



ENT 129807:2019 PG 1 of 38  
JEFFERY SMITH  
UTAH COUNTY RECORDER  
2019 Dec 09 10:12 am FEE 40.00 BY NG  
RECORDED FOR SARATOGA SPRINGS CITY

**When recorded, mail to:**

City Recorder  
1307 N. Commerce Drive, Suite 200  
Saratoga Springs, UT 84045

**LONG-TERM STORMWATER MANAGEMENT AGREEMENT**

This Long-Term Stormwater Management Agreement ("Agreement") is made and entered into this 7 day of November, 2019, by and between Saratoga Springs City, a Utah municipal corporation ("City"), and JD IV, LLC, a Utah Limited liability company ("Owner").

**RECITALS**

WHEREAS, the City is authorized and required to regulate and control the disposition of storm and surface waters within the MS4, as set forth in the City Stormwater Ordinance contained in Title 18 of the City Code and the Standard Technical Specifications and Drawings Manual, as amended ("Ordinance"), adopted pursuant to the Utah Water Quality Act, as set forth in *Utah Code Ann.* §§ 19-5-101, *et seq.*, as amended ("Act"); and

WHEREAS, the Owner hereby represents and acknowledges that it is the owner in fee simple of certain real property more particularly described in Exhibit "A," attached hereto and incorporated herein by this reference ("Property"); and

WHEREAS, the Owner desires to build or develop the Property and/or to conduct certain regulated construction activities on the Property which will alter existing storm and surface water conditions on the Property and/or adjacent lands; and

WHEREAS, in order to accommodate and regulate these anticipated changes in existing storm and surface water flow conditions, the Owner is required to build and maintain at Owner's expense a storm and surface water management facility or improvements ("Stormwater Facilities"); and

WHEREAS, the Stormwater Facilities are more particularly described and shown in the final site plan or subdivision approved in writing for the Property and related engineering drawings, and any amendments thereto, which plans and drawings are on file with the City and are hereby incorporated herein by this reference ("Development Plan"); and

WHEREAS, summary description of all Stormwater Facilities, details and all appurtenances draining to and affecting the Stormwater Facilities and establishing the standard operation and routine maintenance procedures for the Stormwater Facilities, and control measures installed on the Property are more particularly shown in Exhibit "B" on file with the City Recorder ("Long Term Stormwater Management Plan"); and

WHEREAS, a condition of Development Plan approval, and as required as part of the City's Small MS4 UPDES General Permit from the State of Utah, Owner is required to enter into this Agreement establishing a means of documenting the execution of the Long Term Stormwater Management Plan.

NOW, THEREFORE, in consideration of the benefits received and to be received by the Owner, its successors and assigns, as a result of the City's approval of the Long Term Stormwater Management Plan, and the mutual covenants contained herein, the parties agree as follows:

#### **Section 1**

**Construction of Stormwater Facilities.** The Owner shall, at its sole cost and expense, construct the Stormwater Facilities in accordance with the Development Plans and specifications, and any amendments thereto which have been approved in writing by the City.

#### **Section 2**

**Maintenance of Stormwater Facilities.** The Owner shall, at its sole cost and expense, adequately maintain the Stormwater Facilities. Owner's maintenance obligations shall include but are not limited to all system and appurtenances built to convey stormwater, as well as all structures, berms, channels, outlet structures, pond areas, access roads, improvements, oil/water separators, pipes, culverts, ditches, vegetation, etc. provided to control the quantity and quality of the stormwater. Adequate maintenance, for purposes of this Agreement, is defined as good working condition so that the Stormwater Facilities are performing their design functions. The Owner shall, at its sole cost and expense, perform all work necessary to keep the Stormwater Facilities in good working condition.

#### **Section 3**

**Annual Maintenance Report of Stormwater Facilities.** The Owner shall, at its sole cost and expense, cause the Stormwater Facilities to be inspected by a Utah licensed and registered engineer, and shall cause that an inspection report and certification from the engineer be submitted to the City annually. The purpose of the inspection and certification is to ensure safe and proper functioning of the Stormwater Facilities. The

annual inspection shall cover all aspects of the Stormwater Facilities, including, but not limited to, the parking lots, structural improvements, berms, channels, outlet structure, pond areas, access roads, oil/water separator, pipes, culverts, ditches, vegetation, landscaping, etc. Deficiencies shall be noted in the inspection report. The report shall also contain a certification as to whether adequate maintenance has been performed and whether the structural controls are operating as designed to protect water quality. The annual inspection report and certification shall be due by June 30<sup>th</sup> of each year and shall be on forms acceptable to the City, which acceptance shall be in writing from the City.

#### **Section 4**

City Oversight Inspection Authority. The Owner hereby grants permission to the City, its authorized agents and employees, to enter upon the Property and to inspect the Stormwater Facilities upon reasonable notice not less than two (2) business days to the Owner, except in the case of an emergency, in which case an inspection may be performed with or without notice. Such inspections shall be conducted in a reasonable manner and at reasonable times, as determined appropriate by the City. The purpose of the inspection shall be to determine and ensure that the Stormwater Facilities are being adequately maintained, are continuing to perform in an adequate manner, and are in compliance with the Act, the Ordinance, and the Stormwater Facilities Maintenance Plan.

#### **Section 5**

Notice of Deficiencies. If the City finds that the Stormwater Facilities contain any defects or are not being maintained adequately, the City shall send Owner written notice of the defects or deficiencies and provide Owner with a reasonable time, but not less than thirty (30) days, to cure such defects or deficiencies. Such notice shall be confirmed delivery to the Owner or sent certified mail to the Owner at the address listed on the County Tax Assessor.

#### **Section 6**

Owner to Maintain, Repair, and Replace. The Owner shall, at its sole cost and expense, maintain, repair, replace, change or modify the Stormwater Facilities as may be determined as reasonably necessary by the City in writing within the required cure period to ensure that the Stormwater Facilities are adequately maintained, repaired, and replaced, and continue to operate as designed and approved in writing.

#### **Section 7**

City's Corrective Action Authority. In the event the Owner fails to adequately maintain, repair, or replace the Stormwater Facilities so that the facilities continue in good working condition acceptable to the City after the notice period in Section 5 expires, then the City may issue a Citation punishable as a Misdemeanor or administrative violation per City ordinances, in addition to any State or EPA fine. The City may also give written notice that the facility storm drain connection will be disconnected. The City may also enter upon the property to maintain, replace, or repair the Stormwater Facilities and assess the costs to Owner pursuant to this Agreement. It is expressly understood and

agreed that the City is under no obligation to maintain or repair the Stormwater Facilities, and in no event shall this Agreement be construed to impose any such obligation on the City. The actions described in this Section are in addition to and not in lieu of any and all equitable remedies available to the City as provided by law for Owner's failure to remedy deficiencies or any other failure to perform under the terms and conditions of this Agreement.

#### **Section 8**

**Reimbursement of Costs.** In the event the City, pursuant to this Agreement, incurs any costs or expenses relating to enforcement of this Agreement, the Owner shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all costs incurred by the City. After said thirty (30) days, such amount shall be deemed delinquent and shall be subject to interest at the rate of ten percent (10%) per annum. Owner shall also be liable for any collection costs, including attorneys' fees and court costs, incurred by the City in collection of delinquent payments. Any and all costs and expenses may be attached as a lien on the Owner's Property pursuant to state law, and the Owner hereby gives the City the express authority to record such a lien on the Property.

#### **Section 9**

**Successor and Assigns.** This Agreement shall be recorded in the County Recorder's Office and the covenants and agreements contained herein shall run with the land and whenever the Property shall be held, sold, conveyed or otherwise transferred, it shall be subject to the covenants, stipulations, agreements and provisions of this Agreement which shall apply to, bind and be obligatory upon the Owner hereto, its successors and assigns, and shall bind all present and subsequent owners of the Property described herein. The Owner or any subsequent owners may be continue to be held liable for the obligations in this Agreement unless the Owner/grantor and the purchaser/grantee sign a written assignment agreement in which the purchaser/grantee agrees to assume all obligations and requirements of this Agreement regardless of when the obligation incurred.

#### **Section 10**

**Severability Clause.** The provisions of this Agreement shall be severable and if any phrase, clause, sentence or provision is declared unconstitutional, or the applicability thereof to the Owner, its successors and assigns, is held invalid, the remainder of this Covenant shall not be affected thereby.

#### **Section 11**

**Utah Law and Venue.** This Agreement shall be interpreted under the laws of the State of Utah. Any and all suits for any claims or for any and every breach or dispute arising out of this Agreement shall be maintained in the appropriate court of competent jurisdiction in Salt Lake County, Utah.

#### **Section 12**

**Indemnification.** This Agreement imposes no liability of any kind whatsoever on the City, and the Owner agrees to hold the City harmless from any liability in the event the

Stormwater Facilities fail to operate properly or any violation of this Agreement takes place. The Owner shall indemnify and hold the City harmless for any and all damages, accidents, casualties, occurrences, claims, actions, or suits which might arise or be asserted against the City from failure of Owner to comply with its obligations under this agreement relating to the Stormwater Facilities or Owner's operation of the Stormwater Facilities.

### **Section 13**

Amendments. This Agreement shall not be modified except by written instrument executed by the City and the Owner of the Property at the time of modification, and no modification shall be effective until recorded in the Salt Lake County Recorder's Office.

### **Section 14**

Subordination Requirement. If there is a lien, trust deed or other property interest recorded against the Property, the trustee, lien holder, etc., shall be required to execute a subordination agreement or other acceptable recorded document agreeing to subordinate their interest to the Agreement.

### **Section 15**

Exhibit B. The Long-Term Stormwater Management Plan (LTSWMP) must adapt to change in good judgment when site conditions and operations change and when existing programs are ineffective. Exhibit B will not be filed with the agreement at County Recorder but is included by reference and kept on file with the City Recorder. Revision applications must be filed with the City \_\_\_\_\_ and amended into the LTSWMP on file with the \_\_\_\_\_ City recorder.

### **Section 16**

Incorporation of Recitals. The Recitals set forth in the introductory paragraphs are hereby incorporated by this reference and are made a part of this Agreement.

LONG-TERM STORMWATER MANAGEMENT PLAN AGREEMENT

SO AGREED this 7<sup>th</sup> day of November 20 19.

PROPERTY OWNER

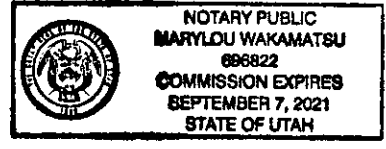
By: [Signature] Title: Manager

By: \_\_\_\_\_ Title: \_\_\_\_\_

STATE OF UTAH )  
 ) :ss.  
COUNTY OF Utah )

The above instrument was acknowledged before me by John D. Hadfield this 29<sup>th</sup> day of October, 20 19.

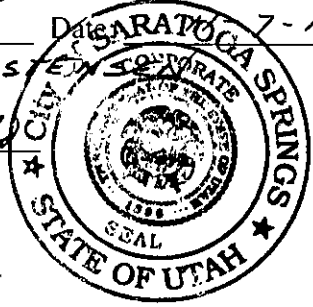
Marilyn Wakamatsu  
Notary Public  
Residing in: Lehi, Utah  
My commission expires: Sept. 7<sup>th</sup>, 2021



SARATOGA SPRINGS CITY

By: [Signature] Date: SARATOGA 7-19  
City Manager MARK CHRISTENSEN

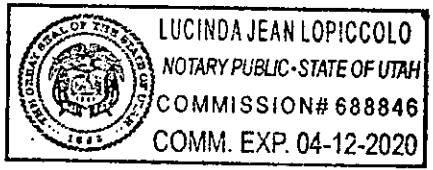
Attest: [Signature]  
City Recorder



STATE OF UTAH )  
 ) :ss.  
COUNTY OF Utah )

The above instrument was acknowledged before me by MARK CHRISTENSEN this 7<sup>th</sup> day of NOVEMBER, 20 19.

Lucinda Jean Lopiccolo  
Notary Public  
Residing in: Utah County  
My commission expires: 4-12-2020



LTSWMP \_\_\_\_\_

Attachments:

Exhibit A: Legal Description

Exhibit B: Long-Term Stormwater Management Plan; Filed with \_\_\_\_\_ City Recorder

## EXHIBIT A

## Westfield Estates, Saratoga Springs Utah.



Utah County APN 59-013-0067

**BOUNDARY DESCRIPTION**

A portion of the SE1/4 of Section 13 and the NE1/4 of Section 24, Township 6 South, Range 1 West, Salt Lake Base & Meridian, Saratoga Springs, Utah, more particularly described as follows:

Beginning at the Southeast corner of Section 13, T6S, R1W, SLB&M (Basis of Bearing:  $N0^{\circ}17'20''E$  along the Section Line between the Southeast corner and East  $\frac{1}{4}$  corner of Section 13); thence  $S00^{\circ}15'25''W$  along the Section line 39.12 feet; thence West 252.45 feet; thence North 316.00 feet; thence West 25.19 feet; thence North 56.00 feet; thence Northerly along the arc of a non-tangent curve to the left having a radius of 1,343.50 feet (radius bears:  $N87^{\circ}10'52''W$ ) a distance of 319.15 feet through a central angle of  $13^{\circ}36'39''$  Chord:  $N03^{\circ}59'12''W$  318.40 feet; thence Northerly along the arc of a non-tangent curve to the left



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Westfield Estates 10-19-2019

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having a radius of 1,359.00 feet (radius bears: S79°17'10"W) a distance of 324.78 feet through a central angle of 13°41'34" Chord: N17°33'37"W 324.01 feet; thence N26°31'11"W 56.77 feet; thence N28°44'26"W 91.83 feet; thence N32°36'07"W 91.17 feet; thence N36°26'57"W 91.17 feet; thence N40°03'36"W 91.18 feet; thence N43°47'26"W 77.17 feet; thence N47°06'16"W 108.82 feet; thence Northwesterly along the arc of a non-tangent curve to the right having a radius of 1,142.00 feet (radius bears: N44°11'51"E) a distance of 107.51 feet through a central angle of 05°23'38" Chord: N43°06'20"W 107.47 feet; thence N35°33'49"W 56.00 feet; thence N54°25'23"E 7.14 feet; thence N33°07'57"W 103.51 feet; thence N28°12'19"W 8.96 feet; thence N57°30'53"E 99.53 feet; thence Northwesterly along the arc of a non-tangent curve to the right having a radius of 1,028.00 feet (radius bears: N58°05'24"E) a distance of 9.84 feet through a central angle of 00°32'55" Chord: N31°34'48"W 9.84 feet; thence N58°41'39"E 186.00 feet; thence S65°28'41"E 132.99 feet; thence Southwesterly along the arc of a non-tangent curve to the right having a radius of 328.00 feet (radius bears: N65°28'41"W) a distance of 86.02 feet through a central angle of 15°01'33" Chord: S32°02'06"W 85.77 feet; thence S50°30'10"E 299.19 feet; thence N53°21'05"E 55.39 feet; thence N02°33'51"W 134.99 feet; thence S89°42'13"E 128.97 feet; thence Northeasterly along the arc of a non-tangent curve to the right having a radius of 62.50 feet (radius bears: S58°23'32"E) a distance of 63.70 feet through a central angle of 58°23'32" Chord: N60°48'14"E 60.97 feet; thence S89°42'54"E 167.21 feet; thence S00°17'20"W 1,699.65 feet to the point of beginning.

Contains: 17.76 acres+/-  
773,891.28 sq. ft. +/-  
38 lots

## EXHIBIT B

### Long-Term Stormwater Management Plan

for:

Westfield Estates  
3973 South Snow Goose Drive  
Saratoga Springs, UT, 84045

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## **PURPOSE AND RESPONSIBILITY**

As required by the Clean Water Act and resultant local regulations, including the City of Saratoga Springs Municipal Separate Storm Sewer Systems (MS4) Permit, those who develop land are required to build and maintain systems to minimize litter and contaminants in stormwater runoff that pollute waters of the State.

This Long-Term Stormwater Management Plan (LTSWMP) describes the systems, operations and the minimum standard operating procedures (SOPs) necessary to manage pollutants originating from or generated on this property. Any activities or site operations at this property that contaminate water entering the City's stormwater system and generate loose litter must be prohibited, unless SOPs are written to manage those activities or operations, and amended into this LTSWMP.

The Jordan River and Utah Lake are impaired but do not have a TMDL. The LTSWMP is aimed at addressing these impairments in addition to all other pollutants that can be generated by this property.

## **CONTENTS**

SECTION 1: SITE DESCRIPTION, USE AND IMPACT

SECTION 2: TRAINING

SECTION 3: RECORDKEEPING

SECTION 4 APPENDICES

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## SECTION 1: SITE DESCRIPTION, USE AND IMPACT

The site infrastructure at our site is limited at controlling and containing pollutants and our operations if managed improperly can contaminate the environment. This LTSWMP includes standard operations procedures (SOP)s that are intended to compensate for the pollution containment limitations of our site infrastructure and direct our maintenance operations to responsibly manage our grounds.

### **Parking, Sidewalk and flatwork**

Westfield Estates has traditional flatwork and sidewalks. Sidewalks are separated from curb and gutter creating a planter strip that can be used as a BMP in several ways. First the planter strip between sidewalk and curb during construction should be left 3 to 4" low so that water and sediment flows will be stopped from reaching the gutter and the street. Upon landscaping the planter strip can act again as a vegetative barrier to capture water flows coming off the house via the rain gutter system etc. This extra buffer of the planter strip is both a short term and a long term BMP that will allow sediment to be collected prior to reaching the gutters.

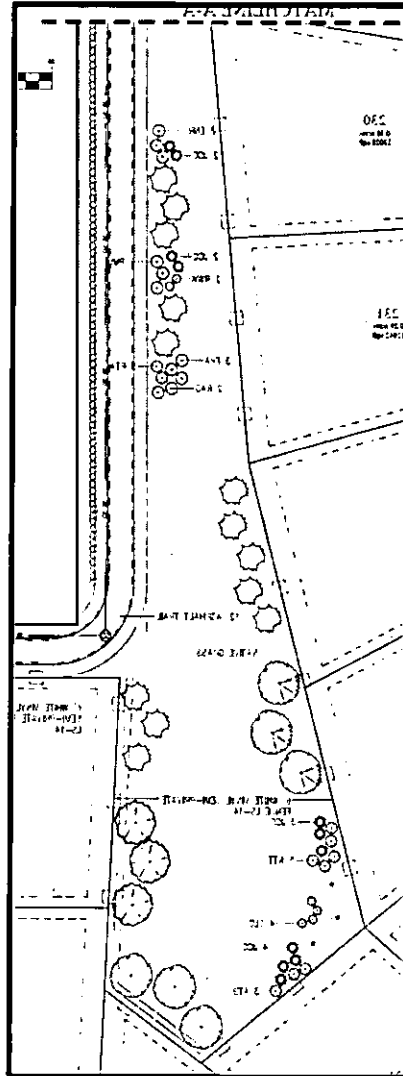
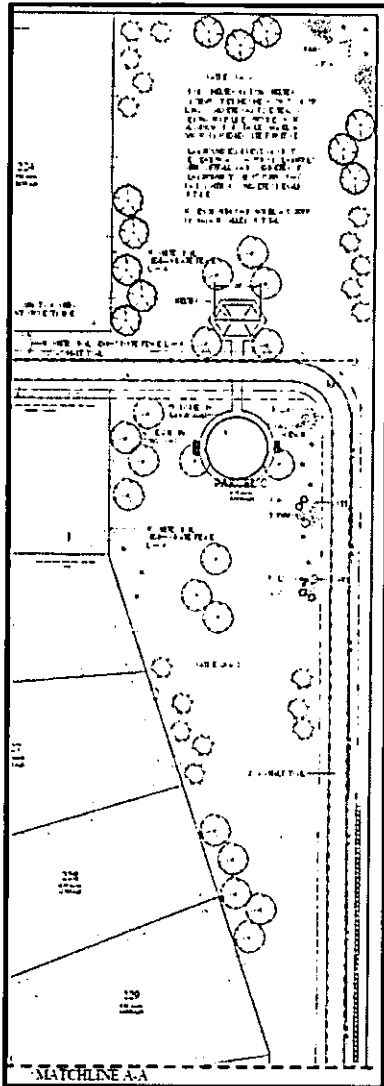
For Parking and other flatwork spills Any sediment, leaves, debris, spilt fluids or other waste that collects on our parking lots and sidewalks will be carried by runoff to our storm drain inlets unless captured and prevented via BMP described below. This waste material will settle in our storm drain system increasing maintenance cost and solid and dissolved waste in our runoff can pass through our system ultimately polluting the Jordan River and Utah lake.

Maintenance involves regular sweeping, but it can also involve pavement washing to remove stains, slick spots and improve appearance when necessary. Use our Pavement Maintenance and the Pavement Washing SOPs to manage pollutants that collect on our pavements.

- a) Contractor must clean up any spills that may be harmful to receiving waters immediately. Contractor to place kitty litter downhill of spill to prevent spill from reaching inlet. Clean-up is to be performed starting downhill and working up so as to prevent spill from spreading. Cleanup materials include citrus based biodegradable solvents, and kitty litter. Any cleaning materials that are used to clean up any spills shall be disposed of in accordance with the product's instructions.
- b) To avoid sediment from getting into the storm drain system dry sweeping that picks up the debris and sediment is preferred over wet sweeping that can dissolve sediment and result in its escape into the storm drain system.

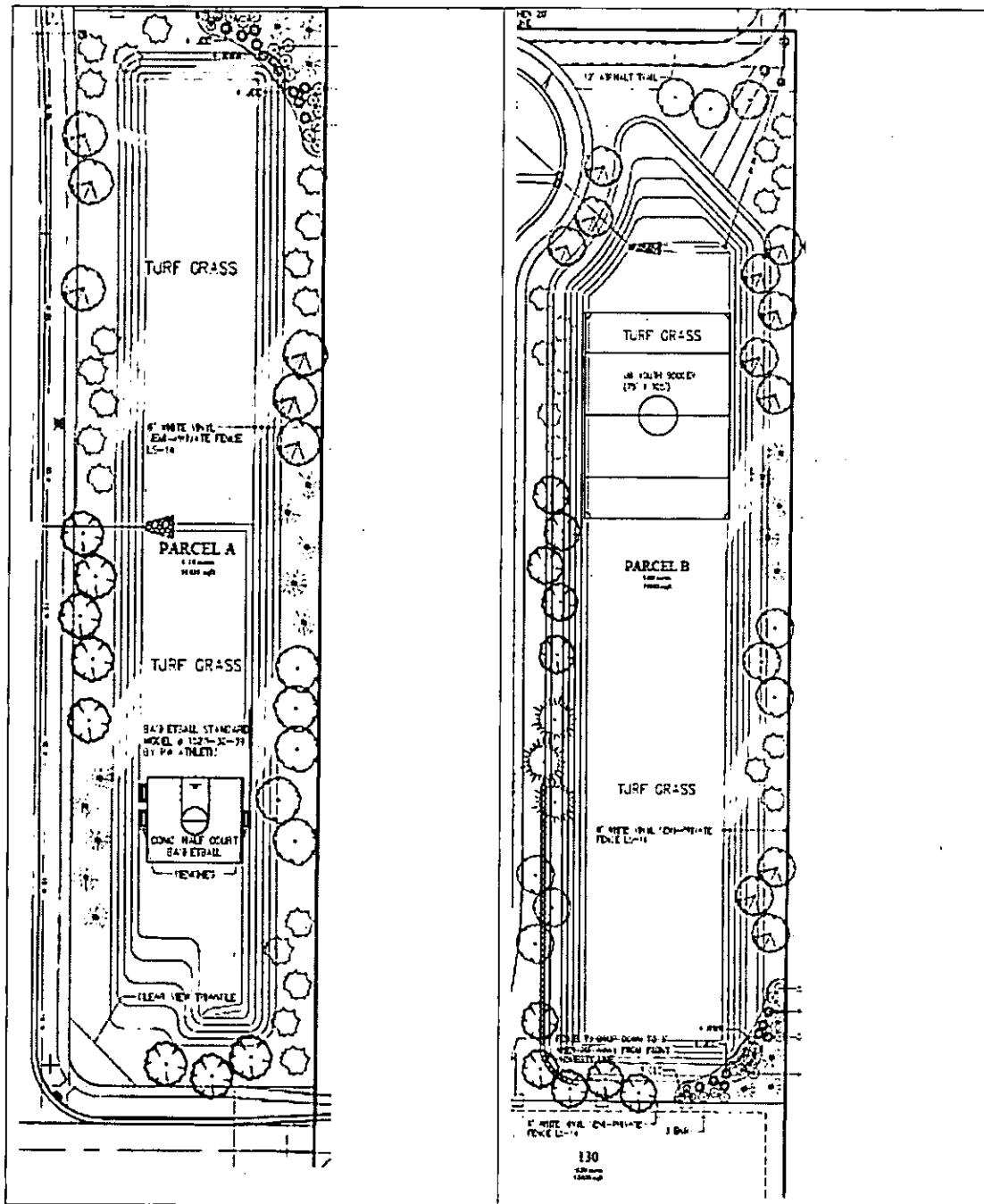
### Landscaping

Westview smaller open spaces have been deliberately designed with native grasses, trees, scrubs rocks and other ground cover to stabilize and prevent erosion in these areas while at the same time not introducing the need for weekly grass cuttings in these areas. After being fully planted and stabilized these areas will be inspected periodically for any unexpected erosion and if needed corrected to prevent erosion through redesign and the use of stabilizing materials such as grasses, decorative rocks etc. Please see the construction plans Sheet L1 for more specific description of the landscape and stabilization plan.



Long-Term Stormwater Management Plan  
Westfield Estates 10-19-2019

Parcels A and B are being used as sedimentation basins that capture any sediment that gets past the storm drain inlet covers. The long-term plan for these areas is turf grass with a variety of shrubs and trees and other rock and other ground stabilizing areas. The grass in these basins will require cutting which should be done in such a way as to prevent these clippings from getting washed into the outfall pipes of the basin. Ultimately, the thicker grass will act as a long-term sedimentation trap / vegetative buffer and vegetative filter to capture and clean out any sediment before the water is released back into the greater MS4 system.



Our goal in our landscape operations is to reduce and to eliminate the grass clippings, sticks, branches, dirt, mulch, fertilizers, pesticides and other pollutants to fall or be left on our paved areas. By doing this we can prevent our waste material from settling in our storm drain system increasing maintenance cost and solid and dissolved waste in our runoff. Clean water can pass through our storm drain system and avoid polluting the Jordan River and Utah Lake. By doing this we avoid polluting and impairing the Jordan River and Utah Lake. Organic material, so it is vital that our paved areas with direct connection to the City storm drain systems remain clean of landscape debris. We can use our Landscape Maintenance SOP to prevent this potential pollution source from affecting the Jordan River and Utah Lake.

### **Storm Drain System**

Westview storm drain system directs all runoff to a detention pond located in Parcels A and B where solid and dissolved sediment can separate from the clean water. Westfield then uses Contec boxes specifically designed to capture sediment missed by the detention basins and prevent it from reaching the lake. See page D6 of the construction plans for the specific design and placement instructions for the Contec boxes. These units are designed to capture floating material and heavier sediment particles but do not trap suspended or dissolved pollutants. This device is susceptible to bypass and scour during large storm events and the dissolved pollutants will pass through and harm Utah Lake. The storm drain system should not have pooling or hold water that can breed mosquitoes. It is important to regularly maintain this system to protect Utah Lake and prevent mosquito breeding. Use our Storm Drain Maintenance SOP to manage our storm drain system responsibly.

### **Waste Management**

Our 6-yard dumpsters and trash receptacles with lids are intended to prevent precipitation exposure minimizing liquids that can leak to pavements and from haul trucks. Lids will also prevent the light weight trash carried off by wind. Good waste management systems, if managed improperly, can become the source of the very pollution that they were intended to control. Use our Waste Management SOP to control and manage the solid waste we generate.

### **Utility System**

Westfield AC units will be placed on the ground to prevent direct exposure of any oils to our roof drains which drain to our pavements. This heating and air conditioner unit contains oils and other chemicals that can harm Utah Lake if allowed to drain off our property. Liquids and other waste generated by maintenance of this system can be appropriately managed by our Spill Containment and Cleanup SOP.

### **Snow and Ice Removal Management**

A great deal of design effort has been undertaken to minimize the roads in the steep topography where Westfield Estates is located. Because of this effort the roads are less steep than an otherwise inferior design would have had. Because of this less salt will be needed to treat critical stopping areas on the roads. Salt is a necessary but can be limited and lessened through good road design. However, the snow removal operations if improperly managed will increase our salt impact to our own vegetation and local water resources. Use our Snow and Ice Removal SOP to minimize our salt impact.

### **Equipment / Outside Storage**

Fortunately, the Westfield subdivision is close to the main HADCO offices. For this reason, the need for any equipment washing and other work can be greatly reduced if not fully eliminated. Mechanics can take the machines back to the shop to work on them rather than risk spills onto the projects roads etc. All stocking areas for pipes and other boxes and construction related parts can also be minimized through just in time delivery from the supplier or the HADCO main office. All areas will have BMP designed to prevent any sediment or other debris from leaving the project.

### **SECTION 2: TRAINING**

Ensure that all employees and maintenance contractors know and understand the SOPs specifically written to manage and maintain the property. Maintenance contractors must use the stronger of their Company and the LTSWMP SOPs. File all training records in Appendix C.

### **SECTION 3: RECORDKEEPING**

Maintain records of operation and maintenance activities in accordance with SOPs. Mail a copy of the record to Saratoga Springs City Stormwater Division annually.



## SECTION 4: APPENDICES

**Instructions:**

- Include all drawings, details, SOPs and other supporting information referenced in Sections 1.
- Ensure the LTSWMP is updated with any as-built plans, details and SOP changes prior to releasing the project, and NOI.

Appendix A- Site Drawings and Details

Appendix B- SOPs

Appendix C- Recordkeeping Documents

## APPENDIX A – SITE DRAWINGS AND DETAILS

Please see attached Construction plans for landscaping and horizontal excavation.

## APPENDIX B – SOPs

*[Insert SOPs following this page and delete the blue instruction text]*

The following are suggested SOPs that should be adequate for most typical developments. *If used the property owner and design agent are expected evaluate applicability and modify the suggested text to the sites unique site infrastructure, its limitations and operations.* The City also encourages the use of existing company SOPs modified and geared for this site and operations.

The SOPs are expected to include the following components.

1. Provide instruction that directs workers to operate and maintain the property that will prevent, control and contain debris, liquids and other pollutants from leaving the property.
2. Provide instruction that directs workers to dispose the waste generated by maintenance functions at licensed facilities or means consistent with MS4 regulations.
3. Provide instruction that directs the property owner for maintenance frequency and to adjust maintenance frequency based on inspections and observation.
4. Provide instruction that directs the property owner to document the effectiveness of the SOP and overall site LSWMP at controlling and containing pollutants on the property.

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## **Pavement Maintenance Operations**

### **1. Purpose and Selection:**

- a) Reduce stormwater pollution by sweeping and removing pollutants that will be carried to City stormwater systems during stormwater runoff or by non stormwater runoff.
- b) The sweeper is intended for removing material that collect on pavements by use and the natural degradation of pavements, ie. material that collect, drop from vehicles and the natural erosion and breaking up of pavements.

### **2. Regular Procedure:**

- a) Remain aware of debris and sweep minor debris is needed by hand.
- b) Generally sweeping machinery should be used during autumn when leaf fall is heavy and early spring after winter thaw. Sometimes sweeping machinery will be necessary when accumulations are spread over a large area of the pavement.
- c) Manage outside activities that leave waste or drain pollutants to our pavements. This involves outside functions including but not limited to: Yard sales, yard storage, fund raisers, etc. Do not allow car wash fund raiser or other activities that allow detergents or other pollutants to be wash into storm drain systems.

### **4. Disposal Procedure:**

- a) Service contractor dispose at licensed facilities
- b) Dispose of hand collected material in dumpster

### **5. Training:**

- a) Annually and at hire

**DESCRIPTION:** Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems. Development plans should include careful consideration of irrigation systems to minimize runoff of excess irrigation water into the stormwater conveyance systems. This BMP also serves to conserve water usage.

**APPLICATIONS:**  Applicable to residential, commercial and industrial areas planned for development or redevelopment.

**IMPLEMENTATION:**  Use rain-triggered shutoff devices to prevent irrigation after precipitation.  Design irrigation systems to each landscaped area's specific water requirements.  Implement water conservation plans that may include water sensors, programmable irrigation times, etc.  Group plants with similar water requirements; use plants with low irrigation requirements.  Park strips are difficult to irrigate without waste of water; consider alternative landscape techniques for these areas.

**LIMITATIONS:**  Must be in compliance with local regulations.

**MAINTENANCE:**  Maintenance of vegetation as appropriate.

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## Landscape Maintenance Operations

### General:

This SOP is not expected to cover all necessary procedure actions. Operators are allowed to adapt SOPs to unique site conditions in good judgment when it is necessary for safety, and the proper, and effective containment of pollutants. However, any changes of routine operations must be amended in this SOP.

**Rule: Prevent any solids, liquids or any light weight material from being carried away from the construction or maintenance envelop by wind or water.**

### 1. Application:

- a) The standard operating procedures for Westfield estates provides specific direction for many of the general landscaping operations, e.g., fertilizer and pesticide applications, mowing, weeding, tree trimming, digging, sprinkler repairs, varying landscape cover management, etc.

### 2. Maintenance Procedure:

- a) Grooming
  - Lawn Mowing – Immediately following operation sweep or blow clippings onto vegetated ground. See below.
  - Fertilizer Operation – Prevent overspray. Sweep or blow fertilizer onto vegetated ground immediately following operation. See specifics below.
  - Pesticide Operations – Prevent overspray, use spot treatment, sweep or blow dry pesticide onto vegetated ground immediately following operation. See specifics below.
- b) Remove or contain all erodible or loose material prior forecast wind and precipitation events, before any non-stormwater will pass through and over the project site and at end of work period. Light weight debris and landscape materials can require immediately attention when wind expected.
- c) Landscape project materials and waste can usually be contained or controlled by operational best management practices. See details below.
  - Operational; including but not limited to:
    - Strategic staging of materials eliminating exposure, such as not staging on pavement
    - Avoiding multiple day staging of landscaping backfill and spoil on pavements
    - Haul off spoil as generated or daily
    - Scheduling work when weather forecast are clear.

## d) Cleanup:

- Use dry cleanup methods, e.g. square nose shovel and broom and it is usually sufficient when no more material can be swept onto the square nosed shovel.
- Power blowing tools

**1. Landscape Planning for Westfield Estates**

This process takes into consideration storm water design and topography to maximize natural water storage and infiltration opportunities and protect slopes and channels. This BMP may be integrated with other source control BMPs and serves to minimize surface and groundwater contamination from stormwater pollution. Westfield has hire specific landscape architects that have designed the vegetation of the site to capture and filter sediment coming from above.

**2. Detention Basins located in Parcels A and B BMP**

Description: To convert the sediment basins to a detention basin, if needed Westfield will excavate the bottom of the basin to remove accumulated sediments and increase the storage capacity of the basin below the lowest orifice in the basin's outlet to retain stormwater temporarily.

The basin will be converted to a permanent detention basin during the final stabilization phase of construction. The basin area will be inspected weekly and after storm events during the conversion process. The area will be checked for signs of erosion, seepage, and structural damage. Erosion, seepage, and structural damage will be repaired immediately. The outlet and trash rack will be checked for any damage or obstructions and any

**3. Permanently Vegetated Swale in back of lots 130 through 138 in phase 1**

The vegetated swale described in SWPPP plan will remain as a permanent stormwater management structure for the site. As stormwater runoff flows into these channels, it is treated by means of flowing through vegetation which slows the flow to allow sedimentation, filtering through a subsoil matrix, and/or infiltration into the underlying soils. Designs for these swales incorporate modified geometry and other features for use of the swale as a treatment and conveyance practice.

he swale will convey runoff to the two detention basins. The swale will be graded at the construction of the subdivision and will be grassed lined at upon the final landscaping of the lot. The area will be monitored until final stabilization is reached.

**4. Proper landscape maintenance** is important to reduce nutrient and chemical loading to the storm drain system, reduce nuisance flows and standing water in stormwater BMPs, and to maintain healthy vegetation. Examples of maintenance activities that will serve to minimize stormwater pollutants include mowing, aeration, fertilization and irrigation.

Public education regarding landscape maintenance should include the following key points:

- e) a. Keep lawn clipping and debris out of the gutters; mulch-mowing turf at a height of 2.5 to 3 inches to help develop deeper root systems; minimize thatch development by mowing at appropriate frequencies and heights for the grass type, avoid overwatering and over fertilization, and aerating the turf.
- f) b. Lawn aeration reduces soil compaction and serves to move water and fertilizer into the root zone; aerate once or twice/year, but not when it is extremely hot and dry; don't use spike-type aerators, holes should be 2 to 3 inches deep and no more than 2 to 4 inches apart; thoroughly water day before.
- g) c. Only apply nutrients that the plants can use; follow manufacturer's directions; conduct soil testing to determine needs; utilize split applications of slow-release fertilizers; keep fertilizers off hard surfaces (streets and sidewalks); water turf following fertilization; avoid fertilizing before heavy rainfall forecast;
- h) d. Determine water needs to supplement normal rainfall; irrigate lawn uniformly until soil is moist to a depth of 4 to 6 inches; maintain irrigation system to prevent waste; consider use of "Smart" irrigation controllers and weather sensors;

### **5. Treatment of Chemicals**

Various chemicals used for landscape maintenance must be properly applied, stored, handled and disposed of to prevent contamination of surface and ground waters. These chemicals include pesticides, herbicides, fertilizers, fuel, etc. Misuse of pesticides and herbicides can result in adverse impacts to aquatic life, even at low concentrations. Misuse of fertilizer can result in increased algae growth in waterbodies due to excessive phosphorus and nitrogen loading. The following procedures should be followed:

- i) Public education regarding the use of these chemicals is necessary to ensure proper application and to minimize the release of these chemicals into storm drains or groundwater. Some of the key education points include: Application of fertilizers, pesticides, and other chemicals according to manufacturer's directions.
- j) Application of pesticides and herbicides only when needed and use in a manner to minimize off-target effects.
- k) Accurately diagnose the pest; know characteristics of the application site, including soil type and depth to groundwater.
- l) Employ application techniques that increase efficiency and allow the lowest effective application rate.
- m) Keep pesticide and fertilizer equipment properly calibrated according to the manufacturer's instructions and in good repair.
- n) All mixing and loading operations must occur on an impervious surface. Do not apply pesticides or herbicides during high temperatures, windy conditions or immediately prior to heavy rainfall or irrigation.



- o) Storage areas should be secure and covered, preventing exposure to rain and unauthorized access.

Store chemicals in their original containers, tightly closed, with labels intact. Regularly inspect them for leaks.

**3. Waste Disposal:**

- a) Dispose of waste according to General Waste Management SOP, unless superseded by specific SOPs for the operation.

**4. Equipment:**

- a) Tools sufficient for proper containment of pollutants and cleanup.
- b) Push broom and square blade shovel should be a minimum.

**5. Training:**

- a) Annually and at hire
- b) Landscape Service Contractors must have equal or better SOPs.

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## Waste Management Operations

### 1. Application:

- a) This SOP is intended for all Staff, intended for the proper disposal of common everyday waste.

### 2. Waste Collection Devices (Exposed units):

- a) The site contains 2 types of waste management containers.
  - 6yd dumpster with lid
  - Receptacles with lids

### 3. Waste Disposal Restrictions for all waste Scheduled for the Trans-Jordan Landfill:

- a) Generally most waste generated at this property, and waste from spill and clean up operations can be disposed in our dumpsters under the conditions listed in this SOP. Unless other disposal requirements are specifically identified by the product SDS or otherwise specified in other SOPs.
- b) Know the facility disposal requirements and restrictions. It should not be assumed that all waste disposed in collection devices will be disposed at the Utah County LANDFILL.
- c) Review Utah County LANDFILL regulations for additional restrictions and understand what waste is prohibited in the Utah County LANDFILL. Ensure the SDS and Utah County LANDFILL Landfill regulations are not contradictory.

Generally the waste prohibited by the Utah County LANDFILL is:

➤ Liquid:

- paint
- pesticides/fertilizers
- oil (all types)
- antifreeze
- batteries
- liquid chemicals
- etc.

*(Generally, all the above hazardous waste when involved in minor spill cleanup operations can be disposed in covered dumpsters and our waste bays, if the liquid is contained in absorbent material, e.g. sand, dirt, loose absorbent, pads, booms etc., and transformed or dried such that it will not drip. This is not intended for whole sale disposal of out dated or spent liquid hazardous waste. When disposal of out dated or spent liquid is*

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*needed or for questions of how to dispose of other waste, contact the Utah County HEALTH DEPARTMENT Health Department*

**4. Waste Disposal Required for Utah County LANDFILL or other:**

- a) Generally for waste not accepted by the Utah County Landfill.
- b) Follow SDS for disposal requirements. Review Utah County landfill regulations for additional restrictions and understand what waste is prohibited in the Utah County LANDFILL. Ensure the SDS and Utah County land Fill regulations are not contradictory  
General rules are:
  - Get approval prior to delivery.
  - Transport waste in secure leak proof containers that are clearly labeled.
- c) Lookup and follow disposal procedures for disposal of waste at other EPA approved sites, the Utah County Landfill # is a good resource, PHONE #

**5. General Staff Maintenance Practices:**

- a) Prevent dumpsters and receptacles from becoming a pollution source by:
  1. Closing lids
  2. Reposition tipped receptacles upright.
  3. Report full or leaking and unsecured dumpsters and receptacles to the company provider or repair it in house. Determine source liquids and prevent it.
  4. Report any eminent pollutant hazard related to dumpsters and receptacles to the owner.

**6. Training:**

- a) Annually and at hire

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## Storm Drain Maintenance Operations

### 1. Procedure:

- a) Inspect for need:
  - 1. Schedule cleaning for boxes and pipe that contain 2" or more of sediment and debris.
  - 2. Remove debris by vacuum Utah County Landfill operated machinery.
  - 3. When accumulations are mostly floating debris this material can be removed with a net.
  - 4. Inspect standing water for mosquito larvae and contact the Utah County MOSQUITO ABATEMENT DISTRICT when necessary.

### 2. Disposal Procedure:

- a) Dispose of waste collected by machinery at regulated facilities.
- b) Floating materials and floating absorbent materials may be disposed in dumpster when dried out. Dry dirt and slurry may also be disposed in the dumpster.
- c) Disposal of hazardous waste
  - 1. Dispose of hazardous waste at regulated disposal facilities, see Waste Management and Spill Control SOP
- d) Disposal of waste collected from sanitary sewer device at regulated facilities.

### 3. Training:

- a) Annually and at hire

## **Pavement Washing Operations**

### **1. Procedure:**

- a) Prevent waste fluids and any detergents if used from entering storm drain system. The following methods are acceptable for this operation.
  - Dam the inlet using a boom material that seals itself to the pavement and pick up the wastewater with shop-vacuum or absorbent materials.
  - Collect wastewater with shop-vacuum simultaneous with the washing operation.
  - Collect wastewater with vacuum truck or trailer simultaneous with the washing operation.
- b) This procedure must not used to clean the initial spills. First apply the Spill Containment and cleanup SOP.

### **2. Disposal Procedure:**

- a) Small volumes can usually be drained to the local sanitary sewer. Contact the Timp SEWER DISTRICT.
- b) Large volumes must be disposed at regulated facilities.

### **2. Pavement Cleaning Frequency:**

- a) There is no regular pavement washing regimen. Pavement washing is determined by conditions that warrant it, including but not limited to: prevention of slick or other hazardous conditions or restore acceptable appearance of pavements.

### **3. Training:**

- a) Annually and at hire

## **Snow and Ice Removal Management**

### **1. Application:**

- a) Parking and sidewalk winter management operations.

### **2. De-Icing Procedure:**

- a) Do not store or allow salt or equivalent to be stored on outside paved surfaces.
- b) Minimize salt use by varying salt amounts relative to hazard potential.
- c) Sweep excessive piles left by the spreader.
- d) Watch forecast and adjust salt amounts when warm ups are expected the same day.

### **3. Training:**

- a) Annually and at hire.
- b) Require snow and ice service contractors to follow the stronger this SOP and their company SOPs.

## General Construction Maintenance

**Rule: Prevent any solids, \*liquids or any light weight material from being carried away from the construction or maintenance envelop by wind or water.**

**\*liquids - including culinary water and irrigation water that are polluted with material that will damage the environment.**

### 1. Application:

- a) This SOP should provide sufficient direction for many of the general operations, e.g., building maintenance, curb/sidewalk/flatwork, overlay/patching, landscape renovations, misc. maintenance/repairs, etc.

### 2. Construction Procedure:

- a) Remove or contain all erodible or loose material prior forecast wind and precipitation events or before non-stormwater will pass through the project site. For light weight debris maintenance can require immediately attention for wind events and many times daily maintenance or as needed for precipitation or non-stormwater events.
- b) Project materials and waste can be contained or controlled by operational or structural best management practices.
  - Operational; including but not limited to:
    - Strategic staging of materials eliminating exposure, such as not staging on pavement
    - Avoiding multiple day staging of backfill and spoil
    - Haul off spoil as generated or daily
    - Schedule work during clear forecast
  - Structural; including but not limited to:
    - Inlet protection, e.g. wattles, filter fabric, drop inlet bags, boards, planks
    - Gutter dams, e.g. wattles, sandbags, dirt dams
    - Boundary containment, e.g. wattles, silt fence
    - Dust control, e.g. water hose,
    - Waste control, e.g. construction solid or liquid waste containment, dumpster, receptacles
- c) Inspection often to insure the structural best management practices are in good operating condition and at least prior to the workday end. Promptly repair damaged best management practices achieving effective containment.
- d) Cleanup:
  - Use dry cleanup methods, e.g. square nose shove and broom.
  - Wet methods are allowed if wastewater is prevented from entering the stormwater system, e.g. wet/dry vacuum, disposal to our landscaped areas.

e) Cleanup Standard:

- When a broom and a square nosed shovel cannot pick any appreciable amount of material.

**3. Waste Disposal:**

- a) Dispose of waste according to General Waste Management SOP, unless superseded by specific SOPs for the operation.
- b) Never discharge waste material to storm drains

**4. Equipment:**

- a) Tools sufficient for proper containment of pollutants and cleanup.
- b) Push broom and square blade shovel should be a minimum.

**5. Training:**

- b) Annually and at hire.



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## Spill Control

### 1. Rational:

- a) All properties are susceptible to spills whether it is a result of operations or by customers. Insufficient response, inadequate containment materials and improper spill cleanup methods will result in pollutants in our waterways. Once the pollutants reach our storm drain system, or even the detention pond, they are difficult and expensive to remove.

### 2. Containment Procedure:

- a) Priority is to dam and contain flowing spills.
- b) Use spill kits booms if available or use any material available; including but not limited to, nearby sand, dirt, landscaping materials, etc.
- c) Hazardous or unknown waste material spills
  1. Critical Emergency constitutes large quantities of flowing uncontained liquid that will affect areas with people or reach storm drain systems. Generally burst or tipped tanks. Call HAZMAT, DWQ, Utah County HEALTH DEPARTMENT, City.
  2. Minor Emergency constitutes a spill that has reached a storm drain but is no longer flowing. Utah County HEALTH DEPARTMENT, City
  3. Spills that are contained on the surface and do not meet the criteria for Critical and minor emergencies may be managed by the responsible implementation of this SOP.
  4. Contact Numbers:  
HAZMAT – 911-  
DWQ – 801-231-1769, 801-536-4123-  
Utah County Health Department – 801-851-7025  
Saratoga Springs City – PHONE NUMBER 801-766-6506

### 3. Cleanup Procedure:

- a) NEVER WASH SPILLS TO THE STORM DRAIN SYSTEMS.
- b) Clean per SDS requirements but generally most spills can be cleaned up according to the following:
  - Absorb liquid spills with spill kit absorbent material, sand or dirt until liquid is sufficiently converted to solid material.
  - Remove immediately using dry cleanup methods, e.g. broom and shovel, or vacuum operations.
  - Cleanup with water and detergents may also be necessary depending on the spilled material. However, the waste from this operation must be vacuumed or effectively picked up by dry methods. See Pavement Washing SOP.
  - Repeat process when residue material remains.

**4. DISPOSAL:**

- a) Follow SDS requirements but usually most spills can be disposed per the following b. & c.
- b) Generally most spills absorbed into solid forms can be disposed to the dumpster and receptacles. Follow Waste Management SOP.
- c) Generally Liquid waste from surface cleansing processes may be disposed to the sanitary sewer system after the following conditions have been met:
  - Dry cleanup methods have been used to remove the bulk of the spill and disposed per the Waste Management SOP.
  - The liquid waste amounts are small and diluted with water. This is intended for spill cleanup waste only and never for the disposal of unused or spent liquids.

**5. Documentation:**

- a) Document all spills in Appendix C.

**6. SDS sheets:**

- a) SDS Manual is filed in break room.

**7. Materials:**

- a) Generally sand or dirt will work for most clean up operations and for containment. However, it is the responsibility of the owner to select the absorbent materials and cleanup methods that are required by the SDS Manuals for chemicals used by the company.

**8. Training:**

- a) Annually and at hire.

## APPENDIX C – PLAN RECORDKEEPING DOCUMENTS

**MAINTENANCE/INSPECTION SCHEDULE**

Frequency	Site Infrastructure.
	Replace text with the infrastructure / system that must be maintained; repeat

Inspection Frequency Key: A=annual, Q=Quarterly, M=monthly, W=weekly,  
S=following appreciable storm event, U=Unique infrastructure specific (specify)

**RECORD INSPECTIONS IN THE MAINTENANCE LOG**

Inspection Means: Either; Traditional walk through, Awareness/Observation, and during regular maintenance operations while noting efficiencies/inefficiencies/concerns found, etc.

Long-Term Stormwater Management Plan  
Westfield Estates 10-19-2019

**MAINTENANCE LOG**

Date	Maintenance Performed/Spill Events.. Perform Maintenance per SOPs	Observation Notes, including but not limited to; Inspection results, Observations, System Performance (effectiveness/inefficiencies), SOP Usefulness, Concerns, Necessary Changes...	Initials

Annual Summary of LTSWMP effectiveness, inefficiencies, problems, necessary changes etc.

\*You may create your own form that provides this same information or request a word copy of this document.

### Annual SOP Training Log per Section 2

SOP	Trainer	Employee Name / Maintenance Contractor Co	Date

\*You may create your own form that provides this same information or request a word copy of this document.