed unless approved by the City Engineer or designee for emergency use.

- i. Liquid membrane forming compound shall conform to MAG Standard Specification 726.2. This shall be 1600 City White or ADOT White cure and shall be applied on all concrete in the city right-of-way.

#### 4. UTILITIES

- a. Separation and protection of crossing water and sewer lines shall be in accordance with MAG Standard Details 404-1 through 404-3 and sections 610.5, 615.4 and 616.3 of the MAG Standard Specifications.
- b. Prior to the start of pressure testing or disinfection of potable water or reclaimed water lines, the contractor shall submit a detailed plan to the Water Resource Management Director or designee for approval.
- c. Backflow preventer letter of certification and all associated documentation shall be required prior to the certificate of occupancy.
- d. All chemicals used for disinfection shall be approved by the National Sanitation Foundation (NSF).
- e. Sanitary sewer service taps shall meet the requirements of MAG Detail No. 440-1 and MAG Standard Specification Section 615.8
- f. After the pipe has been tested, inspected, and accepted for service and the manhole has been adjusted to the final grade, it shall have white latex-based insecticide approved by the Environmental Protection Agency applied to it. The application inside of manholes is performed for the top eight feet, or when less than eight feet deep, the entire manhole should be sprayed from the bench to the top finish grade, including adjusting rings. The rate of application shall be sufficient to provide a minimum two-mil dry film thickness per coat, and two coats shall be applied. Insecticide certification is required, and the insecticide must be applied by a licensed Pest Control Applicator.
- g. Irrigation lines shall be flushed when the line is under repair.

#### 5. STORM DRAIN

- a. Storm drain pipes shall be sawcut when trimming to their final shape and length with a smooth edge. This is per manufacturer recommendations and helps to prevent damage and cracking, allowing for watertight joints.
- b. Storm drain inspection results required per MAG 618.4 for all public installations.

#### 6. AS BUILT

- a. Improvements shall not be accepted until as-built plans have been submitted and approved by the city and all other agencies' permit requirements have been met.

- b. The paving contractor is responsible for obtaining water and sewer as-built plans before the start of construction to determine the location of all utility rims and covers that must be adjusted to the finish grade.
- c. Reproducible as-built plans certified by the developer's Registered Engineer or Registered Land Surveyor shall be submitted to the city and approved prior to the issuance of a building "Certificate of Occupancy".
- d. Right-of-way construction releases and building certificates of occupancy will not be released for any type of accepted construction until certified as-built plans have been submitted to and approved by the city.
- e. An "As-Built Certification" statement on the cover sheet of the as-built plans shall be signed and sealed by a Registered Professional Engineer or a Registered Land Surveyor. The Certificate shall be in all capital letters and shall read "I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF".
- f. The City of Surprise assumes no responsibility for the accuracy of the as-built information, which is provided only as a public record.
- g. As-built plans shall be submitted in a digital file in "PDF" format and on a reproducible bond copy (size 24 inches x 36 inches), and they shall be of a quality that allows microfilming.

## 7. AS BUILT CAD DATA SUBMITTAL

- a. The City of Surprise reserves the right to refuse CAD Drawings that are not conforming with the as-built CAD Data Submittal Requirements between the consultant and the city.
- b. A disc containing AutoCAD drawings files, through release 2010, will be required. Compact Disc will be labeled with the Project Name and City of Surprise Submittal Number. No data compression should be utilized.
- c. Disc Folder Structure and CAD Sheet Naming Convention
  - i. Create a folder with the Project Name or Review Number. Within the Project folder create subfolders and name them Water, Sewer, Paving, Grading and Drainage, Storm Drainage, and Xref. Then copy the corresponding CAD (\*.dwg) files into the appropriate subfolders.
  - ii. Example:
    - 📁 Project Name, Submittal Number, and Review Number
      - 📁 Water
      - 📁 Sewer
      - 📁 Paving
      - 📁 Grading and Drainage (use GD to abbreviate Grading and Drainage Sheets)

- Storm Drainage (use SD to abbreviate Storm Drainage Sheets)
  - Fonts (if applicable)
  - Xrefs (if applicable)
- d. Model Space / Paper Space
  - i. All CAD as-built line work is to be created in model space.
  - ii. CAD work in paper space is for Page Layout, Title Block, Notes, Legend, and other text.
- e. Coordinates System and Units
  - i. CAD drawings site/civil base models supplied will be created in relation to its geographic location. Use either the Arizona State Plane Coordinate system, FIPZONE 0202, North American Datum 1983, or, preferably, the Maricopa County Low Distortion Projection (MCLDP). The parameters for the MCLDP can be obtained from the City of Surprise Chief Land Surveyor.
  - ii. Units: International Feet (0.3048 meters) will be used to ensure consistency with the current City of Surprise files.
- f. Geodetic Ties
  - i. All CAD drawings (model space) will be referenced to (at least) two accepted geodetic control points which must be part of the City of Surprise Bench Mark control project, Maricopa County Geodetic Densification and Control Survey (GDACS) control network (published through MCDOT), or any approved (via City of Surprise Survey Division) monumented survey control.
- g. X References
  - i. The City of Surprise would prefer that X references NOT be used to help expedite the as-built process.
  - ii. If X references are used, all X referenced drawings will need to be placed in one common directory (subfolder titled Xref) and the subdirectory tree structure will need to be sent accordingly. Further, each drawing will need to be opened prior to sending to verify the X references will load properly.
- h. References Information
  - i. Ensure that all non-related CAD structures such as empty layers, unused blocks, line types, dimension styles, plot styles, text styles, shapes, etc. are purged from the files. As-builts will not be accepted without adherence to this standard.
- i. Fonts
  - i. The use of standard AutoCAD fonts and shapes is required. Non-standard fonts and shapes must be transmitted with the drawings in the original file format in a separate Fonts subdirectory.

- j. Blocks
  - i. All blocks or symbols will include a single point feature. If block attributes are used, the block attributes structures and block nesting should be included in the transmittal. Microsoft Word may be used to create such list if preferred. ANSI text files are also acceptable.

## **10.2 GENERAL REQUIREMENTS FOR INSTALLATION OF UNDERGROUND UTILITIES**

1. Trench excavation, backfill, and compaction shall be done in accordance with City of Surprise Trench Specifications and Acceptance requirements. See Section 10.3 of this document.
2. Trenches across streets shall be completely backfilled within three working days after pipe laying and shall not remain open for longer than ten working days. Steel plates, when used to bridge across a trench, shall be milled and tack-welded. See MAG Detail No. 211 for standard trench plating detail. The City Engineer or designee may also require welding for multiple plates.
3. Water consolidation by jetting, when used for trenching, shall be accomplished with a 1-1/2-inch pipe of a length sufficient to reach the bottom of the lift with an adequate length of hose attached and a water pressure of no less than 30 PSI. Lifts shall not exceed six feet of loose material. The backfill shall be leveled, the trench shall be saturated, and the material shall be jetted to:
  - a. Within one foot of the pipe if the lift is six feet or less from the top of the pipe, or
  - b. At least one foot into the previous multiple lifts.
4. All jetting shall be accomplished transversely across the trench, offset to the jetting locations on the other side of the trench. The entire lift shall be leveled and completely saturated, working from top to bottom.
5. All Trenches under, or within 2 feet of, any existing or proposed pavement, curb, gutter, or sidewalk shall be backfilled, compacted, and surface replaced per MAG Standard Specification 601, and MAG Standard Details 200-1 and 200-2. When CLSM is used as backfill the minimum cure time prior to placement of ABC or paving shall be 24 hours for ½ sack CLSM and 12 hours for 1 sack.
6. All trench cuts, pavement replacement, and slurry seal shall be as follows:
  - a. Parallel trenches 50 feet or more in length shall be a minimum of four feet wide to allow for the use of paving machines.
  - b. The edge of each trench shall be sawcut, neat, straight and shall extend one foot minimum beyond each side of the trench ("T"-top), according to MAG Section 336 and Detail 200.
  - c. Pavement replacement for two-course paving shall require a minimum of one foot of surface course sawcutting, milling, and tacking. For one-

course paving of two inches or less, the pavement shall be removed and replaced.

- d. A polymer-modified slurry seal Type II shall be applied in accordance with MAG Section 336.2.4 to all cuts for the length of one block where the total pavement cut length is greater than 300 feet.
  - e. The thickness of the pavement and aggregate base shall be consistent with the thickness of the existing pavement and base, but shall not be less than that shown in Chapter 3, Table 3-2.
  - f. The asphalt replacement mixes for pavement cuts shall be C-3/4-inch base course with either C-3/4-inch surface course or D-1/2-inch surface course.
  - g. Trench pavement replacement less than 50 feet in length may be done using a single mix on residential streets.
  - h. The base course mix for collector and arterial street trenches over 50 feet in length shall be C-3/4-inch. The C-3/4-inch mix has a minimum design lift thickness of 2-1/2-inch. The finish course mix shall be D-1/2-inch with a minimum design lift thickness of 1-1/2-inch per MAG Table 710-1.
  - i. If the existing AC distance from the edge of curb to the "T"-top of the trench is less than 24 inches, it shall be removed or milled for replacement.
  - j. All of the above shall be as directed by the city.
7. All concrete replacement for utility trenching or repairs shall be Class A (3000 pounds per square inch). No site batch concrete is allowed unless approved by the City Engineer or designee for emergency use.
8. It is required that all roadway crossings of lines be directionally bored under the pavement if it is less than two years old. If pavement less than two years old is required to be cut to install an underground utility, approval by the City Engineer or designee shall be required and an "early cut fee" may be assessed per the SUDC, Permit and Plan Review Fees for Cutting Street Pavements. Water boring is not permitted under a paved roadway without an additive such as Bentonite.
9. Potable and Raw Water Line Inspection when located within the City of Surprise service area: the city shall inspect and approve all safety, trenching, bedding, pipe installation, backfill, and compaction. The City Engineer or designee shall also confirm the pipe material, size, and color meets the specifications detailed in Chapter 6 of this document. Minimum water pipe pressure class for the City of Surprise is 200, DR=14. The City of Surprise shall inspect and approve all pressure testing, disinfections, and operational tests.
10. Potable and Raw Water Line Inspection when located within EPCOR service area: the city shall inspect and approve all safety, trenching, and compaction. EPCOR shall inspect and approve all bedding, pipe installation, pressure testing, disinfections, and operational tests.



11. Reclaimed Water Line Inspection: the city shall inspect and approve all safety, trenching, bedding, pipe installation, backfill, and compaction. The city shall confirm the pipe material, size, and color meets the specifications detailed in Section 6 of this document. Minimum reclaimed water pipe pressure class for the City of Surprise is 200, DR=14. The City of Surprise shall inspect and approve all pressure testing, disinfections, and operational tests.

### **10.3 TRENCH SPECIFICATIONS AND ACCEPTANCE REQUIREMENTS**

#### **10.3.1 Documents Required for Trenching in the City of Surprise Right-of-Way**

1. Each primary geotechnical testing technician performing work on-site must be certified in his or her respective area of testing (soils, concrete, pavement, etc.). A trainee must work under a certified technician and shall be certified no later than six months from the date of beginning work in the City of Surprise. The employing geo-technical testing company shall supply documentation to the Public Works Department for each certified technician.
2. It is mandatory that each geotechnical testing company performing tests be required to notify the City Engineer or designee of any failed test involving backfill and compaction associated with the trench and appurtenances on the day of the failed test. Verbal updates are permitted. The tester shall discuss any concerns with the city and review the specifics of the test documentation.
3. In new residential construction projects, concrete placement shall not begin until all sewer, water, and dry utility trench backfill has passed compaction testing and the results are provided to the city. These may be copies of the testing technician's field reports presented on company letterhead.
4. The Engineer of Record shall verify, by actual field measurements, that sewer manhole stationing and invert elevations as well as potable water, reclaimed water, and stormwater, and sewer pipe size, materials, alignment and minimum slope, are consistent with the approved design drawings and revisions. They also shall verify that all sewer lines have passed all required sewer tests and certify that the City of Surprise-owned water, reclaimed water, stormwater and sewer lines are in substantial conformance with the relevant MAG and City of Surprise specifications. They also shall verify that all installed water, reclaimed water, storm water, and sewer lines are in conformance with the plans and specifications and that the water, reclaimed water, stormwater, and sewer lines are accurately reflected on as-built mylar drawings. The Engineer of Record shall verify that backfill material and compaction within the City of Surprise right-of-way for potable water, reclaimed water, storm water, and sewer trenching has been tested and verified by the geotechnical engineering consultant in accordance with standard industry practices as well as MAG and City of Surprise specifications.
5. The Engineer of Record or a designee shall provide the quality control (QC) and the City Engineer or designee shall provide the quality assurance (QA) for the project. Any field discrepancies or conflicts shall be brought to the

attention of the city. All water line testing is to be performed by the City of Surprise.

**10.3.2 Specifications for Trenching Within the City of Surprise Right-Of-Way**

1. All contractors performing work in the City of Surprise are required to have an Occupational Safety & Health Administration (OSHA)-certified competent person on site to provide and review the correct trench safety requirements.
2. The vee'ing or benching of trenches shall be performed only in soils that will not safely support hydraulic trench shoring, trench shields, or boxes. Additional testing will be required where vee'ing or benching is to be performed.
3. All utility pipe zones shall be 100% ABC material per Section 702 of MAG Specifications Table 702-1 for Aggregate Base and shall be placed per the appropriate utility section of this document.
4. Maximum backfill lift depths shall be as shown below. Mechanical backfill and density testing lift depths of up to two-foot increments shall require a documented manufacturer's equipment recommendation and/or approval with field trial tests with the city.

<u>Compaction Technique</u>	<u>Max. Depth of Backfill Lift (feet)</u>
Mechanical	1
Water jetting	6

5. All trench backfill around existing manholes and structures that require reworking outside of the existing pavement but under the proposed pavement and within two feet of the back of the curb shall have 100% ABC, placed to the full depth of the trench above the pipe zone. This shall not apply to new residential construction outside of the proposed area.

**10.3.3 Trench Testing Requirements**

1. The city may require additional compaction testing on an as-needed basis.
2. Additional exploratory excavations or potholes as directed by the city may be required for any main or service trench.
3. An additional proctor test shall be required where any compaction test result is greater than 4% of the maximum dry density.
4. The nuclear gauge shall be calibrated against the sand cone a minimum of once every ten tests. The City Engineer or designee shall be notified of any failures on a daily basis, whether they be soil, concrete, or asphalt test failures.
5. All correlation testing documentation for all sand cone and nuclear gauge testing shall be provided in the final submittal packet.

6. Soil samples taken to determine the standard proctor for trench backfill and compaction shall be taken directly from the trenched spoil piles as a representation of the blended soil types from the excavation process.
7. Significant compaction test failures shall be retested using a sand cone. Any resulting failure will be reworked before any retesting is performed.
8. All dry utility roadway crossings shall be compaction tested, selected at random or as directed by the city.
9. 25% of all service trenches shall be compaction tested in each parcel per lift, selected at random. Wherever a failed service test occurs, the closest two service trenches shall also be tested and shall not be included as part of the 25% requirement.
10. All sewer manhole bases shall be compaction tested.
11. All structures (including sewer manholes) shall be tested at 95% compaction densities as near to the structure as possible, at random locations, one test per each two-foot lift increment. These tests are separate from the required one test per 500 feet of trench.
12. Minimum trench compaction densities as listed in MAG Specifications Section 601, Table 601-2 are to be modified. Modify Type II to be 90% except in pipe zones and water and sewer trenches, including service lines and areas around structures, where the density shall be 95%.
13. Moisture control for mechanically-compacted trenches using non-granular soil shall be determined by standard proctor test AASHTO T99 or ASTM D698, and shall not deviate more than -1% or +3% from optimum moisture levels unless otherwise noted on the approved geotechnical report.
14. All trench backfill with lifts of up to two-foot increments (requires City Engineer or designee approval) shall be compaction tested so that half of all testing occurs in the lower half of each lift.
15. Additional testing shall be required where vee'ing or benching of trenches is performed. For every 500 feet of trench length, testing shall be performed on every lift for every eight feet of width or fraction thereof. Tests shall be at staggered depths and random locations throughout the length of the 500 feet of trench.
16. Before testing begins in any parcel and when requested, a schedule of proposed testing based upon mainline trench (sewer, water, dry utility, etc.) total footage and depth, number of manholes or structures, and number of service trenches shall be provided to the city.
17. All sewer, potable water, reclaimed water, and stormwater service trenches and underground utilities that extend into the Public Utility Easement (PUE) in new residential construction shall be backfilled full depth to a compaction density of 90% or to meet the right-of-way requirements.
18. Homebuilders and contractors should be aware that sewer service lateral backfill on private property outside of any PUE requires compaction density testing to 90% per MAG Standards. Density inspection in such areas shall be performed.

### **10.3.4 Trench Warranty**

1. Where significant trench failures occur as determined by the City Engineer or designee, an extended warranty period of two additional years shall be given. These two years are in addition to the required two-year standard warranty period. The boundary of the extended warranty (four years) shall cover an entire street, block parcel, or project, depending upon the amount, degree of failure (depth & width), and location.
2. The method of repair shall depend upon the gravity of failure of each settlement. For smaller settlements, the method shall incorporate the removal of all loose, unstable, and water-saturated material. The entire settled area shall be probed for voids during the excavation to determine the extent of removal. The removal area shall extend a minimum of one foot into hard and compact soil around the entire perimeter of the excavation. The backfill shall consist of 100% ABC compacted to a minimum of 95% and tested in one-foot lifts. For larger and deeper settlements, the same process of removal shall be followed except 1/2 or one sack CLSM per MAG Specification Section 728 shall be required for full depth backfill. The surface replacement shall be per MAG Standard Detail 200, "T" top or as modified by City Engineer or designee. An experienced soils testing technician must be on site during the investigation and the removal of material to visually inspect and direct the removal of all unsuitable material and test it as needed. The backfill shall not begin until approved by the city.
3. When it is found that the geotechnical testing frequency or methods employed are inadequate, the City Engineer or designee shall have the option of imposing an extended warranty period during which further testing would be prohibited.

### **10.4 UTILITY PERMIT PROCEDURES AND REQUIREMENTS FOR UTILITIES WITH FRANCHISE AGREEMENTS**

The utility companies that are under a franchise agreement with the City of Surprise include, but limited to Arizona Public Services (APS), Cox Communications, Southwest Gas (SWG), and EPCOR. The following are the requirements and procedures for a utility permit under the franchise agreement.

#### **10.4.1 Pavement Cut Surcharge Fee**

Per the City of Surprise Municipal Code, Section 42-41, the City of Surprise can impose surcharge fees for cutting asphalt. The city can waive these fees for those franchise utilities in agreement with the City of Surprise or as determined appropriate by the city.

#### **10.4.2 Mandatory Begin Work Notification**

A notification to begin work for all permits must be requested via phone (623-222-6150) or email (engineering.info@surpriseaz.gov) to the Public Works Department a minimum of 24 hours in advance of the beginning of the work. The following information shall be

included: utility company/permit holder name, subcontractor name, permit number, contact phone numbers for the utility company/permit holder and subcontractor, work location, type of work, beginning and end work dates, and any traffic restrictions required.

#### **10.4.3 Traffic Restriction and Barricading Requirements**

See special provisions for traffic control in Chapter 4, Section 4.2 of this document.

#### **10.4.4 Arizona BlueStake, Inc. and Overhead High Voltage Safety**

Requirements for requesting marking, relocation to avoid damage to existing utilities during excavation, and safety for working near overhead high voltage shall be followed. See Arizona Revised Statutes (A.R.S.) Title 40 – Public Utilities and Carriers, Article 6.3, Underground Facilities, and Article 6.4, High Voltage Power Lines and Safety Restrictions.

#### **10.4.5 Construction Standards for Excavations (OSHA)**

The requirements of the “Construction Standards for Excavations” (29 CFR Part 1926.650-.652, Subpart P) and latest revisions, as promulgated by the Industrial Commission of Arizona, Arizona Division of Occupational Safety and Health (OSHA) shall be followed.

#### **10.4.6 General Inspections**

1. Trench excavation, backfilling, and compaction shall be done in accordance with City of Surprise Trench Specifications and Acceptance requirements as published on the city website at <http://www.surpriseaz.gov/>.
2. CLSM 1/2 or one sack per MAG Specifications Section 728 shall be required for pavement cuts and any undermining of concrete curb, aprons, etc.
3. Pavement replacement shall be in accordance with City of Surprise Standard Details.
4. The asphaltic concrete pavement mix design shall be City of Phoenix, C-3/4-inch or D-1/2-inch 5.0 oil for arterials and collectors and C-3/4-inch or D-1/2-inch 5.5 oil for residential streets.
5. All other work shall be done in accordance with MAG Specifications and Details or with the City of Surprise Engineering Development Standards.
6. All areas where landscaping, irrigation, sidewalk, curb and gutter, aprons, pavement, signage, potable water, reclaimed water, storm water, sewer, drainage, street lighting, traffic signals, etc. are damaged or disturbed and said damage or disturbance is the fault of the persons performing the permit work, must be repaired and/or replaced in kind, with all costs paid for by the utility company, subcontractor, or the permit holder.
7. All below ground repairs and installations must be inspected and approved prior to backfilling. Failure to comply will result in exposing the area for proper inspection.
8. Any damage to public or private utilities shall be reported promptly to the utility owner suffering the damage. The responsibility to report all damages rests with the permit holder or subcontractor performing the work.

9. The utility company/permit holder or subcontractor shall monetarily compensate the City of Surprise for any damage that cannot be repaired or replaced in kind, such as mature landscaping and items no longer in production or of a historical nature.
10. All survey monuments shall remain undisturbed. Should a survey monument be disturbed, a Registered Land Surveyor must resurvey and certify that the new monument is set according to the existing vertical and horizontal controls, with all costs paid for by the utility company/permit holder or the subcontractor.
11. Damaged traffic loop detector wire cannot be spliced. The entire loop must be replaced by a contractor chosen by the City of Surprise with all costs paid for by the utility company/permit holder or the subcontractor.

#### **10.4.7 Dry Utility Blanket Permits**

1. The City of Surprise issues an annual Emergency/Maintenance Repair Permit to each utility company for work in the right-of-way valid from January 1<sup>st</sup> to December 31<sup>st</sup> of each year. Emergency permits are to be used only when the facilities of a utility company have been interrupted and immediate repair is necessary. Examples of a facility interruption include gas leaks, power outages, electrical faults, downed wires and poles, cut cables, and situations where the utility company suffers a loss of service, or those which pose a health or safety risk to the public. **Notification of such situations to the City of Surprise Public Works Department is mandatory.** The notification shall be made during normal working hours as each case becomes known or the following normal workday morning for night or weekend emergencies. The City of Surprise Police Department/Fire Department should be contacted immediately for night or weekend emergencies.
2. The City of Surprise also issues an annual Routine Construction Permit to each utility company for work in the right-of-way that are also valid from January 1<sup>st</sup> to December 31<sup>st</sup> of each year. Blanket permits are issued for work involving routine maintenance to each utility company's facilities and appurtenances, i.e. manholes, vaults, cabinets, equipment, poles, wires, etc. Minimal trenching less than 150 feet is also allowed under this permit type. The city shall require traffic control for repair work.

#### **10.4.8 Warranty of Work**

1. All work, whether performed under a standard emergency permit or a blanket City of Surprise permit, where public facilities are disturbed or damaged and require either repair or replacement, shall carry a warranty against defective workmanship and materials.
2. The warranty period for each permit involving repair or replacement work shall be two years from the date the construction work associated with the permit is signed off by the city.

#### **10.4.9 Permit Close Out**

The utility company/subcontractor or permit holder shall notify the city when all work associated with each permit is completed and a final walk out shall be scheduled. Once all punch list items have been completed, the utility company/subcontractor or permit holder shall notify the city that the permit is complete. When both parties agree that the punch list items are complete, the permit will be signed, thereby beginning the warranty period.

#### **10.4.10 Default Notice**

Failure to comply with these requirements could result in a work stoppage, rejection of the work, or permit revocation.

### **10.5 INSPECTION PROCEDURES FOR SUBSTANTIAL COMPLETION AND FINAL APPROVAL OF PROJECTS**

#### **10.5.1 Inspection Guidelines**

1. The City Engineer or designee shall conduct the inspection walk out.
2. Inspections performed for final easement and off-site construction shall follow the same guidelines as those noted herein.
3. On-site civil inspections shall be performed for grading and drainage, potable water main lines, sewer main lines eight inches and larger, all lines with manholes, all reclaimed water lines, and all underground fire lines, including fire department connections (FDC), where the City of Surprise has issued a permit. On-site sewer mains with manholes must meet the same testing and insecticide requirements as those for off-site construction. On-site sewer mains shall remain plugged until approved by the city. Check for track outs, dust control and safety. Notify contractor regarding citizen's complaints.
4. The city shall inspect and approve all safety, trenching, bedding, pipe installation, materials, and backfill for on-site fire lines.

#### **10.5.2 Pre-Walk Requirements**

1. Appendix 10-1 includes checklists of the general construction items that are most frequently encountered during inspection. Additional items on the approved plans, but not included in the appendix, shall also be included in the walk out.
2. Developers/contractors shall contact the City of Surprise Public Works Department Engineering Development Services at (623) 222-6150 to request a project walk out if the City Engineer or designee cannot be contacted.
3. At least a one-week window between the request and the actual walk out should be expected to allow for scheduling conflicts.
4. Requests for walk outs in the field through the City Engineer or designee will be accepted.
5. All curbs, gutters, sidewalks, and streets shall be swept clean by the permit holder and shall be free of dirt and debris. One hour before scheduled walkout all pavement and gutters shall be completely watered, in order to sufficiently check grade and find high and low points, at no expense to the city.

### **10.5.3 Substantial Completion Walk**

1. Substantial completion walks shall take place at the time of completion of all public works-related construction per approved plans and revisions. This includes but not limited to the completion of grading, sewer, storm water, potable water, reclaimed water, dry utility, storm drain, concrete, paving, signage and striping, signals, and operational streetlight work. Landscaping is not required to be completed to its final condition, although all landscape services must be in place.
2. At least two representatives from the city shall be present at each project walk out to successfully complete the walk.
3. All contractors with work that includes major construction items (asphalt, concrete, sewer, potable water, reclaimed water, storm water etc.) to be inspected during the residential walk out should have a representative present at the time of the walk out. Personnel from the appropriate utility contractor shall be on-site to remove/replace sewer manhole covers and valve caps to allow the inspection of each manhole and valve.
4. The developer/contractor shall be responsible for supplying the paint (white in color) to be used to mark the punch list items during the walk.
5. Each punch list item will be marked with a painted number so that it can be seen after the punch list item has been completed. All punch list items shall be correlated to the closest lot number and street and copied to a project map for submittal to the city prior to start of construction of said punch list items.
6. Items marked during the project walk shall be documented in a punch list.
7. Punch list verification walks shall be scheduled solely and directly with the City Engineer or designee assigned to the project.
8. When it is found that the project to be walked out has not met substantial completion or cleaning and watering requirements for street water testing, the walk out shall be canceled and rescheduled only after it is determined that sufficient corrections have been made.
9. The city shall have the option to require a re-walk if there is no removal and replacement activity for more than 30 days from the last inspection walk.

### **10.5.4 Required Documentation for Certificate of Occupancy**

1. The Contractor should allow for at least a two-week window before the C of O is expected to allow for corrections to all punch list items.
2. The C of O will not be issued until the project has been completed per plans, and all required documentation has been submitted including but not limited to:
  - a. A completed punch list signed off by the City Engineer or designee.
  - b. Approved, certified 4-mil mylar as-builts including but not limited to grading, drainage, sewer, potable water, reclaimed water, storm water, signal, signing, pavement marking and paving work. Two paper as-builts shall be required for potable water, reclaimed water, storm water and sewer work within the City of Surprise's service area. As-built preparations shall be in accordance with Chapter 9.



- c. A complete geotechnical testing packet, in a signed pdf format, for all required testing performed by the project geotechnical testing agency, covering all items in streets, sewer, potable water, reclaimed water, dry utilities, and storm drain work.
  - d. Sewer, potable water, and reclaimed water pressure testing results.
  - e. Sewer manhole vacuum testing certification.
  - f. Sewer manhole insecticide certification.
  - g. Sewer videos with operator notes (and any repeat videos).
  - h. Asphalt concrete pavement SS1H fog seal certification.
  - i. Certification of backflow prevention assembly test for all backflow prevention devices.
  - j. Copy of Drywell Registration.
  - k. Final retention basin volume certification sealed by a registered Professional Civil Engineer.
  - l. A complete list of street names, number of blocks, length of each block, and total area in square yards (SY) per block.
  - m. Approval to Construct (ATC) and Approval of Construction (AOC).
3. A temporary C. of O. may be signed when the project is complete in a manner so that all safety concerns have been addressed, as this will allow for the stocking of shelves and the training of personnel.

#### **10.5.5 Council Acceptance**

After the conditional walk-out and upon the completion of all punch list items and submittal of all required documentation, the issuance of a substantially complete letter will begin the Council acceptance process. The Public Works Department, Engineering Development Services Division will place the recently substantially completed infrastructure construction on a City of Surprise regular council agenda. This typically takes up to 90 days. Prior to Council acceptance, the Warranty Financial Assurance is required to be posted per the SUDC. If the assurance is not posted, the item for council acceptance will be removed from the agenda until such assurance is posted.

#### **10.5.6 Warranty Period**

After Council approves the acceptance of infrastructure, a warranty period of two years officially starts. Council Acceptance is the date in which the warranty period begins. During that period the applicant is responsible for all corrections, errors, or poor workmanship of the infrastructure and any maintenance if applicable.

#### **10.5.7 Warranty Walk**

The warranty walk shall take place approximately one to three months prior to the two-year warranty period expiration and it is the responsibility of the applicant to contact the city to schedule the warranty walk. Housing must be substantially completed or a Certificate of Occupancy (C. of O.) hold must be placed on the remaining housing until final inspection of adjacent ROW improvements for residential construction. The warranty financial assurance will not be released until the warranty walk out has taken

place, all punch list items for the warranty walk are resolved, and the final completion letter has been issued. An extended warranty shall be required where it is found that the workmanship or materials are not performing per accepted standards, i.e., excessive trench settlement, subgrade failure, premature asphalt or concrete deterioration, pipe failure, etc.

#### **10.5.8 Release of Warranty Financial Assurance**

Once the warranty walk is complete and items addressed in the walk are resolved and all associated documents submitted, the city will issue a warranty completion letter. This letter will authorize the release of warranty financial assurance and mark the completion of the project.

**APPENDIX 10-1**

**CHECKLISTS  
FOR  
PROJECT WALK OUT**

**CITY OF SURPRISE  
CHECK LIST (Pre-burial)  
(Additional Requirements May Be Required by the city)**

- Verify proper pipe material
- Verify pipe wrap
- Verify line size
- Pipe installation
- Verify marker tape and marker ball installation
- Verify separation requirements described in Chapters 5, 6 and 7.

**CITY OF SURPRISE**  
**WALK OUT CHECK LIST (Post-burial)**  
**(Additional Requirements May Be Required by the city)**

- Sidewalk, gutters, & streets cleaned
- Streets water-tested for drainage & ponding before and after R & R
- Concrete R & R (as marked)
- Asphalt repaired (as marked)
- Asphalt crack-sealed at valley gutters, frame/cover edges, and all pavement cuts
- Sewer manholes cover frame adjusted
- Sewer manholes sealed & vacuum tested
- Sewer manholes plugged or unplugged (as needed)
- Sewer manholes painted with white EP, an insecticide, up to eight (8) feet down from the top
- Sewer lines have had mandrel, pressure test, and hydrovac performed
- Reclaimed water valves installed and adjusted at grade
- Reclaimed valve box cover frames adjusted at grade
- Reclaimed valve boxes cleaned
- Proper shape of valve covers
- Reclaimed water locking debris caps installed
- Reclaimed water lines pressure tested and disinfected
- Reclaimed sample stations installed and properly labeled "Reclaimed Water".
- Reclaimed flush valves installed and properly labeled "Reclaimed Water".
- Reclaimed signage installed
- Reclaimed air relief valves installed, properly labeled "Reclaimed Water", and set
- Reclaimed reduced pressure backflow prevention devices installed and properly labeled as "Reclaimed Water".
- Reduced pressure backflow prevention devices are installed on the potable water connection for all properties that are also served by reclaimed water.
- Monuments installed and punched
- Riprap installed & dressed up
- Scuppers & catch basins cleaned up
- Scuppers & catch basins have had all exposed steel painted
- Bollards installed & painted
- Parkways graded
- Temporary barricades installed (as needed)
- Streetlights installed
- Street name and regulatory signs installed with correct spelling
- Street striping & stop bars installed (as required)
- Fire hydrant reflectors installed
- Fire hydrants adjusted to grade
- Trash racks installed on storm drain pipes eighteen (18) inches and larger
- Dry wells installed and set to correct elevations per approved drawings
- Proper wording on all valve covers and manhole covers (Water, Reclaimed Water, Sanitary Sewer, Storm Drain)

### **CITY WATER SERVICE AREA ONLY**

- Potable water meter boxes installed & adjusted to grade
- Potable water valve box cover frames adjusted to grade
- Potable water valve boxes cleaned
- Potable water locking debris caps installed
- Potable water air relief valves installed and set
- Potable water sampling stations installed
- Potable water lines pressure tested and disinfected
- Backflow prevention devices installed
- Nonpotable water line valves installed and adjusted and properly marked  
“Nonpotable water”
- Nonpotable water lines pressure tested and disinfected

**APPENDIX 10-2**

**CHECKLISTS**

**FOR**

**CONDITIONAL AND FINAL PROJECT APPROVAL**

**CITY OF SURPRISE**  
**CONDITIONAL AND FINAL PROJECT APPROVAL CHECKLISTS**  
**(Additional Requirements May Be Required by the city)**

- Grading and Drainage (including drainage structures)
  - All drainage devices such as swales, interceptor ditches, pipes, catch basins, protective berms, barrier walls, channels, and box culverts or other measures designed for conveyance of or protection from storm runoff are in place according to the approved plans.
  - Emergency storm drain outfalls are in place per the approved plans.
  - All housing/building pads are in place and free of debris, and finished grade elevations have not been overly disturbed.
  - All curbs, gutters, and pavement are built with acceptable vertical elevation and horizontal stationing tolerances (justify with as-built review).
  - All retention/detention basins and dry wells are in place and accounted for and are built within plan elevation and area tolerances (justify with as-built review).
  - All drywells, pipes, and catch basins have been inspected for silting and have been cleaned, where necessary, prior to acceptance.
  - All drywell grates, access barriers, trash racks, and bollards are in place and painted as required.
  - All handrails are in place and painted as required.
  - No catch basin throat openings exceed six (6) inches in height, and all catch basin grates are bicycle-safe.
  - All catch basin and scupper opening lengths and stationing are per the approved plans (justify with as-built review). Where retention basins are constructed without dry wells, designed to hold water deeper than one (1) foot, or designed to have a capacity greater than one thousand (1,000) square feet of storm water, these basins shall be tested post-construction for the one hundred- (100) year two- (2) hour storm design depth for compliance with the thirty-six- (36) hour drain time requirement.
  - All side slopes in retention areas, common areas, and right-of-ways are per the approved plans.
  - Riprap or other plan-approved erosion control is in place at the headwalls.
  - Project erosion control is in place, i.e., best management practices (BMP) have been implemented.
- **Sewer**
  - All sewer manhole covers are marked “City of Surprise – Sanitary Sewer”, and all manholes have been inspected for proper materials and construction using the requirements of MAG Specifications, Sections 505, 615 and 625.



- All manholes have been raised to grade per MAG Specification Section 345 and Standard Detail 422, cleaned throughout, and set according to the requirements of MAG Standard Details 420-1 and 420-2.
- All manholes, sewer lines, and sewer services, in addition to all appurtenances necessary for the sewer system to operate as designed have been constructed and located per the approved plans.
- All manholes are constructed without steps.
- All watertight manhole covers called for are in place.
- All sewer services are located at the back of the P.U.E. with either a metallic (preferred) or a wooden marker in place.
- All manholes have had their plugs removed, and all tie-in manholes have been opened to receive flow into the existing sewer system.
- All manholes have been sprayed with an insecticide, and a copy of the verification letter is on file at the City of Surprise Engineering Division office.
- All manholes and mains are clean and free of debris.
- Trench settlements shall be excavated to a stable depth and width, where the stable material encountered is free from excess moisture. Mechanical compaction shall only be allowed to within four (4) feet of the finished grade using ABC or native backfill (with compaction tests required). The top four (4) feet of material shall be replaced with 1/2 a sack of concrete ABC slurry over the entire width and length of the settled area. This method shall apply to all sewer, storm drain, or deep-water trench settlements. Asphalt concrete pavement and concrete shall be replaced in kind.
- **Water (City of Surprise service area)**
  - The city shall oversee & inspect all of the operational water distribution system tests conducted by the Contractor.
  - All water mains, services, hydrants, valves, and appurtenances necessary in order for the water distribution system to operate as designed have been constructed.
  - Fire hydrants have been set to grade per City of Surprise detail 6-09.
  - Fire hydrant covers are all in place, and any hydrant from which water is being drawn has a construction water meter and reduced pressure backflow prevention device attached.
  - All water services and blow off valves are set to grade within a meter box.
  - All pressure relief valves are installed at plan locations.
  - All water valve covers are round and marked "Water" using a deep-skirted lid (four inches or more) and are raised to grade per MAG Specification Section 345 and Standard Detail 391-1, Type C only.
  - All backflow prevention devices are installed at plan locations and have been inspected by a certified Backflow Prevention Assembly Tester.

- All sample taps are installed at plan locations.
- All landscape water services are constructed per the approved plans.
- The city is responsible for all pressure, bacteriological, and operational water distribution system tests and documentation within the City of Surprise service area. All operational tests shall only be performed under the direction of a City of Surprise Utilities Division certified operator pursuant to A.A.C. R18-5-104 (A)(2).
- All fire hydrant reflectors are installed and fire hydrant paint has been refreshed if deterioration has occurred.
- Copies of all water (mains and service lines) trench compaction tests are on file at the City of Surprise Engineering Division office.
- **Reclaimed Water**
  - The city shall oversee & inspect all of the operational reclaimed water distribution system tests conducted by the Contractor.
  - All reclaimed water lines, services, hydrants, valves, and appurtenances necessary in order for the reclaimed water distribution system to operate as designed have been constructed.
  - All reclaimed water services and blow off valves are set to grade within a meter box.
  - All pressure relief valves are installed at plan locations.
  - All reclaimed water valve covers are square and marked “Reclaimed Water” using a deep-skirted lid (four inches or more) and are raised to grade per MAG Specification.
  - All reclaimed water sample stations are installed at plan locations and labeled as “Reclaimed Water”.
  - All landscape water services are constructed per the approved plans.
  - All reclaimed air relief valves are installed at plan locations and properly set.
  - All reclaimed backflow prevention devices are installed at plan locations and have been inspected by a certified Backflow Prevention Assembly Tester.
  - The city is responsible for all pressure, bacteriological and operational water distribution system tests and documentation. All operational tests shall only be performed under the direction of a City of Surprise Utilities Division certified operator pursuant to A.A.C. R18-5-104 (A)(2).
- **Concrete**
  - All concrete curbs, gutters, scuppers, sidewalks, sidewalk ramps, driveways, and alley entrances are installed per the approved plans, and have been inspected for line, grade, width, workmanship, spalling, cracking, and displacement. Any concrete that is out of specification shall be removed and replaced.

- Concrete has been stamped with the Contractor's name and the date of construction.
- Roadway grading adjacent to all curbs, gutters, sidewalks, sidewalk ramps, driveways, and alley entrances is complete and adjusted to grade, about two (2) inches below the top of curb and sidewalk.
- Inspections shall incorporate the requirements of MAG Specifications Section 340, all applicable MAG 200 series Standard Details, and the approved plan details. All concrete sidewalks that are displaced by more than one eighth (1/8) inch per five (5) feet shall be removed and replaced.
- Using a ten (10) foot straightedge placed longitudinally across the face and flow line of the curb, any deviation in excess of one quarter (1/4) inch shall be corrected.
- Water testing shall be performed on all curbs and gutters, valley gutters, and aprons per MAG Specifications Section 340.3.9. All concrete ponding that is in excess of ten square feet in surface area, that holds more than one half (1/2) inch of water, or that migrates to the adjacent pavement after being flooded one hour before shall be removed and replaced.
- The patching of concrete curbs is discouraged and will only be allowed on a case-by-case basis.
- **Asphalt Concrete**
  - All asphalt concrete pavement has been installed per the approved plans.
  - Where asphalt concrete pavement has areas with humps, rutting, segregation, loss of aggregate/fines, bleeding, cracking, gouges, roller marks or raveling, etc.; repairs, treatments, or removals shall be specified on a case-by-case basis. Although sawcutting may be used initially before a/c replacement occurs, a minimum one- (1) foot-wide milled edge shall be required along the entire edge. Cupping and settlement next to gutters, etc. shall also be milled and replaced, with length and width as determined by the city.
  - Asphalt concrete pavement joints shall be visually examined for grade matching and separation. Milling and/or crack sealing are options where either grade differential or separation occurs, depending on the severity. A hot-placed polyflex type III crack seal or equivalent shall be required for all crack sealing.
  - All survey monuments have been installed and punched. Section corner survey monuments are in place, punched, and installed in a survey monument handhold with frame and cover.
  - All water valves and sewer manholes are one quarter (1/4) inch for arterial and collector streets and one eighth (1/8) inch for residential streets below the asphalt concrete pavement finished grade.
  - The pavement width is per the approved plans.

- Street crown cross slopes are sufficient for drainage purposes. All streets shall be water-tested for drainage per Section 321 of the MAG Specifications. Areas of ponding that are shallower than one quarter (1/4) inch may require treatment, depending upon the area's size and location.
- Asphalt concrete pavement SS1H fog seal shall be certified. Pavement older than 2 ½ years shall require a fog seal the full width of the pavement.
- **Dry Utilities**
  - All streetlights have been installed per specified type and at approved plan locations. Utility enclosures are set along property lines or within five (5) feet of one another when clustered, are set to the finished grade, have their sides aligned at ninety (90) degree angles to the street curb and gutter or centerline, and have their fronts in direct alignment with the street curb and gutter or centerline.
  - Compaction failures around streetlights, utility enclosures, pull boxes, and trench lines should be checked for.
- **Signage and Striping**
  - All striping is installed per the approved plans and thermoplastic and paint is installed at the required locations. Refer to City of Surprise Standard Detail 4-20I.
  - All signage is installed per the approved plans and all temporary signage has been replaced with permanent signage.
  - Signposts may be hand-tested to check the stability of all concrete bases and the security of all hardware and attached signage. CAUTION: UNSECURE SIGNS MAY FALL OFF. HARDHATS OR OTHER SAFETY MEANS SHOULD BE EMPLOYED!
  - All temporary safety barricades, such as those specified in MAG Standard Detail 130, are in place. The Contractor shall notify the City of Surprise Transportation Department so that they will perform inspections for signs, pavement markings, and any unforeseen traffic hazards.
- **Miscellaneous Items**
  - Other items approved on plans and/or requested by the city shall be implemented.