

Exhibit “D” to  
Agreement for Public Works Services

**INITIAL TECHNICAL STANDARDS**

(See Attachment)

# PUBLIC WORKS TECHNICAL STANDARDS

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ACCEPTED:

COTTONWOOD HEIGHTS

TERRACARE ASSOCIATES, LLC

By: \_\_\_\_\_  
Public Works Director (date)

By: \_\_\_\_\_  
Program Director (date)

**THE FOLLOWING TECHNICAL STANDARDS** and procedures (these “*Technical Standards*”) are adopted by the city of Cottonwood Heights (the “*City*”) and TerraCare Associates, LLC (“*Contractor*”) as provided in the “Agreement for Public Works Services” dated \_\_ September 2013 between such parties (the “*Agreement*”):

## **1. GENERAL**

Contractor is expected to establish and render all public works services through a program that is at par with other public works entities comparable to similar sized cities in Salt Lake County, Utah and as otherwise provided in the Agreement. Work and service shall project a professional image at all times. These Technical Standards establish the standards by which the quality of Contractor’s work and operations will be judged. These Technical Standards reflect the high level of service, quality, and performance City expects, and shall conform to the latest editions of the APWA standards.

Services not specifically addressed herein are described in full in Exhibit “A” to the Agreement along with the applicable Performance Measurements.

## **2. PERFORMANCE STANDARDS**

All work shall be performed in accordance with the manuals, standards, and guidelines as set forth herein and referenced in Exhibit “A.”

## **3. DEFINITIONS**

The definitions used in the Agreement, including Exhibit “A”, are applicable to these Technical Standards. In addition:

3.1 “*CDL hours.*” Commercial Drivers License (CDL) hours will be the measurement for all vehicles devoted to snow removal efforts.

3.2 “*Equipment*” means equipment required for performing general or special operational and maintenance tasks.

3.3 “*Normal wear*” means wear occurring to vehicles and equipment through normal use.

3.4 “*Project Areas*” means all locations within City’s geographical area where street maintenance operations are required.

3.5 “*Public right-of-way*” means any land held, owned or otherwise controlled by City for the specific but not exclusive purpose of vehicular, pedestrian, and/or other form of transportation, whether or not such transportation use is actually or presently undertaken on such land.

3.6 “*Work Areas*” means all work, storage, and operational areas used by Contractor to perform the Services.

3.7 “*Vehicle*” means passenger cars, light duty trucks, heavy duty trucks and any ancillary equipment required for transport of personnel, materials or use in performing work under the Agreement.

#### 4. QUALITY CONTROL & QUALITY ASSURANCE

4.1 Quality Control Program. Contractor shall establish an on-going program of quality control and quality assurance to ensure that all work performed is in full compliance with the Agreement, its exhibits, and with the Utah APWA standards. Any work determined to be non-compliant with these Technical Standards or other referenced manuals, standards, and guidelines shall be corrected without additional cost to City. Any corrective work performed shall not be recorded for quantity credit.

4.2 Performance Measures. Reports on any work performed shall be provided to City as provided in the Agreement or, if none, within a reasonable timeframe after City's request. City reserves the right to audit the reports provided.

#### 5. ON-GOING PERFORMANCE IMPROVEMENT

5.1 For all areas of Service, Contractor will review the conditions at each location where service is requested. In addition to providing the requested service or repair, Contractor or any subcontractor will review the site conditions for potential causes or source of the problem at each location. When a determination is made that future re-occurrences of the problem or issue can be avoided by providing a comprehensive solution or corrective action, such solution or action shall be scheduled through the work management program for future action, where directed by City. Should the corrective action or solution involve other public service districts or private entities, coordination for effectuating a corrective action or solution shall be initiated by Contractor. When the scope and nature of the corrective action or solution warrants consideration as a capital improvement project, Contractor shall coordinate with City in identifying the project scope and the associated costs for inclusion into the annual budget or planned capital improvement for future consideration, where directed by City. Of particular concern to City are work activities associated with pavement maintenance, drainage related issues, and curb and gutter repairs where the corrective measures may experience rapid deterioration, generate on-going icing problems during the winter months, induce failure of adjacent infrastructure, or otherwise generate repeated and on-going cost of maintenance of the same or related nature.

5.2 Performance Measures. Contractor shall provide regular updates to the city on the number and location of projects identified for corrective action or a potential capital improvement project.

#### 6. CITIZEN RESPONSE CENTER

6.1 Requests for Service. All requests for service generated through the Citizen Response Center or other internal or external sources shall be tracked in accordance with the provisions of Exhibit "A."

##### Priority 1

Priority 1 status is assigned to work that requires an immediate response for an event or situation that is dangerous to the health, safety or property of the public.

##### *Examples:*

- Snow and ice control on designated Priority 1 snow routes
- Pothole, sink hole, debris or ice build-up on an arterial street travel way
- Dead animal larger than a dog
- Police department report of dead animal impeding traffic
- Stop or yield sign down or missing

- Street flooding traffic control

Notwithstanding anything herein to the contrary, **if a Stop or Yield Sign is missing or down**, Contractor **must** respond within **one hour** after notice from the Citizen Response Center or any other internal or external source to repair or replace any such sign.

### **Priority 2**

Priority 2 status is assigned to work that requires a response as soon as possible for a safety situation or issue that is potentially a danger to health, safety or property but does not justify overtime work or rescheduling the current day's work schedule.

#### *Examples:*

- Pothole or debris on streets other than arterial streets
- Ice control or build-up in the travel way in the designated locations approved by City and shown on the Priority 1 and 2 Snow Routes w/ Special Attention Areas Map accepted and approved by City.
- Large trash item within the right-of-way area but outside of the street
- Dead animal pickup except for Priority 1 issues (see Priority 1)
- Sign replacement (except missing Stop and Yield signs, see above), maintenance or new sign requests

### **Priority 3**

Priority 3 status is assigned to work that requires a response in the near future to meet right-of-way permit deadlines or correct a potential safety related situation or issue that should be scheduled ahead of work identified for the annual maintenance program.

#### *Example:*

- Temporary sidewalk repair for vertical displacement greater than 7/8 inch

### **Priority 4**

Priority 4 status is assigned to work that is scheduled as part of, or along with, the annual maintenance program to maximize work crew efficiency or work that requires engineering plans or direction.

#### *Examples:*

- Curb, gutter and sidewalk repairs
- Pavement patching
- Street sweeping
- Right-of-way debris and mowing maintenance
- Pavement marking maintenance, modification or new installation requests
- Street light requests
- Requests for ice removal at streets and intersections. The removal of ice on non-priority snow routes is an Enhanced Service and will be performed at the direction of City

## 6.2 Performance Measures.

A.

Pr	Desc	Work Request (WR) Completion	Performance
1		Within 24 hours after WR time stamp	90% completed
2		End of 3 <sup>rd</sup> business day after WR	90% completed
3		End of 10 <sup>th</sup> business day after WR	90% completed
4		Three weeks to nine months after WR	No specified

B. Provide monthly reports to City on the monthly and year-to-date status for each priority and performance measure.

## 7 VEHICLES

7.1 Vehicle Standards. All vehicles shall comply with the following requirements:

A. All vehicles and equipment shall be in good condition and appearance. City will inspect all equipment proposed for use within City. Normal wear is acceptable; however, any vehicle with damage or showing signs of rust or paint damage shall be repaired in a mutually agreed upon timeframe and based on the severity of the issue.

B. All vehicles shall be kept clean on both the interior and exterior and free of clutter.

C. During periods of snow, or when working off-street on a construction project, vehicles shall be washed, if necessary, to maintain appearance.

D. All vehicles and equipment requiring a vehicle license plate shall contain some form of recognition that the equipment is owned by Contractor and used in service to City.

7.2 Performance Measures.

A. All aspects of Contractor's fleet and operations shall reflect the high level of quality that City provides to its citizens in terms of service, quality of life, and community pride.

B. City at all times desires to present an image of professionalism and pride.

C. All vehicle and equipment operators are expected to maintain their assigned vehicles in a clean and orderly fashion. Exteriors will be washed on a regular basis and interiors will be kept free of excess trash and debris.

D. No bumper stickers, signs, or placards shall be permitted on the vehicle except those of the manufacturer, required for safety warnings, or for vehicle identification as required herein.

## 8 OPERATIONAL FACILITIES

8.1 Required Condition. All operational areas owned by City, marked with City's name or logo, or housing vehicles or equipment marked with City's name or logo, where Contractor has employees present during working hours, including streets and rights of way within City, shall be maintained in a safe and workable condition. Contractor should clean operational facilities and work areas daily, enforce requirements strictly and dispose of materials lawfully. Further:

A. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

B. Do not hold garbage or any putrefying waste more than seven days during normal weather and more frequently if high temperatures and odor warrant.

C. Construction and non-putrid waste materials may be stored on site as required for functional operations. Excess waste materials shall be removed when accumulated quantities warrant.

D. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations. Use containers intended for holding waste materials of type to be stored.

## 8.2 Performance Measures.

A. Service Facilities Site. Maintain operational and storage areas free of waste materials and debris.

B. Work Areas. Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work and in accordance with applicable regulations.

## 9 PROJECT AREAS

9.1 Installed Work. Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

9.2 Waste Disposal. Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.

9.3 Protection. During handling and installation, clean and protect work in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration.

9.4 Maintenance. Clean and provide maintenance on completed project areas as frequently as necessary through the remainder of the construction period.

9.5 Limiting Exposures. Supervise construction operations to assure that no worker or portion of the project, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure or unsafe conditions during the progress of the work.

9.6 Clean-Up. Remove all visible evidence of work activities when completing a project or working within a specific area of City. This shall include, but is not limited to, the removal of all temporary wire flags, survey stakes, utility locate information, painted markings, ribbons, plastic markers, or other evidence of construction and/or maintenance activities. Contractor shall be held to the same standards as required of other contractors and utility providers operating within City under permits, franchise agreements, construction contracts, or other regulatory standards.

## 9.7 Performance Measures.

A. All work shall be performed in a neat and workmanlike manner.

B. Clean and provide maintenance on completed project areas until project areas are restored to original or better conditions.

## 10 TRAFFIC CONTROL AND STREET SIGNS

10.1 Program Requirements. Contractor shall utilize a sign inventory and maintenance program (“*Sign Program*”) that builds upon the existing sign database to prioritize traffic sign inspection and replacement based upon retro-reflectivity levels of existing signs. The overall goal is to bring all City signs up to current standards in an orderly progression based on a five-year inventory and inspection cycle. Utilize a work order system for sign replacement, and maintain City's traffic signs, including fabrication and installation of new signs per year, as required by traffic studies and new developments, and as listed in Exhibit “A.” Brush shall be trimmed/removed in order to provide clear visibility for traffic signs and for sight triangles at intersections.

10.2 Definitions. Definitions and clarifications of the Sign Program requirements are as follows:

A. Sign Standards. MUTCD or City standards in existence on the date of the contract are the current standards. MUTCD or City standards adopted after the date of the Agreement are new standards and may entitle Contractor to additional compensation. All new and replacement signs will meet the installation standards that exist at the time of installation or replacement.

B. Sign. A single sign face. A street name sign for one street is typically assembled on a post using two back-to-back single sign faces. Typically, a street name sign post at an intersection has four street name single sign faces.

C. New Sign Installation. Providing new materials and the labor to install one or more signs and a post in a new location where a sign had previously not existed. Sign replacement on the basis of a new standard will be counted as a new sign installation.

D. Sign Replacement. Existing signs replaced due to condition, theft or damage.

E. Sign Count. Each sign meeting the minimum size standards as described in the MUTCD shall be counted as one sign. Sign count for non-standard sized signs shall be based on a typical 6.25 square foot traffic sign installed on one uni-strut post. Additional non-standard sizes, bracing and support posts and special sheeting materials or graphics will increase or decrease the sign count according to the proportionate sign size increase or decrease. **Example:** A 12.5 sf sign is required for a special purpose. Then  $12.5 \text{ sf} \div 6.25 \text{ sf} = 2.0$ . All values shall be rounded to the nearest whole number; therefore, the City will pay for the equivalent of two signs. Should the value equal 1.50, then charges shall be made for only one sign.

10.3 Inventory. The sign inventory database is located in City's sign module, which utilizes a sign layer map in the GIS. A summary of the sign inventory shall be provided at the conclusion of each annual inspection.

10.4 Inspections. The Sign Program requirement is to inspect and inventory all signs on a five-year cycle, which results in inspecting signs annually, as listed in Exhibit “A.” Inspections will be scheduled and performed in accordance with mutually agreeable sign program inspection maps (“*Sign Inspection Maps*”), such that approximately the same area is completed in each of the four council districts. Street density in the segments varies; therefore,

the number of signs inspected annually will not be the same for each district. Contractor is responsible for producing and maintaining all Sign Inspection Maps.

10.5 Additional Requirements. Contractor shall utilize vandal-proof hardware approved by City for all sign installations.

10.6 Installation and Replacement Policy. Sign maintenance is categorized as "new sign installation" or "sign replacement" according to the definitions above and the table below. Existing signs will be replaced due to condition, theft or damage when identified by work requests from staff, citizens and scheduled sign inspections. New signs will be installed per year as listed in Exhibit "A." New signs or replacement signs mounted to traffic signal poles will be provided to City's signal maintenance contractor for installation.

**Sign Installation and Replacement Table**

SIGN INSTALLATION AND REPLACEMENT POLICY	SIGN ID		WORK ORDER TYPE	
	New	No Change	New Sign Installation	Sign Replacement
New sign is installed in a new location.			X	
Existing sign is relocated according to a sign relocation plan.			X	
Existing sign is replaced with same type of sign or multiple signs are combined to meet a new MUTCD or City standard, policy or requirement.			X	
Existing sign is replaced due to condition, theft or damage.		X		X
Existing sign is replaced with same type of sign but legend is changed.		X		X
Existing sign is moved to a new location in the immediate area to meet offset standards.		X		X

10.7 Private Streets and Driveways. The Sign Program includes inspection and maintenance of traffic signs, including street name signs, at the intersections of public and private streets where the signs are within City's right-of-way. Residents or neighborhood associations served by private streets are responsible for maintenance of all other traffic signs within their development. The Sign Program does not include inspection or maintenance of traffic signs at the intersections of public streets and private driveways where the signs are within City's right-of-way.

10.8 Performance Measure.

A. Provide a monthly and annual report to City regarding the number of sign inspections, installations and replacements made.

- B. All traffic control and street signs shall comply with the manuals, standards, and guidelines referenced in Exhibit "A."
- C. Provide an annual report to City on the status of the sign inventory.
- D. Maintain all Sign Inspection Maps.

## 11 ASPHALT PAVEMENT

Contractor shall repair asphalt pavements by removal and replacement of distressed areas with hot mix bituminous pavement materials or proprietary cold mix asphalt patching materials as specified herein and in accordance with the priority list of standards as defined in Exhibit "A." The work is subject to the following conditions:

11.1 Crack Sealing. Crack sealing and other pavement maintenance operations shall be performed in accordance with the approved standards.

11.2 Chip Sealing. All chips shall be a porous black slag that absorbs the oils and emulsion as previously used under the County Interlocal.

11.3 Potholes.

- A. Square all vertical edges into solid pavement along all edges.
- B. Apply tack oil to tack all edges.
- C. Hot mix bituminous asphalt shall be used conforming to APWA Standards.
- D. Compact according to asphalt type used, i.e., hot mix bituminous shall be compacted with vibrator compactor or steel drum roller.
- E. Where weather conditions prohibit the proper repairs for emergency patches or repairs done during the period between October 1 and April 30 of the following year, proprietary cold mix (conforming to APWA Standards) shall be used and compacted according to manufacturer recommendations. (Throw and roll techniques are acceptable means for this treatment).

11.4 Small patches (up to 20 square feet).

- A. The limits for asphalt patches shall be extended into solid pavement along all edges.
- B. All asphalt pavement repairs shall require compliance with industry recommended procedures, i.e., square or rectangular areas, saw cut vertical edges, re-compacted base or sub-grade materials, tack coat edge faces, placement and compaction of asphalt.
- C. All asphalt patches shall match the thickness of the adjacent pavement, but in no case shall be less than six inches thick.
- D. All patches shall restore the finished surface to smooth surface sloped to match the grade of the adjacent pavement.

E. Hot mix bituminous asphalt, grade as per APWA Standards, shall be used and compacted by use of steel drum roller.

F. Where unstable base material or sub-grade is encountered, Contractor shall stabilize the base or sub-grade prior to completing the asphalt repair.

G. Asphalt patching in asphalt streets less than three years old shall require that small patches be repaired using infrared patching methods.

11.5 Patchback. "Patchback" is defined as asphalt patching along concrete pavements, gutters, inlets, aprons and cross-pans.

A. Asphalt patchback shall be a minimum of six inches thick or matching the thickness of the adjacent pavements for a minimum width of 18 inches from the edge of the adjacent concrete pavement.

B. The limits for asphalt patches shall be extended into solid pavement along all edges.

C. Where unstable base material or sub-grade is encountered, Contractor shall stabilize the base or sub-grade prior to completing the asphalt repair.

D. Hot mix bituminous asphalt, grade as per APWA Standards, shall be used and compacted by use of steel drum roller.

11.6 Large Patches and CIP work.

A. Large asphalt patches shall be saw cut to square or rectangular dimensions into solid pavement along all edges.

B. Material shall be excavated until a solid base is achieved. Over-excavation of sub-grade shall be replaced with aggregate base course, conforming to APWA Standards, and compacted to the bottom of the existing asphalt.

C. Tack coat shall be applied to the edge faces of the existing asphalt before placement of new asphalt.

D. The asphalt patch shall be the same depth as the surrounding asphalt, but in no case shall be less than six inches thick.

E. Hot mix bituminous asphalt, grade as per APWA Standards, shall be used and compacted by use of a steel drum roller in lifts, not to exceed four inches in depth or less than one and one-half inches.

11.7 Performance Measures.

A. All patches shall restore the finished surface to a smooth surface sloped to match the grade of the adjacent pavement.

B. Provide reports on asphalt pavement operations as a part of the monthly status report provided to City. Provide any additional reports as requested by City.

## 12 MINOR CONCRETE REPAIRS

12.1 Contractor shall repair concrete pavements, sidewalks, curb/gutter sections or other miscellaneous concrete work in accordance with APWA Standards or as specified herein. Work performed under the Agreement shall include sidewalks, curb/gutter sections, curb ramps, concrete pads, and other concrete surfaced improvements, including removal and disposal of existing materials, when required. Such work is subject to the following conditions:

A. All concrete provided for this work shall have a minimum 28-day compressive strength of 4,500 psi (UDOT Class B or D).

B. Fibermesh shall be required in curb and gutter sections and other concrete subject to traffic loading.

C. No fibermesh or wire mesh reinforcement is required for concrete work unless the concrete to be replaced contained such reinforcement. Where existing concrete contains wire mesh reinforcement, it shall be replaced with wire mesh reinforced concrete of similar type.

D. All surfaces shall be finished to match the adjacent concrete.

E. Saw cut edge of existing pavement adjacent to repairs

F. Contractor shall prepare one set of concrete cylinder test results when the total quantity poured each day exceeds 50 cubic yards.

12.2 Standards. Concrete shall be evaluated with the criteria to conform to City's standards and APWA Standards.

12.3 Performance Measures.

A. Provide monthly reports to City on the monthly and year-to-date status for work performed.

## 13 CONCRETE PAVEMENT REPAIRS

13.1 Contractor shall repair concrete pavements by removal and replacement of distressed areas with new concrete materials in accordance with the APWA Standards and the requirements specified herein. The work is subject to the following conditions:

A. All concrete provided for this work shall have a minimum 28-day compressive strength of 4200 psi and a flexural strength of 650 psi.

B. Concrete pavement repairs shall be made in accordance with UDOT specifications.

C. Concrete pans subject to vehicle traffic shall be a minimum of 8 inches thick and reinforced with fibermesh materials.

D. Concrete pans shall have expansion joints placed between the new concrete and any adjacent concrete pavement. All expansion joints shall be sealed. The design and layout of all concrete joints and reinforcement shall comply with the UDOT Pavement Design Manual.

- E. Concrete pavements shall match the thickness of the adjacent pavement.
- F. Saw cut all joints to match joint patterns in existing pavement.
- G. Provide dowels or tie bars in accordance with UDOT Standard Specifications, sized as specified in the UDOT Pavement Design Manual..
- H. Odd-shaped slabs shall be reinforced with fibermesh reinforced concrete or as directed by City's engineer.
- I. When joints are not tooled, the initial cut for sawn joints shall be made at Contractor's discretion. In the event of uncontrolled cracking in a repaired panel, the panel shall be replaced at Contractor's expense.
- J. All expansion joints shall be sealed.
- K. The use of pre-formed joint sealers is not acceptable.
- L. All patches shall restore the surface sloped to match the grade of the adjacent pavement. The concrete finish shall match the finish of the adjacent surface.
- M. Concrete surface repairs shall be made in accordance with the UDOT Standard Specifications. Full depth repairs and crack sealing shall require the use of UDOT concrete and joint sealants. The use of epoxy resin grouts and mortars will not be required.

#### 13.2 Performance Measures.

- A. Provide monthly reports to City on the monthly and year-to-date status for work performed.

### 14 SNOW REMOVAL – GENERAL

14.1 Snow Management Program. Contractor shall implement a customized snow and ice removal plan for City based on City's snow and ice control plan adopted and amended as mutually agreed to by the parties. The primary goal of the snow management program is to clear safe and passable drive lanes during and after a storm event. In addition, the program shall provide for the safe and orderly movement of traffic and for effective storm response. Snow removal on Primary and Secondary routes shall be constantly maintained to the standards specified in Section 16 (Technical Standard for Snow Removal), below. Snow and ice maintenance activities may include, but are not limited to: anti-icing, de-icing, pre-wetting, ice cutting, snow plowing, and other miscellaneous winter maintenance or clean-up activities.

14.2 Winter Storm (Snow and Ice Control) Management Program. Key elements to be included in the program are:

- A. Remove snow curb to curb on all Primary streets (Priority 1 arterial) and in the drive lanes of Secondary streets (Priority 2 collector streets) to the standards defined in Section 16, below.
- B. Maintain regular contact with designated City representatives, relaying current weather and road conditions, staffing levels, number of CDL hours incurred and recommendations.
- C. Provide snow removal for sidewalks as an Enhanced Service upon City's

request.

14.3 Preparation for the Winter Storm Season.

A. Review and update City's snow and ice control plan, as necessary, and implement any changes.

B. Prepare priority snow plow route maps.

C. Prepare area maps for supplemental plowing operations in the event of a major storm.

D. Identify locations for review and approval by the designated City representative for dumping of snow and ice. Contractor shall assist City in obtaining any necessary permits and/or approvals for dumping snow and ice.

14.4 Equipment. Contractor is responsible for acquiring, maintaining, calibrating, and operating equipment as necessary to meet the designated level of service.

14.5 Materials.

A. Assist City to ensure all winter storm related contracts for materials are in place.

B. Monitor and report the current level of solid deicer and liquid chemicals in storage and report these levels to City throughout the snow season.

14.6 Training.

A. Prior to annual winter storm operations, a briefing meeting will be held for all crewmembers. The applicable sections of City's snow and ice control plan will be reviewed and snow route maps will be discussed.

B. Prior to the winter storm season, Contractor will provide adequate training to perform snow removal activities.

**15 PLOWING AND MATERIAL SPREADING PROCEDURES**

15.1 Materials. For environmental reasons, best efforts will be made to minimize the use of deicing and anti-icing materials. Crew supervisors and plow operators will use their judgment to provide safe and passable streets, but, when possible:

A. Operations should be conducted such that deicing material is not repeatedly placed and then plowed off of the roadway during a storm.

B. Material should be used to help inhibit ice/pavement bond at the beginning of a storm and assist with melting action after the storm.

15.2 Plowing.

A. Priority 1 and Priority 2 streets with four travel lanes will be plowed under section 16.2 such that snow is removed from the drive lanes during the storm and from the turn lanes after the snowfall ends. This may require pushing snow onto sidewalks in cases where the sidewalk abuts the curb.

B. Priority 2 streets with two lanes will be plowed as wide as possible without pushing snow on to parking areas or public sidewalks. Streets will be plowed a minimum of one plow pass in each direction.

C. Contractor will not remove rows of snow that are created by snowplows and left in front of driveways.

## 16 TECHNICAL STANDARDS FOR SNOW REMOVAL

Contractor shall comply with the following standards for providing snow and ice removal and related services.

16.1 GPS and Equipment. All snow removal equipment shall be tracked using GPS technology while performing Services.

### 16.2 Plowing.

A. Priority 1 streets shall be cleared between the faces of the adjacent curb section prior to suspension of snow removal activities. Priority 2 streets shall be cleared to provide one travel lane in each direction.

B. Snow and ice removal material shall be used on Primary Streets and for Secondary Streets on designated steep grades and intersections.

#### C. Street Condition Definitions:

1. "Covered" means that the street may have up to two inches of snow cover after the plowing effort has removed any previous accumulation of snow.

2. "Plowed and Covered" means that the street shall be plowed and left free of any excess slush, ice, or snow accumulation.

3. "Near Normal/Mostly Clear" means that all travel lanes of the street are free and clear of any snow, slush, or ice.

4. "Partly Covered" means that the wheel path areas shall be maintained free and clear of any snow, slush, or ice accumulation.

### 16.3 Performance Standards.

#### A. Street Condition Standards.

1. As conditions permit, the goal of snow removal operations is for all Priority 1 streets to be maintained to Near Normal/Mostly Clear condition.

2. Priority 2 streets where material is not applied shall be maintained to Plowed and Covered condition or better. Designated steep grade areas and intersections treated with snow removal materials shall be maintained in a Partly Covered condition.

3. Residential Streets shall be maintained to a covered or better condition.

**SNOW CONDITION EXAMPLES**



**Unplowed Covered**



**Plowed and Covered**



**Partly Covered**



**Partly Covered**



**Near Normal/Mostly Clear**



**Near Normal/Mostly Clear**

## 17 PAVEMENT MARKINGS

17.1 Uniform Markings. Contractor shall furnish and install pavement markings in accordance with Part 3 of MUTCD, 2009 Edition. City currently has the equivalent 4" pavement lane striping as listed in Exhibit "A." Contractor shall take the steps necessary to assure that the permanent pavement markings will match the markings on the existing surface.

### 17.2 Material Standards.

A. All pavement lane markings require the use of waterborne latex traffic paint material. The application of glass beads is required for all painted pavement markings.

B. Cross-walks, stop bars, words and symbols on arterials shall be pre-formed thermoplastic material.

C. Cross-walks, stop bars, words and symbols on collector and local streets shall be waterborne acrylic traffic paint material.

### 17.3 Restriping Policy.

A. Arterial and major collector streets will be striped once every year for a total as listed in Exhibit "A."

B. Minor collector streets will be striped as needed to maintain MUTCD reflectivity standards for a total as listed in Exhibit "A."

C. Perform skip striping in the fall for a total as listed in Exhibit "A."

D. Special projects shall be as listed in Exhibit "A."

E. The annual quantity of striping will be as listed in Exhibit "A" (4 inch wide equivalent).

### 17.4 Performance Measures.

A. Provide reports on pavement marking operations as a part of the monthly status report provided to City. Provide any additional reports to City as requested.

B. Contractor shall take the necessary steps to assure that the restriped permanent pavement markings will match the most recent markings on the existing surface.

C. Restriping tolerances per roadway segment, which shall be defined as between public roadway intersections, shall include the following:

1. The alignment from existing markings shall not vary more than plus or minus two inches.

2. The maximum longitudinal deviation from the existing markings at either end of the painted roadway segment shall not vary more than plus or minus six inches.

3. Lane lines shall not deviate more than one inch per 200 feet, nor shall any deviations be abrupt.

4. Tire tracking of newly painted markings shall not occur more than one set of tire-tracked markings per ¼ mile.

5. Painted markings shall have a uniform, clear edge and shall not vary more than plus or minus ¼ inch from the specified pavement marking width. Any markings that deviate outside these tolerances will be removed and replaced by Contractor at no cost to City. Removal shall be performed utilizing equipment that is not detrimental to the final surface, as approved by City.

## **18 RIGHT OF WAY MAINTENANCE**

18.1 Program Requirements. Exhibit “A” identifies right-of-way maintenance scope of work.

18.2 Maintenance Responsibility.

A. The Right-of-Way Maintenance Program (“*ROW Program*”) is limited to public rights-of-way of City’s major streets and other City property identified as designated areas. Unless identified as a designated area on the right-of-way maintenance areas maps (the “*ROW Maintenance Maps*”), the ROW Program does not include public rights-of-way where homeowner associations, commercial developments, park districts or other governmental agencies are responsible for the maintenance. Landscaped medians are not included in Contractor’s responsibilities under the ROW Program.

B. The major activities of the ROW Program are litter collection and maintenance of native vegetation along the sides and within the non-landscaped medians of designated streets. Vegetation maintenance consists of mowing, herbicide spraying and cutting weeds in native vegetation areas and trimming trees and bushes to maintain sight lines for traffic control devices. The ROW Program also includes herbicide spraying and weed cutting within non-landscaped concrete medians and islands.

C. Removal and disposal of fallen trees, not including stump grinding, in the right-of-way is included in the ROW Program. Removal of standing dead trees is not a ROW Program responsibility. Standing dead trees in the right-of-way of major arterial streets will be removed, to include stump grinding, at City’s direction as an Enhanced Service.

18.3 Designated Areas. The designated areas for vegetation and weed control are the major streets labeled on the ROW Maintenance Maps for the City. Maps showing the limits of maintenance on the designated areas will be provided to Contractor upon request to ensure operational consistency. The maps may also be posted on City’s website. Areas other than those designated for ROW Maintenance are maintained by an HOA, business or agency.

18.4 Weed Control.

A. The objective of the weed control program is to enable grass-type vegetation in the mowing areas and reduce the broadleaf weed population.

B. Broadleaf herbicide spraying will be used in the mowing areas to reduce the weed population and promote the growth of grasses.

C. Chemical spraying that kills all vegetation will be used selectively on weeds growing in the concrete medians and sidewalks.

D. Maintain the joints and cracks of the concrete medians and islands on a complaint basis or when the vegetation becomes large, obvious, etc.

E. Maintain the joints and cracks of sidewalks within the maintained areas of arterial streets on a complaint basis or when the vegetation becomes large, obvious, etc.

F. The weed control program does not include chemical spraying to kill all vegetation over large areas, which would result in barren ground prone to erosion by wind and rain. The effectiveness of pre-emergent spraying is very weather dependent; therefore, it is not included in the weed control program.

#### 18.5 Vegetation Control.

A. Mowing the native vegetation from May through September is the major activity of the vegetation control program. The vegetation control program is predicated on maintaining the goal for vegetation height and not completing a specific number of mowing cycles. Four to five mowing cycles is anticipated during a normal season; however, a wet growing season may require additional mowing to maintain the height standard. From April until July, the designated routes will be driven weekly to observe conditions that may warrant attention prior to the next scheduled maintenance cycle. Field crews will schedule work when maintenance is needed.

B. Maintain the majority of native vegetation in the mowing areas along the sides of streets and in the medians to a height of eight inches. City acknowledges some weeds in spot locations within a mowing area will grow faster than the majority of the vegetation and may exceed the height goal until the next mowing cycle.

#### 18.6 Performance Measures.

A. The maps of the ROW Maintenance Areas shall be maintained by Contractor. Periodic updates shall be provided, as required or requested.

B. Maintain the majority of native vegetation in the mowing areas along the sides of streets and in the medians to a height of eight inches.

C. Maintain the arterial street joints and cracks of concrete medians, islands, and sidewalks free of large weeds.

D. Control the growth and spread of noxious weeds in cooperation with the Salt Lake County Health Department noxious weed program.

E. Provide reports on right-of-way maintenance operations as a part of the monthly status report provided to City. Provide any additional reports to City as requested.

### **19 UDEQ INFORMATION ON REPORTING SPILLS**

The following information from the Utah Department of Environmental Quality (“UDEQ”) is provided for reference:

19.1 Reporting Instructions. To report a spill or environmental release, please call the UDEQ environmental release/incident report line. All events should be reported within 24 hours. When reporting the event, please have available as much of the following information as possible:

- A. Date and time of incident;
- B. Permit number (if applicable);
- C. Potentially responsible party contact name, phone number, and electronic mail;
- D. Description of incident, including location, volume of release, contaminate
- E. Response actions taken; and
- F. Fish kill observed.

19.2 Assistance. UDEQ will provide assistance to ensure the safety of the public and environmental protection

19.3 Spill Guidance, Reference, and Forms.

- A. Guidance for reporting spills under the Utah Water Quality Control Act and Jordan Valley Municipalities UPDES Permit.
- B. Environmental Spill Reporting Brochure.
- C. 5-Day Spill Report.

## 20 WASTE MANAGEMENT

20.1 Disposal Records. To fully comply with the intent of City's MS4 permitting requirements, Contractor shall provide and maintain disposal records of the following waste products:

- A. Solid waste materials generated by work related activities and/or operations of the support facilities used for field services.
- B. Disposal of waste or excess quantities of asphaltic or concrete materials when such materials are within the control of Contractor or any subcontractor. Excess or waste materials under the control of a vendor or supplier shall not be subject to any reporting requirements. All excess materials shall be legally disposed of by Contractor and any subcontractor, vendor, or supplier.
- C. Waste oil generated by work related activities and/or operations of the support facilities used for field services.
- D. Street sweeping waste collected during normal street sweeping operations. To the extent practical, street sweeping waste associated with snow removal activities shall be maintained and reported as a separate record provided that the use of sand, gravel or other anti-skip solid material is incorporated into the snow removal operations.

20.2 Performance Measures.

- A. Provide an annual report to City on the quantities of each of the types of waste defined herein.

B. Information provided in section 21, below details City's responsibilities regarding compliance with MS4 permitting requirements. Contractor shall assume all responsibilities with regard to this operation on and in behalf of City.

## 21 MUNICIPAL OPERATIONS – CITY & UPDES

21.1 *General.* Contractor is required to maintain an industrial storm water permit for all facilities used by Contractor to provide Services under the Agreement (the "Facility"). Permit requirements are based on the Jordan Valley Municipalities UPDES Permit and include the development of a SWPPP for the Facility.

A. Public works facilities can be sources of stormwater pollutants if best management practices ("BMPs") are not in place to contain spills, manage trash, and handle non-stormwater discharges. To effectively prevent or reduce stormwater pollution, the operator of a public works facility should inventory its facilities and associated activities to assess potential impacts on stormwater quality and revise activities or implement new standards as needed. Contractor will develop a runoff control plan ("RCP") to identify pollution sources at the Facility and to help minimize the transport of pollutants at their source.

B. Contractor is obligated to comply with all requirements of the Utah Pollutant Discharge Elimination System ("UPDES") per the Municipal Separate Storm Sewer Systems ("MS4") Permit, and protect waters of the state. Managing potential pollution from municipal operations falls under Program 6, Good Housekeeping of the MS4 Permit. Part I.B.6, Pollution Prevention/Good Housekeeping for Municipal Operations, of the MS4 Permit reads:

*"The program must prevent and/or reduce stormwater pollution from facilities such as streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the permittee, and waste transfer stations, and from activities such as park and open space maintenance, fleet and building maintenance, street maintenance, new construction of municipal facilities, and stormwater system maintenance, as applicable."*

As such, special consideration should be given to areas where materials will be handled or stored, materials will be stockpiled, vehicles and equipment will be stored, vehicles and equipment will be fueled, vehicles and equipment will be washed, and onsite waste management and disposal areas when assessing facilities for the City's public works operations.

C. Employees and contacted service companies will be required to have an understanding of the various activities performed at the Facility that have the potential to impact water quality and the proper method to manage and identify pollutant sources. Appropriate good housekeeping, preventive maintenance, spill prevention and response, erosion and sediment control, and structural stormwater management controls need to be in place to comply with MS4 permit requirements.

D. The BMPs used at the Facility to ensure that water quality goals are achieved before stormwater is discharged from the site will be primarily preventive management controls. Some structural BMPs may be used to ensure that water quality goals are achieved before stormwater is discharged from the site. However many of the controls are non-structural and are implemented through standard operating procedures ("SOPs") as they relate to stormwater quality, employee education, and day-to-day housekeeping protocol. A key strategy in maintaining compliance with the various water quality regulations is to integrate a suite of BMPs into the site layout and operation. The BMPs can generally be divided into eight

categories. These categories are listed below and a short section on each category that describes the minimum BMPs that need to be employed for compliance with the MS4 Permit.

- Containment, Storage and Disposal
- Oil and Grease Containment
- Waste Chemicals and Material Disposal
- Erosion and Sediment Control
- Debris Control
- Stormwater Diversion/Detention
- Covering Activities
- Prevention and Spill
- Yard Maintenance/Good Housekeeping

21.2 Containment, Storage, and Disposal. All potential pollutants should be stored with secondary containment, either berms or other containment measures. These devices are used to prevent leaks and spills from being released to stormwater.

A. De-icer ASTs. Signage should be used to create a designated off-loading area. A secondary containment system must be used for the single-wall variety. Secondary containment must be a minimum of 110% of the capacity of the tank.

B. Waste Chemical Storage. Waste chemicals must be stored inside. If indoor storage is not feasible, chemicals stored outdoors must have secondary containment and be under cover.

C. Vehicle Washing Area. Vehicle washing has the potential to contribute high concentrations of grease, oil, sediments and suspended solids to the oil/water separator and to the sanitary sewer. Vehicles must be washed indoors or in a designated wash bay. Pretreatment is required in the form of a filter or barrier to be installed around the inlet prior to washing fleet vehicles to prevent sediment or other pollutants from filling the oil/water separator or being discharged from the site through the sanitary sewer system. Wash water cannot be discharged to the storm system.

D. Fueling Operations. Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oil and grease, as well as heavy metals to stormwater runoff. If necessary, a Spill Prevention Control and Countermeasures (“SPCC”) plan must be developed for above ground fuel storage tanks. Above ground storage tanks must be double-walled, or secondary containment is required. If possible, fueling areas should be covered and stormwater diverted around the area.

E. Material Stockpile Areas.

1. Raw materials, by-products, finished products, containers, and material storage areas exposed to rain and/or runoff can pollute stormwater. Stormwater can become contaminated when materials wash off or dissolve into water or are added to runoff by spills and leaks. Improper storage of these materials can result in accidental spills and the release of materials. The discharge of pollutants to stormwater from material delivery and storage can be minimized or prevented by pollution prevention and source control measures, such as minimizing the storage of materials on-site, enclosing or covering materials, and storing materials in a designated area.

2. Paved storage areas should be designed to slope in a manner that minimizes the pooling of water, particularly with materials that may leach pollutants into stormwater and/or groundwater, such as compost, logs, and wood chips. A minimum slope of

1.5% is recommended. Curbing should be placed along the perimeter of the area to prevent the run-on of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the stockpile areas. The storm drainage system should be designed to minimize the use of catch basins in the interior of the area as they tend to rapidly fill with material. The area should be sloped to drain stormwater to the perimeter where it can be collected or to internal drainage alleyways where material is not stockpiled.

3. Stockpiled material areas should be covered with a roof, and bermed or enclosed to prevent stormwater contact. At the minimum, a temporary waterproof covering made of polyethylene, polypropylene or hypalon should be used over stockpiled materials stored outside. Cover and contain the stockpiles of raw materials to prevent stormwater from running into the covered piles. The covers must be in place at all times when work with the stockpiles is not occurring.

F. Salt/Sand Storage. Salt/sand must be covered and contained. The area around salt/sand domes or piles must be swept as needed, sometimes daily. In addition, the area around a salt dome must be swept after the dome is filled or after a storm event in which material has been loaded into tandems.

21.3 Oil and Grease Containment, Storage, and Disposal. Procedures must be developed for timely disposal and proper storage of oil and grease products at the Facility. Oil and grease containers must be stored off the ground. These containers must be covered to prevent contamination from precipitation contacting potentially oily or greasy surfaces.

A. Vehicle Washing Areas. Vehicle washing has the potential to contribute high concentrations of grease, oil, sediments and suspended solids to the oil/water separator and to the sanitary sewer. Vehicles must be washed indoors or in a designated wash bay. Pretreatment is required in the form of a filter or barrier to be installed around the inlet prior to washing fleet vehicles to prevent sediment or other pollutants from filling the oil/water separator or being discharged from the site through the sanitary sewer system. Wash water cannot be discharged to the storm system.

B. Tandem Truck and Employee/Vehicle Parking Areas. Designated parking areas should be equipped with spill kits to inhibit oil/grease migration from parked vehicles. Drivers with assigned vehicles need to monitor their parked vehicle closely for leaks. If drips are observed, drip pans or absorbent material must be placed beneath the vehicle. If absorbent material is used, proper clean up and disposal is required before the next vehicle trip.

C. Vehicle Maintenance Area. Parking areas equipped with spill kits must be used to inhibit oil/grease migration from parked vehicles waiting for maintenance or service. Service technicians need to monitor these parked vehicles, which are in for service, closely for leaks. If drips are observed, drip pans or absorbent material must be placed beneath the vehicle. If absorbent material is used, proper clean up and disposal is required before the next vehicle trip. All vehicle maintenance must be performed inside. If outdoor maintenance is required, proper procedures supplied by SWA must be followed.

D. Oil Refuse Tank. If temporary storage of oil refuse from routine maintenance is required, it must be kept inside or under cover with proper secondary containment.

E. Fueling Operations. Spills and leaks that occur during vehicle and equipment fueling can contribute hydrocarbons, oil and grease, as well as heavy metals to stormwater runoff. If necessary, an SPCC plan must be developed for above ground fuel storage tanks. Above ground storage tanks must be double-walled, or secondary containment

is required. If possible, fueling areas should be covered and stormwater diverted around the area.

21.4 Material Disposal. If wastes or materials are stored onsite and not immediately removed, the following guidelines must be followed. Wastes will be recycled or properly disposed of in a manner to eliminate or minimize exposure of pollutants to stormwater. A disposal schedule for waste chemical and material should be established. Procedures must be followed to ensure waste chemical and materials are not stored near storm drainage conveyance systems without the use of some form of secondary containment or stormwater diversion structure.

A. Bleed Tanks. If bleed tanks are located onsite to prevent discharges resulting from residual liquid de-icer solution left in the lines after trucks are filled, it must be inspected and fluid disposed accordingly.

B. Waste Containers/Waste Chemical Storage. Wastes will be recycled or properly disposed of in a manner to eliminate or minimize exposure of pollutants to stormwater. Waste chemicals and materials will not be stored near storm drainage conveyance systems without the use of some form of secondary containment or stormwater diversion structure. Proper procedures developed and supplied by the stormwater authority ("SWA") must be followed.

C. Vehicle Maintenance Area. If any oil refuse from routine maintenance of vehicles and/or equipment is accumulated, it must be stored indoors until final disposal. If indoor storage is not feasible, oil refuse stored outdoors must have secondary containment and be under cover.

D. Asphalt Surfaces. Asphalt surfaces, including any designated stockpile areas area and near tandem truck loading areas, require street sweeping and subsequent disposal of sweeper materials to prevent the migration materials off-site.

E. Waste Chemical Storage. If stored onsite, waste chemicals must be located inside. If indoor storage is not feasible, waste chemicals stored outdoors must have secondary containment and be under cover. All waste material containers will be labeled with contents and accumulation dates and disposed properly.

F. Material Disposal. All activities that generate waste disposal materials, including parking lot sweeping, snow removal, and parking lot repairs must be conducted such that all wastes will be properly disposed of in a manner to eliminate or minimize exposure of pollutants to City's stormwater system per the procedures developed and supplied by City.

1. All sweeper wastes will be disposed into an accompanying dump truck for transport to the landfill or will be kept with the sweeper until such time as it discharges its load into a waiting dump truck.

2. Snow removal will be disposed of in a manner such that all melt runoff will be transported first to a grassy, vegetated area for infiltration. Parking lot repairs will be performed in a manner to properly dispose of any residual or by-products of the patching, repairing, or overlay activities.

3. No materials used for parking lot repair and patching are left unattended and are never exposed to the elements for long periods of time.

4. Only the necessary materials to complete the repair project are brought to the site.

21.5 Sediment/Erosion Control.

A. Sediment/erosion control methods such as vegetating exposed areas, graveling or paving must be employed to minimize erosion of soil at the site. Sediment control methods such as detention facilities, sediment control fences, vegetated filter strips, bio swales, or grassy swales will be employed to minimize sediment loads in stormwater discharges. Solid material storage areas that have the potential to runoff will use containment BMPs (i.e. jersey barricades or block walls).

B. Erosion and sediment controls shall be utilized to minimize sediment loads to stormwater outfalls.

21.6 Debris Control. Employee training, good housekeeping, and the use of other methods must be employed to eliminate or minimize debris in stormwater discharges. Practices such as designating material storage areas through the use of signage and containment, and using general good housekeeping measures help to ensure that debris from stormwater discharges is not transported off-site.

A. Asphalt Surfaces. All asphalt surfaces must be cleaned with a street sweeper as needed.

B. De-Icer ASTs Bleed Tank, Outdoor Storage Area, and Waste Chemical Storage Areas. Material disposal schedule for bleed tanks, outdoor material storage, and waste chemical storage areas must be established. During disposal activities, care will be taken to mitigate any debris from migrating offsite from the disposal activity.

C. Material Stockpile Areas & Outdoor Storage. Stockpile storage areas must be designated to help create order and prevent materials from being stockpiled in a haphazard manner. These practices also help to reduce the potential for material and debris transport off-site with stormwater flows. Material stockpile areas must be designated through the use of signage.

D. On-site Stormwater Conveyances & Culverts. Stormwater conveyances and culverts must be inspected and cleaned out periodically to reduce potential sediment and debris transport off-site

21.7 Stormwater Diversion/Retention. Stormwater will be diverted away from fueling, storage, and disposal areas to prevent exposure of uncontaminated stormwater to potential pollutants. These operations must be conducted away from stormwater conveyance systems to prevent pollutant migration off-site. If this is not possible, then secondary containment BMPs are used or pre-treatment is provided at the outfall. Stormwater pre-treatment options could include, without limitation, the following: Vegetated swales, sedimentation traps/basins, sand filters, detention ponds, retention ponds, or wetlands. In addition, BMPs should be selected to target potential pollutants. For example, a structural unit, such as a hydrodynamic separator, may be beneficial in areas with heavy sediment and gravel loading potential. The following list represents locations at the Facility where stormwater diversion should be used to minimize the potential for pollutant transport off-site.

- Tandem and Vehicle Parking Areas
- Fueling Operations and Chemical Storage
- Channel and Outfall Stabilization

- Waste Chemical Storage
- Outdoor Material Storage Area
- Oil Refuse Tank Location

21.8 Covering Activities. Selected material storage and disposal areas must be covered to prevent exposure of stormwater to potential pollutants. Acceptable covers include, but are not limited to, permanent structures such as roofs or buildings as well as non-structural covers such as tarps.

21.9 Good Housekeeping/Yard Maintenance. The good housekeeping activities (including general trash pickup not related to an operational area, prompt spill cleanups, and periodic inspections of the Facility) must be performed routinely per the proper procedures developed and supplied by City to ensure the effective and compliant operation of the Facility. Conducting general site inspections after any major storm event is an important component of maintaining compliance at the Facility. These inspections must be documented. Areas requiring maintenance, disposal or other form of corrective action must be attended to promptly. These maintenance, disposal or corrective actions will also be documented. Onsite staff conducting site inspections monthly or after any major storm event is recommended to help maintain compliance at the Facility. These inspections must also be documented. Areas requiring maintenance, disposal or other form of corrective action must be attended to promptly. These maintenance, disposal or corrective actions will also be documented.

21.10 Prevention Maintenance/Spill Prevention. In order to prevent small automobile fluid and oil leaks, small spills from long-term parked service vehicles, small spills from delivery activities and small spills at the dumpster area from going off-site, the Facility must have spill kits and drip pans onsite. Signage onsite as well as employee training materials and field manuals provide further guidance regarding spill prevention and control. A SPCC plan must be provided for the Facility if it has an AST capacity of greater than 1,320 gallons of oil or petroleum products.

## **27 STORM DRAIN MAINTENANCE**

27.1 Required Maintenance. Contractor shall provide the personnel, equipment and supplies necessary to provide adequate and reasonable storm drain maintenance; including checking all drainage grates, culverts and piping within City on a regular basis; and cleaning grates, drains, culverts and pipes. The internal cleaning of the drains and piping will be performed for two consecutive months during the summer months; and shall include cleaning clogged drains and piping below the surface of the ground with power jetter equipment and/or vacator trucks and promptly removing and disposing of all resulting debris.

27.2 Maintenance Plan. Contractor shall develop and implement a maintenance plan to address the cleaning of City's storm drain system within five years. That plan will be developed with a proactive approach in mind. Priority should be shown to storm drain infrastructure more essential to the overall system. Contractor shall provide monthly progress reports, tracking the location and general condition of storm drain inlets, manholes, cleanout boxes, collection pipes, and detention pond structures cleaned.

27.3 Detention Ponds. All City-owned detention ponds shall be inspected for litter and debris twice annually. Any litter and debris found will be collected and disposed of properly. If illegal dumping of material by third parties is found, that material shall be removed and disposed of properly.

27.4 Post-Storm Inspections. During and after snow and rain storm events, Contractor shall inspect all storm drains and grates within the City, as necessary, and promptly remedy any drainage problems.

27.5 Reporting and Training. Contractor shall observe all requirements regarding storm water disposal and illicit discharge reporting. Contractor shall train and maintain employees that are able to identify illicit discharges, including spills, improper disposal, and illicit connections; and will document and notify the City of any discovery of an illicit discharge.

27.6 Monthly Summaries. Contractor shall provide a summary of work completed each month. The complete quantities of work are outlined in Exhibit "A." The value and quantity of Service will be developed annually and agreed upon by City and Contractor.

605537.1

Exhibit “E” to  
Agreement for Public Works Services

**INITIAL PERIOD BASE SERVICES  
AND RELATED PERFORMANCE MEASUREMENTS**

(See Attachment)