

CM/GC CONSTRUCTION CONTRACT

S. PLATTE RIVER VISION GRANT-FRONTIER/OVERLAND PARK + VANDERBILT/JOHNSON-HABITAT PARKS

CONTRACT AND AGREEMENT

THIS AGREEMENT is made between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado, hereinafter referred to as the "**CITY**", party of the first part, and **ECI SITE CONSTRUCTION MANAGEMENT, INC.** with an address of 2526 14th St. S.E., Loveland, Colorado 80537, hereinafter referred to as the "**CONTRACTOR**", party of the second part.

RECITALS

1. The City desires to renovate and upgrade existing park and trail facilities and construct enhancements to the South Platte River in order to improve habitat and access to the river, upgrade the regional trail and enhance adjacent parks along the corridor collectively known as:

S. Platte River Vision –Grant-Frontier/Overland Park + Vanderbilt/Johnson-Habitat Parks
PROJECT NO PRC 2013-8001
CONTRACT CONTROL NO.
(the "PROJECT")

2. In furtherance of the Project, the City has contracted with **CDM Smith, Inc. and ICON Engineering Inc.** (the "Designers or Design Consultants or Consultant Teams") to perform professional architectural and engineering design services for the programming and design of the Project.

3. Pursuant to Section 20-56 of the Denver Revised Municipal Code, the City commenced on May 10, 2013, and advertised for at least three (3) consecutive days, the City's solicitation for qualification submissions from qualified contractors for the Project.

4. The City's solicitation sought a contractor to furnish all fast-track Construction Manager/General Contractor ("CM/GC") preconstruction and construction experience, expertise and services; and all construction administration, management, supervision, coordination and fast track project construction experience and expertise; and all construction services, work effort, labor, tools, supplies, manufactured components, equipment, materials, and everything else necessary and required to assist in the Project design and to complete the construction of the Project on an expedited basis and within budget; while satisfying the City's longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and

community needs and compliance with all applicable regulatory requirements in the performance of general public improvements.

5. Submissions received pursuant to said advertisement were evaluated and formal proposals were requested from selected firms best meeting the City's qualifications criteria for this Project.

6. Proposals received were evaluated and ranked by a selection committee and a recommendation was made to the Manager of Public Works who evaluated the Proposals and recommended that a contract or contracts for performance on the Project be made and entered into with the above named Contractor.

7. Based upon that ranking, the City and the Contractor entered into a Preconstruction Services Agreement, Contract No. 201312320, dated August 1, 2013, to perform preconstruction services.

8. The City has determined that it is necessary to divide the project into phases. The first phase is Phase I: Johnson-Habitat Parks and includes all Work and related services necessary to complete the construction of improvements as shown in the Phase I: Johnson-Habitat Parks 100% Design Drawings dated December 19, 2013 which are incorporated into this Agreement by reference (hereinafter "Phase I: Johnson-Habitat Parks" or "Phase I").

9. In accordance with the terms and conditions of the Preconstruction Services Agreement, the Contractor has reviewed the Project Site and design documents and has performed constructability, availability, scheduling and cost estimating analysis on design documents prepared for the Project. Based on this performance, the Contractor is thoroughly informed about the Project and the Project design and has negotiated a lump sum maximum price to construct Phase I of the Project.

10. The City anticipates constructing future phases and, if it is able to reach agreement with Contractor on terms, those phases will, at the City's sole option, be authorized by written amendment to this Agreement.

11. The Contractor and the City now desire to enter into a Construction Manager/General Contractor contract (the "Construction Contract") for a lump sum maximum price for all of the Work necessary to complete Phase I: Johnson-Habitat Parks.

12. The Contractor is willing, able and has the present capacity to perform the construction phase services, as an independent contractor, in accordance with this Construction Contract, said advertisement, the preconstruction agreement and the referenced selection documents.

NOW THEREFORE, in consideration of the compensation to be paid the Contractor, the mutual agreements hereinafter contained, and subject to the terms hereinafter stated, it is mutually agreed as follows:

1.0 PROJECT SUMMARY AND DEFINITIONS:

1.1 Project. The “Project” as used herein shall mean the:

S. Platte River Vision –Grant-Frontier/Overland Park + Vanderbilt/Johnson-Habitat Parks
PROJECT
PROJECT NO. PRC 2013-8001

1.1.1 The Project is located at the “Project Site” along the west side of the South Platte River from W. Alameda Ave to W Tennessee Ave, and along the east side of the South Platte River from W. Florida Ave to W. Iliff Ave. within Denver, Colorado.

1.1.2 The Project shall be comprised of the following:

1.1.2.1 Phase I: Johnson-Habitat Parks. “Phase I: Johnson-Habitat Parks” or “Phase I” as used herein means: All work necessary to construct the improvements as shown in the Phase I: Johnson-Habitat Parks 100% Design Drawings dated December 19, 2013 which are hereby incorporated by reference as if attached to this agreement.

1.1.2.2 Phase II: Future phases may be defined and in the City’s sole discretion incorporated by reference by written amendment.

1.1.3 Contractor Selection. In accordance with the requirements of Section 20-56 of the Denver Revised Municipal Code (the “DRMC”), the City implemented and completed a competitive selection process to identify qualified Contractors to perform both preconstruction and construction services for the Project. The Contractor was selected as the first ranked proposer to perform such services for the City as set forth in the City’s Request for Proposals (RFP) dated May 10, 2013; and the Contractor’s RFP proposal dated June 18, 2013. In referencing these solicitations and submissions herein, the City and the Contractor acknowledge that the scope of the Project, as presented and addressed by these documents, has materially evolved since the issuance of these documents and that some information presented will not be applicable to this Construction Contract or the Project.

1.1.4 Project Format. In the performance of this Construction Contract, the Contractor acknowledges and accepts that budget, scope and schedule are critical for Project delivery. Based on these considerations, the City has elected to utilize a Construction Manager/General Contractor (“CM/GC”) project delivery approach. To that end, the City has separately engaged two consultant teams to prepare the Project designs.

1.1.5 The Contractor is familiar with this approach and understands that the CM/GC method is a specialized and rigorous delivery approach requiring maximum cooperation between all parties. As a consequence of the delivery approach, the Contractor acknowledges and accepts the following: (1) that the complete services to be rendered by the Contractor have not yet been fully defined; and (2) that portions of the Project could have their design completed as separate phases.

1.1.6 In preparing and submitting its Proposal, the Contractor understands, confirms and agrees that its responsibility under this CM/GC approach is to construct the Project in accordance with

the Contract Documents. It is further understood and accepted that because the lump sum maximum contract amount was based, in part, on incomplete design documents, the Contractor shall exercise reasonable care and its best diligence, efforts and judgment to determine the intent of the most recent Project design documents has or will have carefully considered this intent, both express and inferable.

1.1.7 Contractor further acknowledges and agrees the lump sum maximum contract amount accounts for risks associated with failing to consider the design intent reasonably inferable from the Contract Documents. The Contractor has documented in its Lump Sum Proposal any and all clarifications regarding the design intent, including the intended level of quality of the Project. No increase or extension of the Contract Time will be allowed to account for any assumption, exclusion and clarification the Contractor failed to document or for any other item of Work covered by the Contract Documents that the Contractor failed to account for in its Lump Sum Proposal.

1.1.8 Allowances. The allowances set forth in the Lump Sum Proposal have been accepted by the Project Manager. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the City may direct, but the Contractor shall not be required to employ any persons or entities against which the Contractor may make reasonable objection. The Contractor may also supply allowances for those items the Contractor and the Project Manager mutually determine require an allowance. **Exhibit A** - Lump Sum Proposal sets forth all allowances applicable to the Work.

1.1.9 Materials and equipment under an allowance shall be selected by the City to avoid delay in the Work;

1.1.10 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the Project site and all required taxes, less applicable trade discounts;

1.1.11 Contractor's costs for unloading and handling at the Project site, labor, installation costs, and all other expenses including office overhead and profit are included in the allowances; and

1.1.12 Whenever costs are more than or less than the allowances, the Lump Sum may be adjusted accordingly by change order. The amount of the change order shall reflect the difference between actual costs and the allowances.

1.1.13 Design Consultant. The "Design Consultant" or "Designer" as used herein shall mean the legally approved professional architect/engineer, or group or association or professional corporation or joint venture of such approved professional architects, engineers and/or consultants, who have contracted with the City to accomplish the architectural, engineering and other design and related technical services necessary to complete the Project. The Project Design Consultants are: CDM Smith, Inc. and ICON Engineering, Inc.

In case of termination of the Design Consultant, the City will appoint a Design Consultant whose status under the Construction Contract shall be the same as that of the former Design Consultant.

1.1.14 User Agency. The “User Agency” as used herein shall mean the City agency currently responsible for the operation and maintenance of the Project. The User Agency is the City and County of Denver Department of Parks and Recreation.

1.1.15 Construction Team. The Contractor, the City, and the Design Consultant, called the “Construction Team,” shall work together to complete the Project. The Contractor shall provide leadership to the Construction Team on all matters relating to Construction.

2.0 CONTRACT DOCUMENTS:

It is agreed by the parties hereto that the following list of instruments, drawings and documents which are attached hereto, bound herewith or incorporated herein by reference constitute and shall be referred to as the “Contract Documents” and all of said instruments, drawings and documents taken together as a whole constitute the Contract and Agreement between the parties hereto, and they are as fully a part of this Contract and Agreement as if they were set out verbatim and in full herein. The Contract Documents represent the entire and complete integration of all understandings between the City and the Contractor and supersedes all prior negotiations, representations or agreements. No prior or contemporaneous addition, deletion or other amendment hereto shall have any force or effect whatsoever, unless embodied herein in writing. No subsequent novation, renewal, addition, deletion or other amendment hereto shall have any force or effect unless embodied in a written amendatory or other agreement or change order properly executed by the parties.

Lump Sum Proposal - attached as **Exhibit A.**

Notice to Proceed Form - attached as **Exhibit B.**

Preconstruction Services Agreement, dated September 12, 2013 - incorporated by reference as **Exhibit C.**

Certificate of Contract Release - attached as **Exhibit D.**

Accord Certificate of Insurance - attached as **Exhibit E.**

Minority/Women Owned Business Enterprise Program Compliance Plan - attached as **Exhibit F.**

Prevailing Wage Rate Schedule(s) - attached as **Exhibit G.**

General Contract Conditions - incorporated by reference; table of contents attached as **Exhibit H.**

Special Contract Conditions - attached as **Exhibit I.**

Advertisement of Notice of Invitation for Proposals, dated May 10, 2013 - incorporated by reference as **Exhibit J.**

Request for Proposals (RFP), dated May 10, 2013 - incorporated by reference as **Exhibit K.**

Contractor Response to RFP, dated June 18, 2013 - incorporated by reference as **Exhibit L**.

Construction Schedule - attached as **Exhibit M**.

Equal Employment Opportunity Provisions - attached as **Exhibit N**.

Performance and Payment Bond - attached as **Exhibit O**.

Final/Partial Lien Release Form - attached as **Exhibit P**.

Contractor's Certification of Payment Form - attached as **Exhibit Q**.

Technical Specifications - incorporated herein by reference as **Exhibit R**.

Contract Drawings - incorporated herein by reference as **Exhibit S**.

Vanderbilt/Johnson-Habitat Park Asbestos-Contaminated Soil Management Plan, dated November 21, 2013 by DEH – attached as **Exhibit T**.

Materials Management Plan – Vanderbilt/Johnson Habitat Park, dated October 3, 2013 by Pinyon Environmental, Inc.– attached as **Exhibit U**.

2.1 If anything in the Contract Documents is inconsistent with this Construction Contract, this Construction Contract will govern. The order of precedence of the Contract Documents shall be as follows:

2.1.1 this Construction Contract, as may be modified by amendment or change orders;

2.1.2 the Special Conditions

2.1.3 the General Conditions;

2.1.4 the Lump Sum Proposal,

2.1.5 the Technical Specifications;

2.1.6 the Contract Drawings; and

2.1.7 all other Exhibits, whether attached to this Construction Contract, incorporated by reference or later added by Change Order.

2.2 The intent of the Contract Documents is to include all terms, conditions, work items and services necessary or required for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be binding as if required by all. Work items or services not covered in the Contract Documents will be required unless they are not consistent with the Contract Documents and are not inferable from the Contract Documents as being necessary to produce the result intended by the Contract Documents. Anything mentioned in the Technical Specifications and not shown on the Contract Drawings, or shown on the Contract Drawings and not mentioned in the Technical

Specifications, shall be of like effect as if shown or mentioned in both. Words and abbreviations that have well known technical or trade meanings are used in the Contract Documents in accordance with such recognized meaning.

2.3 Where reference is made in this Construction Contract to a provision of the Special Conditions, General Conditions or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

2.4 It is contemplated by the parties that the construction documents and final technical specifications, will not be fully developed until after the execution of this Construction Contract and, as such, incorporated by reference and/or attached to and be made a part of the Contract Documents subsequent to execution of this Construction Contract. The incorporation of such exhibits or attachments into this Construction Contract shall be accomplished by written directive from the Manager of Public Works or the Manager's designee.

3.0 SCOPE OF WORK:

3.1 Completion Obligation. The Contractor shall execute the Project described in the Contract Documents, except to the extent specifically indicated in the Contract Documents as the responsibility of others. The Contractor agrees to commence and undertake the performance of the Work under this Construction Contract within ten (10) days of the date of issuance of a Notice to Proceed in substantially the form attached as **Exhibit B** and agrees to substantially complete said Work within the Contract Time and fully complete said Work in accordance with the Contract Documents. The Contractor may complete the Project earlier than the date for substantial completion established by the Contract Time, but any claim by the Contractor based on delay shall be based upon the date for substantial completion established by the Contract Time and not on an earlier projected completion date that the Contractor may propose.

3.2 Scope of Work. The entire Scope of Work shall include the following:

3.2.1 Preconstruction Phase Services. The Preconstruction Services are comprised of all those services, obligations and responsibilities set forth in the Preconstruction Services Agreement, incorporated by this reference as **Exhibit C**. In order to expedite Project completion, the Parties entered into the Preconstruction Agreement to perform Preconstruction Services, including making a Lump Sum Proposal, in anticipation of the start of the Construction Phase of the Project. In accordance with the terms of the Preconstruction Agreement, compensation for the performance of such services is based on a lump sum fee for services. For the duration of this Construction Contract, the Contractor shall continue to perform any further Preconstruction Services required by the Project as part of its obligations under this Construction Contract with no increase to the Lump Sum.

3.2.2 Construction Services. The Construction Phase Services shall include the furnishing of all construction administration, management, supervision and coordination experience and expertise, as well as all construction services, work effort, labor, tools, supplies, manufactured components, equipment, materials, and everything else necessary and required to complete the construction of the Project on time and within budget; while satisfying the City's longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and community needs and compliance with all applicable regulatory requirements in the performance

of general public improvements. Compensation for the Construction Phase Services shall be in accordance with the terms and conditions of this Construction Contract.

3.2.2.1 Lump Sum Scope of Work. The Contractor shall perform all Construction Phase Services necessary to complete Phase I: Johnson-Habitat Parks and any additional phases authorized by written amendment to this Agreement.

3.2.3 The Work. The terms “Scope of Work” or “Work” as used herein shall mean all Construction Services required by or reasonably inferable from the Contract Documents and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations.

3.2.4 Acknowledgement of Scope of Work. The Contractor expressly recognizes and acknowledges that this Project must be completed within the time and fiscal constraints as set forth throughout this Construction Contract.

3.2.5 The Contractor further represents to the City that by executing this Construction Contract, it has been fully informed of and has thoroughly reviewed the following: the objectives of the Project; the work effort of the Design Consultant performed to date for the Project; all of the Contract Documents attached to this Construction Contract or incorporated by reference; the City’s general time and budget constraints; and all of the Work required by the Contractor by the Contract Documents. Based upon this thorough review and analysis and recognizing that the contract for design services is between the City and the Designer, the Contractor nonetheless represents to the City that it will provide or perform all of the necessary Work within the requirements of the Contract Documents.

3.2.6 Also by execution of this Construction Contract, the Contractor covenants and represents that the Contractor has visited the Project Site and has had sufficient time and opportunity to independently examine and is sufficiently familiar with: the Project Site, the character and nature of the Project Site layout and materials, the character and nature of all Project Site constraints, restrictions and limitations, and limitations on ingress, egress and construction staging and performance; and the local conditions under which the Work is to be performed, including weather conditions and any other factors which may impact the Work. The Contractor further represents that it has taken into consideration and correlated these direct observations, examinations and investigations with the requirements of the Contract Documents and in the pricing of the Work, the formulation of the Lump Sum and in preparing all Exhibits. Unless otherwise expressly stated herein, the Contractor shall be responsible for performing the Vanderbilt/Johnson-Habitat Park Asbestos-Contaminated Soil Management Plan, dated November 21, 2013 and the Vanderbilt/Johnson-Habitat Park Asbestos-Contaminated Soil Management Plan, dated November 21, 2013, attached as **Exhibits T and U**, respectively, and shall bear all associated costs.

3.2.7 Also by execution of this Construction Contract, the Contractor represents that it has reviewed and is familiar with the City’s general expectations and scheduling assumptions regarding completion of the Project and opening of the completed project and the requirements, constraints, and limitations occasioned by the City’s; and that, given the Scope of Work, these scheduling assumptions and relocation arrangements are generally reasonable and achievable.

The Contractor further represents that it has taken into consideration and correlated these assumptions and constraints with the requirements of the Contract Documents and in the Lump Sum.

3.2.8 Finally, the Contractor represents that it has reviewed the Design Consultant Agreements and the 100% Design Drawings, accepts the terms and requirements thereof and affirmatively states that the Project, as expressed by the design documents and the Project requirements and constraints is a reasonable and constructable Project, incorporating a reasonable and workable delivery approach, schedule and budget.

4.0 RELATIONSHIP OF THE PARTIES:

4.1 The parties intend herein to establish a relationship wherein the City relies upon the integrity and fidelity of the Contractor to complete the Project within the time and lump sum set forth in this Construction Contract and in a manner which satisfies the City's longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and community needs and compliance with all applicable regulatory requirements in the performance of general public improvements.

4.2 The Contractor accepts the relationship of trust and confidence established by this Construction Contract with the City. The Contractor further agrees to utilize the Contractor's best skills, efforts, and judgment in furthering the interests of the City regarding the Project; to furnish at all times an adequate supply of qualified and competent workers and quality materials; and to perform the work in the best, most expeditious, and economical manner. Further, the Contractor agrees to furnish efficient business administration, construction management and superintendence and to use its best efforts to complete the Work in an expeditious and economical manner, consistent with the interests of the City.

4.3 The City has a separate agreement with the Design Consultants to design the Project and to provide construction design support services necessary to ensure that the Work conforms to the Contract Drawings and Technical Specifications. Both the Contractor and the Design Consultants shall be given direction by the City, or the City's designated and authorized representative(s). The Contract Documents shall not be deemed to create any contractual relationship between the Design Consultant and the Contractor or any separate contractors, subcontractors of any tier or suppliers on the Project. The relationship between the Contractor and the Design Consultant is intended to be cooperative and proactive, with both participating on the same team with the City.

4.4 The Contractor shall accept the designated an authorized representatives of the City identified in the Contract Documents and perform its obligations toward and in response to such representatives in the same manner it would toward and in response to the City, pursuant to such designation and authorization.

4.5 City Delegation Of Authority. With reference to G.C. 214, CITY'S CONTRACT ADMINISTRATION LINE OF AUTHORITY, the Manager delegates to the City Engineer the authority necessary to undertake the responsibilities identified as the responsibilities of the Deputy Manager under this Construction Contract. The City Engineer hereby designates as

Project Manager with authority to handle the day to day administration of this Construction Contract, the following personnel:

Department of Public Works
Michael Harmer, *Project Manager*

Telephone
720-913-4526

5.0 COORDINATION AND COOPERATION:

5.1 The Contractor agrees to cooperate and coordinate fully with the City in its performance of the Work to meet or exceed the City's time and budgetary objectives and limitations, while maintaining the City's longstanding commitment to quality, efficiency, value, innovation, partnering, responsiveness to agency and community needs and compliance with all applicable regulatory requirements in the construction of general public improvements.

5.2 The Contractor shall, as a continuing work item under this Construction Contract, facilitate coordination, communication and cooperation regarding its performance hereunder between the City's Department of Public Works ("Public Works"), Mike Bouchard (Parks and Recreation River Vision Coordinator), the Project Manager, the Design Consultants, the User Agency, other City consultants and any affiliated entities. In addition, the Contractor shall coordinate its efforts under this Construction Contract with all involved governmental and regulatory entities.

5.3 The Contractor shall be responsible for taking accurate and comprehensive minutes at all Construction meetings attended by the Contractor regarding the Project. Those minutes shall be prepared in a format approved by the Project Manager and issued to all attendees, as well as those other parties designated by the City, no later than three working days after the meeting. Unless approved in advance in writing by the Project Manager and to the greatest extent practicable, Project meetings with the City shall be conducted in the City and County of Denver, Colorado, either on the project site or at the Wellington Webb Building as directed by the Project Manager.

5.4 Nothing contained in the Contract Documents shall be deemed to give any third party any claim or right of action against the City, the Design Consultant or the Contractor that does not otherwise exist without regard to the Contract Documents.

5.5 The Contractor shall use its best efforts and take all necessary precautions to protect and prevent damage and/or disruption to all City facilities and equipment, and shall coordinate all ingress and egress requirements with appropriate persons and agencies.

6.0 CONTRACT TIME, SUBSTANTIAL COMPLETION AND LIQUIDATED DAMAGES:

6.1 Substantial Completion. The term "Substantial Completion" is defined in the General Conditions. The number of days the Contractor shall have to attain Substantial Completion of the Scope of the Work set forth in the Contract Documents is set forth in this Section.

6.2 Construction Time. The term “Construction Time” is defined as the total number of days between the date of the Notice to Proceed with Construction and the date on which Substantial Completion of all Work must be completed by the Contractor. The Construction Time shall be: **374 Calendar Days.**

6.3 Final Completion. Final Completion of the Work occurs following Substantial Completion when all punch list items are completed, Final approved As Built Drawings are submitted, the Consent of Surety is submitted and the Contractor has provided the City with a Certificate of Contract Release (which may be contingent upon receipt of Final Payment) (in the form of **Exhibit D**). The term “Final Completion” is defined in the General Conditions.

6.4 Liquidated Damages. The parties recognize and agree that time is of the essence of this Contract. In the event that the Work is not Substantially Complete within the Construction Time, as that time may be extended for delays for which an extension of time is permitted under the terms of the Contract Documents, the City and the Contractor acknowledge and agree, after a full discussion of the implications of this section, that it would be impractical and extremely difficult to estimate the damages (including, by way of example but without limitation, direct and indirect, incidental, special and consequential damages) which the City might incur for failure of the Contractor to timely achieve Substantial Completion within either the Construction Time. Therefore, the City and the Contractor have determined that a reasonable estimate of the total detriment that the City would suffer in the event that the Contractor so defaults and the Project is not Substantially Complete within the Construction Time, as extended as permitted herein, is and shall be, in the event of said default and failure, as the sole and exclusive remedy (whether at law or in equity) of the City for this delay, and not as a penalty, the amount per day stated below that the Work shall remain not Substantially Complete after the Construction Time, as applicable, including extensions, has elapsed. It is understood and agreed that the City reserves all of its other rights and remedies for any other or different breach or default of this Construction Contract by Contractor, or for any other cause of action.

Liquidated Damages Table

Amount per Day	Substantial Completion: June 19, 2015	\$5000.00
Amount per Day	Final Completion	\$1000.00

The parties agree that the foregoing amounts shall be the full amount of liquidated damages recoverable against the Contractor by the City for the Contractor’s breach of its covenants of timely performance hereunder. The amount so determined shall be the full, agreed upon and liquidated damages recoverable against the Contractor by the City for the Contractor’s breach of its covenants of timely performance hereunder. The provisions of this Section shall not limit the rights and remedies of the City pursuant to the General Conditions.

7.0 COMPENSATION – MAXIMUM CONTRACT AMOUNT.

7.1 In accordance with the terms of this Contract, the amount to be paid by the City to the Contractor under this Contract shall be the Lump Sum Fixed Contract Price / Maximum Contract Amount set forth in **Exhibit A**. The Contractor guarantees and warrants that the Project will be completed by its performance hereunder for the Lump Sum Fixed Contract Amount. In no event

will the City's liability exceed the Lump Sum Fixed Contract Amount, as adjusted by duly authorized change order in accordance with this Contract. The parties specifically agree that any performance by the Contractor hereunder shall not subject the City to any cost, charge or fee not specified above.

8.0 DISPUTE RESOLUTION:

It is the express intention of the parties to this Construction Contract that all disputes of any nature whatsoever regarding the Construction Contract including, but not limited to, any claims for compensation or damages arising out of breach or default under this Construction Contract, shall be resolved by administrative hearing pursuant to the provisions of Section 56-106, DRMC. The Contractor expressly agrees that this dispute resolution process is the sole and only dispute resolution mechanism that will be recognized and employed by the parties for any claims put forward by the Contractor, notwithstanding any other claimed theory of entitlement on the part of the Contractor or its Subcontractors or Suppliers.

9.0 ADDITIONAL PROVISIONS:

9.1 No Discrimination in Employment. In connection with the performance of the Work under this Construction Contract, the Contractor agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability; and the Contractor further agrees to insert the foregoing provision in all subcontracts hereunder. Further, the Contractor agrees to comply with the provisions of Section 28-45 to 28-47, DRMC, and all Rules and Regulations promulgated and adopted by the Manager of Public Works pursuant thereto relating to non-discrimination in employment by contractors, subcontractors and suppliers receiving compensation for work performed on the Project.

9.2 Insurance. General Condition 1601 is hereby deleted in its entirety and replaced with the following:

9.2.1 General Conditions: Contractor agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Contractor shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for eight (8) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company as "A-"VIII or better. Each policy shall contain a valid provision or endorsement requiring notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section by certified mail,

return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City's contract number. If any policy is in excess of a deductible or self-insured retention, the City must be notified by the Contractor. Contractor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Contractor. The Contractor shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

9.2.2 Proof of Insurance: Contractor shall provide a copy of this Agreement to its insurance agent or broker. Contractor may not commence services or work relating to the Agreement prior to placement of coverages required under this Agreement. Contractor certifies that the certificate of insurance attached as **Exhibit E**, preferably an ACORD certificate, complies with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements.

9.2.3 Additional Insureds: For Commercial General Liability, Auto Liability and Contractors Pollution Liability, Contractor and subcontractor's insurer(s) shall name the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

9.2.4 Waiver of Subrogation: For all coverages required under this Agreement, Contractor's insurer shall waive subrogation rights against the City.

9.2.5 Subcontractors and Subconsultants: All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Contractor. Contractor shall include all such subcontractors as additional insured under its policies (with the exception of Workers' Compensation) or shall ensure that all such subcontractors and subconsultants maintain the required coverages. Contractor agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.

9.2.6 Workers' Compensation/Employer's Liability Insurance: Contractor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Contractor expressly represents to the City, as a material representation upon which the City is relying in entering into this Agreement, that none of the Contractor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term

of this Agreement, and that any such rejections previously effected, have been revoked as of the date Contractor executes this Agreement.

9.2.7 Commercial General Liability: Contractor shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.

9.2.8 Business Automobile Liability: Contractor shall maintain Business Automobile Liability, or its equivalent, with minimum limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement. If transporting wastes, hazardous material, or regulated substances, Contractor shall carry a pollution coverage endorsement and an MCS 90 endorsement on their policy. Transportation coverage under the Contractors Pollution Liability policy shall be an acceptable replacement for a pollution endorsement to the Business Automobile Liability policy.

9.2.9 Excess/Umbrella Liability: Contractor shall maintain excess liability limits of \$3,000,000. Coverage must be written on a “follow form” basis. Any combination of primary and excess coverage may be used to achieve required limits.

9.2.10. Builders Risk or Installation Floater: Contractor shall maintain builders’ risk or installation floater coverage with limits equal to the completed project value.. Coverage shall be written on an all risk, replacement cost basis including coverage for soft costs, flood (minimum flood coverage of \$2,000,000) and earth movement, if in a flood or quake zone, and, if applicable, equipment breakdown including testing. Contractor is responsible for payment of all policy deductibles. The City and County of Denver, Greenway Foundation, Contractor, and sub-contractors shall be named insureds under the policy. Policy shall remain in force until acceptance of the project by the City.

9.2.11 Contractors Pollution Liability: Contractor shall maintain limits of \$1,000,000 per occurrence and \$2,000,000 policy aggregate. Policy to include bodily injury; property damage including loss of use of damaged property; defense costs including costs and expenses incurred in the investigation, defense or settlement of claims; and clean up costs. Policy shall include a severability of interest or separation of insured provision (no insured vs. insured exclusion) and a provision that coverage is primary and non-contributory with any other coverage or self-insurance maintained by the City.

9.2.12 Additional Provisions:

- (a) For Commercial General Liability, Excess Liability and Contractors Pollution Liability the policies must provide the following:
 - (i) That this Agreement is an Insured Contract under the policy;
 - (ii) Defense costs are outside the limits of liability except for pollution coverage where defense costs are included within the limit of liability;
 - (iii) A severability of interests or separation of insureds provision (no insured vs. insured exclusion); and

- (iv) A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by the City.
- (v) No exclusion for lead-based paint or asbestos, if applicable based on the scope of work; and
- (b) For claims-made coverage:
 - (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier.
 - (c) Contractor shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

9.3 Compliance with Minority/Women Owned Business Enterprise Requirements. This Construction Contract is subject to all applicable provisions of Divisions 1 and 3 of Article III, of Chapter 28, Denver Revised Municipal Code (D.R.M.C.), designated as Sections 28-31 – 29-36 and 28-52 – 28-90 D.R.M.C. and referred to in this Contract as the “M/WBE Ordinance”. In accordance with the requirements of the M/WBE Ordinance, the Contractor is committed to, at a minimum, meet the participation goal of **eighteen percent (18%)** established for this Project utilizing properly certified M/WBE subcontractors and suppliers. In addition to the applicable provisions of the M/WBE Ordinance, the Contractor agrees, as an express condition of its performance hereunder, to comply with the requirements of any approved Small Business Enterprise Compliance Plan (attached and incorporated herein as **Exhibit F**). Such plan shall, at a minimum, include a narrative regarding compliance with the goal; a list of committed M/WBE participants along with dollar and percent participation for each evidencing compliance with the overall goal, and fully executed letters of intent for each listed participant, all in a form satisfactory to the City. Without limiting the general applicability of the foregoing, the Contractor acknowledges its continuing duty, pursuant to Sections 28-72, 28-73 and 28-75 DRMC and the M/WBE Program, to meet and maintain throughout the duration of this Construction Contract its participation and compliance commitments and to ensure that all Subcontractors subject to the M/WBE Ordinance or the M/WBE Program also maintain such commitments and compliance. Failure to comply with these requirements may result, at the discretion of the Director of the Division of Small Business Opportunity (“DSBO”), in the imposition of sanctions against the Contractor in accordance with Section 28-77, DRMC. Nothing contained in this Paragraph or in the referenced City ordinance shall negate the City’s right to prior approval of Subcontractors, or substitutes therefore, under this Construction Contract.

9.4 Compliance with Wage Rate Requirements. In performance of all Work hereunder, the Contractor agrees to comply with and be bound by all requirements and conditions of the City's Payment of Prevailing Wages Ordinance, Sections 20-76 through 20-79, DRMC, including but not limited to all Construction Contract anniversary date wage rate adjustments, and any determinations made by the City pursuant thereto. In accordance with Section 20-76(b), DRMC, the prevailing wage rate schedule applicable to this Construction Contract shall be the most current schedule available at the time the Contractor executes this Construction Contract and such schedule is attached hereto and incorporated herein as **Exhibit G**. For purposes of

establishing a date for prevailing wage rate anniversary adjustments the contract date should be the date of the attached wage rate schedule (attached as **Exhibit G**).

9.5 Applicability of Laws. This Contract and Agreement between the Contractor and the City shall be deemed to have been made in the City and County of Denver, State of Colorado and shall be subject to, governed by and interpreted and construed in accordance with the laws of the State of Colorado and the Charter, the Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City. As such, the Contractor shall at all times comply with the provisions of the Charter, Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City, and those of the State of Colorado and Federal Laws and Rules and Regulations, which in any manner limit, control or apply to the actions or operations of the Contractor, any Subcontractors, employees, agents or servants of the Contractor engaged in the Work or affecting the materials and equipment used in the performance of the Work, as the same may be, from time to time, promulgated, revised or amended. The Charter and Revised Municipal Code of the City, as the same may be amended from time to time, are hereby expressly incorporated into this Construction Contract as if fully set out herein by this reference.

9.6 Appropriation. Notwithstanding any other term, provision, or condition herein, all payment obligations under this Construction Contract shall be limited to the funds appropriated or otherwise made available by the Denver City Council and paid into the Treasury of the City. As of the date of this Construction Contract, **FIVE MILLION ONE HUNDRED FIFTY SIX THOUSAND EIGHTY DOLLARS and SIXTY NINE Cents (\$5,156,080.69)** have been appropriated for this Construction Contract. The Manager of Public Works, upon reasonable written request, will advise the Contractor in writing of the total amount of appropriated and encumbered funds that are or remain available for payment to the Contractor.

9.7 The issuance of any form of order or directive by the City which would cause the aggregate amount payable to the Contractor to exceed the amount appropriated for the Work to be performed in accordance with the Contract Documents is expressly prohibited. In no event shall the issuance of any change order or other form of order or directive by the City be considered valid or binding if it requires additional compensable Work to be performed, which Work will cause the aggregate amount payable for such Work to exceed the amount appropriated and encumbered for the Work, unless and until such time as the Contractor has been advised in writing by the Manager of Public Works that a lawful appropriation sufficient to cover the entire cost of such additional Work has been made. It shall be the responsibility of the Contractor to verify that the amounts already appropriated for the Work are sufficient to cover the entire cost of such Work, and any Work undertaken or performed in excess of the amount appropriated is undertaken or performed in violation of the terms of this Agreement, without the proper authorization for such Work, and at the Contractor's own risk and sole expense.

9.8 Approvals. In the event this contract calls for the payment by the City of five hundred thousand dollars (\$500,000.00) or more, approval by the City Council of the City and County of Denver, acting by ordinance, in accordance with Section 3.2.6 of the Charter of the City and County of Denver, is and shall be an express condition precedent to the lawful and binding execution and effect and performance of this contract.

9.9 Assignment Strictly Prohibited. The Contractor shall not assign or otherwise transfer, in whole or in part, any of its rights, benefits, claims, obligations, duties or entitlement to monies owed or which may become due under this Construction Contract, except upon the prior written consent and approval of the Manager to such assignment.

9.10 Conflict of Interest. The parties agree that no official, officer or employee of the City shall have any personal or beneficial interest whatsoever in the services or property described herein and the City further agrees not to hire or contract for services with any official, officer or employee of the City or any other person which would be in violation of the Denver Revised Municipal Code Chapter 2, Article IV, Code of Ethics, or Denver City Charter provisions 1.2.9 and 1.2.12.

9.11 Deposits, Taxes, Charges and Penalties. Except as provided in the City's Prompt Payment ordinance, codified at DRMC Sections 20-107, 20-108 and 20-109, the City shall not be liable for the payment of any deposits, taxes, late charges, interest or penalties of any nature arising out of this Construction Contract.

9.12 Waiver of C.R.S. 13-20-802 et. seq. The Contractor specifically waives all the provisions of Part 8 of Article 20 of Title 13, Colorado Revised Statutes regarding defects in the Work under this Construction Contract.

9.13 Proprietary or Confidential Information.

9.13.1 City Information: The Contractor understands and agrees that, in performance of this Construction Contract, the Contractor may have access to private or confidential information that may be owned or controlled by the City and that such information may contain proprietary or confidential details, the disclosure of which to third parties may be damaging to the City. The Contractor agrees that all information disclosed by the City to the Contractor shall be held in confidence and used only in performance of the Construction Contract. The Contractor shall exercise the same standard of care to protect such information as a reasonably prudent Contractor would to protect its own proprietary data.

9.13.2 Contractor Information: The parties understand that all the material provided or produced under this Construction Contract may be subject to the Colorado Open Records Act, C.R.S. 24-72-201, et seq., and that in the event of a request to the City for disclosure of such information, the City shall advise the Contractor of such request in order to give the Contractor the opportunity to object to the disclosure of any of its proprietary or confidential material. In the event of the filing of a lawsuit to compel such disclosure, the City will tender all such material to the court for judicial determination of the issue of disclosure and the Contractor agrees to intervene in such lawsuit to protect and assert its claims of privilege against disclosure of such material. The Contractor further agrees to defend, indemnify and save and hold harmless the City, its officers, agents and employees, from any claim, damages, expense, loss or costs arising out of the Contractor's intervention to protect and assert its claims of privilege against disclosure under this Section including, but not limited to, prompt reimbursement to the City of all reasonable attorney fees, costs and damages that the City may incur directly or may be ordered to pay by such court.

9.14 Status of Contractor. It is understood and agreed that the status of the Contractor shall be that of an independent contractor retained on a contractual basis to perform work or services for limited periods of time, and it is not intended, nor shall it be construed, that the Contractor, or any member of its staff or any consultant, is an employee or officer of the City for any purpose whatsoever.

9.15 Rights and Remedies Not Waived. No payment or failure to act under the Construction Contract by the City shall constitute a waiver of any breach of covenant or default which may then exist on the part of the Contractor. No assent, expressed or implied, by either party to any breach of the Construction Contract shall be held to be a waiver of any default or other breach.

9.16 Notices. Any notices, demands, or other communications required or permitted to be given by any provision of this Construction Contract shall be given in writing, delivered personally or sent by registered mail, postage prepaid and return receipt requested, addressed to the parties at the addresses set forth herein or at such other address as either party may hereafter or from time to time designate by written notice to the other party given in accordance herewith. Notice shall be considered received on the day on which such notice is actually received by the party to whom it is addressed, or the third (3rd) day after such notice is mailed, whichever is earlier. Unless changed in writing, such notices shall be mailed to:

If to the Contractor:

ECI Site Construction Management, Inc.
2526 14th St. S.E.
Loveland, Colorado 80537

If to the City:

Manager of Public Work
Department of Public Works
City and County of Denver
201 West Colfax, Department 608
Denver, Colorado 80202

With a copy to:

City Attorney
City and County of Denver
201 West Colfax, Department 1207
Denver, Colorado 80202

9.17 Survival of Certain Provisions. The parties understand and agree that all terms, conditions and covenants of this Construction Contract, together with the exhibits and attachments hereto, if any, any or all of which, by reasonable implication, contemplate continued performance or compliance beyond the expiration or termination of this Construction Contract (by expiration of the term or otherwise), shall survive such expiration or termination and shall continue to be enforceable as provided herein. Without limiting the generality of the foregoing, the Contractor's obligations for the provision of insurance, for indemnity to the City and for preserving confidentiality of trade secrets and other information shall survive for a period equal

to any and all relevant statutes of limitation, plus the time necessary to fully resolve any claims, matters, or actions begun within that period.

9.18 Contract Binding. It is agreed that this Construction Contract shall be binding on and inure to the benefit of the parties hereto, their heirs, executors, administrators, successors and duly authorized assigns.

9.19 Paragraph Headings. The captions and headings set forth herein are for convenience of reference only and shall not be construed so as to define or limit the terms and provisions hereof.

9.20 Severability. It is understood and agreed by the parties hereto that, if any part, term, or provision of this Construction Contract, except for the provisions of this Construction Contract requiring prior appropriation and limiting the total amount to be paid by the City, is by the courts held to be illegal or in conflict with any law of the State of Colorado, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Construction Contract did not contain the particular part, term or provision held to be invalid.

9.21 Counterparts. This Construction Contract will be executed in two (2) counterparts, each of which shall be deemed to be an original, and all of which taken together, shall constitute one and the same instrument.

Contract Control Number:

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at Denver, Colorado as of

SEAL

CITY AND COUNTY OF DENVER

ATTEST:

By _____

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

By _____

By _____

By _____



Contract Control Number: PWADM-201414633-00

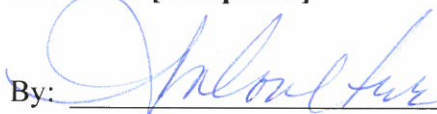
Contractor Name: ECI SITE CONSTRUCTION MGMT INC

By:  _____

Name: THEODORE JOHNSON
(please print)

Title: VICE PRESIDENT
(please print)

ATTEST: [if required]

By:  _____

Name: Sandra M Coulter
(please print)

Title: Secretary/Treasurer
(please print)



Exhibit A
Lump Sum Proposal



City and County of Denver - South Platte River Vision Project

**Vanderbilt/Johnson Habitat Park
Lump Sum Proposal
January 10, 2014**

GENERAL PACKAGE - HARDSCAPES/ LANDSCAPE/ IRRIGATION/ SITE AMENITIES

No.	Bid Item	Item	Lump Sum Price	Remarks
1	014516-01	Materials Testing	\$ 86,916.22	
2	017123-01	Construction Surveying	\$ 72,309.88	
3	015526-01	Traffic Control	\$ 5,412.53	
4	015526-02	Trail Detour	\$ 23,575.74	
5	015719-01	Temporary Fencing + Barricades	\$ 29,155.29	Includes Windscreen
6		Site Security/Fencing	\$ 8,277.74	ALLOWANCE
7	312500-00	Concrete Washout Area	\$ 4,648.78	
8	312500-01	Silt Fence	\$ 17,281.81	Includes Maintenance
9		Hand Dug Silt Fence along Bank - If Required BY ESA	\$ 7,151.96	ALLOWANCE
10	312500-02	Storm Inlet Protection	\$ 411.24	
11	312500-03	Vehicle Tracking Control	\$ 14,601.26	Includes Maintenance
12	312500-05	Sediment Control Log	\$ 31,552.57	Includes Maintenance
13	312500-06	Erosion Control Blanket	\$ 14,351.61	
14	312500-07	Curb Socks	\$ 1,287.35	
15	312500-08	Stabilized Staging Area	\$ 5,619.88	
16	312500-09	Surface Roughening	\$ 9,650.74	
17		Stormwater/ Environmental Compliance - Janel Servis (Aqua Terra)	\$ 8,277.74	Permit Procurement/ SWMP Compliance Review
18	024100-01	Remove Asphalt Paving Includes Saw Cutting (Millings)	\$ 3,940.51	
19	024100-02	Remove Concrete - Existing Trail	\$ 31,806.50	
20	015639-01	Tree Protection and Fencing	\$ 2,551.84	
21	321540-01	6" Crusher Fines Paving	\$ 46,978.11	Not stabilized, no geotextile fabric
22	321540-03	Stabilized Crusher Fines Paving (4" depth no agg base or fabric)	\$ 43,438.36	4" full depth stabilized no agg base, no fabric
23	321216-02	HMA (Grading S) (75) (PG 64-22) (6" Thick Full Depth)	\$ 13,325.54	
24	321600-01	Concrete Paving: 6" Gray, Standard Finish	\$ 7,088.08	Includes slabs under shelters + enclosures
25	321600-02	Concrete Paving: 11" Gray, Standard Finish, Bus Pullout	\$ 18,270.49	
26	321600-03	Concrete Paving: 6" Integral Color, Standard Finish (SPR Trail)	\$ 242,156.27	
27	321600-04	Concrete Paving: 6" Integral Color, Standard Finish	\$ 61,239.89	Rev quantity for concrete under fire pit - added to concrete jetty below
28	321600-05	Concrete Paving: 6" Integral Color, Virginia + Exposition Ave. Plazas	\$ 13,331.48	
29	321600-06	Decorative Concrete With Color Hardener and Textured Mats	\$ 72,294.28	Decorative Concrete with Color Hardner - Boardwalk Bridge, River Cobble Paving, Compass Rose, Flower Concrete, Overlook Paving (No River Paving)
30	321600-07	Interpretive Detail: Animal Tracks	\$ 6,198.37	Sandblasted + Stained not stamped, based on 3 different animals
31	321600-08	Concrete Paving: 6" integral Color, 'Rumble Strip' Finish (SPR Trail)	\$ 12,944.83	
32	321600-09	6" Concrete Vertical Curb w/ 1' Gutter	\$ 3,207.94	
33	321600-10	6" Concrete Vertical Curb w/ 2' Gutter	\$ 4,171.52	
34	321600-11	8" Concrete Cross Pan	\$ 1,728.36	
35	321600-12	6" Concrete Edger	\$ 29,466.49	
36	321600-13	Concrete Playground Edger	\$ 17,432.93	Revised to 6"x18" Curb with 2 #4 Rebar
37	321600-14	Concrete Curb Ramp Type 2	\$ 4,630.90	
38	321600-15	Concrete Curb Ramp Type 4	\$ 1,633.03	
39	033100-01	Concrete Retaining Wall - Per Plan Pages TA-3/ TA-5	\$ 66,466.40	
40	033100-02	Concrete Seat Wall	\$ 31,498.08	
41		Winter Protection for Concrete	\$ 33,110.94	ALLOWANCE
42	321723-01	Traffic Markings (Pedestrian Crosswalk)	\$ 1,671.18	
43	321723-02	Traffic Markings (JHP Parking Lot)	\$ 1,847.59	
44	334600-01	Sub drainage	\$ 16,363.69	
45		Chase Drains	\$ 8,194.96	
46	328000-01	Irrigation System - Includes Mainline Excavation	\$ 340,741.80	Includes Ex/Hauloff for mainline by Env Contractor, Lateral over-ex not incl
47	323100-01	Split Rail Fence	\$ 4,484.85	
48	033100-03	Concrete Seat Wall w/ Stone Cap	\$ 134,721.42	Priced as gray Sandstone Retaining wall, no masonry, incl over-ex + stone cap
49	313700-01	Stone Bench (Buff Sandstone - 30" Tall x 24" Wide x +/- 3' Long)	\$ 30,740.37	
50	313700-02	4' Wide Stone Steps Sheet A-L-51 (Buff Sandstone)	\$ 5,341.04	For steps shown only on A-L-51
51		ADA Accessible Seating Area- Sandblasted	\$ 250.32	
52	321816-01	Fibar Play Surface	\$ 11,253.36	Includes 2 Concrete Ramps
53	321816-02	Sand Play Surface	\$ 2,318.87	
54	321816-03	Accessible Safety Surface- PIP	\$ 18,370.26	

55	116818-01	Benches in Park Areas	\$	7,814.41	
56	116818-02	Trash Receptacles/ Recycles Receptacles	\$	10,000.19	
57	329113-01	Soil Preparation (Sod)	\$	8,166.97	
58	329113-02	Soil Preparation (native seed)	\$	33,581.26	
59	329300-01	Wood Mulch- Shrub Bed	\$	8,660.67	
60	329113-03	Herbicide- Woody Plants	\$	2,944.22	
61	329223-01	Sodding	\$	24,500.91	
62	329218-01	Native Seed- Upland (includes hydromulch)	\$	28,784.51	Maintenance included in #86
63	329300-01	Wetland Plants (4" Posts)	\$	10,504.45	
64	329644-01	Wetland Coir Log	\$	12,515.94	
65	329300-02	Shrubs- 5 Gallon	\$	12,182.18	
66	329645-01	Shrubs- Window Bundles	\$	4,112.38	
67	329300-03	Evergreen Trees- 8-10' B&B	\$	19,667.90	
68	329300-04	Deciduous Trees- 3" Caliper B&B (Shade)	\$	32,720.23	
69	329300-05	Deciduous Trees- 2" Caliper B&B (Ornamental)	\$	23,214.08	
70	329645-02	Deciduous Trees- Cottonwood Stakes	\$	2,264.79	
71	033101-02	Gunite Boulders	\$	227,374.37	
72	062213-01	Trex Decking w/ Bench	\$	16,555.47	
73	116817-01	Interpretive Elements (24"x36" approximate)	\$	21,726.30	
74	116817-02	Interpretive Elements: Cottonwood Star Story (36"x60")	\$	11,919.94	
75	116817-03	Interpretive Element: Bronze Plaques (8"x10")	\$	8,600.57	
76		Denver park Identification Sign	\$	6,956.48	
77		Regulatory Signage	\$	298.00	
78	133400-01	Shade Structure Type 1: (prefab shade structure)	\$	82,403.53	
79	133400-04	Shade Structure Type 4: (Small Cottonwood)	\$	69,643.72	Approved V/E items: Leaf material to 1/4" - resize leaves for waste, reduce size + thickness of posts, beams, rafters;
80	133400-06	Prefabricated Double Toilet Enclosure	\$	40,198.18	
81	103000-01	Fire Pit: (natural stone fire pit)	\$	11,919.94	
82	116816-02	Fox Hollow Structure: (GFRC) Tree Stump Feature	\$	32,042.56	Provided Colorado Hardscapes
83	116816-03	GFRC Log Steppers	\$	10,532.02	
84	116816-04	GFRC Fallen Log - Gametime	\$	13,641.18	
85		Salvaged Logs With Stairs	\$	6,091.46	
86	329700-01	Native Seed Maintenance	\$	83,954.81	2 Year Maintenance + watering
			\$	2,571,186.76	

CIVIL PACKAGE - EARTHWORK/ UTILITIES/ RIVER WORK

No.	Bid Item	Item	Lump Sum Price	Remarks
87	312319-01	Water Control and Dewatering - Mob	\$ 23,453.36	See Dewatering Summary below
88	312319-02	Install/ Remove 15' Tall Sheet Pile 907 LF +120 LF (Includes Cells)	\$ 330,091.46	
89	312319-03	Dewatering-Sumps/Fuel/Pumps/Testing for Jetty + Riprap Bank work	\$ 139,804.17	
89a		Water Control - Additional Pumping	\$ 35,869.44	ALLOWANCE
90	024100-03	Remove Miscellaneous Structures and Obstructions	\$ 29,669.08	
91	311100-01	Clearing and Grubbing	\$ 21,316.88	
92	311100-01	Tree Removal (3" to 6")	\$ 17,472.64	
93	311100-02	Tree Removal (6" to 12")	\$ 12,394.75	
94	311100-03	Tree Removal (12"+)	\$ 5,765.06	
95	312300-01	Embankment Material - Complete in Place (Includes all grading and placing of borrow material)	\$ 223,052.77	
		Borrow material	\$ 46,487.76	ALLOWANCE
96	312300-02	Excavation - Complete in Place (Hauloff of 9,367 CY to DADS)	\$ 730,070.22	Excavation for layer for Rock Work included in item below
97	312300-03	Subgrade Excavation for Rockwork along Bank 2' Over-ex	\$ 384,802.09	2' Over-ex- Haul to DADS Environmental Contractor (Includes 5' Depth River Excavation for toe without hauloff)
98	313700-03	Stone Steps for River Portion of Work (Buff Sandstone)	\$ 18,624.90	
99		Thickened edge under the concrete	\$ 8,182.45	Replaces Stone Edger
100	313700-04	Boulder Seating Area	\$ 16,905.95	
101	033101-01	Sculpted Concrete Jetties (12" Thick)	\$ 116,438.73	Includes All concrete (under fire pit) per revised plan
		Concrete Pumping for Jetties	\$ 5,518.49	ALLOWANCE
102	313700-05	Type L Riprap (under sculpted jetties with toe walls)	\$ 21,643.07	
103	313700-06	Granite Boulder- Grey (Landscape Boulders)	\$ 169,844.83	
104	313700-07	Type VL Soil Riprap (Bank Protection)	\$ 132,861.54	6" Topsoil Above in Earthwork
105	313700-08	Add 4'-4.5' Boulder Wall S/E of Playground along path	\$ 51,003.49	Per Owner direction 11/27/13
106	313700-09	Add 2.5' Grouted Boulder Walls at Overlook 11/27/13	\$ 43,620.79	Per Owner direction 11/27/13
			\$ 2,584,893.93	

			\$	5,156,080.69	
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CLARIFICATIONS

1	The site will be fenced and screened along Jason and Exposition street to minimize dust from leaving the site, per the approved SCMP.
2	ECI assumes use of the SPREE Building as a jobsite office for Johnson/Habitat Park construction.
3	Air monitoring will be provided by ESA per OSHA regulations. A 3rd party monitoring or CABI is not included by the environmental contractor or ECI, and will be provided by Pinyon Environmental and contracted through the City.
4	All excavation (including that needed for irrigation mainline, and all plantings) to be hauled off to DADS shall be handled in accordance with the approved SCMP.
5	The top embankment layer does not include fabric of visual barrier. Geotextile fabric is included in the irrigation mainline trenches.
6	This proposal assumes all tipping fees at DADS will be provided by the City of Denver
7	Per direction from the City via DEH and Pinyon on 11/12/13 - Given that the existing river bottom condition has been in place for a significant amount of time, It's been determined that there is no reason to assume the material to be excavated in this location is dirty. Instead, we will treat this as a typical river bed/bank stabilization and assume that it does not contain any ACS.
8	The irrigation system mainline is assumed to be excavated 18" wide by 42" deep. A geotextile fabric and 6" of clean fill will be placed in the trenches below the mainline. There have been no concessions made for irrigation lateral lines.
9	Post-Construction mitigation for methane gas (if encountered) is not included. Work during construction shall be completed in accordance with the approved HASP plan.
10	Value Engineering items/ suggestions are included in the proposal above. These were in general discussion with the Owner and Design team.
11	The crusher fines material with STA-LOK has been substituted to grey crusher fines with Stabilizer given most of the crusher fines is located outside of the 10 year floodplain
12	All decorative concrete shall be provided by Colorado Hardscapes, Inc. due to the specialty nature of the concrete.
13	It is anticipated that the riprap toe work can be completed in wet conditions behind the sheet wall curtain. The concrete jetty will be completed in the dry. Associated well points will be established to de-water adjacent to the concrete jetty work.
14	All rockwork shall be granite boulders provided by Albert Frei except for the Buff Sandstone Steps and Boulder Seats identified above.
15	Only a 2 year native seed maintenance is included. Maintenance and watering of trees and sod beyond substantial completion is not included.

DEWATERING SUMMARY:

	<p>The environmental contractor will come in and lay back the existing slope to allow for a working area/pad to be established along the banks of the river. Access will then be provided for a crane or excavator to drive the sheet pile form the bank to the limits established on the plans. This sheet pile cofferdam will then tie into each bank creating an enclosed work area with a hard barrier between the work area and the active flows. While this main run is installed cells will be created by tying back periodically, isolating specific work zones. This will provide areas in which dewatering and be treated and allowed to soak back into the ground. As the cells are completed the next cell will be pumped to the previous cell allowing to settle and dissipate into the ground. The cells will allow for only portions of the work to open at a time limiting the exposure of excavated non-stabilized material. This will also allow for flows to be introduced slowly back into the areas once completed. If the work cannot be completed within the designated "river season" the ends of the sheet pile cofferdam will be opened and flows will be allowed through the work zone with minimal resistance, allowing the river to flow through its natural channel. Testing of water shall be completed upon removal of sheet pile and discharge back into the current river. If contaminated water is encountered and has to be remediated, remediation shall be in accordance with the permit.</p>
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Exhibit B
Notice to Proceed Form

NOTICE TO PROCEED



Department of Public Works
Engineering Department

201 W. Colfax Avenue
Denver, CO 80202
www.denvergov.org/PublicWorks

Current Date

**NOTICE TO PROCEED
(SAMPLE)**

Name
Company
Street
City/State/Zip

CONTRACT NO. 201414633 – PROJECT: S. Platte River Vision Project

In accordance with General Contract Condition 302 of the Standard Specifications for Construction, General Contract Conditions, 2011 Edition, you are hereby authorized and directed to proceed on _____ with the work of constructing contract number _____ «Contract No», as set forth in detail in the contract documents for the City and County of Denver.

With a contract time of _____ calendar days, the project must be complete on or before _____.

If you have not already done so, you must submit your construction schedule, in accordance with General Contract Condition 306.2.B, to the Project Manager within 10 days. Additionally, you must submit your tax exempt certificate, and copies of your subcontractors' certificates, in accordance with General Contract Condition 322.5, to the Project Manager as soon as possible. Failure to submit these certificates will delay processing of payment applications.

Sincerely,

Lesley B. Thomas
City Engineer



Exhibit C
Incorporated by reference
Preconstruction Services Agreement, dated September 12, 2013

Exhibit D
Certificate of Contract Release

FINAL RECEIPT FORM
Certificate of Final Release

Department of Public Works
Engineering Department

201 W. Colfax Avenue
Denver, CO 80202
www.denvergov.org/PublicWorks



Certificate of Contract Release
(SAMPLE)

Date

Name
Company
Street
City/State/Zip

RE: Certificate of Contract Release for
201414633 RIVER VISION PROJECT

Received this date of the City and County of Denver, as full and final payment of the cost of the improvements provided for in the foregoing contract, _____ dollars and _____ cents (\$____), in cash, being the remainder of the full amount accruing to the undersigned by virtue of said contract; said cash also covering and including full payment for the cost of all extra work and material furnished by the undersigned in the construction of said improvements, and all incidentals thereto, and the undersigned hereby releases said City and County of Denver from any and all claims or demands whatsoever, regardless of how denominated, growing out of said contract.

And these presents are to certify that all persons performing work upon or furnishing materials for said improvements under the foregoing contract have been paid in full and this payment to be made is the last or final payment.

Contractor's Signature

Date Signed

If there are any questions, please contact me by telephone at (720) 913-XXXX. Please return this document via facsimile at (720) 913-1805 and mail to original to the above address.



Exhibit E
ACORD Certificates of Insurance

CERTIFICATE OF LIABILITY INSURANCE

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement.

Table with columns for PRODUCER (Flood & Peterson Ins., Inc.), INSURED (ECI Site Construction Management, Inc.), CONTACT NAME (Sandy Schifferns), PHONE (970 266-7107), FAX (970 506-6845), E-MAIL ADDRESS (sschifferns@floodpeterson.com), and INSURER(S) AFFORDING COVERAGE (Bituminous Insurance, National Union Fire Co of Pitts, Philadelphia Insurance Companie, Allianz Global Corporate & Spec).

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Main table with columns: INSR LTR, TYPE OF INSURANCE, ADDL INSR, SUBR WVD, POLICY NUMBER, POLICY EFF (MM/DD/YYYY), POLICY EXP (MM/DD/YYYY), LIMITS. Includes rows for General Liability (CLP3594135), Automobile Liability (CAP3594136), Umbrella Liab (BE017142200), Workers Compensation (WC3589584), Profssl; Pollution (PPK1082190), and Bldrs Risk with Flood (MXI98475715).

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
Project No. 201414633 - S Platte River Vision - Grant Frontier/Overland Park + Vanderbilt/Johnson Habitat Parks
The City and County of Denver and The Greenway Foundation ("TGF"), and their elected and appointed officials, employees and volunteers are named as Additional Insureds with regard to the Commercial General Liability policy and the Business Auto Liability policy.

Table with columns: CERTIFICATE HOLDER (City and County of Denver, 201 West Colfax, Denver, CO 80202) and CANCELLATION (SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE signature).

Exhibit F
Minority/Women Owned Business Enterprise Program Compliance Plan



DENVER
THE MILE HIGH CITY

January 6, 2014

Ted Johnson
ECI Site Construction Management, Inc.
P.O. Box 2135
Loveland, CO. 80539

Re: Contract # 201312320 and South Platte River Vision/Johnson Habitat Improvements
Submittal of Compliance Plan

Dear Mr. Johnson,

The Division of Small Business Opportunity (DSBO) has reviewed the attached Compliance Plan submitted by ECI Site Construction Management, Inc. on the above reference project and has determined that this plan complies with the MBE/WBE requirements according to Chapter 28, Article III, Division 3 of the Denver Revised Municipal Code (D.R.M.C.).

The Division of Small Business Opportunity approves the Compliance Plan and the commitment to meet or exceed the 18% M/WBE goal of the total construction price under the Contract.

If you have any questions feel free to contact Reggie Gamlin, Contract Compliance Coordinator at 720/913-1653.

Sincerely,

Chris Martinez
Director, Division of Small Business Opportunity

CC: Reggie Gamlin, Contract Compliance Coordinator
Tammy Trujillo, Compliance Supervisor
Michael Harmer, Program Manager
Deanne Durfee, City Attorney

Office of Economic Development
Division of Small Business Opportunity

201 W. Colfax Ave, Dept 907
Denver, CO 80202
p: 720.913.1999
f: 720.913.1809
www.milehigh.com

Denver International Airport
Airport Office Building, Suite 7810
8500 Peña Boulevard
Denver, CO 80249-6340
p: 303.342.2180
f: 303.342.2190
www.flydenver.com

City and County of Denver
Division of Small Business Opportunity

Construction Contract Compliance Plan
For M/WBE Participation

ECI Site Construction Management, Inc.
Platte River Vision, Johnson Habitat Improvements
Project No. PRC2013 – 8001

Prepared By:



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SECTION 1: Introduction

- A. ECI Site Construction Management, Inc. (the "Contractor") Submits this Compliance Plan to the Director of the Division of Small Business Opportunity ("Director"), as required by the Manager of Public Works in accordance with §§28-51 to 28-83, D.R.M.C., and the implementing rules adopted by the Director ("Rules").
- B. Under the City's Ordinance No.760, Series of 2006 (the "M/WBE Ordinance"), codified at §§28-51 to 28-83, D.R.M.C., the M/WBE participation goal for this contract is 18%. The good faith solicitation level is 100%.
- C. The Contractor is committed to compliance with the M/WBE Ordinance in its performance of the Contract. The Contractor will continually pursue a level of M/WBE participation that equals or exceeds 18% of the total construction price under the Contract.
- D. This Compliance Plan describes how the Contractor will address the project goal at the point where the project work is sufficiently defined that the process of obtaining subcontractors and suppliers can begin, by committing to utilize MBE/WBEs for the Project work, using the good faith efforts as defined by the M/WBE Ordinance.
- E. The Delivery method for this project under the Contract is CM/GC.

SECTION 2: Key Personnel

Project Manager:

Ian Mestdagh, 970-685-1721, ian@ecisite.net, has been assigned as the Project Manager for this Contract. The Project Manager is responsible for the overall management of the Contractor's performance of the Project.

Preconstruction and Compliance Manager:

Ted Johnson, 970-669-6291, ted@ecisite.net, is the Preconstruction Manager who is responsible for compliance with this Compliance Plan, outreach and coordination activities, and maintaining appropriate records to ensure that goals are met.

Project Coordinator and Reporting Manager:

Selina Coulter, 970-669-6291, Selina@ecisite.net, is the Project Coordinator, who will administer subcontracts and ensure that all documentation required by DSBO is prepared and maintained. This position is also responsible for coordinating the collection of DSBO documentation and monthly payroll reports from all subcontractors and suppliers, including but not limited to M/WBEs.

SECTION 3: Structuring Bid Packages for M/WBE Participation

- A. The Contractor has broken down and identified preliminarily the following separate scope packages to be subcontracted:
1. Surveying
 2. Excavation, trucking and disposal at DADS
 3. Erosion Control
 4. Landscape/ Irrigation
 5. Concrete flatwork
 6. Concrete structures
 7. Custom metal fabrications
- B. The packages will be reviewed and refined as the work for the Contract is further defined and ready for the process of subcontracting. Prior to advertising for bids or proposals, the Contractor will review the work in detail in order to determine the scopes and types of work that can be performed by M/WBE firms, with reference to the DSBO's database and directory of certified M/WBE firms, and will modify its subcontracting packages to maximize opportunities for M/WBE participation.
- a. ECI Placed an Advertisement in the Daily Journal notifying all contractors of the upcoming solicitation to bid. **(See Attachment "A")**
 - b. ECI advertised via the Daily Journal and McGraw Hill Construction the informational pre-bid conference which was held at the City and County of Denver Building. Room 1.D.1. on Monday, October 7, 2013. The conference was held at the City to encourage participation and open questions to all interested subcontractors, suppliers and vendors. **(See Attachment "B")**
- C. The Contractor may pursue different percentage goals for M/WBE participation in each separate package of work put out for bids, based on the types of work and availability of certified M/WBE firms. However, the contractor has committed to the overall goal of 18% M/WBE participation in the total construction work amount. The Contractor acknowledges that its prequalification process cannot be considered a reason for failure to meet the goal.
- D. The Contractor may consider, in order to maximize the M/WBE participation, subcontracting the following scopes of work which it might ordinarily self-perform: Earthwork, Subgrade Excavation, Crusher Fines Trail, Erosion Control, and Rock/Boulder Work.
- E. Obstacles. The following obstacles can be overcome as follows:
- a. Financial Stability – In the case that a firm does not appear to have the financial capacity or adequate staffing to perform the complete scope of their work, ECI will request of the subcontractors that they provide a bid on items that they are capable of performing. While we would prefer a complete scope bid, ECI will entertain breaking down these

scopes of work (including purchasing materials directly) to facilitate additional M/WBE participation.

- b. Bonding Capacity – If a firm cannot meet the subcontractor bonding requirements, ECI may request that DMNS sign a letter accepting responsibility for subcontractor default. Another option would be for ECI to issue Joint Checks to ensure payment to sub-tier subcontractors.
- c. Previous Project Experience – If a firm does not appear to have the project experience required for this project, ECI will request of subcontractors that do prequalify to bid on this project to utilize the services of those who do not by using them as sub-tiers for smaller portions of the work. The primary subcontractor's bid will be evaluated based on price, staffing, and percentage of M/WBE participation included. ECI will provide encourage and provide a list of M/WBE first to all subcontractors bidding and stress the importance of meeting or exceeding the project goals.

SECTION 4: Community Outreach Efforts and Advertising to M/WBE Certified Firms

The Contractor will use and has used the following outreach efforts:

- A. Contractor will use the City's M/WBE directory and encourage all non-M/WBE subcontractors to use the directory when soliciting any of their own subcontractors or suppliers for the project.
- B. If during outreach efforts, Contractor locates a firm which appears to be eligible for City M/WBE certification but is not so certified, Contractor will direct the firm to DSBO and encourage the firm to pursue certification if eligible.
- C. When it has packages ready for subcontracting, The Contractor will publish notices in the Daily Journal, identifying the subcontracting opportunities and specifically soliciting City-certified M/WBE participation. Notices will be provided no less than 10 calendar days before bids are due on the work. **Please see Attachment's "A" and "B" for Advertising Notices used**
- D. Contractor will conduct at least one pre-bid meeting, as announced in published notices which all interested subcontractors and suppliers may attend, at which the Contractor will present information and answer questions about the work. **(See Attachment "B")**
- E. The Contractor will develop bid forms with specific areas for bidders to highlight the percentage of M/WBE participation included in their proposal. The Contractor will make the proposed goals public prior to the subcontractor bidding and encourage sub-tier involvement or Joint Ventures between M/WBE and non-M/WBE firms. Potential Joint Ventures, if applicable, will be referred to DSBO by ECI for required forms, which must be submitted 10 calendar days prior to bid opening and approved by DSBO.
- F. The Contractor will submit bid summaries and selections to DSBO for review and verification prior to finalization.



- G. The Contractor will send to each bidder/proposer, a Notice of Selection for each subcontract for which it solicited M/WBE participation, no later than 30 days after it has entered into the subcontract, that unsuccessful bidders/proposers are aware of result of the bid/proposal.

SECTION 5: M/WBE Participation; Maintaining Commitments

- A. When issuing each work package for bid under the Contract, The Contractor will make a good faith effort to meet or exceed the goal percentage of M/WBE participation which it has identified for that package. The minimum level of these efforts is specified in § 28-62(b), D.R.M.C. and Rule VII (B). They may include, but will not be limited to, the outreach activities identified in Section 4 above.
- B. When requested by DSBO, the Contractor will submit bid packages to DSBO for review and comment. When requested by DSBO, the Contractor will submit bid tabulation sheets to DSBO for review.
- C. The Contractor will report to DSBO the total M/WBE participation obtained. No later than 5 days after issuing Notice to Proceed for such work, the Contractor will submit to DSBO, for each M/WBE subcontractor or supplier with whom it contracts, a Letter of Intent and other documentation, in accordance with Section 6 below.
- D. The Contractor will document its efforts to obtain M/WBE participation for each work package, and submit such documentation to DSBO upon request by DSBO at any time. The Contractor acknowledges that it may meet or exceed a percentage goal for M/WBE participation on one or more work packages, but fall short of meeting the participation goal for the total construction contract amount. Therefore the Contractor must be able to demonstrate its good faith effort, consistent with § 28-62(b), D.R.M.C., to obtain M/WBE participation for each bid package under contract, except for bid packages which are subject to a "modified good faith effort" under §28-75(c), D.R.M.C, in which case the Contractor must be able to demonstrate its compliance with the requirements of §28-75(c), D.R.M.C. Sections 28-62(b) and 28-75(c), D.R.M.C., are attached to this Compliance Plan as Attachment A, for convenient reference.
- E. The M/WBE participation percentage will be calculated by dividing the total value of the M/WBE participation by the total contract amount for the project, including all change orders. The Contractor will count M/WBE participation according to the M/WBE Ordinance, including §28-63, D.R.M.C., and Rule VII(C).
- F. As required by D.R.M.C. §28-73, the Contractor shall immediately inform the DSBO in writing of any agreed-upon increase or decrease in the scope of work of the Contract regardless of whether it has been reduced to writing at the time of notification. Any increase in the scope of work which increases the dollar value of the contract, whether or not such change is within the scope of work designated for performance by MBE or WBE under any subcontract, shall be contemporaneously submitted to the DSBO. Those changes to the scope of work that cannot be performed by existing project participants (the Contractor, subcontractors, suppliers, etc.) shall

be subject to a goal for MBEs and WBEs equal to the original committed goal. The Contractor shall satisfy the goal for the changes scope of work by soliciting new MBEs or WBEs in accordance with §28-60, D.R.M.C., and it must show each element of modified good faith that is stated in §28-75(c), D.R.M.C. The Contractor shall provide to the Director the documentation described in §28-75(c) with respect to the increase dollar value of the contract.

- G. The Contractor will comply with the provisions of §28-75 as to the replacement of a WBE or MBE on the Project.
- H. The Contractor acknowledges that it has a continuing duty, under D.R.M.C. §§28-72, 28-73, and 28-75, to maintain, throughout the duration of the contract, compliance with the level of MBE and WBE participation committed to under any approved compliance plan, and that such commitment is a material condition of the Contract.

SECTION 6: Compliance Documents and Reporting

- A. The Contractor will submit the following documentation, properly completed and submitted monthly or when otherwise required by DSBO.

- a. Prime contractor background information form*
- b. DSBO Schedule of Work Form*
- c. Subcontractors background information form for all subcontractors*
- d. M/WBE Letters of Intent
- e. Monthly contractor's certification of payment forms (participation report)
- f. DSBO change order forms
- g. Final lien release forms for MWBE firms
- h. B2G online payment verification

(* due at NTP + 5 days; revisions as required)

- B. The Contractor will document its progress in seeking and obtaining M/WBE participation as required by DSBO. Records of the Contractor's efforts to solicit M/WBE subcontractor and supplier participation, will be maintained and reported monthly to DSBO, or as otherwise required, including:
 - a. Dates of Solicitation
 - b. Names, addresses and telephone numbers of all M/WBE firms contacted
 - c. Description of efforts made to contact M/WBE firms
 - d. Description of information provided to M/WBE firms
 - e. Description of the process and outcome
 - f. Advertisements soliciting bids from M/WBE firms in local community publications or construction industry related publications
 - g. Schedules of pre-bid meetings to inform M/WBE and non-M/WBE subcontractors and suppliers of opportunities to participate

- h. Evidence that the Contractor provided M/WBE subcontractors and suppliers necessary access to and adequate time to review all project documents.
- i. All other documentation required to establish the Contractor's compliance with the good faith efforts required by City ordinance, specifically the items enumerated in subsections 28-62(b)(2) through 28-62(b)(10) D.R.M.C.

SECTION 7: Plan Administration; Monitoring; Closeout

- A. DSBO shall have prompt access to all Contractor and subcontractor personnel, books, and records required for the purposes of monitoring and performance of this Compliance Plan.
- B. The Contractor's personnel identified in Section 2 above will be responsible for administering and monitoring the Contractor's performance of the Compliance Plan.
- C. Actual M/WBE participation will be calculated in accordance with the M/WBE Ordinance, including §28-63, D.R.M.C., and applicable Rules. The Contractor will submit to DSBO a monthly tracking report demonstrating the M/WBE participation that has been achieved.
- D. The following milestones for review and reconciliation of M/WBE participation will be observed during the contract: Quarterly beginning April 1st, 2014 until the project is complete.
- E. The Contractor acknowledges that the City may impose monetary penalties and/or withhold payment in the event of Contractor's non-compliance with the M/WBE Ordinance and this Compliance Plan.
- F. The Contractor will use the following methodology of final reconciliation of M/WBE participation performance achieved during the Contract term, measured against the established project goal. The Contractor will present copies of all signed DSBO Final Lien Release forms for MWBE firms utilized for participation on the Contract. DSBO will compare the Final Monthly Participation Report submitted by the Contractor to determine if the Final Lien Release dollar figures match what is contained within the Final Monthly Participation Report. Final Compliance shall be achieved when the Contractor establishes to the Director's satisfaction, that it has remitted payments to M/WBE firms utilized on the Project; that it utilized M/WBE firms in accordance firm's Letter of Intent; and that the amount of payments to M/WBE firms to achieve final compliance may subject the Contractor to sanctions, in accordance with D.R.M.C, Section 28-77. As provided in such ordinance, sanctions may include, but are not limited to, assessment by the Director of monetary penalty against the Contractor in an amount not more than 150% of the contract amount for each MBE or WBE involved. Any such monetary penalty leveled by the Director shall be withheld from the final payment due to the Contractor, and any amount that remains due to owing to the City may be collected pursuant to D.R.M.C., Section 28-77. The Contractor may seek review of any such determination by the Director to levy sanction through the dispute resolution process set forth in the Construction Contract.

SECTION 8: Non-Compliance; Sanctions; Remediation Plan

- A. At all times, DSBO shall monitor the Contractor's compliance with this Plan and the M/WBE Ordinance and Rules. The Contractor shall fully cooperate with DSBO's compliance monitoring and auditing efforts, including DSBO's investigation of any alleged or suspected non-compliance by the Contractor.
- B. If the Director has reason to believe that the Contractor is not in compliance with this Plan or with the M/WBE Ordinance, the Director shall give the Contractor written notice of non-compliance, citing the reason why the Contractor is not in compliance, and providing the Contractor thirty (30) days in which to submit a remediation plan for the Director's review and acceptance. The remediation plan shall demonstrate how the Contractor will cure such non-compliance, and if such non-compliance consists of failure to obtain or maintain M/WBE participation at the committed level, and that the Contractor will ultimately achieve the committed participation goal for the contract.
- C. The Contractor shall, within such thirty (30) day period, deliver to the Director a written remediation plan for the Director's review and approval.
- D. The Director may issue a written determination of non-compliance and the sanction which the Director has elected to impose as a consequence:
 - a. If the Contractor does not respond within the time allowed; or
 - b. If the Contractor fails to submit a satisfactory remediation plan; or
 - c. If a Contractor submits an acceptable remediation plan but thereafter fails to comply with the plan.
- E. The Contractor may contest a determination issued under Section 8(D), by requesting a hearing within thirty (30) days after the date of such determination, as provided in §28-33, D.R.M.C.

SECTION 9: Mediation

The Contractor will provide a process to resolve disputes that occur between a MBE or WBE and any non-M/WBE subcontractors or suppliers under the Contract. The Contractor will document such disputes and inform DSBO of the steps the Contractor plans to take to resolve the dispute. The Contractor may ask DSBO to assist in the resolution process it has developed. The Contractor will document and notify DSBO if those disputes have been resolved and inform DSBO of any disputes it was unable to resolve. DSBO will notify the Contractor of any complaints received by DSBO from M/WBE firms regarding a dispute they are experiencing with either a subcontractor or the Contractor.

SECTION 10: Proposed M/WBE Subcontractor Participation – Johnson/Habitat Park

Please see the attached schedule and values of MWBE Subcontractor participation proposed for construction:

GOALS SCHEDULE AND PARTICIPATION CHART - JOHNSON/HABITAT PARK

Trade/ Scope	Contractor	Dollar Amount	Percentage of Project	Resulting Participation
Surveying/ Layout/ Control	J.F. Sato, Inc.	\$ 52,800.00	1.0%	\$ 52,800.00
Trucking - Environmental Hauloff to DADS	Blaeser Trucking, Inc. (ESA Sub)	\$ 110,248.00	2.2%	\$ 110,248.00
Trucking - Import of Rock from Albert Frei	Tom Calabrese Trucking, Inc.	\$ 36,804.00	0.7%	\$ 36,804.00
Irrigation Systems	CTM (dba Colorado Total Maintenance)	\$ 232,961.15	4.6%	\$ 232,961.15
Landscape Restoration/ Erosion Control	CTM (dba Colorado Total Maintenance)	\$ 290,539.23	5.7%	\$ 290,539.23
Trails/ Crusher Fines Sitework Construction	CTM (dba Colorado Total Maintenance)	\$ 72,410.80	1.4%	\$ 72,410.80
Concrete Seatwalls/ Structural Concrete	Coloscapes Concrete, Inc.	\$ 72,573.99	1.4%	\$ 72,573.99
Concrete Jetty Work	Naranjo Civil Constructors, Inc.	\$ 97,684.00	1.9%	\$ -97,684.00
Actual Subtotal:		\$ 966,021.17	18.7%	\$ 966,021.17
Contract Amount:		\$ 5,156,080.69	Goal (%) 18.0%	Goal Value \$ 928,094.52

Left Hand Excavating Jake Pitcher 3756 Eureka Way Frederick CO 80516-9447 (303-833-3326) Fax: (303-833-3353)
 NORAA Concrete Construction 39673 E 160th Ave Keenesburg CO 80643-4208 (303-637-9233) Fax: (303-637-9470)
 L & M Construction Po Box W Berthoud CO 80513-0650 (303-442-7401) Fax: (303-442-2231)

OCTOBER 16-Wednesday

HR RANCH ROAD GREENWAY GAP IMPROVEMENT (M814) CHEYENNE WY (LARAMIE CO) (B)- BIDS TO OWNER OCTOBER 16 AT 2:00 PM (MDT)- Plans From Owner/Engineer - City of Cheyenne Scott Roybal City Council Pres 2101 ONell Ave Cheyenne WY 82001-3512 (307-637-6357) (Sara in purchasing - 307) 637-6345
(Take bids reported 10/02-Rept 13-641380)

LOVELAND (CO) WAL-MART DC # 6019-501 (SP) (WM6019) LOVELAND CO (LARAMIER CO) (\$500,000)- GC BIDS (BY INVITATION ONLY) TO OWNER OCTOBER 16 AT 3 PM (CDT)- Plans From Owner - Wal-Mart Stores Inc C/O Const Dept #8702 DODGE Inquiry Dept 8702 2001 SE 10TH ST Bentonville AR 72712-6489 (800-830-3182) Fax: (866-730-6151)
(Take bids reported 10/02-Rept 13-640696)

Bidders on GC

DCK North America, LLC Adam Marr Project Mgr 2618 S 156TH CIR Omaha NE 68130-2513 (412-384-1057) Fax: (402-330-8439)
 HMS Contractor Herbert M Stains President PO Box 273120 Fort Collins CO 80527-3120 (970-266-1685) Fax: (970-266-1695)
 L Keeley Construction Peter Moller Project Engineer 2901 FALLING SPRINGS RD Sauget IL 62206-1133 (618-337-9494) Fax: (314-421-4202)
 Heath Construction PO BOX H Fort Collins CO 80522-0509 (970-221-4195) Fax: (970-221-2907)
 Wedman Corporation PO Box 1458 2920 South 925 West Ogden UT 84402-1458 (801-621-4185) Fax: (801-621-7232)

OCTOBER 17-Thursday

MANVILLE TEST WELL PROJECT BOSLER WY (ALBANY CO) (A)- GC BIDS TO OWNER OCTOBER 17 AT 4 PM (MDT)- Plans From Owner/Architect/Engineer - Wyoming Groundwater, LLC Chris Moody P.G. 710 E GARFIELD ST STE 211 Laramie WY 82070-3912 (307-760-3790)
(Take bids reported-Rept 13-641805)

QUARTZ HILL REMEDIATION (P8609S2) CENTRAL CITY CO (GILPIN CO) (\$1,500,000 - \$2,000,000)- BIDS TO OWNER OCTOBER 17 AT 3:00 PM (MDT) - MANDATORY PRE-BID MEETING ON OCTOBER 3 AT 10:00 AM (MDT) AT BIG T PARKING LOT - INTERSECTION OF NEVADA AND MAIN- Plans From Owner/Engineer - Colorado Dept of Public Health & Environment Sam Fuller 4300 Cherry Creek Dr S Rm B215 Denver CO 80246 (303-692-2073) Fax: (303-756-3043) (Email ID: sam.fuller@state.co.us Internet Addr: http://www.cdphs.state.co.us/)
(Take bids reported 09/23-Rept 13-633662)

POTABLE-STORAGE TANK UPGRADES LOUISVILLE CO (BOULDER CO) (D)- BIDS TO OWNER OCTOBER 17 AT 3:00 PM (MDT) PRE BID MEETING OCTOBER 10 AT 10:00 AM (MDT)- Plans From Owner/Engineer - City of Louisville Public Works Department City Engineer's Office Engineering 749 Main St Louisville CO 80027-1829 (303-866-6565) Ext. 6 Fax: (303-673-9043)
(Take bids reported-Rept 13-641954)

CO/DOT: BRIDGE REPLACEMENT (FBR044A010) CO (ADAMS CO) (\$5,000,000 - \$10,000,000)- BIDS TO OWNER OCTOBER 17 AT 10:00 AM (MDT)- Plans From Owner - Colorado Department of Transportation Purchasing Office Contracting 4201 E Arkansas Ave Rm 150 Denver CO 80222 (303-757-9313) Fax: (303-757-9669)
(Take bids reported 09/27-Rept 12-574520)

OCTOBER 18-Friday

BURLINGAME RANCH VARIOUS IMPROVEMENTS PHASE - II ASPEN CO (PITKIN CO) (E)- BIDS TO OWNER OCTOBER 18 AT 2:00 PM (MDT)- Plans From Owner/Engineer - City of Aspen Rebecca Hodgson Purchasing 130 S Galena St Aspen CO 81611-1902 (970-920-5000) Fax: (970-920-5119)
(Take bids reported 09/30-Rept 13-639094)

AIRPORT PARKING LOTS IMPROVEMENTS GYPSUM CO (EAGLE CO) (D)- BIDS TO OWNER OCTOBER 18 AT 3:00 PM (MDT)- Plans From Owner/Engineer - Eagle County Regional Airport Chris Anderson Po Box 850 0219 Eldon Wilson Rd Eagle CO 81631-0850 (970-524-8246) Fax: (970-524-8247) (Email ID:)
(Take bids reported 09/20-Rept 13-632570)

CROSSROAD PARK IMPROVEMENT ROCK SPRINGS WY (SWEETWATER CO) (C)- BIDS TO OWNER OCTOBER 18 AT 1:00 PM (MDT)- Plans From Engineer - Uinta Engineering & Surveying Inc Dave Johnson PE 2638 Commercial Way Rock Springs WY 82901-4755 (307-382-6588) Fax: (307-382-6588)
(Take bids reported 09/23-Rept 13-633978)

S PLATTE RIVER VISION - (A) GRANT-FRONTIER/OVERLAND PARK + VANDERBILT/JOHNSON - (B) HABITAT PARKS(B)(C) DENVER CO (JEFFERSON CO) (\$12,000,000)- BID DATE EXT FROM OCT 15- CM ECI SITE CONSTRUCTION MANAGEMENT REQUESTS BIDS FROM CITY & COUNTY OF DENVER PREQUALIFIED SUBCONTRACTORS/SUPPLIERS DUE OCT 18 AT 5 PM MDT-PREBID CONF OCT 7 AT 2 PM AT 201 W COLFAX ROOM 1D- Plans From Construction Manager - ECI Site Construction Management Jabin Bebo Estimator/Proj Mgr PO Box 2135 Loveland CO 80539-2135 (970-669-6291) Fax: (970-669-6411) (Email ID: jabin@ecisite.net Internet Addr: http://www.ecisite.net/alt contact Tony Perdue email)
(Take bids reported-Rept 13-531576)

ECI SITE CONSTRUCTION MANAGEMENT, INC.

We are holding a Pre-Bid Conference for all interested Subcontractors and Material Suppliers for the following project

S. PLATTE RIVER VISION-GRANT FRONTIER/OVERLAND PARK + VANDERBILT/JOHNSON HABITAT PARK
 Denver, Colorado
BIDS DUE: October 18, 2013 AT 5:00 PM

Trades or bonding requirements:
Interested Subcontractors and Suppliers, are invited to attend a pre-bid conference, Monday, October 7, 2013, 2:00 pm, City and County of Denver, 201 W Colfax Ave, Room 1.D.1. Plans are available from the General Contractor on disk or download from ECI ftp site.
 Construction schedule anticipated from January 2014 through June 2015.

Project description: Two projects along the S. Platte River. Work includes bank stabilization, habitat creation, drop structures, riffles, in-river excavation, boat launch structures, site utilities, rock walls, removal/disposal of contaminated soils, dewatering, landscape and irrigation, construction of crusher fines and concrete trails, playscapes, park features and site amenities.



SITE CONSTRUCTION MANAGEMENT

Contact Name: Jabin Bebo or Tony Perdue
 PO Box 2135
 Loveland, CO 80539
 Phone: 970-669-6291 - Fax: 970-669-6411

ECI Site Construction Management, Inc. is an Equal Opportunity Employer

OCTOBER 21-Monday

RFP/AE: RIO GRANDE SKATE PARK EXPANSION PROJECT ASPEN CO (PITKIN CO) (C)- OWNER REQUESTS DESIGN/BUILD PROPOSALS BY OCTOBER 21 AT 2:00 PM (MDT) - PREBID CONFERENCE OCTOBER 9 AT 11:00 AM (MDT)
(Take bids reported 10/01-Rept 13-640181)

RFQ/AE: SIDEWALK SAFETY CAMPUS PERIMETER M13009 (CMU2432) GRAND JUNCTION CO (MESA CO) (\$347,320)- OWNER REQUESTS ARCHITETURAL QUALIFICATIONS BY OCTOBER 21 AT 11:00 AM (MDT) - MANDATORY PRESUBMITTAL MEETING OCTOBER 8 AT 10:00 AM (MDT) AT COLORADO MESA UNIVERSITY CENTER - ROOM 221 - 1455 N 12TH STREET
(Take bids reported-Rept 13-642440)

OCTOBER 22-Tuesday

2013.201 CLAY COMMUNITY TRAIL (STEC120019) BRIGHTON CO (ADAMS CO) (B) BIDS TO OWNER OCTOBER 22 BY THE END OF THE BUSINESS DAY- Plans From

ENGINEERING

ECI SITE CONSTRUCTION MANAGEMENT, INC.

We are requesting participation from all qualified and/or certified MBE/DBE/WBE/DBVE/SBE/LBE Subcontractors and material suppliers for the following project:

S. PLATTE RIVER VISION-GRANT FRONTIER/OVERLAND PARK + VANDERBILT/JOHNSON HABITAT PARK Denver, Colorado

BIDS DUE: October 15, 2013 AT 5:00 PM

Trades or bonding requirements:

Plans in process, expected to be available 9/26/13. Interested City and County of Denver Pre-Qualified Subcontractors and Suppliers, are invited to contact the General Contractor to be included in the bid invitation process. Construction schedule anticipated from January 2014 through June 2015.

Project description: Two projects along the S. Platte River. Work includes bank stabilization, habitat creation, drop structures, riffles, in-river excavation, boat launch structures, site utilities, rock walls, removal/disposal of contaminated soils, dewatering, landscape and irrigation, construction of crusher fines and concrete trails, playscapes, park features and site amenities.



SITE CONSTRUCTION MANAGEMENT

Contact Name: Jabin Bebo or Tony Perdue
PO Box 2135
Loveland, CO 80539
Phone: 970-669-6291 - Fax: 970-669-6411

ECI Site Construction Management, Inc. is an Equal Opportunity Employer

SEPTEMBER 19-Thursday

- CO/DOT: SIGN REPLACEMENT (MTCE072A035) LYONS CO (BOULDER CO)- BID DATE EXTENDED TO SEPT 26
(Take bids reported- Rept EX-618355)

SEPTEMBER 23-Monday

- RFQ/AE: ON-CALL SERVICES BOULDER COUNTY TRANSPORTATION IQC (RFQ586413) BOULDER CO (BOULDER CO) (J)- OWNER REQUESTS QUALIFICATIONS FOR ON-CALL SERVICES BY SEPTEMBER 23 AT 2:00 PM (MDT)- Plans From Owner - Boulder County Transportation Department Laura Marungo POC 2025 14th St Boulder CO 80302-5339 (303-441-3900) Fax: (303-441-4594) (Email ID: lmarungo@bouldercounty.org Internet Addr: <http://www.bouldercounty.org/government/dept/pages>)
(Take bids reported 09/17-Rept 13-629596)

- CRACK SEALING - PATCHING IGNACIO CO (LA PLATA CO) (D)- BIDS TO OWNER SEPTEMBER 23 AT 3:00 PM (MDT)- Plans From Owner/Engineer - Town of Ignacio James Brown Public Works Director 540 Goddard Ave Ignacio CO 81137 (970-563-9494) Ext. 13 Fax: (970-563-9498) (Internet Addr: <http://www.townofignacio.com/>)
(Take bids reported 09/13-Rept 13-626991)

- 29TH AVE STORM SEWER IMPROVEMENTS (PROJECT #D-02-12) (D0212) WHEAT RIDGE CO (JEFFERSON CO) (\$700,000 - \$800,000)- BID DATE EXTENDED FROM SEPTEMBER 20 - BIDS TO OWNER SEPTEMBER 23 AT 1:00 PM (MDT)- Plans From Owner/Engineer - City of Wheat Ridge Purchasing Department Jennifer Nellis 7500 W 29th Ave Wheat Ridge CO 80215-6713 (303-235-2811) Fax: (303-234-5924) (Company Name: City of Wheat Ridge Purchasing Department Internet Addr: www.ci.wheatridge.co.us)
(Take bids reported 09/19-Rept 13-621716)

- EAST METRO LIGHTING (UPGRADES) (33DE002) AURORA CO (ADAMS CO) (\$100,000 - \$250,000)- BIDDERS - BIDS TO OWNER SEPTEMBER 23 AT 2 PM (MDT)- Plans From Owner/Engineer - Regional Transportation District (RTD) Ron Bibeau Purchasing Agent 1600 Blake St Denver CO 80202-1324 (303-299-2252) Fax: (303-299-2010)
(Take bids reported 08/19-Rept 13-606223)

Bidders

- Facility Solutions Group 999 Vallejo St Denver CO 80204-3842 (303-820-2220) Fax: (512-440-0399)
- W L Contractors Inc Mike Schmidt 5920 Lamar St Arvada CO 80003 (303-422-7985) Fax: (303-422-1634)
- Yesco LLC 1605 S Gramercy Road Ogden UT 84404 (801-486-1351)

- RFP/DB: NORTH METRO RAIL LINE DUS TO 72ND (DESIGN/BUILD) (13DH008) DENVER CO (ADAMS CO) (\$30,600,000)- OWNER REQUESTS DESIGN/BUILD BEST VALUE PROPOSALS BY SEPTEMBER 23 AT 3:00 PM (MST) - PRE-PROPOSAL MEETING HELD JULY 8
(Take bids reported 07/01-Rept 11-666693)

Bidders on GC

- Graham Construction & Management Inc. PO Box 11954 331 North Fancher Road Spokane Valley WA 99211-1954 (509-534-1030) Fax: (509-534-9735)

- DEAERATOR TANK INSTALLATION (0060Y) EVANSTON WY (UINTA CO) (F)- ADDED BIDDERS - GC BIDS TO OWNER SEPTEMBER 23 AT 2:00 PM (MDT)
*Plans available at dodge.construction.com (#*130612170)*
(Take bids reported 08/26-Rept 13-612170)

Bidders on Electrical

- Intermountain Electric Service Inc PO Box 1870 Riverton WY 82502 (307-866-7321)

Bidders on Mechanical

- Bill Jones Plumbing & Heating, Inc 1500 Main St Lander WY 82520-2658 (307-332-5442)

- EAST SIDE WATER LINE (IMPRS) AT CHERRY CREEK STATE PARK (CC201C11) FORT COLLINS CO (LARIMER CO) (\$300,000)- BID DATE EXTENDED FROM SEPTEMBER 18 - BIDS TO OWNER SEPTEMBER 23 AT 11:00 AM (MDT) PRE BID MEETING SEPTEMBER 5 AT 2:00 PM (MDT) AT CHERRY CREEK STATE PARK, 4201 S. PARKER ROAD, AURORA, COLORADO, 80014- Plans From Owner/Engineer - Colorado State Parks High Plains Region Office Paul Barker Project Manager 1313 Sherman St Ste 618 Denver CO 80203 (970-491-5031) Fax: (970-491-7136)
(Take bids reported- Rept 13-620352)

Bidders

- United Western Construction Co. Robert Wahl 12793 Domingo Ct Parker CO 80134 (303-518-1974)
- 53 Corp 127 WILCOX ST Castle Rock CO 80104-1906 (720-733-0192)
- Richdell Construction 7001 Colorado Blvd Denver CO 80022-1809 (303-252-0809) Fax: (303-255-3021)
- Levi Contractors 10581 Brighton Rd Brighton CO 80640 (303-287-4900) Fax: (303-287-1120)

SEPTEMBER 24-Tuesday

- BROOMFIELD DRAINAGE IMPROVEMENTS DUPLICATE REPORT BROOMFIELD CO (BOULDER CO) (D)- DUPLICATE REPORT - ALL FURTHER INFORMATION ON THIS PROJECT WILL BE PUBLISHED UNDER DR 201300625321 - THIS REPORT NUMBER DR 201300631354 WILL BE REMOVED FROM OUR DATABASE- Plans From Owner/Engineer - City and County of Broomfield Kathryn Bergh PM 1 Descombes Dr Broomfield CO 80020-2495 (303-469-3301) Fax: (303-438-6297) (Email ID: kbergh@broomfield.org Internet Addr: <http://www.ci.broomfield.co.us>)
(Take bids reported 09/20-Rept 13-631354)

- RAYNOLDS AVE - HIGHWAY IMPROVEMENTS (US50) (5413) CANON CITY CO (FREMONT CO) (B)- BIDS TO OWNER SEPTEMBER 24 AT 11:00 AM (MDT) - A MANDATORY PRE BID MEETING SEPTEMBER 17 AT 11:00 AM (MDT) - AT THE CITY MUNICIPAL BUILDING, 128 MAIN STREET,
(Take bids reported 09/09-Rept 13-622874)

- HOWE-HALLER B RESERVOIRS FULTON DITCH STRUCTURES (15150A) COMMERCE CITY CO (ADAMS CO) (B)- BIDS TO OWNER (PREQUALIFICATION REQUIRED - SEE NOTES) SEPTEMBER 24 AT 10:00 AM (MDT) - MANDATORY PREBID CONFERENCE AND SITE TOUR SEPTEMBER 10 AT 10:00 AM (MDT)
(Take bids reported 09/05-Rept 13-619596)

- WATERLINE REPLACEMENT GILLETTE WY (CAMPBELL CO) (C)- BIDS TO OWNER SEPTEMBER 24 AT 1:00 PM (MDT)- Plans From Owner/Engineer - Central Camp-

CORRECTING BID DATE - GC BIDS TO OWNER (SELECT INVITED LIST) DUE OCTOBER 7 TIME PER INVITATION (INVITED GCs REQUEST SUBTRADE BIDS PRIOR TO BID DEADLINE - SEE NOTES)

Owner - Darden Restaurants Inc Construction Department Contact 1000 DARDEN CENTER DR Orlando FL 32837-4032 (407-245-4000)

Architect - The McIntosh Group David Rogers Project Manager 1850 S Boulder Ave Ste 300 Tulsa OK 74119 (918-585-8555) Fax: (918-583-7282)

Landscape Architect/Civil Engineer - Kimley-Horn and Associates, Inc. 990 S BROADWAY STE 200 Denver CO 80209-4278 (303-228-2300) Fax: (303-446-8678)

Structural Engineer - Wallace Engineering Tom Wallace Owner 200 E Brady St Tulsa OK 74103-2012 (918-584-5858) Fax: (918-584-8689)

Mechanical Engineer/Electrical Engineer - Schnackel Engineers Inc 3035 S 72ND ST STE 101 Omaha NE 68124 (402-391-7680) Fax: (402-391-7488)

Target Start Date: 10/2013 - 1 Bldg(s) - 1 Sty(s) Above Grade - 0 Sty(s) Below Grade - 6,280 Total Square Feet Total Sq Ft - Wood Frame - Wood Trusses Roof Framing - Ext Insulation & Finish System Ext Wall

Note: GCWE05 - Do Not Contact Owner Or Architect - Subcontractors Direct All Inquiries To Invited Bidding GC7s - Christofferson Commercial Builders requests all subtrade bids not later than Oct 4 at 5 PM MDT concrete foundations and slab-wood framing-wood trusses-wood roof deck- stone and EIFS exterior - Stone - Wood Decking - Cast In Place Concrete - Wood Framing

Design-Bid-Build plans from Invited GCs Plans available at dodge.construction.com (#*130632549)

* Indicates changed data 13-632 549 4 09/23/13

10/09/13 \$500,000 - \$1,000,000 **KEMMERER OLD CITY HALL (ADDITION & REMODEL)** KEMMERER WY (Lincoln Co) 700 CEDAR AVE

GC BIDS TO OWNER OCTOBER 9 AT 2 PM (PDT)

Owner - City of Kemmerer Mike Archibald, City Admin. 220 Wyoming Highway 233 Po Box 631 Kemmerer WY 83101-9700 (307-828-2360) Ext. 102 Fax: (307-877-6351)

Structural Engineer - Compass Engineering LLC 67 GARDEN VIEW DR Midvale UT 84047 (801-664-2197) (Email ID: compass.eng@hotmail.com)

Mechanical Engineer - Van Boerum & Frank Associates, Inc. 330 S 300 E Salt Lake City UT 84111-2525 (801-530-3148) Fax: (801-530-3150)

Civil Engineer - Crank Companies, Incorporated Tom Crank Project Engineer PO Box 365 41 US HWY 30/189 Diamondville WY 83116-0365 (307-877-9093) Fax: (307-877-6351)

Architect/Electrical Engineer - Think Architecture Scott Wilkinson Principal 5151 S 900 E Ste 200 Salt Lake City UT 84117-6660 (801-269-0055) Fax: (801-269-1425)

Target Start Date: 11/2013 - 1 Bldg(s) - 2 Sty(s) Above Grade - 0 Sty(s) Below Grade - 2,000 Total Square Feet Total Sq Ft - Wood Frame

Note: B2US07 Pre bid meeting September 25 at 10 AM at project site - Plans & Specifications are currently being acquired and will be available as soon as possible Remodel ? 4,940sf Interior demolition and renovation of existing old city hall building including new windows, ceilings, walls, insulation, carpet, doors and mechanical system. No seismic upgrades are included. Addition - 2,000sf two story wood frame building including restrooms and elevator

Design-Bid-Build Plans from Architect @ \$100 charge 13-633 128 1 09/20/13

SUB-BIDDING

10/15/13 \$12,000,000 **S PLATTE RIVER VISION - (A) GRANT-FRONTIER/OVERLAND PARK + VANDERBILT/JOHNSON - (B) HABITAT PARKS**

DENVER CO (Jefferson Co) S Platte River PLANS NEARING COMPLETION - CONSTRUCTION MANAGER ECI SITE CONSTRUCTION MANAGER REQUESTS BIDS FROM CITY & COUNTY OF DENVER PREQUALIFIED SUBCONTRACTORS/SUPPLIERS DUE OCT 15 AT 5 PM MDT - CONSTRUCTION START JAN 2014

Owner/Architect - City and County of Denver Elizabeth Zollo Public Works 201 W Colfax Ave Ste 614 Denver CO 80202-5329 (720-913-1774) Fax: (720-913-1806) (bid results Work-4Denver.com)

Target Start Date: 01/2014 - Target Compl Date: 06/2015 - 18% MWBE Goal

Note: GCWE05 Plans in process, expected to be available 9/26/13-Interested City and County of Denver Pre-Qualified Subcontractors and Suppliers, are invited to contact the

General Contractor to be included in the bid invitation process- Construction schedule anticipated from January 2014 through June 2015-Project description: Two projects along the S. Platte River- Work includes bank stabilization, habitat creation, drop structures, riffles, in-river excavation, boat launch structures, site utilities, rock walls, removal/disposal of contaminated soils, dewatering, landscape and irrigation, construction of crusher-fines and concrete trails, playscapes, park features and site amenities

Construction Manager - ECI Site Construction Management Jabin Bebo Estimator/Proj Mgr PO Box 2135 Loveland CO 80539-2135 (970-669-6291) Fax: (970-669-6411) (Email ID: jabin@ecisite.net Internet Addr: <http://www.ecisite.net/> alt contact Tony Perdue email)

Construction Management at Risk Plans from Construction Manager plans available approx 9/26 13-531 576 6 09/20/13

Architect - Pahl Architecture Joe Pahl Principal Architect 303 E 17th Ave Ste 555 Denver CO 80203 (303-861-7147) Ext. 111 Fax: (303-861-7227)

Target Start Date: 01/2013 Note: PEWB66 4 training rooms - offices - restrooms - mezzanine 12-580 989 11 09/20/13

06/26/13 \$27,000,000 **PIONEER MANOR SKILLED NURSING & REHAB CENTER (DESIGN/BUILD)** GILLETTE WY (Campbell Co) MEMORIAL AVE

APPARENT LOW BIDDER ON GC REMAINS UNDER REVIEW - AWARD & START DATE TO BE ANNOUNCED PENDING BOARD APPROVAL - FURTHER UPDATE IN 30 DAYS - BID JUNE 25

Owner - Campbell County Memorial Hospital Blaine Greer Project Manager 501 S Burma Ave Gillette WY 82716-3426 (307-688-1000)

Owner's Agent - Christenson Building Corporation Ted Zontelli Project Manager 12 S 6th St Ste 715 Minneapolis MN 55402-1511 (612-599-3251) Fax: (612-338-7236)

Architect - Lantz Boggio Architects, PC Chris Thomas Project Manager 5650 Dtc Pkwy FL2 Greenwood Village CO 80111-3003 (303-773-0436) Fax: (303-773-8709) (Internet Addr: <http://www.lantz-boggio.com/>)

Landscape Architect - Four Front Design Inc Kim Schmidt Architect 517 7th St Rapid City SD 57701-2729 (605-342-9470) Fax: (605-342-2377)

Food Service Consultant - United Restaurant Supply 725 Clark Pl Colorado Springs CO 80915-4100 (719-572-1462) Fax: (303-838-5990)

Structural Engineer - Jlrsa-Hedrick & Assoc Steve Jersa Project Engineer 7000 E BELLEVUE AVE STE 25 Greenwood Village CO 80111-1617 (303-839-1963) Fax: (303-839-1983)

Mechanical Engineer - Given & Associates Jeff Given President 735 S Xenon Ct. #201 Lakewood CO 80228-2870 (303-716-1270) Fax: (303-716-1272)

Electrical Engineer - Alber Engineering, Inc Jerry W Alber Owner 5173 OAK HOLLOW DR Morrison CO 80465-9690 (303-736-2739)

Civil Engineer - PCA Engineering Inc Tom Sytte Engineer 4506 Wigwam Blvd PO Box 2185 Gillette WY 82718-6660 (307-687-0600) Fax: (307-687-7022)



BID RESULTS

08/02/12 F **CAMP GUERNSEY CANTONMENT BUILDING 112 (IMPROVEMENTS) (IFB0483V)** GUERNSEY WY (Platte Co) Camp Guernsey

BIDS IN AND UNDER REVIEW - FURTHER ACTION PENDING OWNER'S DECISION TO RELEASE AT A LATER DATE - BID AUGUST 2

Owner - State of Wyoming Dept of Admin & Information Lindsey Schmidt Military Dept 122 W 25th St 2nd Floor E - Herschler Bldg Cheyenne WY 82001 (307-772-5104) Fax: (307-777-5852)

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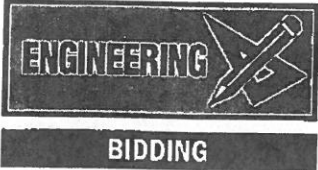
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303-289-3366

Estimated Construction Cost Key

Identify the estimated construction cost of a project quickly and easily by using the coded table below.

code	value	code	value
A.....	\$0 — \$99,999	H....	\$1,000,000 — \$2,999,999
B.....	\$100,000 — \$199,999	I....	\$3,000,000 — \$4,999,999
C.....	\$200,000 — \$299,999	J....	\$5,000,000 — \$9,999,999
D.....	\$300,000 — \$399,999	K...	\$10,000,000 — \$14,999,999
E.....	\$400,000 — \$499,999	L...	\$15,000,000 — \$24,999,999
F.....	\$500,000 — \$749,999	M..	\$25,000,000 — \$49,999,999
G.....	\$700,000 — \$999,999	N...	\$50,000,000 — and above

General Contractor - BVB General Contractors, LLC 1289 S 4th Ave Brighton CO 80601 (303-637-0981) Fax: (303-659-1887) (bids@bvgl.com)
13-550 640 8 10/02/13



10/17/13 A
MANVILLE TEST WELL PROJECT
BOSLER WY (Albany Co)
GC BIDS TO OWNER OCTOBER 17 AT 4 PM (MDT)

Owner/Architect/Engineer - Wyoming Groundwater, LLC Chris Moody P.G. 710 E GARFIELD ST STE 211 LARAMIE WY 82070-3912 (307-760-3790)
Target Start Date: 11/2013

Note: CRMW13 - A pre-bid meeting will be held October 7 at 11 AM (MDT) - Manville Town Hall - 651 5th St, Manville, WY Drilling, construction, and pump testing of a test well to a depth of approximately 100 feet and located 0.7 miles southeast of the Town of Manville, Wyoming

Design-Bid-Build
Plans from Owner @ \$20 charge Non Refundable
13-641 805 1 10/02/13

10/17/13 D
POTABLE-STORAGE TANK UPGRADES
LOUISVILLE CO (Boulder Co) 749 Main St
BIDS TO OWNER OCTOBER 17 AT 3:00 PM (MDT) PRE BID MEETING OCTOBER 10 AT 10:00 AM (MDT)

Owner/Engineer - City of Louisville Public Works Department City Engineer's Office Engineering 749 Main St Louisville CO 80027-1829 (303-666-6565) Ext. 6 Fax: (303-673-9043)

Target Start Date: 12/2013
Note: DEWB92 Pre bid meeting October 10 at 10:00 AM (MDT) Tanksp^A, Sewage Piping Replacing the concrete roof of a 3,000,000 gallon above grade post-tensioned concrete water storage tank with a new post-tensioned concrete roof. Repairs of existing cracks, spalling and other similar materials damage in the wall and floor of the tank. Improvements to the inlet and outlet. Installation of new access hatches, interior ladders, vent, railing and relocation of the existing exterior ladder. Improvements to the existing overflow outfall pipe. Abandonment of existing valve vault.

Design-Bid-Build
Plans from Owner No deposit/charge specified
13-641 954 1 10/02/13

10/18/13 \$12,000,000
S PLATTE RIVER VISION - (A) GRANT-FRONTIER/OVERLAND PARK + VANDERBILT/JOHNSON - (B) HABITAT PARKS

DENVER CO (Jefferson Co) S Platte River
BID DATE EXT FROM OCT 15-CM ECI SITE CONSTRUCTION MANAGEMENT REQUESTS BIDS FROM CITY & COUNTY OF DENVER PREQUALIFIED SUBCONTRACTORS/SUPPLIERS DUE OCT 18 AT 5 PM MDT-PRE-BID CONF OCT 7 AT 2 PM AT 201 W COLFAX ROOM 1D

Owner/Architect - City and County of Denver Elizabeth Zollo Public Works

201 W Colfax Ave Ste 614 Denver CO 80202-5329 (720-913-1774) Fax: (720-913-1806) (bid results Work4Denver.com)

Target Start Date: 01/2014 - Target Compl Date: 06/2015 - 18% MWBE Goal

Note: GCWE05 Construction start Jan 2014 Plans in process, expected to be available 9/26/13-Interested City and County of Denver Pre-Qualified Subcontractors and Suppliers, are invited to contact the General Contractor to be included in the bid invitation process- Construction schedule anticipated from January 2014 through June 2015-Project description: Two projects along the S. Platte River-Work includes bank stabilization, habitat creation, drop structures, riffles, in-river excavation, boat launch structures, site utilities, rock walls, removal/disposal of contaminated soils, dewatering, landscape and irrigation, construction of crusherlines and concrete trails, playscapes, park features and site amenities

Construction Manager - ECI Site Construction Management Jabin Bebo Estimator/Proj Mgr PO Box 2135 Loveland CO 80539-2135 (970-669-6291) Fax: (970-669-6411) (Email ID: jabin@ecisite.net Internet Addr: http://www.ecisite.net/ /alt contact Tony Perdue email)

Construction Management at Risk
Plans from Construction Manager
13-531 576 7 10/02/13

10/24/13 \$810,000 - \$990,000
2013 CITYWIDE CONCRETE REPAIR (201313149)

DENVER CO (Denver Co) various areas
BIDS TO OWNER OCTOBER 24 AT 11 AM (MDT)

Owner/Engineer - City and County of Denver (Dept of Public Works) Toni Green Contract Admin 201 W Colfax Ave Denver CO 80202-5329 (720-913-4508) Fax: (720-913-1806) (bid results Work4Denver.com Email ID :)

Reprographer - Quest CDN 13905 102nd Street NW Spring Park MN 55384-0412 (952-233-1632) Fax: (952-445-3525) (https://www.questcdn.com/)

Target Start Date: 11/2013
Note: B2US07 A pre-bid conference will be held for this Project at 2:00 PM, local time, on OCTOBER 09, 2013. This meeting will take place in Room 1.D.1 located on the 1st floor at 201 W. Colfax Ave, Denver, Colorado 80202.DEADLINE TO SUBMIT QUESTIONS: October 15, 2013 no later than 4:00P.M. local time.

Design-Bid-Build
13-642 498 1 10/02/13

10/28/13 F
BUFFALO NORTHWEST WATER SUPPLY IMPROVEMENT
BUFFALO WY (Johnson Co) Various Location

BIDS TO OWNER OCTOBER 28 AT 2:00 PM (MDT)

Owner/Engineer - City of Buffalo Les Hook Public Works Dir 46 N MAIN ST Buffalo WY 82834-1815 (307-684-7335) Fax: (406-684-5726)

Reprographer - Quest CDN 13905 102nd Street NW Spring Park MN 55384-0412 (952-233-1632) Fax: (952-445-3525) (https://www.questcdn.com/)

Target Start Date: 12/2013
Note: DEWB44 Mandatory pre-bid meeting October 17 at 9:00 AM (MDT) at the Water Piping, Tanksp^A, Sewage Piping Buffalo Northwest Water Sup-

ply Project.: Construct approximately 4.3 miles of 12' C900 PVC water transmission pipeline, including the construction of two underground pressure reducing valve vaults, one underground altitude valve vault, one 500,000 gallon storage tank and associated appurtenances.

Design-Bid-Build
Plans from Owner
13-642 612 1 10/02/13

10/29/13 C
BROKEN TEE GOLF COURSE PUMP HOUSE & WET WELL (13018)
ENGLEWOOD CO (Arapahoe Co) 2101 W OXFORD AVE

GC BIDS TO OWNER DUE OCT 29 (TIME TBA)

Owner - City of Englewood Alicia Stutz Purchasing 1000 Englewood Pkwy Fl 3 Englewood CO 80110-2373 (303-762-2412) Fax: (303-783-6893)

Architect - SEE Architecture Suzette Ellen Emerson Principal 1666 S Ogden St Denver CO 80210-2735 (303-921-9022) Fax: (303-777-0724)

Structural Engineer - Ziehler Engineering 528 S PENNSYLVANIA ST DENVER CO 80209-4112 (303-778-0074) (Internet Addr: http://www.ziehlerengineering.com/)

Mechanical Engineer - Envision Mechanical Engineers, Inc. Project Engineer PE 9777 PYRAMID CT STE 230 Englewood CO 80112-6040 (303-688-0223) Fax: (303-688-3584)

Electrical Engineer - Klok Group PO BOX 914 Golden CO 80402-0914 (720-810-7396)

Target Start Date: 11/2013 - 1 Bldg(s) - 1 Sty(s) Above Grade - 0 Sty(s) Below Grade - 477 Total Square Feet Total Sq Ft - Wall Bearing Frame - Wood Trusses Roof Framing

Note: GCWE05 new wet well and pump house - CMU bearing walls-wood roof joists - Wood Decking - Cast In Place Concrete - Reinforced Unit Masonry Assemblies

Design-Bid-Build
Plans from Owner Owner utilizes Rocky Mountain E Purchasing
Plans available at dodge.construction.com (#*130642650)

* indicates changed data
13-642 650 2 10/03/13

BID RESULTS

07/02/13 \$124,073
2013 PATHWAY (REPAIRS) (13EN20)
GILLETTE WY (Campbell Co) from Lakeway Road to Ridgecrest Dr. along 4J Road

LOW & ONLY BIDDERS - 3 BIDS RECEIVED - CONTRACT AWARD POSSIBLE WITHIN 30 DAYS - BID JULY 2

Owner/Engineer - City of Gillette Ken Adair Purchasing Manager 800 N Burma Ave Gillette WY 82716-2643 (307-686-5263) Fax: (307-682-7942) (http://www.ci.gillette.wy.us/index.aspx?page=95 - Please for Out For Bids all construction bids need to be from purchasing department don't call city Administrator - they don't know bidding)

Target Start Date: 08/2013
Note: CRMW13 - This project also appeared under DR 201100451439 - That project has been removed from our Database - All further information on this project will be issued under this report number Walking Pathway Improvements

Low & Only Bidders

(A) Simon Contractors Brian Ordling PO Box 541 Gillette WY 82717 (307-686-8644) Fax: (307-686-8645) \$124,073

(B) Sierra Construction & Excavation PO Box 1272 Thayne WY 83127-1272 (307-680-6587) \$127,194

(C) Intermountain Construction & Materials Shirley Vinney project manager PO Box 2469 Gillette WY 82717 (307-682-8407) Fax: (307-682-6433) \$159,643

11-438 704 9 10/02/13

07/25/13 C
WATER TREATMENT PLANT (WATER TANK PAINTING AND STAIR)

WIGGINS CO (Conejos Co) 14625 Morgan County Road 8

BIDS IN AND STILL UNDER REVIEW - CONTRACT AWARD POSSIBLE WITHIN 30 DAYS - JULY 25

Owner - City of Fort Morgan John Turner PE 110 Main St Fort Morgan CO 80701-2105 (970-483-7244) Fax: (970-483-7250)

Architect - Merrick & Company Jerry Kenyon contact 5970 GREENWOOD PLAZA BLVD Greenwood Village CO 80111-4703 (303-751-0741) Fax: (303-751-2581) (Internet Addr: http://www.merrick.com/)

Target Start Date: 08/2013
Note: B1US08 2013 Water Tank Painting and Stair Addition - Fabrication and Installation of a stairway on Water Storage Tank No. 1. ? Fabrication and installation of a bridge/walkway between Water Storage Tank No. 1 and No. 2. ? Sandblasting, priming and painting the interior, and minor spot painting of the exterior, of Tanks No. 1 and No. 2.

13-569 886 5 10/02/13

07/29/13 E
I 70 WATERLINE PHASE 2
DE BEQUE CO (Mesa Co)

BIDS IN AND STILL UNDER REVIEW - CONTRACT AWARD POSSIBLE WITHIN 30 DAYS - BID JULY 29

Owner/Engineer - Town of De Beque Guy Patterson 381 Minter Ave De Beque CO 81630-9901 (970-283-5475) Ext. 106 Fax: (970-283-5475) (Company Name: Town of De Beque Email ID: info@debeque.org Internet Addr: http://www.debeque.org/)

Target Start Date: 09/2013
Note: B1US08 Water Piping, Sewage Piping I-70 WATERLINE EXTENSION U ROAD TO T ROAD PHASE II Highway 6 / I-70 Frontage Road west of I-70 between T Road and U Road. The construction for which Bids are requested include the following major items: 1. Installation of approximately 1,960 L.F. of 8-inch C900 Class 150 PVC waterline. 2. Installation of gate valves, fittings and associated appurtenances. 3. Connection to existing water system at two locations. 4. Installation of two new fire hydrants. 5. Waterline lowering and insulating underneath existing culverts. 6. Removal and/or abandonment of existing 3-inch PVC waterline. 7. Gravel restoration. 8. Revegetation of Frontage Road shoulder

13-576 823 4 10/02/13

STARTS

Not Set C
BIG FAT PASTOR MICRO-DISTILLERY (TI) (B1304013)
FORT COLLINS CO (Larimer Co) 1133 RIVERSIDE AVE

Exhibit G
Prevailing Wage Rate Schedule



DENVER
THE MILE HIGH CITY

Office of Human Resources
Denver's Human Resource Agency

201 W. Colfax, Department 412
Denver, CO 80202
p: 720.913.5751
f: 720.913.5720
www.denvergov.org/csa

TO: All Users of the City of Denver Prevailing Wage Schedules
FROM: Seth Duhon-Thornton, Staff Human Resource Professional
DATE: Friday May 3, 2013
SUBJECT: Latest Change to Prevailing Wage Schedules

Please be advised, prevailing wage rates for some building, heavy, and highway construction trades have not been updated by the United States Department of Labor (DOL) since March 1, 2002. The Career Service Board, in their meeting held on April 21, 2011, approved the use of the attached supplemental wage rates until prevailing wage rates for these classifications of work are again published by the United States Department of Labor in accordance with the Davis-Bacon Act. The rates will be provided as a supplemental to the Davis-Bacon Heavy rates issued by OHR.

The effective date for this publication will be **Friday May 3, 2013** and applies to the City and County of Denver for **HEAVY CONSTRUCTION PROJECTS** in accordance with the Denver Revised Municipal Code, Section 20-76(c).

General Wage Decision No. CO130012
Superseded General Decision No. CO20120012
Modification No. 04
Publication Date: 04/26/2013
(8 pages)

Unless otherwise specified in this document, apprentices shall be permitted only if they are employed pursuant to, and individually registered in, a bona fide apprenticeship program registered with the U.S. Department of Labor (DOL). The employer and the individual apprentice must be registered in a program, which has received prior approval, by the DOL. Any employer, who employs an apprentice and is found to be in violation of this provision, shall be required to pay said apprentice the full journeyman scale.

For questions please call (720) 913-5018

Attachments as listed above.

General Decision Number: CO130012 04/26/2013 CO12

Superseded General Decision Number: CO20120012

State: Colorado

Construction Type: Heavy

Counties: Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld Counties in Colorado.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/04/2013
1	03/08/2013
2	04/05/2013
3	04/19/2013
4	04/26/2013

ASBE0028-001 10/01/2012

	Rates	Fringes
Asbestos Workers/Insulator (Includes application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems).....	\$ 28.98	13.03

BRCO0007-004 01/01/2011

ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS AND JEFFERSON COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 22.13	9.89

BRCO0007-006 06/01/2011

EL PASO AND PUEBLO COUNTIES

	Rates	Fringes
BRICKLAYER.....	\$ 21.97	9.88

ELEC0012-004 09/01/2012

PUEBLO COUNTY

	Rates	Fringes
ELECTRICIAN Electrical work where the cost is \$150,000 or less....	\$ 24.50	11.84
Electrical work where the cost is over \$150,000.....	\$ 27.00	11.91

ELEC0068-001 12/01/2012

ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS,
JEFFERSON, LARIMER, AND WELD COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 32.10	12.53

ELEC0111-001 09/01/2012

	Rates	Fringes
Line Construction:		
Cable Splicer.....	\$ 28.65	13.75%+4.75
Equipment Operator- Underground.....	\$ 25.06	12.75%+4.75
Groundman.....	\$ 22.31	9.78
Line Equipment Operator.....	\$ 27.24	10.80
Lineman and Welder.....	\$ 39.03	14.42

ELEC0113-002 06/01/2012

EL PASO COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 29.05	14.47

ELEC0969-002 06/01/2010

MESA COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 20.75	5.66

ENGI0009-001 06/25/2012

	Rates	Fringes
Power equipment operators:		
Blade: Finish.....	\$ 24.57	8.62
Blade: Rough.....	\$ 24.27	8.62
Bulldozer.....	\$ 24.27	8.62
Cranes: 50 tons and under..	\$ 24.42	8.62
Cranes: 51 to 90 tons.....	\$ 24.57	8.62
Cranes: 91 to 140 tons.....	\$ 24.72	8.62
Cranes: 141 tons and over...	\$ 25.48	8.62
Forklift.....	\$ 23.92	8.62
Mechanic.....	\$ 24.42	8.62
Oiler.....	\$ 23.57	8.62
Scraper: Single bowl under 40 cubic yards.....	\$ 24.42	8.62
Scraper: Single bowl, including pups 40 cubic yards and over and tandem bowls.....	\$ 24.57	8.62
Trackhoe.....	\$ 24.42	8.62

IRON0024-003 07/01/2011

	Rates	Fringes
Ironworkers:.....	\$ 23.80	18.07
Structural		

LABO0086-001 05/01/2009

	Rates	Fringes
Laborers:		
Pipelayer.....	\$ 18.68	6.78

PLUM0003-005 07/01/2012

ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS,
JEFFERSON, LARIMER AND WELD COUNTIES

	Rates	Fringes
PLUMBER.....	\$ 33.43	11.44

PLUM0058-002 07/01/2012

EL PASO COUNTY

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 32.55	12.95

PLUM0058-008 07/01/2012

PUEBLO COUNTY

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 32.55	12.95

PLUM0145-002 07/01/2011

MESA COUNTY

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 35.17	11.05

PLUM0208-004 01/01/2013

ADAMS, ARAPAHOE, BOULDER, BROOMFIELD, DENVER, DOUGLAS,
JEFFERSON, LARIMER AND WELD COUNTIES

	Rates	Fringes
PIPEFITTER.....	\$ 33.10	11.52

* SHEE0009-002 07/01/2012

	Rates	Fringes
Sheet metal worker.....	\$ 31.77	12.32

	Rates	Fringes
BOILERMAKER.....	\$ 17.60	
Carpenters:		
Form Building and Setting...	\$ 16.97	2.74
All Other Work.....	\$ 15.14	3.37
Cement Mason/Concrete Finisher...	\$ 17.31	2.85
IRONWORKER, REINFORCING.....	\$ 18.83	3.90
Laborers:		
Common.....	\$ 11.22	2.92
Flagger.....	\$ 8.91	3.80
Landscape.....	\$ 12.56	3.21
Painters:		
Brush, Roller & Spray.....	\$ 15.81	3.26
Power equipment operators:		
Backhoe.....	\$ 16.36	2.48
Front End Loader.....	\$ 17.24	3.23
Skid Loader.....	\$ 15.37	4.41

TEAM0455-002 07/01/2011

	Rates	Fringes
Truck drivers:		
Pickup.....	\$ 18.41	3.87
Tandem/Semi and Water.....	\$ 19.04	3.87

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Career Service Authority
Supplemental to the Davis-Bacon HEAVY Construction Projects rates
(Specific to the Denver Projects)
(Supp #74, Date: 02-03-2012)

Classification		Base	Fringe
Millwrights		\$28.00	\$10.00
Line Construction:			
	Lineman, Gas Fitter/Welder	\$36.88	\$9.55
	Line Eq Operator/Line Truck Crew	\$25.74	\$8.09
Power Equipment Operators (Tunnels Above and Below Ground, shafts and raises):			
	GROUP 1	\$25.12	\$10.81
	GROUP 2	\$25.47	\$10.85
	GROUP 3	\$25.57	\$10.86
	GROUP 4	\$25.82	\$10.88
	GROUP 5	\$25.97	\$10.90
	GROUP 6	\$26.12	\$10.91
	GROUP 7	\$26.37	\$10.94
Power Equipment Operators:			
	GROUP 1	\$22.97	\$10.60
	GROUP 2	\$23.32	\$10.63
	GROUP 3	\$23.67	\$10.67
	GROUP 4	\$23.82	\$10.68
	GROUP 5	\$23.97	\$10.70
	GROUP 6	\$24.12	\$10.71
	GROUP 7	\$24.88	\$10.79
Ironworkers (Ornamental)		\$24.80	\$10.03
Laborers:			
	GROUP 1	\$17.68	\$8.22
	GROUP 2	\$18.18	\$8.27
	GROUP 3	\$21.59	\$8.61
Laborers: (Tunnel)			
	GROUP 1	\$18.53	\$8.30
	GROUP 2	\$18.63	\$8.31
	GROUP 3	\$19.73	\$8.42
	GROUP 4	\$21.59	\$8.61
	GROUP 5	\$19.68	\$8.42
Laborers (Removal of Asbestos)		\$21.03	\$8.55
Truck Drivers:			
	GROUP 1	\$18.42	\$10.00
	GROUP 2	\$19.14	\$10.07
	GROUP 3	\$19.48	\$10.11
	GROUP 4	\$20.01	\$10.16
	GROUP 5	\$20.66	\$10.23
	GROUP 6	\$21.46	\$10.31

POWER EQUIPMENT OPERATOR CLASSIFICATIONS
(TUNNELS ABOVE AND BELOW GROUND, SHAFTS, AND RAISES):

GROUP 1 - Brakeman

GROUP 2 - Motorman

GROUP 3 - Compressor

GROUP 4 - Air Tractors; Grout Machine; Gunnite Machine; Jumbo Form

GROUP 5 - Concrete Placement Pumps; Mucking Machines and Front End Loaders, Underground, Slusher; Mine Hoist Operator; Mechanic

GROUP 6 - Mechanic Welder

GROUP 7 - Mole

NOTE: Any equipment listed below being used in tunnel work, below or above ground shall be paid not less than \$2.00 per hour above the listed wage rates.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1 - Air compressor, brakeman, drill operator - smaller than Watson 2500 and similar, operators of 5 or more light plants, welding machines, generators, single unit conveyor, pumps, vacuum well point system, tractor, under 70 hp with or without attachments compressors, 360 C.F.M. or less.

GROUP 2 - Conveyor, handling **building** materials, ditch witch and similar trenching machine, haulage motor man, pugmill, portable screening plant with or without a spray bar, screening plants, with classifier.

GROUP 3 - Asphalt screed, asphalt plant, backfiller, bituminous spreader or laydown machine; cableway signalman, caisson drill, William MF, similar or larger; C.M.I. and similar, concrete batching plants, concrete finish machine, concrete gang saw on concrete paving, concrete mixer, less than 1 yd., concrete placement pumps, under 8 inches, distributors, bituminous surfaces dozer, drill, diamond or core, drill rigs, rotary, churn, or cable tool, elevating graders, elevator operator, equipment, lubricating and service engineer, grout machine, gunnite machine, hoist, 1 drum, horizontal directional drill operator, sandblasting machine, single unit portable crusher, with or without washer, tie tamper, wheel mounted, tractor, 70 hp and over with or without attachments, trenching machine operator, winch on truck.

GROUP 4 - Cable operated power shovels, draglines, clamshells, and backhoes, 5 cubic yards and under, concrete mixer over 1 cubic yard, concrete paver 34E or similar, concrete placement pumps, 8 inches and over, grade checker, hoist, 2 drums, hydraulic backhoe, 3/4 yds and over, loader, over 6 cubic yards, mechanic, mixer mobile, multiple unit portable crusher, with or without washer; piledriver, tractor with sideboom, roto- mill and similar, welder.

GROUP 5 - Cable operated power shovels, draglines, clamshells and backhoes over 5 cubic yards, caisson drill Watson 2500 similar or larger, hoist 3 drum or more, mechanic – welder (heavy-duty).

GROUP 6 - Cableway, derrick, quad nine push unit, wheel excavator, belt or elevating loader

GROUP 7 - tower cranes all types

LABORER CLASSIFICATIONS:

GROUP 1 - Janitors; Yardmen

GROUP 2 –Erosion Control, Dowel Bars; Fence Erectors; Gabion Basket and Reno mattresses; Signaling, Metal Mesh; Stake Caser; Traffic Control Devices; Tie Bars and Chairs in Concrete; Paving; Waterproofing Concrete; Air, Gas, Hydraulic Tools and Electrical Tool Operators; Barco Hammers; Cutting Torches; drill; diamond and core drills; Core, diamond, air track including but not limited to; Joy, Mustang, PR-143, 220 Gardner-**Denver**, Hydrosonic, and water blaster operator;

Chuck Tender; Electric hammers; Jackhammers; Hydraulic Jacks; Tampers; Air Tampers; Automatic Concrete Power Curbing Machines; Concrete Processing Material; Operators of concrete saws on pavement (other than gangsaws); Power operated Concrete Buggies; Hot Asphalt Labor; Asphalt Curb Machines; Paving Breakers; Transverse Concrete Conveyor Operator; Cofferdams; Boxtenders; Caisson 8' to 12'; Caisson Over 12'; Jackhammer Operators in Caissons over 12'; Labor applicable to Pipe coating or Wrapping; Pipe Wrappers, Plant and Yard; Relining Pipe; Hydroliner (a plastic may be used to waterproof); Pipelayer on Underground Bores; Sewer, Water, Gas, Oil Conduit; Enamalers on Pipe, inside and out, Mechanical Grouters; Monitors; Jeep Holiday Detector Men; Pump Operators; Rakers; Vibrators; Hydro- broom, Mixer Man; Guniting Nozzlemen; Shotcrete Operator; and chain saws, gas and electric; Sand Blaster; Licensed Powdermen; Powdermen and Blaster; Siphons; Signalmen; Dumpman/spotter; Grade Checker.

GROUP 3 - Plug and galleys in dams; Scalars; any work on or off Bridges 40' above the ground performed by Laborers working from a Bos'n Chair, Swing Stage, Life Belt, or Block and Tackle as a safety requirement.

TUNNEL LABORER CLASSIFICATIONS:

GROUP 1 - Outside Laborer - Above ground

GROUP 2 - Minimum Tunnel Laborer, Dry Houseman

GROUP 3 - Cable or Hose Tenders, Chuck Tenders, Concrete Laborers, Dumpmen, Whirley Pump Operators

GROUP 4 - Tenders on Shotcrete, Guniting and Sand Blasting; Tenders, core and Diamond Drills; Pot Tenders

GROUP 5 - Collapsible Form Movers and Setters; Miners; Machine Men and Bit Grinders; Nippers; Powdermen and Blasters; Reinforcing Steel Setters; Timberman (steel or wood tunnel support, including the placement of sheeting when required); and all Cutting and Welding that is incidental to the Miner's work; Tunnel Liner Plate Setters; Vibrator Men, Internal and External; Unloading, stopping and starting of Moran Agitator Cars; Diamond and Core Drill Operators; Shotcrete operator; Guniting Nozzlemen; Sand Blaster; Pump Concrete Placement Men.

TRUCK DRIVER CLASSIFICATIONS:

GROUP 1 - Sweeper Truck, Flat Rack Single Axle and Manhaul, Shuttle Truck or Bus.

GROUP 2 - Dump Truck Driver to and including 6 cubic yards, Dump Truck Driver over 6 cubic yards to and including 14 cubic yards, Straddle Truck Driver, Liquid and Bulk Tankers Single Axle, Euclid Electric or Similar, Multipurpose Truck Specialty and Hoisting.

GROUP 3 - Truck Driver Snow Plow.

GROUP 4 - Cement Mixer Agitator Truck over 10 cubic yards to and including 15 cubic yards.

WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental.

Exhibit H

Incorporated by reference
General Contract Conditions
Table of contents attached

**General Contract Conditions
2011 Edition**

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

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Exhibit I
Special Contract Conditions

**EXHIBIT I
SPECIAL CONTRACT CONDITIONS**

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

SC-1 CONSTRUCTION SPECIFICATIONS

Except as amended herein or in the attached Technical Specifications, all Work performed under the terms of this Contract shall be governed by the applicable provisions of the following latest editions:

Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS, City and County of Denver (The Index for which is bound herein and commonly referred to as the "Yellow Book") (2011 Edition)

Colorado Department of Transportation "Standard Specifications for Road and Bridge Construction" (Sections 200 through 700 of the 2011 Edition).

Transportation Standards and Details for the Engineering Division, City and County of Denver (January, 2013)

Manual on Uniform Traffic Control Devices for Streets & Highways (MUTCD)

Building Code of the City and County of Denver

National Fire Protection Association Standards (As referenced in the Building Code of the City and County of Denver)

Wastewater Management Division – Detail and Technical Specifications for Storm and Sanitary Construction.

The aforementioned documents are available for review at the Capital Projects Management Office, 201 W. Colfax Ave., Dept. 506, (5th floor), Denver, CO 80202. *The Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS, City and County of Denver*, and the *Standards and Details for the City and County of Denver* are available online at:

<http://www.denvergov.org/Portals/480/documents/2011%20DENVER%20GENERAL%20CONTRACT%20CONDITIONS.pdf>

<http://www.denvergov.org/rightofwayservices/RightofWayServices/ConstructionInspection/RightofWayConstructionInspection/StandardsandDetails/TransportationStandardsandDetails/tabid/442463/Default.aspx>

<http://www.denvergov.org/wastewatermanagement/WastewaterManagement/EngineeringandPermits/StandardsandDetails/tabid/438018/Default.aspx>

The *Manual on Uniform Traffic Control Devices for Streets & Highways* is available for review as stated above, or can be viewed at the Federal Highway Administration Website at: www.fhwa.dot.gov, where you will also find purchase information.

The “*Colorado Department of Transportation Standard Specifications for Road and Bridge Construction*” is available for review as stated above, or can be purchased from the Colorado Department of Transportation.

The *Wastewater Management Division – Detail and Technical Specifications for Storm and Sanitary Construction*, is available at Wastewater Management Division, 2000 W. 3rd Avenue, Denver, CO 80223

SC-2 CITY DELEGATION OF AUTHORITY

With reference to General Contract Condition 109, DEPUTY MANAGER, General Contract Condition 206, ENGINEERING DIVISION and General Contract Condition 214, CITY’S CONTRACT ADMINISTRATION LINE OF AUTHORITY, the Manager hereby designates the City Engineer as the City official responsible for those certain actions and decisions designated as the responsibility of the Deputy Manager under the General Conditions and delegates to the City Engineer the authority necessary to undertake those responsibilities under this Contract. The Director shall have supervisory responsibility over the Project Manager. Additionally, Contractor questions concerning the Plans and Technical Specifications shall be directed to:

Denver Department of Public Works / Engineering Division

<u>Project Manager</u> Mike Harmer, City Project Manager	<u>Telephone</u> 720-913-4526	
<u>Consultant</u> Design Consultant	<u>Name</u> Consultant Contact	<u>Telephone</u>

SC-3 CONTRACT AMOUNT; BID PRICE, GUARANTEED MAXIMUM PRICE

General Condition 103, CONTRACT AMOUNT, is hereby deleted in its entirety and replaced with the following:

“Contract Amount,” “Bid Price,” “Bid Amount,” or “Maximum Contract Amount” means the Lump Sum under the Contract.

In the General Conditions, the phrases “provided to the City at no cost,” “at no cost to the City,” “cost . . . shall be borne by the Contractor,” “costs shall be reimbursed by the Contractor,” “at the expense of the Contractor,” “Contractor shall bear any and all costs,”

and “Contractor shall bear any and all additional costs,” mean that the costs in question are to be included in the Lump Sum without any increase to the Maximum Contract Amount. Also, whenever a General Condition states that the Contractor shall be required to take any action, or responsible for any action or thing, it means that such requirements and responsibilities are included in the Lump Sum without any increase to the Maximum Contract Amount, unless there is a specific statement to the contrary as to any such requirement or responsibility.

SC-4 TIME OF BIDDING; TIME OF CONTRACTING

In the General Conditions, the words “Time of Bidding,” “Bidding,” and the like, shall mean the time when the Contract is signed.

SC-5 CONTRACT DOCUMENTS

General Condition 104 CONTRACT DOCUMENTS is hereby deleted in its entirety and replaced with the following:

"The Contract Documents" consist of the documents which are listed in the Contract Form."

SC-6 CONTRACT TIME

General Condition 105 CONTRACT TIME is hereby deleted in its entirety and replaced with the following:

"Contract Time" is the time specified in the Contract within which the Contractor is required to substantially complete the Work. Substantial Completion shall occur prior to Final Completion. The Contract Documents may require completion on or before a certain specified date.

SC-7 DEPUTY MANAGER/CITY ENGINEER

General condition 109 DEPUTY MANAGER is hereby deleted in its entirety and replaced with the following:

The “Deputy Manager” means the official who reports directly to the Manager and exercises supervisory responsibility in the City agency defined in Title 2 herein that is responsible for the Project. The Manager hereby designates the City Engineer as the Deputy Manager for purposes of this Contract. The City Engineer shall have responsibility for this Project and shall undertake all duties, responsibilities, rights and authority, including specific actions and decisions, delegated to the Deputy Manager under the various terms and conditions of this Contract.

SC-8 RESERVED

SC-9 WORK

General Condition 121 WORK is hereby deleted in its entirety and replaced with the following:

The terms "Scope of Work" or "Work" as used herein shall mean all Preconstruction and Construction Phase services required by or inferable from the Contract Documents, whether completed or partially completed, and includes all other labor, management, administration, supervision, materials, supplies, manufactured components, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations under the Contract.

SC-10 WORKING HOURS AND SCHEDULE

General Condition 306 WORKING HOURS AND SCHEDULE is hereby deleted in its entirety and replaced with the following:

1. Work shall normally not be done on Saturdays, Sundays, City observed holidays, or outside of the daytime working hours which may be specified in the Special Conditions, except for such work as may be necessary for proper care, maintenance, and protection of Work already done, or in cases when the Work would be endangered or when hazard to life or property would result. The Contractor shall comply with Denver's noise control ordinance during all working hours.
- 2.. If the Contractor believes it may be necessary to work on Saturdays, Sundays, holidays, city furlough days, or at night, the Contractor shall make prior arrangements with the Project Manager and receive written approval at least twenty-four (24) hours before such work period so that proper inspection and engineering services can be provided. Such approval may be revoked by the Project Manager if the Contractor fails to maintain adequate equipment and lighting at night for the proper prosecution, control and inspection of the Work. If Work is done outside of approved working hours, and the Project Manager has not assigned inspectors to the Work, the Work performed during those periods of time may be declared defective solely on the grounds that it was not properly inspected.
3. The Contractor shall schedule and coordinate the performance of all of its Subcontractors and Suppliers, including their use of the Work site. The Contractor shall keep the Subcontractors and Suppliers informed of the Project construction schedule to enable the Subcontractors and Suppliers to plan and perform their work properly.
4. The Contractor shall submit, with ten days of contract execution a construction schedule which shall provide for the expeditious and practicable execution of the Work. Such construction schedule shall be in a Critical Path Method (CPM) format or such other format approved by

the Project Manager. This Schedule shall be considered, upon City acceptance, the baseline schedule for the Project. A Critical Path Method schedule shall be required in any event for any Contractor Change Request pursuant to G.C. 1103.4 and any resulting claim. The receipt of the schedule by the Project Manager shall in no way constitute acceptance of the Contractor's anticipated schedule of construction activities. The schedule will be reviewed for comment by the Project Manager. The Project Manager's review and comment on the schedule shall not constitute approval or acceptance thereof by the City.

5. The Critical Path Method schedule shall provide reasonable detail as described in the Technical Specifications and shall include a time scaled network and computer printout. Additionally, "Float or Slack" is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any activities in the schedule. Float or slack is not time for the exclusive use or benefit of either the Contractor or the City.
6. The Contractor shall, once a month, submit a progress report and an updated schedule in a form acceptable to the Project Manager.

SC-11 SUBCONTRACTOR ACCEPTANCE

General Condition 502, SUBCONTRACTOR ACCEPTANCE, is hereby deleted in its entirety and replaced by the following:

1. Except as provided in the City's Small Business Enterprise (SBE), Disadvantaged Business Enterprise (DBE), or Minority and Women Business Enterprise (M/WBE) contracting requirements, the City recognizes that prior to proposing, the Contractor may not have been able to negotiate for all portions of the Work which the Contractor proposes to subcontract. The City will, therefore, permit the Contractor to propose additional Subcontractor(s) at any time during the Contract period provided, however, that any limitation on subcontracting has not been exceeded, and that all such SBE, DBE, or M/WBE requirements are adhered to, including, if applicable, the Contractor's SBE or M/WBE Compliance Plan. If the proposed Subcontractor(s) are acceptable and the City, by letter to the Contractor, approves of the Subcontractor(s), the Contractor may enter into agreements with these parties. If any proposed Subcontractor(s) are not acceptable to the City, the Contractor must submit for City approval the names of substitute Subcontractors.
2. Each Subcontractor which the Contractor expects to perform Work must be accepted in writing by the Project Manager before the Subcontractor begins work. The acceptance or rejection of any proposed Subcontractor shall be at the Project Manager's sole discretion. The reasons the Project

Manager may use for not accepting a Subcontractor include, but are not limited to, the following:

- A. Default on a contract within the last five (5) years.
 - B. Default on a contract which required that a surety complete the contract under payment or performance bonds issued by the surety.
 - C. Debarment within the last five (5) years by a public entity or any organization which has formal debarment proceedings.
 - D. Significant or repeated violations of Federal Safety Regulations (OSHA).
 - E. Failure to have the specific qualifications listed in the Contract Documents for the work that the Subcontractor will perform.
 - F. Failure to have the required City or Colorado licenses to perform the work described in the subcontract.
 - G. Failure to pay workers the proper wage and benefits or to pay suppliers or subcontractors with reasonable promptness within the last five (5) years.
 - H. Conviction, plea of nolo contendere, entry into a formal agreement admitting guilt or entry of a plea of guilty or otherwise admitting culpability to criminal offenses of bribery, kickbacks, collusive bidding, bid-rigging, anti-trust, fraud, undue influence, theft, racketeering, extortion or any offense of a similar nature in connection with Subcontractor's business, on the part of Subcontractor's principal owners, officers, or employees, within the last five (5) years.
 - I. Failure to pay taxes or fees to the City.
 - J. Evidence that the Subcontractor was selected by the Contractor through the process of bid shopping, dishonesty or buyout.
3. The Contractor shall submit a statement signed by an officer or principal of the Contractor certifying that the Contractor has investigated the qualifications and background of each proposed Subcontractor and certifying under oath that, to the best of his or her knowledge, none of the bases for rejection listed above exist. In lieu of this certification, the Contractor may identify, for each proposed Subcontractor, any of the issues listed above applicable to that Subcontractor and attach to that statement a list of all judicial and administrative proceedings in the last

five (5) years in which any proposed Subcontractor is or was a party, the proceedings involving any of the issues listed above or in which any proposed Subcontractor filed for bankruptcy.

4. This Title 5 does not create, and shall not be interpreted as creating, any contractual relationship or privity of contract between the City and any Subcontractor. The acceptance or rejection of a proposed Subcontractor shall not create in that Subcontractor a right to any subcontract nor shall said acceptance or rejection relieve the Contractor of its responsibilities for the work of any Subcontractor.

SC-12 PAYMENT PROCEDURE

The application for payment shall be submitted through Textura® Corporations Construction Management Website. Contractor recognizes and agrees that it shall be required to use the Textura Construction Payment Management System for this Project. Contractor further agrees that, to the fullest extent possible within the CPM System, the City shall be entitled to all non-Confidential records, reports, data and other information related to the project that are available to Contractor through the CPM System, including, but not limited to, information related to Contractor and subcontractor billings. To that end, Contractor agrees that it will activate any available settings within the CPM System that are necessary to grant the City access to such non-Confidential information related to the contract and the project. Applications for payment shall be based on the Contract Unit Prices or the approved Schedule of Values described in GC 903.1

In accordance with General Contract Condition 902, PAYMENT PROCEDURE, the party(ies) responsible for review of all Pay Applications shall be:

<u>Agency/Firm</u>	<u>Name</u>	<u>Telephone</u>
Public Works/Engineering Division	Michael Harmer	720-913-4526
Parks and Recreation	Michael Bouchard	720-913-0613
Public Works/Engineering Division	Augie Maestas	303-513-6778

In accordance with General Contract Condition 906, APPLICATIONS FOR PAYMENT, each Application submitted shall include the following:

1. The estimate of Work completed shall be based on the approved schedule of values or unit prices, as applicable, and the percent of the Work complete.
2. Each Application for Payment shall include each and every independent subcontractor's payroll information including pay dates and pay amounts.
3. The Contractor shall also submit to the Auditor and other appropriate officials of the City in a timely fashion, information required by General Contract Condition 1004, REPORTING WAGES PAID.

In accordance with General Contract condition 907, RELEASES AND CONTRACTORS CERTIFICATION OF PAYMENT, Applications for Payment must be accompanied by completed Partial or Final Claim Release Form, as appropriate, from EACH

subcontractor and supplier, **AND/OR** the Contractors' Certification of Payment Form. The forms, Final/Partial Release and Certificate of Payment (Subcontractor/Supplier) and the Contractor's Certification of Payment, both of which must be used are attached.

SC-13 DIFFERING SITE CONDITIONS

General Condition 1401, Differing Site Conditions, is hereby deleted in its entirety and replaced by the following:

1. The Contractor shall immediately, and before such conditions are disturbed, notify the Project Manager, first orally and later with a properly documented letter, of the following:
 - A. Subsurface or latent physical conditions at the Work site differing materially from those indicated in the Contract Documents, or physical conditions differing from those conditions present at the time of bidding; or
 - B. Unknown physical conditions at the Work site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents or
 - C. Subsurface or latent physical conditions that could not be inferred from, and that will require specialized handling and/or disposal methods that could not have been anticipated by, the Johnson Habitat and Grant Frontier Parks Limited Landfill Evaluation dated September 19, 2012.
2. The City shall promptly investigate the conditions, and if it finds that such conditions do materially differ and could not have been discovered, or reasonably inferred, from the Contract Documents and the Johnson Habitat and Grant Frontier Parks Limited Landfill Evaluation dated September 19, 2012, or a thorough inspection of the Work site by the Contractor and such conditions cause an increase or decrease in the Contract Amount, or Contract Time, the City shall issue a Field Order/Change Directive as specified in GC 1102.
3. If the Contractor has not fully complied with the notice and submittal requirements of this GC 1401 and GC 1102, with particular attention to not disturbing the site prior to allowing the Project Manager to investigate the condition, the Contractor shall be deemed to have waived its right to assert a claim for an adjustment in the Contract Amount or Contract Time arising out of such differing site conditions.

SC-14 SITE INSPECTIONS AND INVESTIGATIONS

General Condition 1402, Site Inspections and Investigations, is hereby deleted in its entirety and replaced by the following:

1. Site Conditions: Drawings and specifications defining the Work to be done were prepared on the basis of interpretation by Design Professionals of information derived from investigations of the Work site. Such information and data are subject to sampling errors, and the interpretation of the information and data depends to a degree on the judgment of the Design Professional. Information about the degree of difficulty of the Work to be

done cannot totally be derived from either the drawings and specifications or from the Project Manager. The Contractor shall not be entitled to an adjustment to the Contract Time or Contract Amount for any condition which was or would have been evident at the time of a pre-bid site inspection except for conditions described in Section 1401, paragraph 1. By executing the Contract, the Contractor represents that it has visited the site if and to the extent it believed necessary, familiarized itself with the location and conditions under which the Work is to be performed and correlated its observations with the requirements of the Contract Documents. The Contractor shall not be entitled to an adjustment to the Contract Time or Contract Amount for any condition which was or would have been evident at the time of a pre-bid site inspection except for conditions described in Section 1401, paragraph 1.

2. Geotechnical and Other Design Professional Reports, Investigations and Tests:

- A. The Contractor acknowledges that certain soils reports, borings, and other geotechnical data, more particularly described or referenced in the Technical Specifications of the Contract, have been made available for inspection and review. The borings were made for the use of the City in the design of the Project and are not intended to be interpreted for use in temporary construction facilities designed by the Contractor.
- B. The City in no way warrants the accuracy or reliability of said borings and other geotechnical data or of the data, information or interpretations contained in said soils reports, and is not responsible for any deduction, interpretation, or conclusion drawn therefrom by the Contractor. Said soil reports may contain interpretations by Design Professionals of borings and geotechnical data obtained at the Work site. Such borings and geotechnical data are subject to sampling errors, and any interpretations or conclusions based on such borings and data depend to a degree on the judgment of the Design Professionals.
- C. The Contractor agrees that it will make no claims against the City if, in performing the Work, it finds that the actual conditions encountered do not conform to those indicated by said soil reports, borings and other geotechnical data, or those reasonably inferred therefrom or reasonably discoverable by a thorough inspection of the site by the Contractor or that could not be inferred from, and that will require specialized handling and/or disposal methods that could not have been anticipated by, the Johnson Habitat and Grant Frontier Parks Limited Landfill Evaluation dated September 19, 2012.

SC-15 MATERIAL DEPOSITS

Contractor shall be solely responsible for deposits necessary to secure materials. Materials will be paid for pursuant to the terms of this Agreement.

SC-16 RESERVED

SC-17 SURETY BONDS

General Condition 1501, SURETY BONDS, is hereby deleted in its entirety and replaced by the following:

1. Payment and performance bonds must be issued by a corporate surety authorized to do business in the State of Colorado and approved by the Mayor, the Manager and the City Attorney.
2. Before the Contract is executed, the Contractor shall have furnished such surety bonds and appropriate Powers of Attorney as a guarantee of the faithful performance of the Contract and the payment of bills for labor and materials.
3. The Manager may direct, at his sole discretion, that the required payment and performance bonds be combined in a format approved by the City Attorney.
4. The Contractor shall provide a Consent of Surety for any duly executed Change Order that increases the Contract Amount, thereby increasing the penal sum of the bonds.
5. The form of the Performance and Payment Bond to be used by the Contractor is included in the Contract Documents.

SC-18 CONSTRUCTION INSPECTION BY THE CITY

General Condition 1701, CONSTRUCTION INSPECTION BY THE CITY, is modified as follows:

1. Persons who are employees of the City or who are under contract to the City or the City as lessee will be assigned to inspect and test the Work. These persons may perform any tests and observe the Work to determine whether or not designs, materials used, manufacturing and construction processes and methods applied, and equipment installed satisfy the requirements of the drawings and specifications, accepted Shop Drawings, Product Data and Samples, and the Contractor's warranties and guarantees. The Contractor shall permit these inspectors unlimited access to the Work and provide means of safe access to the Work, which cost shall be included as a Cost of the Work without any increase to the Lump Sum Price. In addition, Contractor shall provide whatever access and means of access are needed to off-site facilities used to store or manufacture materials and equipment to be incorporated into the Work and shall respond to any other reasonable request to further the inspector's ability to observe or complete any tests. Such inspections shall not relieve the General Contractor of any of its quality control responsibilities or any

other obligations under the Contract. All inspections and all tests conducted by the City are for the convenience and benefit of the City. These inspections and tests do not constitute acceptance of the materials or Work tested or inspected, and the City may reject or accept any Work or materials at any time prior to the inspections pursuant to G.C. 2002, whether or not previous inspections or tests were conducted by the inspector or a City representative.

2. The Building Inspection Division will perform building code compliance inspections for structures designed for human occupancy. It is the Contractor's responsibility to schedule and obtain these inspections. If a code compliance inspection results in identification of a condition which will be at variance to the Contract Documents, the Contractor shall immediately notify the Project Manager and confirm such notification with formal correspondence no later than forty-eight (48) hours after the occurrence.
3. When any unit of government or political subdivision, utility or railroad corporation is to pay a portion of the cost of the Work, its respective representatives shall have the right to inspect the Work. This inspection shall not make any unit of government or political subdivision, utility or railroad corporation a party to the Contract, and shall not interfere with the rights of either party.

SC-19 AUTHORITY OF INSPECTORS

General Condition 1702, AUTHORITY OF INSPECTORS, is hereby deleted in its entirety and replaced by the following:

Inspectors assigned to the Work by the Project Manager are authorized to reject any Work, any materials, or any component of the Work which is not as required or specified in the Contract Documents. Such rejection will be confirmed by the Project Manager in writing to the Contractor. Inspections may extend to all or any part of the Work and to the preparation, fabrication or manufacture of the materials to be used. The inspector is not authorized to alter or waive the provisions of the Contract Documents, nor is the inspector authorized to issue instructions contrary to the provisions of the Contract Documents or to act as foreman for the Contractor.

SC-20 TERMINATION OF CONTRACT FOR CONVENIENCE OF THE CITY

General Condition 2202, TERMINATION OF CONTRACT FOR CONVENIENCE OF THE CITY, is hereby deleted in its entirety and replaced by the following:

1. The performance of Work under the Contract may be terminated without cause by the City in whole or in part whenever the Manager, in his sole discretion, shall determine that such termination is in the best interest and convenience of the City or whenever the City is prohibited from

completing the Work for any reason. Such termination shall be effected by giving not less than three (3) Days' written notice to the Contractor specifying the extent to which performance of the Work is terminated and the date upon which such termination becomes effective.

2. Upon receipt of such notice of termination, the Contractor shall:
 - A. Stop work as specified in the notice;
 - B. Terminate all orders and subcontracts except as necessary to complete Work which is not terminated;
 - C. If directed in writing by the Manager to do so, assign all right, title, and interest in subcontracts and materials in progress, in which case the City will have the right, in its discretion, to settle or pay any or all Claims arising out of the termination of such subcontracts;
 - D. Settle outstanding liabilities and claims with the approval of the Manager;
 - E. Complete performance of such part of the Work as has not been terminated; and
 - F. Take such other actions as may be necessary, or as may be directed by the City, for the protection and preservation of the property related to the Contract.
3. Except as provided herein, any inventory resulting from the termination of the Contract may, with written approval of the Manager, be sold or acquired by the Contractor under the conditions prescribed by and at prices approved by the City.
4. Upon receipt of notice of such termination, the Contractor shall submit to the Project Manager a request for final payment, in a form and with certification prescribed by the City. Such request shall be submitted promptly but in no event later than sixty (60) Days from the effective date of termination, unless extended in writing by the Project Manager upon the written request of the Contractor within such sixty (60) Day period.
5. The final payment to the Contractor after a termination for convenience shall be calculated by adding the following amounts:
 - (1) Any actual costs incurred by the Contractor since the last approved pay request;

- (2) The actual costs incurred by the Contractor for terminating the Work and for protecting the Work in the manner, if any, directed by the City; and
 - (3) The amount of retainage withheld by the City to date.
6. The acceptance of final payment as calculated above shall constitute a waiver of all Claims by the Contractor except those previously made in accordance with G.C. 1301 which have been separately identified by the Contractor as unsettled in the final Project Application for Payment.
7. The Manager may, from time to time, under such terms and conditions as the Manager may prescribe, authorize partial payments and payments against costs incurred by the Contractor for the terminated portion of the Contract, if it is estimated that the total of such payments will not exceed the amount to which the Contractor will be entitled. If the total of such payments is in excess of the amount to which the Contractor is entitled, the excess shall be payable by the Contractor to the City upon demand, together with interest computed pursuant to statute, for the period from the date the excess payment is received by the Contractor to the date the excess is repaid to the City.
8. The settlement for the Work performed shall not relieve the Contractor or its surety from responsibility for defective Work and/or materials on the completed portion of the Work nor for labor and materials or any other items as guaranteed by the surety bond or bonds.
9. The City shall be given full access to all books, correspondence, records, electronic files and data bases, and other materials of the Contractor relating to the Contract in order to determine the amounts to be paid on account of the termination of the Contract under this G.C. 2202. The Contractor shall, as requested by the City, furnish clear copies of any such materials.
10. In the event the parties fail to agree in whole or in part on the amount or amounts to be paid to the Contractor in connection with the termination of work pursuant to this G.C. 2202, the Contractor may appeal the Project Manager's determination as to the amount owed in accordance with Title 13, except that, if the Contractor has failed to submit its request for payment within the time provided above and has failed to request an extension of such time, it shall have no such right of appeal.

SC-21 SUBCONTRACTS

In accordance with General Contract Condition 501, SUBCONTRACTS, no limit shall apply to that percentage of the Work, which may be sublet providing that the

subcontractors receive prior approval in accordance with General Contract Condition 502, SUBCONTRACTOR ACCEPTANCE.

SC-22 RESERVED

SC-23 DISPOSAL OF NON-HAZARDOUS WASTE AT DADS

In accordance with the Landfill Agreement made between the City and Waste Management of Colorado, Inc., bidders will be required to haul dedicated loads (non-hazardous entire loads of waste) to the Denver-Arapahoe Disposal Site (“DADS”) for disposal. DADS is located at Highway 30 and Hampden Avenue in Arapahoe County, Colorado. The City will pay all fees associated with such disposal but the bidder shall be responsible for the costs of transporting the loads. Non-hazardous waste is defined as those substances and materials not defined or classified as hazardous by the Colorado Hazardous Waste Commission pursuant to C.R.S. §25-15-207, as amended from time to time, and includes construction debris, soil and asbestos. Bidders shall not use Gun Club Road between I-70 and Mississippi Avenue as a means of access to DADS.

SC-24 PROHIBITION ON USE OF CCA-TREATED WOOD PRODUCTS

The use of any wood products pressure-treated with chromated copper arsenate (CCA) is prohibited. Examples of CCA-treated wood products include wood used in play structures, decks, picnic tables, landscaping timbers, fencing, patios, walkways and boardwalks.

SC-25 WAIVER OF: PART 8 OF ARTICLE 20 OF TITLE 13, COLORADO REVISED STATUTES.

The Contractor specifically waives all the provisions of Part 8 of Article 20 of Title 13, Colorado Revised Statutes regarding defects in the Work under this Construction Contract.

SC-26 DEBARRED SUBCONTRACTORS PROHIBITED

The Contractor is prohibited from hiring any subcontractor currently debarred by the City in accordance with section 20-77 of the Denver Revised Municipal Code.

SC-27 ATTORNEY’S FEES

Colorado Revised Statute 38-26-107 requires that in the event any person or company files a verified statement of amounts due and unpaid in connection with a claim for labor and materials supplied on this project, the City shall withhold from payments to the Contractor sufficient funds to insure the payment of any such claims. Should the City and County of Denver be made a party to any lawsuit to enforce such unpaid claims or any lawsuit arising out of or relating to such withheld funds, the Contractor agrees to pay

to the City its costs and a reasonable attorney's fee which cost shall be included as a Cost of the Work.

Because the City Attorney Staff does not bill the City for legal services on an hourly basis, the Contractor agrees a reasonable fee shall be computed at the rate of one hundred dollars per hour of City Attorney time.

Exhibit J

Incorporated by reference

Advertisement of Notice of Invitation for Proposals, dated May 10, 2013

Exhibit K

Incorporated by reference

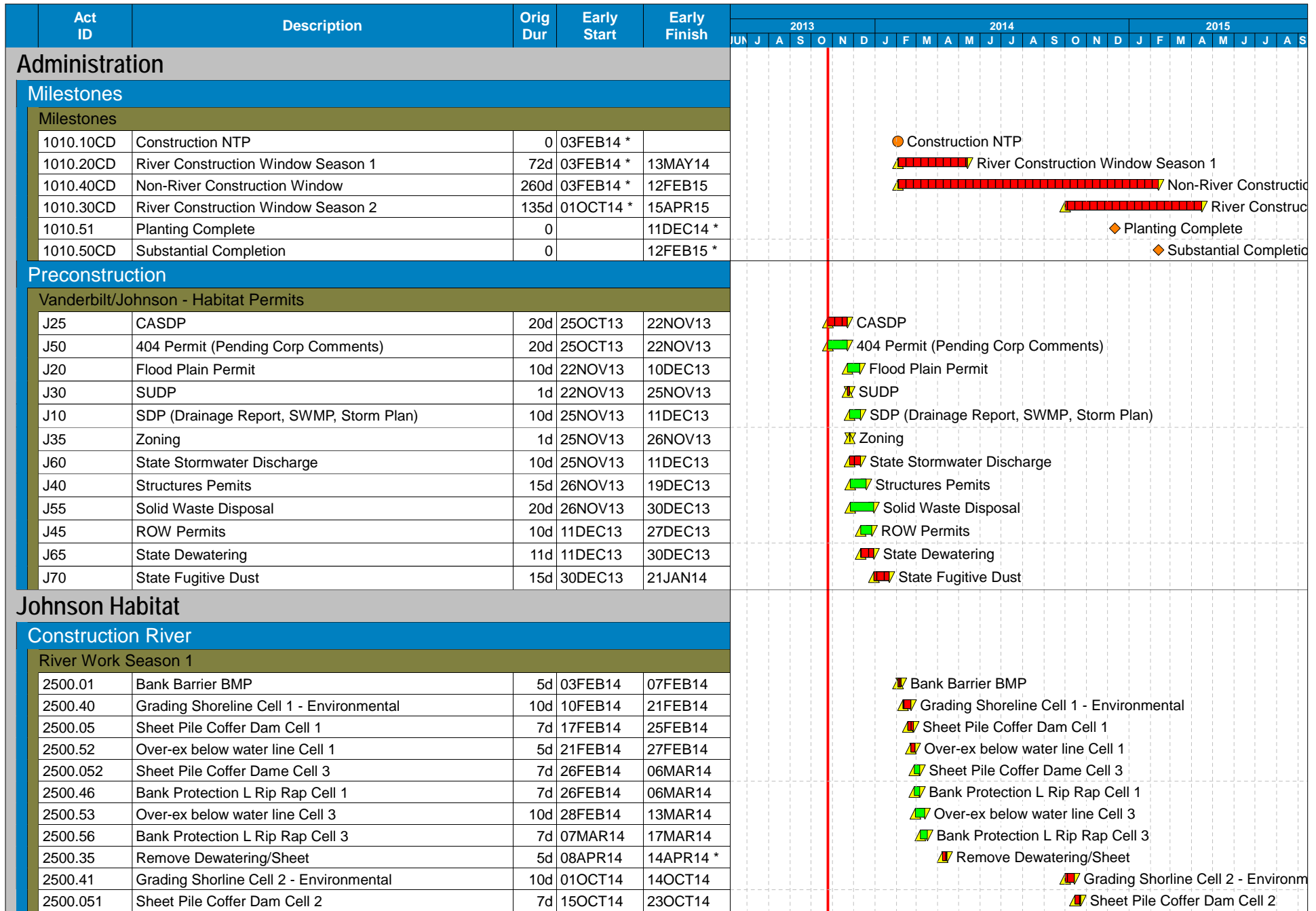
Request for Proposals (RFP), dated May 10, 2013

Exhibit L

Incorporated by reference

Contractor Response to RFP, dated June 18, 2013

Exhibit M
Construction Schedule



Start date 14JUN13
 Finish date 15APR15
 Data date 25OCT13
 Run date 16DEC13
 Page number 1A
 Number/Version CPM 10.18.13
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ECI Site Construction River Vision

Act ID	Description	Orig Dur	Early Start	Early Finish	2013												2014												2015													
					JUN J A S O N D J F M A M J J A S O N D J F M A M J J A S																																					
2500.42	Grading Shoreline Cell 3 - Environmental	10d	15OCT14	28OCT14																																						Grading Shoreline Cell 3 - Enviro
2500.30	Setup Well Points	2d	20OCT14	21OCT14																																						Setup Well Points
2500.45	Dewatering	45d	21OCT14	24DEC14																																						Dewatering
2500.521	Over-ex Below water line Cell 2	5d	21OCT14	27OCT14																																						Over-ex Below water line Cell 2
2500.09	Sculpted Concrete Jetty Prep	10d	28OCT14	10NOV14																																						Sculpted Concrete Jetty Prep
2500.47	Bank Protection M Rip Rap	5d	28OCT14	03NOV14																																						Bank Protection M Rip Rap
2500.10	Sculpted Concrete Jetty South	20d	04NOV14	03DEC14																																						Sculpted Concrete Jetty South
2500.55	Boulders at Jetty	20d	04NOV14	03DEC14																																						Boulders at Jetty
2500.65	River Plantings	20d	04NOV14	03DEC14																																						River Plantings
Construction Non-River																																										
Demolition																																										
2000.35	Temporary Fence	2d	03FEB14	04FEB14																																						Temporary Fence
2000.10	Trail Detour	3d	04FEB14	06FEB14																																						Trail Detour
2000.25	Erosion Control (silt fence, VTC, concrete w/o)	8d	04FEB14	13FEB14																																						Erosion Control (silt fence, VTC, concrete w/o)
2000.30	Tree Removals	8d	05FEB14	14FEB14																																						Tree Removals
2000.50	Clear & Grub	7d	05FEB14	13FEB14																																						Clear & Grub
2000.75	Tree Protection	2d	05FEB14	06FEB14																																						Tree Protection
2000.05	Survey	2d	12FEB14	13FEB14																																						Survey
2000.55	Stockpile Stumps/Logs	3d	14FEB14	18FEB14																																						Stockpile Stumps/Logs
2000.40	Remove Concrete Trail	10d	17FEB14	28FEB14																																						Remove Concrete Trail
2000.45	Remove Asphalt Milling Parking	3d	03MAR14	05MAR14																																						Remove Asphalt Milling Parking
Earthwork																																										
2100.05	Earthwork ACS - Above Water Line	17d	03MAR14	25MAR14																																						Earthwork ACS - Above Water Line
2100.10	Import Soil	20d	26MAR14	22APR14																																						Import Soil
2100.20	Shaping Final Grades	20d	16APR14	13MAY14																																						Shaping Final Grades
Utilities																																										
2150.10	Utility Relocation - Xcel	5d	14MAY14	20MAY14																																						Utility Relocation - Xcel
Concrete Flatwork																																										
3100.20	Concrete Road Paving 11"	2d	27MAR14	28MAR14																																						Concrete Road Paving 11"
3100.10	Curb & Gutter	5d	31MAR14	04APR14																																						Curb & Gutter
3100.15	Concrete Curb Ramps	2d	07APR14	08APR14																																						Concrete Curb Ramps
3100.05	Concrete Trail Paving	22d	23APR14	22MAY14																																						Concrete Trail Paving
3200.10	Concrete Thickened Edge	15d	23MAY14	13JUN14																																						Concrete Thickened Edge
3100.40	Decorative Concrete	22d	16JUN14	16JUL14																																						Decorative Concrete
3100.25	Concrete Edge	8d	08JUL14	17JUL14																																						Concrete Edge
Asphalt Paving																																										
3150.05	Asphalt Paving	15d	07APR14	25APR14																																						Asphalt Paving
3150.10	Striping	1d	28APR14	28APR14																																						Striping

Start date 14JUN13
Finish date 15APR15
Data date 25OCT13
Run date 16DEC13
Page number 2A
Number/Version CPM 10.18.13
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ECI Site Construction River Vision

- Early bar
- Early start point
- Early finish point
- Progress bar
- Critical bar
- Summary bar
- Start milestone point
- Finish milestone point

Act ID	Description	Orig Dur	Early Start	Early Finish	2013												2014												2015											
					JUN J A S O N D J F M A M J J A S O N D J F M A M J J A S												JUN J A S O N D J F M A M J J A S												JUN J A S O N D J F M A M J J A S											
Concrete Walls																																								
3100.30	Concrete Retaining Wall	20d	14MAY14	11JUN14	Concrete Retaining Wall																																			
3100.35	Concrete Seat Wall	25d	12JUN14	17JUL14	Concrete Seat Wall																																			
Stone Retaining Walls																																								
3200.70	Slabstone Granite Retaining Walls	85d	14MAY14	12SEP14	Slabstone Granite Retaining Walls																																			
3200.15	Stone Steps	15d	16JUN14	07JUL14	Stone Steps																																			
3200.50	Boulder Seating	22d	08JUL14	06AUG14	Boulder Seating																																			
3200.80	Landscape Boulders	45d	07AUG14	09OCT14	Landscape Boulders																																			
Childrens Play Areas																																								
3200.35	Subsurface Drainage	5d	18JUL14	24JUL14	Subsurface Drainage																																			
3200.25	Environmental Playscape	35d	25JUL14	12SEP14	Environmental Playscape																																			
2900.05	Gunite Boulders	42d	10OCT14	10DEC14	Gunite Boulders																																			
3200.30	Climbing Area Playscape	30d	18NOV14	06JAN15	Climbing Area Playscape																																			
3200.40	Fibar	2d	07JAN15	08JAN15	Fibar																																			
Structures																																								
2900.20	Shade Structures	120d	23APR14	10OCT14	Shade Structures																																			
2900.15	Wood Decking	20d	15SEP14	10OCT14	Wood Decking																																			
2900.30	Fire Pit	20d	15SEP14	10OCT14	Fire Pit																																			
2900.10	Wood Raised Garden Beds	15d	13OCT14	31OCT14	Wood Raised Garden Beds																																			
2900.35	Fox Hollow Structure (GFRC)	25d	13OCT14	14NOV14	Fox Hollow Structure (GFRC)																																			
2900.25	Entry Gateway	15d	17NOV14	09DEC14	Entry Gateway																																			
3200.20	Misc Structures (GFRC)	21d	17NOV14	17DEC14	Misc Structures (GFRC)																																			
Landscape/Irrigation																																								
2800.50	Irrigation Mainline	30d	23APR14	04JUN14	Irrigation Mainline																																			
2800.10	Import Topsoil	10d	08JUL14	21JUL14	Import Topsoil																																			
2800.05	Soil Prep	12d	22JUL14	06AUG14	Soil Prep																																			
2800.65	Crusher Fines Trail	15d	05SEP14	25SEP14	Crusher Fines Trail																																			
2800.55	Irrigation Laterals/Heads	22d	13OCT14	11NOV14	Irrigation Laterals/Heads																																			
2800.25	Wetland Plants	11d	04NOV14	18NOV14	Wetland Plants																																			
2800.15	Shrubs	14d	12NOV14	03DEC14	Shrubs																																			
2800.20	Trees	20d	12NOV14	11DEC14 *	Trees																																			
2800.35	Sod	4d	12NOV14	17NOV14	Sod																																			
2800.30	Native Seed	3d	04DEC14	08DEC14	Native Seed																																			
2800.45	Mulch	20d	12DEC14	14JAN15	Mulch																																			
2800.40	Split Rail Fence	10d	05JAN15 *	16JAN15	Split Rail Fence																																			
Site Furnishings																																								
2800.60	Interpretive Signage	32d	12NOV14	31DEC14	Interpretive Signage																																			
2800.75	Benches, Trash Receptacles	10d	30DEC14	14JAN15	Benches, Trash Receptacles																																			

Start date	14JUN13
Finish date	15APR15
Data date	25OCT13
Run date	16DEC13
Page number	3A
Number/Version	CPM 10.18.13
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ECI Site Construction River Vision

	Early bar
	Early start point
	Early finish point
	Progress bar
	Critical bar
	Summary bar
	Start milestone point
	Finish milestone point

Act ID	Description	Orig Dur	Early Start	Early Finish	2013												2014												2015																																																																																																																			
					UN					J					A					S					O					N					D					J					F					M					A					M					J					J					A					S					O					N					D					J					F					M					A					M					J					J					A					S				
Administration																																																																																																																																																
Milestones																																																																																																																																																
Milestones																																																																																																																																																
1010.10CD	Construction NTP	0	03FEB14 *		● Construction NTP																																																																																																																																											
1010.20CD	River Construction Window Season 1	72d	03FEB14 *	13MAY14	▬ River Construction Window Season 1																																																																																																																																											
1010.40CD	Non-River Construction Window	260d	03FEB14 *	12FEB15	▬ Non-River Construction Window																																																																																																																																											
1010.30CD	River Construction Window Season 2	135d	01OCT14 *	15APR15	▬ River Construction Window Season 2																																																																																																																																											
1010.51	Planting Complete	0		11DEC14 *	◆ Planting Complete																																																																																																																																											
1010.50CD	Substantial Completion	0		12FEB15 *	◆ Substantial Completion																																																																																																																																											
Preconstruction																																																																																																																																																
Vanderbilt/Johnson - Habitat Permits																																																																																																																																																
J25	CASDP	20d	25OCT13	22NOV13	▬ CASDP																																																																																																																																											
J50	404 Permit (Pending Corp Comments)	20d	25OCT13	22NOV13	▬ 404 Permit (Pending Corp Comments)																																																																																																																																											
J20	Flood Plain Permit	10d	22NOV13	10DEC13	▬ Flood Plain Permit																																																																																																																																											
J30	SUDP	1d	22NOV13	25NOV13	▬ SUDP																																																																																																																																											
J10	SDP (Drainage Report, SWMP, Storm Plan)	10d	25NOV13	11DEC13	▬ SDP (Drainage Report, SWMP, Storm Plan)																																																																																																																																											
J35	Zoning	1d	25NOV13	26NOV13	▬ Zoning																																																																																																																																											
J60	State Stormwater Discharge	10d	25NOV13	11DEC13	▬ State Stormwater Discharge																																																																																																																																											
J40	Structures Permits	15d	26NOV13	19DEC13	▬ Structures Permits																																																																																																																																											
J55	Solid Waste Disposal	20d	26NOV13	30DEC13	▬ Solid Waste Disposal																																																																																																																																											
J45	ROW Permits	10d	11DEC13	27DEC13	▬ ROW Permits																																																																																																																																											
J65	State Dewatering	11d	11DEC13	30DEC13	▬ State Dewatering																																																																																																																																											
J70	State Fugitive Dust	15d	30DEC13	21JAN14	▬ State Fugitive Dust																																																																																																																																											
Johnson Habitat																																																																																																																																																
Construction River																																																																																																																																																
River Work Season 1																																																																																																																																																
2500.01	Bank Barrier BMP	5d	03FEB14	07FEB14	▬ Bank Barrier BMP																																																																																																																																											
2500.40	Grading Shoreline Cell 1 - Environmental	10d	10FEB14	21FEB14	▬ Grading Shoreline Cell 1 - Environmental																																																																																																																																											
2500.05	Sheet Pile Cofferdam Cell 1	7d	17FEB14	25FEB14	▬ Sheet Pile Cofferdam Cell 1																																																																																																																																											
2500.52	Over-ex below water line Cell 1	5d	21FEB14	27FEB14	▬ Over-ex below water line Cell 1																																																																																																																																											
2500.052	Sheet Pile Cofferdam Cell 3	7d	26FEB14	06MAR14	▬ Sheet Pile Cofferdam Cell 3																																																																																																																																											
2500.46	Bank Protection L Rip Rap Cell 1	7d	26FEB14	06MAR14	▬ Bank Protection L Rip Rap Cell 1																																																																																																																																											
2500.53	Over-ex below water line Cell 3	10d	28FEB14	13MAR14	▬ Over-ex below water line Cell 3																																																																																																																																											
2500.56	Bank Protection L Rip Rap Cell 3	7d	07MAR14	17MAR14	▬ Bank Protection L Rip Rap Cell 3																																																																																																																																											
2500.35	Remove Dewatering/Sheet	5d	08APR14	14APR14 *	▬ Remove Dewatering/Sheet																																																																																																																																											
2500.41	Grading Shoreline Cell 2 - Environmental	10d	01OCT14	14OCT14	▬ Grading Shoreline Cell 2 - Environmental																																																																																																																																											
2500.051	Sheet Pile Cofferdam Cell 2	7d	15OCT14	23OCT14	▬ Sheet Pile Cofferdam Cell 2																																																																																																																																											

Start date 14JUN13
 Finish date 15APR15
 Data date 25OCT13
 Run date 16DEC13
 Page number 1A
 Number/Version CPM 10.18.13
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**ECI Site Construction
River Vision**

- ▬ Early bar
- ▲ Early start point
- ▼ Early finish point
- ▬ Progress bar
- ▬ Critical bar
- ▬ Summary bar
- Start milestone point
- ◆ Finish milestone point

Act ID	Description	Orig Dur	Early Start	Early Finish	2013												2014												2015													
					JUN J A S O N D J F M A M J J A S O N D J F M A M J J A S												JUN J A S O N D J F M A M J J A S												JUN J A S O N D J F M A M J J A S													
2500.42	Grading Shoreline Cell 3 - Environmental	10d	15OCT14	28OCT14																																						Grading Shoreline Cell 3 - Enviro
2500.30	Setup Well Points	2d	20OCT14	21OCT14																																						Setup Well Points
2500.45	Dewatering	45d	21OCT14	24DEC14																																						Dewatering
2500.521	Over-ex Below water line Cell 2	5d	21OCT14	27OCT14																																						Over-ex Below water line Cell 2
2500.09	Sculpted Concrete Jetty Prep	10d	28OCT14	10NOV14																																						Sculpted Concrete Jetty Prep
2500.47	Bank Protection M Rip Rap	5d	28OCT14	03NOV14																																						Bank Protection M Rip Rap
2500.10	Sculpted Concrete Jetty South	20d	04NOV14	03DEC14																																						Sculpted Concrete Jetty Sout
2500.55	Boulders at Jetty	20d	04NOV14	03DEC14																																						Boulders at Jetty
2500.65	River Plantings	20d	04NOV14	03DEC14																																						River Plantings
Construction Non-River																																										
Demolition																																										
2000.35	Temporary Fence	2d	03FEB14	04FEB14																																						Temporary Fence
2000.10	Trail Detour	3d	04FEB14	06FEB14																																						Trail Detour
2000.25	Erosion Control (silt fence, VTC, concrete w/o)	8d	04FEB14	13FEB14																																						Erosion Control (silt fence, VTC, concrete w/o)
2000.30	Tree Removals	8d	05FEB14	14FEB14																																						Tree Removals
2000.50	Clear & Grub	7d	05FEB14	13FEB14																																						Clear & Grub
2000.75	Tree Protection	2d	05FEB14	06FEB14																																						Tree Protection
2000.05	Survey	2d	12FEB14	13FEB14																																						Survey
2000.55	Stockpile Stumps/Logs	3d	14FEB14	18FEB14																																						Stockpile Stumps/Logs
2000.40	Remove Concrete Trail	10d	17FEB14	28FEB14																																						Remove Concrete Trail
2000.45	Remove Asphalt Milling Parking	3d	03MAR14	05MAR14																																						Remove Asphalt Milling Parking
Earthwork																																										
2100.05	Earthwork ACS - Above Water Line	17d	03MAR14	25MAR14																																						Earthwork ACS - Above Water Line
2100.10	Import Soil	20d	26MAR14	22APR14																																						Import Soil
2100.20	Shaping Final Grades	20d	16APR14	13MAY14																																						Shaping Final Grades
Utilities																																										
2150.10	Utility Relocation - Xcel	5d	14MAY14	20MAY14																																						Utility Relocation - Xcel
Concrete Flatwork																																										
3100.20	Concrete Road Paving 11"	2d	27MAR14	28MAR14																																						Concrete Road Paving 11"
3100.10	Curb & Gutter	5d	31MAR14	04APR14																																						Curb & Gutter
3100.15	Concrete Curb Ramps	2d	07APR14	08APR14																																						Concrete Curb Ramps
3100.05	Concrete Trail Paving	22d	23APR14	22MAY14																																						Concrete Trail Paving
3200.10	Concrete Thickened Edge	15d	23MAY14	13JUN14																																						Concrete Thickened Edge
3100.40	Decorative Concrete	22d	16JUN14	16JUL14																																						Decorative Concrete
3100.25	Concrete Edge	8d	08JUL14	17JUL14																																						Concrete Edge
Asphalt Paving																																										
3150.05	Asphalt Paving	15d	07APR14	25APR14																																						Asphalt Paving
3150.10	Striping	1d	28APR14	28APR14																																						Striping

Start date 14JUN13
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**ECI Site Construction
 River Vision**

Early bar
 Early start point
 Early finish point
 Progress bar
 Critical bar
 Summary bar
 Start milestone point
 Finish milestone point

Act ID	Description	Orig Dur	Early Start	Early Finish	2013												2014												2015											
					JUN J A S O N D J F M A M J J A S O N D J F M A M J J A S												JUN J A S O N D J F M A M J J A S												JUN J A S O N D J F M A M J J A S											
Concrete Walls																																								
3100.30	Concrete Retaining Wall	20d	14MAY14	11JUN14	Concrete Retaining Wall																																			
3100.35	Concrete Seat Wall	25d	12JUN14	17JUL14	Concrete Seat Wall																																			
Stone Retaining Walls																																								
3200.70	Slabstone Granite Retaining Walls	85d	14MAY14	12SEP14	Slabstone Granite Retaining Walls																																			
3200.15	Stone Steps	15d	16JUN14	07JUL14	Stone Steps																																			
3200.50	Boulder Seating	22d	08JUL14	06AUG14	Boulder Seating																																			
3200.80	Landscape Boulders	45d	07AUG14	09OCT14	Landscape Boulders																																			
Childrens Play Areas																																								
3200.35	Subsurface Drainage	5d	18JUL14	24JUL14	Subsurface Drainage																																			
3200.25	Environmental Playscape	35d	25JUL14	12SEP14	Environmental Playscape																																			
2900.05	Gunite Boulders	42d	10OCT14	10DEC14	Gunite Boulders																																			
3200.30	Climbing Area Playscape	30d	18NOV14	06JAN15	Climbing Area Playscape																																			
3200.40	Fibar	2d	07JAN15	08JAN15	Fibar																																			
Structures																																								
2900.20	Shade Structures	120d	23APR14	10OCT14	Shade Structures																																			
2900.15	Wood Decking	20d	15SEP14	10OCT14	Wood Decking																																			
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2900.10	Wood Raised Garden Beds	15d	13OCT14	31OCT14	Wood Raised Garden Beds																																			
2900.35	Fox Hollow Structure (GFRC)	25d	13OCT14	14NOV14	Fox Hollow Structure (GFRC)																																			
2900.25	Entry Gateway	15d	17NOV14	09DEC14	Entry Gateway																																			
3200.20	Misc Structures (GFRC)	21d	17NOV14	17DEC14	Misc Structures (GFRC)																																			
Landscape/Irrigation																																								
2800.50	Irrigation Mainline	30d	23APR14	04JUN14	Irrigation Mainline																																			
2800.10	Import Topsoil	10d	08JUL14	21JUL14	Import Topsoil																																			
2800.05	Soil Prep	12d	22JUL14	06AUG14	Soil Prep																																			
2800.65	Crusher Fines Trail	15d	05SEP14	25SEP14	Crusher Fines Trail																																			
2800.55	Irrigation Laterals/Heads	22d	13OCT14	11NOV14	Irrigation Laterals/Heads																																			
2800.25	Wetland Plants	11d	04NOV14	18NOV14	Wetland Plants																																			
2800.15	Shrubs	14d	12NOV14	03DEC14	Shrubs																																			
2800.20	Trees	20d	12NOV14	11DEC14 *	Trees																																			
2800.35	Sod	4d	12NOV14	17NOV14	Sod																																			
2800.30	Native Seed	3d	04DEC14	08DEC14	Native Seed																																			
2800.45	Mulch	20d	12DEC14	14JAN15	Mulch																																			
2800.40	Split Rail Fence	10d	05JAN15 *	16JAN15	Split Rail Fence																																			
Site Furnishings																																								
2800.60	Interpretive Signage	32d	12NOV14	31DEC14	Interpretive Signage																																			
2800.75	Benches, Trash Receptacles	10d	30DEC14	14JAN15	Benches, Trash Receptacles																																			

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 Data date 25OCT13
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**ECI Site Construction
 River Vision**

Green bar Early bar
 Yellow triangle Early start point
 Inverted yellow triangle Early finish point
 Red bar Progress bar
 Blue bar Critical bar
 Red line Summary bar
 Orange circle Start milestone point
 Blue diamond Finish milestone point

Exhibit N
Equal Employment Opportunity Provisions

**RULES AND REGULATIONS
REGARDING
EQUAL EMPLOYMENT OPPORTUNITY**

Promulgated and adopted by the Manager of Public Works pursuant to and by authority of Article III, Division 2, Chapter 28 of the Revised Municipal Code of the City and County of Denver, and for the purpose of insuring that contractors, subcontractors and suppliers soliciting and receiving compensation for contract work from or through the City and County of Denver provide equal opportunity in employment without regard to race, color, creed, sex, national origin, age, religion, marital status, political opinion or affiliation or mental or physical handicap and meet certain requirements for the hiring, training, promotion, and treatment during employment of members of ethnic groups subject to differential treatment, including persons of African descent (Black), Spanish-surnamed (Hispanic), Asian-American and American Indian Groups.

RULE I - DEFINITIONS

- A. "City" means the City and County of Denver.
- B. "Manager" shall mean the Manager of Public Works for the City and County of Denver.
- C. "Contract" means a contract entered into with the City and County of Denver, financed in whole or in part by local resources or funds of the City and County of Denver, for the construction of any public building or prosecution or completion of any public work.
- D. "Contractor" means the original party to a contract with the City and County of Denver, also referred to as the "general" or "prime" contractor.
- E. "Director" means the Director of the Division of Small Business Opportunity.
- F. "Subcontractor" means any person, company, association, partnership, corporation, or other entity, which assumes by subordinate agreement some or all of the obligations of the general or prime contractor.
- G. The phrase "Bidding Specifications" as used in Article III, Division 2 of Chapter 28 of the Revised Municipal Code shall include BID CONDITION, INVITATION TO BID, and NOTICE OF PROPOSAL.
- H. "Affirmative Action Program" means a set of specific and result-oriented procedures or steps to which a contractor commits himself to apply every good faith effort to employ members of ethnic minority groups, to include persons of African descent (Black), Spanish surnamed (Hispanic), Asian-American, American Indians, and persons with mental or physical handicap.
- I. "Division of Small Business Opportunity" means the City agency established pursuant to Article III, Division 1 of Chapter 28 of the Denver Revised Municipal Code.

RULE II - NOTICE OF HEARING

When results of conciliation efforts are unsatisfactory to the Manager and he is informed in accordance with Article III, Division 2 of Chapter 28 of the Revised Municipal code that a contractor or subcontractor has apparently failed to meet affirmative action and equal employment opportunity requirements after a reasonable period of notice to correct deficiencies, the Manager will, prior to imposition of any sanctions, afford the general contractor a hearing in order to determine whether the contractor or his subcontractors have failed to comply with the affirmative action and equal employment opportunity requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or of the contract. Written notice of such hearing shall be delivered personally or sent by certified mail, return receipt requested, to the contractor and to any subcontractor involved, at least ten (10) days prior to the date scheduled for the hearing.

RULE III - HEARING

- A. Contractors will appear at hearings and may be represented by counsel, and may present testimony orally and other evidence.
- B. Hearings shall be conducted by one or more hearing examiners designated as such by the Manager.
- C. The Director of the Division of Small Business Opportunity may participate in hearings as a witness.
- D. Hearings shall be held at the place specified in the notice of hearing.
- E. All oral testimony shall be given under oath or affirmation and a record of such proceedings shall be made.
- F. All hearings shall be open to the public.
- G. The hearing officer shall make recommendations to the Manager who shall make a final decision.

REGULATIONS

REGULATION NO. 1 - ORDINANCE:

The Rules and Regulations of the Manager shall be inserted in the bidding specifications for every contract for which bidding is required.

REGULATION NO. 2 - EXEMPTIONS:

Each contract and subcontract, regardless of the dollar amount, shall be subject to affirmative action requirements unless specifically exempted in writing individually by the Manager. Exemptions apply only to "affirmative action" in equal employment opportunity, and are not to be construed as condonation in any manner of "discrimination" or "discriminatory practices" in employment because of race, color, creed, sex, age, national origin, religion, marital status, political opinion or mental or physical handicap.

REGULATION NO. 3 - DIRECTOR OF CONTRACT COMPLIANCE:

The Director of the Division of Small Business Opportunity shall perform the duties assigned to such official by Article III, Division 2 Chapter 28 of the Revised Municipal Code and by the Manager. (1) The Director of the Division of Small Business Opportunity or designated representatives shall inform bidders and contractors of affirmative action procedures, programs, and goals in accordance with the Ordinance at pre-bid and pre-construction conference; (2) make regular on-site inspections; (3) supply contractors and subcontractors with report forms to be completed by them when requested, and furnished to the Director of the Division of Small Business Opportunity; and (4) review payroll records, employment records and practices of general contractors and their subcontractors and suppliers during the performance of any contract.

The Director of the Division of Small Business Opportunity shall promptly report apparent affirmative action deficiencies to the Manager.

REGULATION NO. 4 - GOALS AND TIMETABLES:

In general, goals and timetables should take into account anticipated vacancies and the availability of skills in the market place from which employees should be drawn. In addition, where discrimination in employment by a general contractor or any of his subcontractors is indicated, a corrective action program will take into account the need by the general contractor and his subcontractors to correct past discriminatory practices and reach goals of minority manpower utilization on a timely basis through such recruiting and advertising efforts as are necessary and appropriate.

REGULATION NO. 5 - AWARD OF CONTRACTS:

It shall be the responsibility of the Director of the Division of Small Business Opportunity to determine the affirmative action capability of bidders, contractors and subcontractors and to recommend to the Manager the award of contracts to those bidders, contractors and subcontractors and suppliers who demonstrate the ability and willingness to comply with the terms of their contract.

REGULATION NO. 6 - PUBLICATION AND DUPLICATION:

Copies of these Rules and Regulations as amended by the Manager from time to time, shall as soon as practicable and after Notice being published will be made a part of all City Contracts.

REGULATION NO. 7 - NOTICE TO PROCEED:

Prior to issuance of the Notice to Proceed, a sign-off will be required of the Director of the Division of Small Business Opportunity or his designee.

REGULATION NO. 8 - CONTRACTS WITH SUBCONTRACTORS:

To the greatest extent possible, the contractor shall make a good faith effort to contract with minority contractors, subcontractors and suppliers for services and supplies by taking affirmative actions, which include but are not limited to the following:

1. Advertise invitations for subcontractor bids in minority community news media.
2. Contact minority contractor organizations for referral of prospective subcontractors.
3. Purchase materials and supplies from minority material suppliers.

REGULATION NO. 9 - AGENCY REFERRALS:

It shall be no excuse that the union with which the contractor or subcontractor has an agreement providing for referral, exclusive or otherwise, failed to refer minority employees.

REGULATION NO. 10 - CLAUSES:

The Manager shall include the appropriate clauses in every contract and the contractor shall cause to be inserted in every subcontract the appropriate clauses:

1. APPENDIX A: City and County of Denver Equal Opportunity Clause - ALL CONTRACTS funded only with City and County of Denver monies.
2. APPENDIX B: Equal Opportunity Clause (11246) - ALL FEDERAL ASSISTED.
3. APPENDIX C: Section 3 - Assurance of Compliance - HUD ASSISTED PROJECTS.
4. APPENDIX D: Section 3 - Clause - HUD ASSISTED PROJECTS.

All amendments to the appendices shall be included by reference.

REGULATION NO. 11 - SHOW CAUSE NOTICES:

When the Manager has reasonable cause to believe that a contractor has violated Article III, Division 2 of Chapter 28 of the Denver Revised Municipal Code, he may issue a notice requiring the contractor to show cause, within fifteen (15) days why enforcement procedures, or other appropriate action to insure compliance, should not be instituted.

REGULATION NO. 12 - BID CONDITIONS - AFFIRMATIVE ACTION REQUIREMENTS - EQUAL EMPLOYMENT OPPORTUNITY:

1. APPENDIX E: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as amended and published by the U.S. Department of Labor Employment Standards Administration, Office of Federal Contract Compliance, shall be inserted verbatim for bidding specification for every non-exempt contract involving the use of Federal funds.
2. APPENDIX F: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as published by the Department of Public Works, City and County of Denver, shall be inserted verbatim as bidding specifications for every non-exempt contract using City funds.

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

APPENDIX A

**CITY AND COUNTY OF DENVER EQUAL OPPORTUNITY CLAUSE -
ALL CONTRACTS**

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided, advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. Each Contractor will comply with all provisions of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and the rules, regulations, and relevant orders of the Manager and the Director.
5. The Contractor will furnish all information and reports required by Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and by rules, regulations and orders of the Manager and Director or pursuant thereto, and will permit access to his books, records, and accounts by the Manager, Director, or their designee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further City contracts in accordance with procedures authorized in Article III, Division 2, Chapter 28 of the Revised Municipal Code, or by rules, regulations, or order of the Manager.
7. The Contractor will include Regulation 12, Paragraph 2 and the provisions of paragraphs (1) through (6) in every subcontract of purchase order unless exempted by rules, regulations, or orders of the Manager issued pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, so that such provisions will be binding on each subcontractor or supplier. The

Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

The applicant further agrees to be bound by the above equal opportunity clauses with respect to its own employment practices when it participates in City contracts. The Contractor agrees to assist and cooperate actively with the Manager and the Director in obtaining compliance of subcontractors and suppliers with the equal opportunity clause and the rules, regulations and relevant orders of the Manager, and will furnish the Manager and the Director such information as they may require for the supervision of compliance, and will otherwise assist the Manager and Director in the discharge of the City's primary responsibility for securing compliance. The Contractor further agrees to refrain from entering into any contract or contract modification subject to Article III, Division 2 of Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who has not demonstrated eligibility for, City contracts.

The Contractor will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the Manager and Director. In addition, the Contractor agrees that failure or refusal to comply with these undertakings the Manager may take any or all of the following actions:

- A. Cancellation, termination, or suspension in whole or in part of this contract.
- B. Refrain from extending any further assistance to the applicant under the program with respect to which the failure occurred until satisfactory assurance of future compliance has been received from such applicant.
- C. Refer the case to the City Attorney for appropriate legal proceedings.

SUBCONTRACTS: Each prime Contractor or Subcontractor shall include the equal opportunity clause in each of its subcontracts.

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

APPENDIX F

AFFIRMATIVE ACTION REQUIREMENTS

EQUAL EMPLOYMENT OPPORTUNITY

For All Non-Exempt Construction Contracts to Be Awarded by the
City and County of Denver, Department of Public Works.

NOTICE

EACH BIDDER, CONTRACTOR OR SUBCONTRACTOR (HEREINAFTER THE CONTRACTOR) MUST FULLY COMPLY WITH THE REQUIREMENTS OF THESE BID CONDITIONS AS TO EACH CONSTRUCTION TRADE IT INTENDS TO USE ON THIS CONSTRUCTION CONTRACT, AND ALL OTHER CONSTRUCTION WORK (BOTH CITY AND NON-CITY) IN THE DENVER AREA DURING THE PERFORMANCE OF THIS CONTRACT OR SUBCONTRACT. THE CONTRACTOR COMMITS ITSELF TO THE GOALS FOR MINORITY MANPOWER UTILIZATION, AS APPLICABLE, AND ALL OTHER REQUIREMENTS, TERMS AND CONDITION OF THESE BID CONDITIONS BY SUBMITTING A PROPERLY SIGNED BID.

THE CONTRACTOR SHALL APPOINT A COMPANY EXECUTIVE TO ASSUME THE RESPONSIBILITY FOR THE IMPLEMENTATION OF THE REQUIREMENTS, TERMS AND CONDITIONS OF THESE BID CONDITIONS.

/s/ _____

Manager of Public Works
City and County of Denver

A. REQUIREMENTS - AN AFFIRMATIVE ACTION PLAN:

Contractors shall be subject to the provisions and requirements of these bid conditions including the goals and timetables for minority* and female utilization, and specific affirmative action steps set forth by the Division of Small Business Opportunity (DSBO). The contractor's commitment to the goals for minority, and female utilization as required constitutes a commitment that it will make every good faith effort to meet such goals.

1. GOALS AND TIMETABLES:

The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade are as follows:

GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE	GOALS FOR FEMALE PARTICIPATION FOR EACH TRADE
From January 1, 1982 to Until Further Notice	From January 1, 1982 to Until Further Notice
21.7% - 23.5%	6.9%

The goals for minority and female utilization above are expressed in terms of hours of training and employment as a proportion of the total number of hours to be worked by the contractor's aggregate workforce, which includes all supervisory personnel, in each trade, on all projects for the City and County of Denver during the performance of its contract (i.e., The period beginning with the first day of work on the City and County of Denver funded construction contract and ending with the last day of work).

The hours of minority and female employment and training must be substantially uniform throughout the length of the contract in each trade and minorities and females must be employed evenly on each of a contractor's projects. Therefore, the transfer of minority or female employees from contractor to contractor or from project to project for the purpose of meeting the contractor's goals shall be a violation of these Bid Conditions.

If the Contractor counts the nonworking hours of apprentices they must be employed by the Contractor during the training period; the Contractor must have made a commitment to employ apprentices at the completion of their training subject to the availability of employment opportunities; and the apprentices must be trained pursuant to training programs approved by the Bureau of Apprenticeship and Training.

* "Minority" is defined as including, Blacks, Spanish Surname Americans, Asian Americans, and American Indians, and includes both men and minority women.

2. SPECIFIC AFFIRMATIVE ACTION STEPS:

No contractor shall be found to be in noncompliance solely on account of its failure to meet its goals, but will be given an opportunity to demonstrate that the contractor has instituted all the specific affirmative action steps specified and has made every good faith effort to make these steps work toward the attainment of its goals within the timetables, all to the purpose of expanding minority and female utilization in its aggregate

workforce. A contractor, who fails to comply with its obligation under the Equal Opportunity Clause of its contract and fails to achieve its commitments to the goals for minority and female utilization has the burden of proving that it has engaged in an Affirmative Action Program directed at increasing minority and female utilization and that such efforts were at least as extensive and as specific as the following:

- a. The Contractor should have notified minority and female organizations when employment opportunities were available and should have maintained records of the organization's response.
- b. The Contractor should have maintained a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the Contractor, the reasons. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred, not employed by the Contractor, the file should have documented this and their reasons.
- c. The Contractor should have promptly notified the Department of Public Works, and the Division of Small Business Opportunity when the union or unions with which the Contractor has collective bargaining agreements did not refer to the contractor a minority or female sent by the contractor, or when the Contractor has other information that the union referral process has impeded efforts to meet its goals.
- d. The Contractor should have disseminated its EEO policy within its organization by including it in any employee handbook or policy manual; by publicizing it in company newspapers and annual reports and by advertising such policy at reasonable intervals in union publications. The EEO policy should be further disseminated by conducting staff meetings to explain and discuss the policy; by posting of the policy; and by review of the policy with minority and female employees.
- e. The Contractor should have disseminated its EEO policy externally by informing and discussing it with all recruitment sources; by advertising in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.
- f. The Contractor should have made both specific and reasonably recurrent written and oral recruitment efforts. Such efforts should have been directed at minority and female organizations, schools with substantial minority and female enrollment, and minority and female recruitment and training organizations within the Contractor's recruitment area.
- g. The Contractor should have evidence available for inspection that all tests and other selection techniques used to select from among candidates for hire, transfer, promotion, training, or retention are being used in a manner that does not violate the OFCCP Testing Guidelines in 41 CFR Part 60-3.
- h. The Contractor should have made sure that seniority practices and job classifications do not have a discriminatory effect.

- i. The Contractor should have made certain that all facilities are not segregated by race.
- j. The Contractor should have continually monitored all personnel activities to ensure that its EEO policy was being carried out including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.
- k. The Contractor should have solicited bids for subcontracts from available minority and female subcontractors engaged in the trades covered by these Bid Conditions, including circulation of minority and female contractor associations.

NOTE: The Director and the Division of Small Business Opportunity will provide technical assistance on questions pertaining to minority and female recruitment sources, minority and female community organizations, and minority and female news media upon receipt of a request for assistance from a contractor.

3. NON - DISCRIMINATION:

In no event may a contractor utilize the goals and affirmative action steps required in such a manner as to cause or result in discrimination against any person on account of race, color, religion, sex, marital status, national origin, age, mental or physical handicap, political opinion or affiliation.

4. COMPLIANCE AND ENFORCEMENT:

In all cases, the compliance of a contractor will be determined in accordance with its obligations under the terms of these Bid Conditions. All contractors performing or to perform work on projects subject to these Bid Conditions hereby agree to inform their subcontractors in writing of their respective obligations under the terms and requirements of these Bid Conditions, including the provisions relating to goals of minority and female employment and training.

B. CONTRACTORS SUBJECT TO THESE BID CONDITIONS:

In regard to these Bid Conditions, if the Contractor meets the goals set forth therein or can demonstrate that it has made every good faith effort to meet these goals, the Contractor shall be presumed to be in compliance with Article III, Division 2 of Chapter 28 of the Revised Municipal Code, the implementing regulations and its obligations under these Bid Conditions. In the event, no formal sanctions or proceedings leading toward sanctions shall be instituted unless the contracting or administering agency otherwise determines that the contractor is violating the Equal Opportunity Clause.

1. Where the Office of Contract Compliance finds that a contractor failed to comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or the implementing regulations and the obligations under these Bid Conditions, and so informs the Manager, the Manager shall take such action and impose such sanctions, which include suspension, termination, cancellation, and debarment, as may be appropriate under the Ordinance and its regulations. When the Manager proceeds with such formal action it has the burden of proving that the Contractor has not met the goals contained in these Bid Conditions. The Contractor's failure to meet its goals shall shift to it the requirement to come forward with evidence to show that it has met the good faith requirements of these Bid Conditions.

2. The pendency of such proceedings shall be taken into consideration by the Department of Public Works in determining whether such contractor can comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and is therefore a "responsible prospective contractor".
3. The Division of Small Business Opportunity shall review the Contractor's employment practices during the performance of the contract. If the Division of Small Business Opportunity determines that the Contractor's Affirmative Action Plan is no longer an acceptable program, the Director shall notify the Manager.

C. OBLIGATIONS APPLICABLE TO CONTRACTORS:

It shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority or female employees. Discrimination in referral for employment, even if pursuant to provisions of a collective bargaining agreement, is prohibited by the National Labor Relations Act, as amended, Title VI of the Civil Rights Act of 1964, as amended, and Article III, Division 2 of Chapter 28 of the Revised Municipal Code. It is the policy of the Department of Public Works that contractors have a responsibility to provide equal employment opportunity, if they wish to participate in City and County of Denver contracts. To the extent they have delegated the responsibility for some of their employment practices to a labor organization and, as a result, are prevented from meeting their obligations pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, such Contractors cannot be considered to be in compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, or its implementing rules and regulations.

D. GENERAL REQUIREMENTS:

Contractors are responsible for informing their subcontractors in writing regardless of tier, as to their respective obligations. Whenever a Contractor subcontracts a portion of work in any trade covered by these Bid Conditions, **it shall include these Bid Conditions in such subcontracts and each subcontractor shall be bound by these Bid Conditions to the full extent as if it were the prime contractor.** The Contractor shall not, however, be held accountable for the failure of its subcontractors to fulfill their obligations under these Bid Conditions. However, the prime contractor shall give notice to the Director of any refusal or failure of any subcontractor to fulfill the obligations under these Bid Conditions. A subcontractor's failure to comply will be treated in the same manner as such failure by a prime contractor.

1. Contractors hereby agree to refrain from entering into any contract or contract modification subject to Article III, Division 2, Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who is determined not to be a "responsive" bidder for the City and County of Denver contracts pursuant to the Ordinance.
2. The Contractor shall carry out such sanctions and penalties for violation of these Bid Conditions and the Equal Opportunity Clause including suspension, termination and cancellation of existing subcontracts and debarment from future contracts as may be ordered by the Manager pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code and its implementing regulations.
3. Nothing herein is intended to relieve any contractor during the term of its contract from compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, and the Equal Opportunity Clause of its contract with respect to matters not covered in these Bid Conditions.

4. Contractors must keep such records and file such reports relating to the provisions of these Bid Conditions as shall be required by the Office of Contract Compliance.
5. Requests for exemptions from these Bid Conditions must be made in writing, with justification, to the Manager of Public Works, 201 W. Colfax, Dept. 608, Denver, Colorado 80202, and shall be forwarded through and with the endorsement of the Director.

Exhibit O
Performance and Payment Bond

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned ECI Site Construction Management, Inc., a corporation organized and existing under and by virtue of the laws of the State of Colorado, hereafter referred to as the "Contractor", and, Employers Mutual Casualty Company, a corporation organized and existing under and by virtue of the laws of the State of Iowa, and authorized to transact business in the State of Colorado, as Surety, are held and firmly bound unto the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado, hereinafter referred to as the "City", in the penal sum of **Five Million One Hundred Fifty Six Thousand Eighty Dollars and Sixty Nine Cents (\$ 5,156,080.69)**, lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves and our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents;

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT:

WHEREAS, the above bounden Contractor has entered into a written contract with the aforesaid City for furnishing all labor and tools, supplies, equipment, superintendence, materials and everything necessary for and required to do, perform and complete the construction of **CONTRACT NO. 201414633 - S. PLATTE RIVER VISION - GRANT-FRONTIER/ OVERLAND PARK + VANDERBILT/ JOHNSON-HABITAT PARKS**, Denver, Colorado, and has bound itself to complete the project within the time or times specified or pay liquidated damages, all as designated, defined and described in the said Contract and Conditions thereof, and in accordance with the Plans and Technical Specifications therefore, a copy of said Contract being made a part hereof;

NOW, THEREFORE, if the said Contractor shall and will, in all particulars well and truly and faithfully observe, perform and abide by each and every Covenant, Condition and part of said Contract, and the Conditions, Technical Specifications, Plans, and other Contract Documents thereto attached, or by reference made a part thereof and any alterations in and additions thereto, according to the true intent and meaning in such case, then this obligation shall be and become null and void; otherwise, it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor shall satisfy all claims and demands incurred by the Contractor in the performance of said Contract, and shall fully indemnify and save harmless the City from all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising from any act, omission, or neglect of said Contractor, its agents, or employees with relation to said work; and shall fully reimburse and repay to the City all costs, damages, and expenses which it may incur in making good any default based upon the failure of the Contractor to fulfill its obligation to furnish maintenance, repairs or replacements for the full guarantee period provided in the Contract Documents, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED FURTHER, that if said Contractor shall at all times promptly make payments of all amounts lawfully due to all persons supplying or furnishing it or its subcontractors with labor and materials, rental machinery, tools or equipment used or performed in the prosecution of work provided for in the above Contract and that if the Contractor will indemnify and save harmless the City for the extent of any and all payments in connection with the carrying out of such Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor fails to duly pay for any labor, materials, team hire, sustenance, provisions, provender, gasoline, lubricating oils, fuel oils, grease, coal, or any other supplies or materials used or consumed by said Contractor or its subcontractors in performance of the work contracted to be done, or fails to pay any person who supplies rental machinery, tools or equipment, all amounts due as the result of the use of such machinery, tools or equipment in the prosecution of the work, the Surety will pay the same in any amount not exceeding the amount of this obligation, together with interest as provided by law;

PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to contracts with others in connection with this project, or the work to be performed thereunder, or the Technical Specifications and Plans accompanying the same, shall in any way affect its obligation on this bond and it does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or contracts, or to the work, or to the Technical Specifications and Plans.

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this 28th day of January, 2014..

Attest: [Signature]
Secretary

ECI Site Construction Management, Inc.
Contractor

By: [Signature]
Vice President

Employers Mutual Casualty Company
Surety

By: [Signature]
Attorney-In-Fact Darlene Krings

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond).

APPROVED AS TO FORM:
Attorney for the City and County of Denver

By: [Signature]
Assistant City Attorney

APPROVED FOR THE CITY AND COUNTY OF DENVER

By: [Signature]
MAYOR
ACTING MAYOR

By: [Signature]
MANAGER OF PUBLIC WORKS

CERTIFICATE OF AUTHORITY INDIVIDUAL ATTORNEY-IN-FACT

KNOW ALL MEN BY THESE PRESENTS, that:

- 1. Employers Mutual Casualty Company, an Iowa Corporation
- 2. EMCASCO Insurance Company, an Iowa Corporation
- 3. Union Insurance Company of Providence, an Iowa Corporation
- 4. Illinois EMCASCO Insurance Company, an Iowa Corporation
- 5. Dakota Fire Insurance Company, a North Dakota Corporation
- 6. EMC Property & Casualty Company, an Iowa Corporation
- 7. Hamilton Mutual Insurance Company, an Iowa Corporation

hereinafter referred to severally as "Company" and collectively as "Companies", each does, by these presents, make, constitute and appoint:
DARLENE KRINGS, DIANE CLEMENTSON, JENNIFER WINTER

its true and lawful attorney-in-fact, with full power and authority conferred to sign, seal, and execute its lawful bonds, undertakings, and other obligatory instruments of a similar nature as follows:

Any and all bonds

and to bind each Company thereby as fully and to the same extent as if such instruments were signed by the duly authorized officers of each such Company, and all of the acts of said attorney pursuant to the authority hereby given are hereby ratified and confirmed.

The authority hereby granted shall expire APRIL 1, 2015 unless sooner revoked.

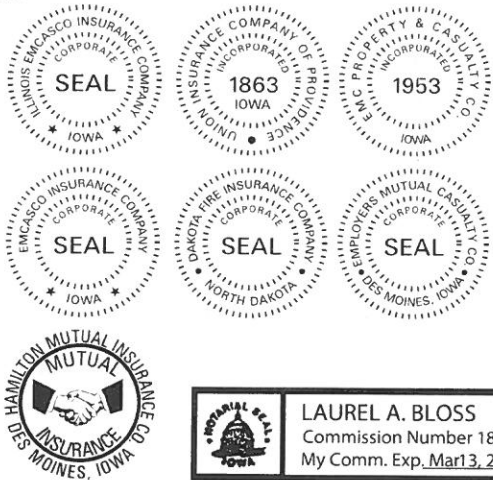
AUTHORITY FOR POWER OF ATTORNEY

This Power-of-Attorney is made and executed pursuant to and by the authority of the following resolution of the Boards of Directors of each of the Companies at a regularly scheduled meeting of each company duly called and held in 1999:

RESOLVED: The President and Chief Executive Officer, any Vice President, the Treasurer and the Secretary of Employers Mutual Casualty Company shall have power and authority to (1) appoint attorneys-in-fact and authorize them to execute on behalf of each Company and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, and (2) to remove any such attorney-in-fact at any time and revoke the power and authority given to him or her. Attorneys-in-fact shall have power and authority, subject to the terms and limitations of the power-of-attorney issued to them, to execute and deliver on behalf of the Company, and to attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof, and any such instrument executed by any such attorney-in-fact shall be fully and in all respects binding upon the Company. Certification as to the validity of any power-of-attorney authorized herein made by an officer of Employers Mutual Casualty Company shall be fully and in all respects binding upon this Company. The facsimile or mechanically reproduced signature of such officer, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power-of-attorney of the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS THEREOF, the Companies have caused these presents to be signed for each by their officers as shown, and the Corporate seals to be hereto affixed this 21st day of FEBRUARY, 2012.

Seals



Bruce G. Kelley

 Bruce G. Kelley, Chairman
 of Companies 2, 3, 4, 5 & 6; President
 of Company 1; Vice Chairman and
 CEO of Company 7

Michael Free

 Michael Free
 Assistant Vice President/
 Assistant Secretary

On this 21st day of FEBRUARY AD 2012 before me a Notary Public in and for the State of Iowa, personally appeared Bruce G. Kelley and Michael Free, who, being by me duly sworn, did say that they are, and are known to me to be the Chairman, President, Vice Chairman and CEO, and/or Assistant Vice President/Assistant Secretary, respectively, of each of The Companies above; that the seals affixed to this instrument are the seals of said corporations; that said instrument was signed and sealed on behalf of each of the Companies by authority of their respective Boards of Directors; and that the said Bruce G. Kelley and Michael Free, as such officers, acknowledged the execution of said instrument to be the voluntary act and deed of each of the Companies.
 My Commission Expires March 13, 2014.

Laurel A Bloss

 Notary Public in and for the State of Iowa

CERTIFICATE

I, James D. Clough, Vice President of the Companies, do hereby certify that the foregoing resolution of the Boards of Directors by each of the Companies, and this Power of Attorney issued pursuant thereto on FEBRUARY 21, 2012 on behalf of:
DARLENE KRINGS, DIANE CLEMENTSON, JENNIFER WINTER

are true and correct and are still in full force and effect.
 In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this _____ day of _____, _____
 _____ Vice President



Flood and Peterson

Phone: 800.356.2295
Fax: 888.269.3514
Corporate Mailing Address
P.O. Box 578
Greeley, Colorado 80632

PERFORMANCE AND PAYMENT BOND SURETY AUTHORIZATION

FAX NUMBER: 720-913-3183
TELEPHONE NUMBER: 720-913-3267

Assistant City Attorney
201 W. Colfax Ave., Dept. 1207
Denver, CO 80202

Re: ECI Site Construction Management, Inc.

Contract No:	201414633
Project Name:	S. Platte River Vision – Grant – Frontier/Overland Park + Vanderbilt/Johnson - Habitat Parks
Contract Amount:	\$5,156,080.69
Performance & Payment Bond No.:	S395300

Dear Assistant City Attorney,

The Performance and Payment Bonds covering the above caption project were executed by this agency, through Employers Mutual Casualty Company, on January 16, 2014.

We hereby authorize the City and County of Denver, Department of Public Works, to date all bonds and powers of attorney to coincide with the date on the contract.

If you should have any additional questions or concerns, please don't hesitate to give me a call at (970) 266-7102. Thank you.

Sincerely,

A handwritten signature in blue ink that reads 'Darlene Krings'.

Darlene Krings
Attorney-in-Fact

Exhibit P
Final/Partial Lien Release Form

**FINAL/PARTIAL LIEN RELEASE
FINAL/PARTIAL RELEASE AND CERTIFICATE OF PAYMENT
(SUBCONTRACTOR/SUPPLIER)**

(PROJECT NO. and NAME)

Date: _____, 20__.

(NAME OF CONTRACTOR)

Subcontract #: _____.

(NAME OF SUBCONTRACTOR/SUPPLIER)

Subcontract Value: \$ _____.

Last Progress Payment: \$ _____.

Date: _____.

Total Paid to Date: \$ _____.

Date of Last Work: _____.

Check Applicable Box:

MBE WBE

The Undersigned hereby certifies that all costs, charges or expenses incurred by the undersigned or on behalf of the undersigned for any work, labor or services performed and for any materials, supplies or equipment provided on the above referenced Project or used in connection with the above referenced Subcontract (the "Work Effort") have been duly paid in full.

The Undersigned further certifies that each of the undersigned's subcontractors and suppliers that incurred or caused to be incurred, on their behalf, costs, charges or expenses in connection with the undersigned's Work Effort on the above referenced Project have been duly paid in full.

In consideration of \$ _____ representing the Last Progress Payment referenced above and in further consideration of the Total Paid to Date, also referenced above, and other good and valuable consideration received and accepted by the undersigned this _____ day of _____, 200__, the Undersigned hereby releases and discharges the City and County of Denver (the "City"), the above referenced City Project, the City's premises and property and the above referenced Contractor from all claims, liens, rights, liabilities, demands and obligations, whether known or unknown, of every nature arising out of or in connection with the performance of the work effort.

As additional consideration for the payments referenced above, the undersigned agrees to defend, indemnify and save and hold harmless the City, its officers, employees, agents and assigns and the above-referenced Contractor from and against all costs, losses, damages, causes of action, judgments under the subcontract and expenses arising out of or in connection with any claim or claims against the City or the Contractor which arise out of the Undersigned's performance of the Work Effort and which may be asserted by the Undersigned or any of its suppliers or subcontractors of any tier or any of their representatives, officers, agents, or employees.

It is acknowledged that this release is for the benefit of and may be relied upon by the City and the referenced Contractor.

The foregoing shall not relieve the undersigned of any obligation under the provisions of the Undersigned's subcontract, as the subcontract may have been amended, which by their nature survive completion of the Undersigned's work effort including, without limitation, warranties, guarantees, insurance requirements and indemnities.

STATE OF COLORADO) ss.
CITY OF _____)

(Name of Subcontractor)

Signed and sworn before me this
day of _____, 20__.

By: _____

Notary Public/Commissioner of Oaths
My Commission Expires _____

Title: _____

Exhibit Q
Contractor's Certification of Payment Form



Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 West Colfax Avenue, Dept. 907
Denver, CO 80202
Phone: 720-913-1999
Fax: 720.913-1803

Instructions for Completing the Contractor/Consultant Certification of Payment Form

Note: The attached Contractor/Consultant Certification of Payment form must be completed by the Contractor/Subconsultant and all subcontractors/subconsultant or suppliers used on the project at **any tier** and submitted with each pay application. The Contractor/Consultant is responsible for the accuracy of all information provided and is required to have each subcontractor/subconsultant or supplier fill out the appropriate forms. Please be sure to complete all information requested at the top of the form, including the name of the person who prepared this form.

If you reproduce this form, you must continue to list each of the originally listed firms, as well as any additional firms used during the performance period of the contract.

If you have any questions, please call the Compliance Unit of DSBO at 720.913.1999.

Instructions for Completing the Contractor/Consultant Certification of Payment Form, per Column

Contractor/Subcontractor or Subconsultant/Supplier Name: In the space provided, list all subcontractors/subconsultants and suppliers used on the project. For all MBE/WBEs use the exact name listed in the DSBO Directory.

MBE/WBE/NON: For each name listed, indicate whether the entity is a certified MBE/WBE.

Column A: Provide the contract amount, as listed at bid time, for the Contractor/Consultant and each subcontractor/subconsultant or supplier.

Column B: Provide the percentage portion of each listed subcontractor/subconsultant or supplier contract amount (Column A) compared to the total original contract amount in (I).

Column C: Provide the original contract amount (Column A) for each subcontractor/subconsultant or supplier plus any awarded alternate and/or change order amounts applicable. If an alternate/change order does not apply to the listed firm, re-enter the original contract amount (Column A).

Column D: Provide the percent portion of each listed subcontractor/subconsultant or supplier contract amount (Column C) compare to the current total contract amount in (II).

Column E: Provide the amount requested for work performed or materials supplied by each listed subcontractor/subconsultant or supplier for this pay application. The sum of the items in this column should equal the estimated amount requested for this pay application.

Column F: Provide the amount paid to each subcontractor/subconsultant or supplier on the previous pay application. Enter the previous pay application number in the column heading. The sum of the items listed in this column should equal the warrant amount paid to the Contractor/Consultant on the previous pay application. The amounts paid to the subcontractor/subcontractor or suppliers should be the actual amount of each check issued.

Column G: Provide the net paid to date for the Contractor/Subconsultant and each listed subcontractor/subconsultant or supplier.

Column H: Provide the percent portion of the net paid to date (Column G) for the Contractor/Subconsultant and each listed subcontractor/subconsultant or supplier of the current total contract amount in (II).

Exhibit R
Incorporated herein by reference
Technical Specifications

Exhibit S
Incorporated herein by reference
Contract Drawings

Exhibit T

Vanderbilt/Johnson-Habitat Park Asbestos-Contaminated Soil Management Plan
Dated November 21, 2013 by DEH



DENVER
ENVIRONMENTAL HEALTH

**VANDERBILT/JOHNSON-HABITAT PARK
ASBESTOS-CONTAMINATED SOIL MANAGEMENT
PLAN**

November 21, 2013

City and County of Denver
Department of Environmental Health
Division of Environmental Quality
200 West 14th Avenue, Department 310
Denver, Colorado 80204
311

Definitions

“Adequately wet asbestos contaminated soil” means sufficiently wet to minimize or eliminate visible emissions of dust and/or debris within the regulated work area and prevent the release of visible emissions from leaving the RWA. The observance of visible emissions, outside of the regulated work area, of dust and/or debris is an indication that soils are not adequately wet.

“Asbestos” means the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), amosite (cummingtonite-grunerite), anthophyllite, actinolite, and tremolite.

“Asbestos containing material” (ACM) means any material that contains more than one percent (1%) asbestos by weight, area or volume.

“Certified Asbestos Building Inspector” (CABI) means a person trained and certified in accordance with Air Quality Control Commission Regulation No. 8, (5 CCR 1001-10, Part B), for the identification of asbestos containing materials and the collection of samples to determine asbestos content inspection and sampling, and who has experience with a minimum of 40 hours of experience on asbestos contaminated soil projects on a minimum of three asbestos-contaminated soil projects.

“Friable asbestos-containing material/ACM” means any material that contains more than one percent asbestos by weight, area, or volume and when dry can be crumbled, pulverized, or reduced to powder by hand pressure and that contains. The term includes non-friable forms of asbestos after such previously non-friable material becomes damaged to the extent that when dry it can be crumbled, pulverized, or reduced to powder by hand pressure as determined in the field by a CABI

“Friable asbestos waste” means any asbestos waste that has been or can be pulverized or reduced to powder by hand pressure when dry.

"Regulated Work Area" (RWA) means the controlled area(s) where soil disturbing activities are occurring in the presence of debris.

"Receptor Zone” means area(s) of public where access is not restricted within 150 feet of the boundary of a RWA being actively disturbed.

“Waste Inspector” (WI) means an individual who has the training and/or experience necessary to identify debris and who has the authority to make prompt decisions relating to the management of debris per this soils characterization and management plan (SCMP).

1. Soil Characterization and Management Plan

- 1.1. This soils characterization and management plan (SCMP) defines the specific roles, responsibilities, and duties of project personnel, project scope and planned soil disturbing activities, anticipated working conditions, and work practices with mitigation measures when encountering debris during soil disturbing construction activities to be undertaken during the Johnson-Habitat Park excavation. This SCMP satisfies Section 5.5 of the Soil Characterization and Management Requirements of the Colorado Solid Waste Regulations (6 CCR 1007-2, Part 1). This SCMP applies only to the Johnson-Habitat Park excavation site.
- 1.2. In conjunction with this SCMP, the City and County of Denver will submit a materials management plan to CDPHE for review and approval prior to its use during the construction phase of this project.
- 1.3. For purposes of expediency, under this SCMP all visible debris encountered during Vanderbilt/Johnson-Habitat Park Phase II soil disturbing activities will be managed and disposed of as friable ACM without ACM confirmation by a CABI or through sampling.

2. Property Location, General Site Description and Planned Scope

- 2.1. The Vanderbilt/Johnson-Habitat plan encompasses the area from Kentucky Avenue (the southern border of Vanderbilt Park) to Alameda Avenue to the north (see figure 1). Johnson-Habitat Park is an existing Denver Park of approximately 8 acres. The overall concept for the enhancement of Johnson-Habitat Park is to create an environmental education hub for children, families and outdoor enthusiasts, adjacent to the South Platte River. Johnson-Habitat is currently the headquarters of The Greenway Foundation's

South Platte River Environmental Education (SPREE) Program, which develops positive relationships between underprivileged urban youth and the natural environment along the South Platte River.

- 2.2. The environmental education features include an outdoor classroom, natural gas fire ring, overlook plaza, wiki-up environmental play space and urban camping area. Other features include a large concrete jetty for fishing and boating access, trailhead rest areas, interpretive signage, and an internal soft surface trails network of over 6,500 linear feet. The steep slopes along the river's edge will be graded back to create a more inviting and accessible relationship to the river. The river's edge will be reinforced with riprap and the native wetland and riparian vegetation will be restored.
- 2.3. Preliminary environmental analysis on the Johnson-Habitat site has indicated the presence of historical urban fill material, which may contain asbestos debris, at a depth of 5'-15' below current grade, .
- 2.4. Vanderbilt Park is an existing Denver Park just south of Johnson-Habitat, that includes a large recreational ballfield with associated support facilities and a small lake at the southern end of the site. RVIP improvements to this park include the addition of a soft-surface trail network around the lake and through an arboretum area along the western edge of the park, building a dock on the lake and a series of overlook/seating areas around it, and a new trail connection to Johnson-Habitat Park to the north.
- 2.5. The South Platte Regional Trail connects both of these parks with the greater trail network throughout the metropolitan area. The trail will be reconstructed from the new northbound Santa Fe bridge structure north to W. Alameda Avenue. Through Johnson-Habitat Park, the trail will swing to the outside edge of the site to separate the high

traffic trail uses from the programmed park spaces, and to better connect the park to the river. The reconstructed trail will meet the new standard regional trail section which includes a 12' wide concrete trail with 3' buffer zones on each side, and a 5' soft-surface trail that runs concurrent with but not necessarily parallel to the concrete trail. A total of 4,300 linear feet of regional trail are included as part of this project.

- 2.6. Currently, the entire park is covered with soil, turf, and or landscape with trees and bushes. The park also contains bike paths made of dirt and concrete. There is one classroom building structure, one bathroom structure, and a baseball field. These structures are not in the scope of excavation.
- 2.7. Asbestos on facility components (e.g. transite pipes) above the Reg. 8 trigger levels (i.e. 260 linear feet, 160 square feet or 55 gallon drum volume) shall be removed according to CDPHE Regulation #8, Part B. These same procedures would apply for abatement of facility components that are below Regulation #8 trigger levels and are subject to Section 5.5 of the Soils Waste Regulations.

3. Site Soil Characterization & Anticipated Conditions

- 3.1. No further soil characterization activities are planned during Phase II construction.
- 3.2. All debris encountered during soil disturbing construction activities which has not been visually inspected and sampled by a CABI shall be managed as if it contains friable ACM¹.
- 3.3. Debris containing only non-ACM (as determined through sampling and analysis by a CABI) or metal, glass, wood, plastic, and stone is not ACM and implementation of the

¹ For purposes of expediency, under this SCMP, CCOD intends to manage and dispose of visible debris as friable ACM. Nonetheless, CCOD reserves the right to revert to CABI visual confirmation and/or sampling to determine that debris is not friable ACM, and to then manage the material in accordance with such a determination.

engineering controls and work practices in this SCMP or section 5.5 of the Solid Waste Regulations is not required.

- 3.4. Visible ash that is encountered as the sole material or co-located with any debris shall managed as if it contains friable ACM.²
- 3.5. Management of the project shall be conducted in accordance with this SCMP and the Solid Waste Regulations based on field verified conditions.

4. Primary Contacts and Project Responsibilities

² For purposes of expediency, under this SCMP, CCOD intends to manage and dispose of visible debris as friable ACM. Nonetheless, CCOD reserves the right to revert to CABI visual confirmation and/or sampling to determine that debris is not friable ACM, and to then manage the material in accordance with such a determination.

4.1. Where debris is encountered during soil disturbing construction activities, personnel from the following departments, agencies, and organizations have the roles identified in Table 1. Roles below.

Table 1- Roles

Organization	Role	Contact Information
City and County of Denver Parks & Recreation	Project Management	Michael Bouchard Phone: 720.913.0613 Email: michael.bouchard@denvergov.org
City and County of Denver Department of Environmental Health (DEH)	Environmental Consultation	Steve Gonzales Phone: 720.865.5447 Email: steve.gonzales@denvergov.org
CDPHE Hazardous Materials and Waste Management Division (HMWMD)	Regulatory Agency	Brian Long Phone: 303-691-4033 Email: briant.long@state.co.us
General Contractor (to be retained by Parks)	Site excavation and project performance per contractual scope of work	To be determined
Sub-contractor(s) (to be retained by GC as needed)	Site excavation and project performance per contractual scope of work	To be determined
Environmental Consultant (to be retained by contractor)	CABI: Implementation of SCMP; SCMP compliance oversight ; of General Contractor, Sub-contractor, Environmental Contractor, WI(s)	Pinyon Environmental Brian Partington Phone: 303-980-5200 Email: partington@pinyon-env.com
Environmental Contractor (to be retained by GC as needed)	As directed management of debris	To be determined
City and County of Denver Parks & Recreation, DEH, General Contractor, Sub-contractor(s) or Environmental Consultant.	Waste Inspector(s)	To be determined

5. Responsibilities Table

5.1. All disturbance of debris encountered during soil disturbing construction activities requires engineering controls or work practices in accordance with this SCMP, personnel from the following departments, agencies and organizations have the obligation (based on project scope and need) to perform the marked responsibilities specified in Table 2 - Responsibilities, next page.

Table 2 - Responsibilities

	Personnel	CCOD Parks & Recreation	CCOD DEH	General Contractor	Sub- contractor(s)	Environmental Consultant (CABI)	Environmental Consultant (Air Monitoring Specialist)	Environmental Contractor	Waste Inspector
Duties per SCMP									
6.1 - Provide Awareness Training			X			X			
6.2 - Receive Awareness Training		X	X	X	X	X	X	X	X
6.3 - Receive Waste Inspector Training		X	X	X	X		X	X	X
8.1 - Waste Inspector Responsibilities				X	X	X		X	X
9.0, 10.0, & 11.0, 14.0, 15.0, 16.0, 17.0 – Performing Work Practices when Disturbing Debris				X	X	X		X	X
12.0 – Decontamination for Clearance						X			X
13.0 - Wind Speed Monitoring						X	X		X
18.0 - Air Monitoring							X		
19.0 - Documentation		X	X	X	X	X	X	X	X

6. **Training for All Onsite Personnel with Potential for Managing ACM**

6.1. All awareness trainings will be conducted by a Certified Asbestos Building Inspector (CABI) who is certified in accordance with CDPHE Air Quality Control Commission Regulation No. 8, Part B with at least 40 verifiable hours of on the job asbestos in soils experience on a minimum of three (3) different asbestos in soils jobs. As soon as possible, but at least 24 hours prior to the initial awareness training CABI will invite CDPHE. This training can be conducted even if the State is not in attendance. Notice of all other scheduled training shall be provided in advance to the extent practical. Documentation of initial and follow-up trainings will be maintained onsite or made available upon request to CDPHE within 24 hours during the duration of this project. Asbestos in soils awareness training will consist of the following topics;

- 6.1.1. History and health effects of asbestos,
- 6.1.2. Typical asbestos containing materials,
- 6.1.3. Management practices & personal protection equipment,
- 6.1.4. Roles and responsibilities at this point when debris is encountered during soil disturbing construction activities.

6.2. Asbestos in soils awareness training will be required for the following personnel;

- 6.2.1. All workers with duties to perform soil disturbing activities at the start of the project,
- 6.2.2. All workers with duties to perform soil disturbing activities at any time after the start of the project,
- 6.2.3. Onsite safety personnel,
- 6.2.4. Onsite management personnel, and

6.2.5. Consultants or contractors that will perform soil disturbing activities in conjunction with this project but not originally planned.

6.3. In addition to soils awareness training the personnel designated with the roles and responsibilities of the waste inspector (WI) will receive the following training:

6.3.1. A CABI instruction detailing best management practices when handling debris, friable ACM or friable asbestos waste,

6.3.2. A CABI instruction detailing this Soils Characterization Management Plan and engineering controls or handling procedures for non-homogenous historical urban fill debris considered friable ACM,

6.3.3. A CABI instruction for identification of non-homogenous historical urban fill debris considered assumed ACM, materials suspected of containing asbestos, and materials not suspected of containing asbestos,

6.3.4. The Denver Department of Environmental Health will perform a documented field verification of debris identification and engineering controls or work practices for every WI used on this project during their initial work duties. These actions will be documented by a CABI or WI per section 18 of this SCMP.

7. Duties

7.1. For this project, the Waste Inspector has the following onsite duties and authorities:

7.1.1. Be present for all soil disturbing activities,

7.1.2. Identify a soil disturbance project that encounters debris,

7.1.3. Identify excavated debris containing only those materials not suspect for ACM(s) [e.g. metal, glass, wood, plastic, stone (as long as these materials do not have any

associated suspect material)] , or other material identified by the CABI to be non-ACM through sampling and analysis,

7.1.4. Oversee and implement all required engineering controls or work practices required by this SCMP,

7.1.5. Visually monitor and document SCMP work practices during debris disturbance,

7.1.5.1. Visually monitor and document for adequately wet applications,

7.1.5.2. Stop RWA operations, as needed, to review for compliance with this SCMP,

7.1.5.3. Hand remove debris as stated under requirements of this SCMP,

7.1.5.4. Monitor wind speed and document,

7.1.5.5. Documentation of SCMP actions required prior to leaving site.

7.1.5.6. Identify and manage visible ash as debris.

7.2. Only the CABI, through bulk sampling and analysis by polarized light microscopy, conducted in accordance with United States Environmental Protection Agency (USEPA) Method EPA/600/R-93/116 or equivalent method, will have the authority to determine that debris is not ACM and not required to be managed per this SCMP or section 5.5 of the Solid Waste Regulations.

8. Work Practices Applicable to All Disturbances of Debris

8.1. Stabilize debris, which will not be kept adequately wet, on exposed excavation faces or soil piles as follows:

8.1.1. Cover with polyethylene sheeting or geotechnical fabric, conduct daily inspections, and inspection within 8 hours after storm events; and repair/replace cover as necessary or

8.1.2. Coat with a chemical stabilizer demonstrated to be effective in the stabilization of asbestos debris (e.g. magnesium chloride); conduct daily inspections and inspection within 8 hours after storm events; and re-application of chemical stabilizer as necessary to maintain an effective coating; or cover with a minimum of 3 inches of no visible debris soil appropriate for unrestricted use.

8.2. Debris disturbance not to exceed the extent of wetting; or

8.2.1. Conduct continuous wetting at the point of debris disturbance to ensure all materials are adequately wet prior to removal from the excavation where continuous wetting has not hindered management, loading, or historical urban fill requirements. Document instances of visible emissions leaving regulated work area and evaluate and, as necessary, change or increase controls (e.g. more effective wetting, reduced speed of excavation).

8.3. Requirements for establishment and control of a Regulated Work Area (RWA) applicable to all areas of this project where debris is actively being disturbed:

8.3.1. Establish a RWA which is identifiable to all persons. Haul roads between RWAs, where debris is not present, are considered to be outside the RWA(s); however, equipment decontamination and spill response procedures shall be followed.

8.3.2. Stop all soil disturbing activities in the RWA if personnel not trained in accordance with this SCMP need to access the RWA.

8.3.3. Post labeling and signage to demarcate RWA(s). The RWA shall be demarcated with a visual means that defines the full extent of the RWA. Labeling and signage shall indicate the potential presence of asbestos, and that the area is off limits to unauthorized personnel.

8.3.4. Establishing a secured work site around a RWA shall consist of the following techniques: where applicable, portable chain link fencing will be established and maintained (i.e. construction of basketball and volleyball courts, some trails and paths and amphitheatre) and/or project personnel are available and authorized to terminate unauthorized access to the RWA (e.g. irrigation lines, some trails and paths and the mountain bike skills course). If the RWA is located within a larger secure facility, fence or personnel in lieu of fencing of the RWA is not necessary as long as the RWA is secured by a guard's physical presence during times of excavation in the RWA.

8.3.5. Workers and personnel overseeing debris disturbing activities will be required to follow these personnel protection equipment requirements to minimize or avoid the potential for cross-contamination at all times:

8.3.5.1. Use disposable booties or impermeable footwear.

8.3.5.2. Use disposable or impermeable gloves.

8.3.5.3. Where debris is encountered, use disposal impermeable suits or equivalent coveralls.

8.3.5.4. Replace or decontaminate all PPE where the integrity of the PPE is compromised, and when workers exit the RWA.

8.3.5.5. Decontaminate or dispose of all used PPE as asbestos contaminated waste.

9. Work Practices Applicable to Disturbance of Debris Using Hand Methods

9.1. Hand removal of debris from the ground surface shall consist of:

9.1.1. Wetting and removal of the debris and 12 inches, in all directions, of surrounding soil or other material from the last occurrence of visible debris; and,

9.1.2. WI confirmation that the extent of visible debris and surrounding soil, or other material, has been removed (or extent of excavation has been reached). If debris is left in place, it must be managed for stabilization or future removal; and,

9.1.3. For the purpose of disposal, containerize debris and associated soil using a double bag. Dispose properly in accordance with Section 16 of this SCMP.

9.2. In-situ sub-surface hand removal of Debris pocket shall consist of:

9.2.1. The same removal methods, confirmation and stabilization, and disposal requirements as surface hand removal of debris.

10. Work Practices Applicable to Disturbance of Debris When Using

Mechanical Methods

10.1. For surface occurrence of debris - Wetting and removal of all debris and a minimum of 12 inches of soil, or other non-debris material, in all directions from the last occurrence of visible debris, with WI or CABI confirmation that the extent of visible debris has been removed; or

10.1.1. For subsurface occurrence of debris - Wetting and removal of all debris and a minimum of three (3) linear feet of soil in the direction(s) of planned excavation,

with WI or CABI confirmation that the extent of visible debris has been removed; and if debris is left in place, it must be managed for stabilization or future removal.

10.1.2. For the purpose of disposal, containerize debris and associated soil using a double bag. Containerizing for disposal may also include other leak tight methods as approved by CDPHE. Dispose of materials properly in accordance with Section 16 of this SCMP.

11. Decontamination

11.1. Personnel Decontamination:

11.1.1. Remove booties and/or gloves before exiting RWA and dispose as asbestos contaminated waste, or

11.1.2. Decontaminate boots in a boot wash station, remove gloves after exiting the boot wash station, and dispose of gloves as asbestos contaminated waste. Rinsate from the boot wash station shall be collected, filtrated to less than 5 microns (or applicable local requirements) and discharged to a sanitary sewer or re-applied to debris that will be managed under this SCMP.

11.2. Equipment and Surface Protection or Decontamination:

11.2.1. Keep all equipment off of debris; or protect clean surfaces from coming in contact with debris by covering equipment surfaces or debris surfaces with polyethylene sheeting or equivalent durable covering. For onsite movement of excavation equipment between RWAs, where only the excavator bucket has come in contact with debris, the bucket shall be wrapped in polyethylene sheeting prior to movement. Protective coverings shall be cleaned, repaired, or replaced as

necessary. Coverings that have come in contact with debris shall be disposed as asbestos contaminated waste; or

11.2.2. For equipment that comes into contact with debris:

11.2.2.1. Wet decontamination on a decontamination pad (minimum 10 millimeter polyethylene) followed by CABI or WI inspection and verification of no visible contaminated soil and debris on equipment before it leaves the decontamination area. All decontamination liquids and solids must be contained, and run-on and run-off shall be prevented. Rinsate/runoff shall be collected, filtrated to less than 5 microns (or applicable local requirements) and discharged to a sanitary sewer or re-applied to debris that will be managed under this SCMP;

11.2.2.1.1. For non-durable decontamination pads removal of a minimum of 3 inches of soil or other non-debris material, from beneath breach(es) in the pad where debris or water contaminated with asbestos may have impacted the material below the pad; or

11.2.2.1.2. Decontamination using HEPA vacuums followed by CABI or WI inspection and verification of equipment decontamination before it leaves the decontamination area; and/or

11.2.2.2. For onsite movement of equipment between RWA where equipment has not been decontaminated per this SCMP, equipment shall move on top of a barrier (e.g. 10 millimeter polyethylene or 3 inches of clean soils) capable of preventing cross-contamination to clean soils or have a minimum of 3 inches of existing soils removed, from the paths, where equipment traveled; however,

moving equipment offsite requires full decontamination and CABI or WI verification that all potential contaminated soil and debris has been removed from the equipment.

12. Wind Speed Monitoring for All Mechanical Disturbances and Hand Disturbances of Visible Debris

12.1. During disturbances of debris, measurement of wind speeds shall be conducted at 30 minute intervals during debris disturbance and continuously during wind gust(s).

Wind measurements shall be taken from any location within the RWA.

12.1.1. If wind break barriers are used, wind speed measurements may be taken from within barriers; however, wind speed measurements must also be taken outside the wind break barriers if any activities, such as loading, are taking place outside or above the barriers. Wind speed shut-down criteria shall be based on measurements taken that are representative of the area of active debris disturbance.

12.1.2. Wind break barriers constructed out of materials appropriate to site conditions shall be used.

12.2. Immediate stoppage of all debris disturbance shall occur based on the following criteria as described in Section 13.2.1: where there is wind interfering with the ability of engineering controls to function as intended:

12.2.1. A) Wind gust(s) in excess of 20 mph, B) sustained winds in excess of 12 mph, averaged over 10 minutes based on continuous wind speed measurement, C) Wind is interfering with the ability of engineering controls to work as intended, and D) Wind is causing visible emissions to leave the RWA.

12.3. Work may resume once all of the following criteria are met: A) there are no wind gust(s) in excess of 20 MPH for 20 minutes, B) sustained winds are below 12 MPH averaged over 20 minutes, C) winds are not interfering with the ability of engineering controls to work as intended, and D) wind is not causing visible emissions to leave the RWA.

13. Staging and Stockpiling of Soils Containing Debris

13.1. All soil stockpiling and staging activities will be conducted in the presence of a WI monitoring for visible debris, dates of staging and stockpiling creation and removal will be entered in the daily log. Stockpiling (i.e. onsite storage of debris in an RWA over 12 hours) of soils containing visible debris is not anticipated to be conducted during this project for more than 10 calendar days. However, if the need should arise to increase beyond 10 calendar days of stockpiling, stockpiling for a longer time will not take place until an addendum to this SCMP covering appropriate engineering controls and work practices is approved by CDPHE.

13.1.1. Staging, consisting of accumulation and temporary storage of debris in the RWA for 12 hours or less, shall include:

13.1.1.1. Staging of debris must be on 10 milimeter polyethylene sheeting or must include removal of a minimum of 3 inches of soil, or other non-debris material, from below the staging pile/area prior to demobilization; with visual or measured confirmation of removal. If polyethylene is not placed on top a durable surface such as concrete or asphalt, the surface must be decontaminated using wet methods, followed by CABI or WI inspection

verifying that all soil and debris has been removed from the surface.

Rinsate/runoff shall be collected and filtrated to less than 5 microns (or applicable local requirements) and discharged to a sanitary sewer or re-applied to debris that will be removed. These actions will be documented by a CABI or WI per section 18 of this SCMP.

13.2. Staging or storage of soils that do not contain any visible amounts of debris will be managed as follows:

13.2.1. If incidental (less than 5 pieces) pieces of debris are found in a pile where a WI or CABI was continually inspecting the soil disturbing activities during generation, remove the piece of debris and one foot of material in all directions, with CABI or WI confirmation that the visible extent of debris has been removed. If more than one piece of debris or a pocket of debris is discovered, remove the pocket of debris plus one foot of material in all directions, with CABI or WI confirmation that the visible extent of debris has been removed.

13.2.1.1. The remaining soil will not be managed per this SCMP but is required to have a WI visual observation during disturbances at all times during this project.

13.2.2. If a staging or stockpile is created without a CABI or WI continuously inspecting the material during generation, CDPHE will be consulted to develop a response action to this scenario.

14. Visible Debris Spill Response

14.1. Spilled visible debris (including material that has come in contact with debris) in

areas of non-visible debris shall be cleaned up prior to continuing any other work practice in the area of the spill and not allowed to dry out or accumulate on any surface; and

- 14.2. Removal of a minimum of 3 inches of subsurface soil or material beneath breached ground coverings where debris or water contaminated with asbestos may have contacted the material below the covering, with visual or measured (e.g. survey) confirmation that 3 inches of soil/material from beneath the breached covering has been removed. If ground coverings are placed on top a durable surface such as concrete or asphalt, the surface must be decontaminated using wet methods, followed by WI or CABI inspection that all soil and debris has been removed from the surface. Rinsate/runoff shall be collected and filtrated to less than 5 microns (or applicable local requirements) and discharged to a sanitary sewer or re-applied to visible debris that will be removed or remaining onsite and managed per this SCMP.

15. Requirements for Exposed Debris Remaining In Place

- 15.1. Any debris that is exposed by the soil-disturbing activity, but has not been disturbed and will remain in place, such as an excavation sidewall or bottom shall be covered or stabilized using one of the following:

- 15.1.1. Cover debris with 8 inches of fill suitable for unrestricted use, and vegetation; or
- 15.1.2. Cover debris with geo-fabric, followed by 8 inches of fill suitable for unrestricted use, and concrete or asphalt; or
- 15.1.3. Cover debris with geo-fabric, followed by fill suitable for unrestricted use

to grade for vertical excavation faces or trenches; or

15.1.4. Alternate cover designs as approved by the Department.

16. Off Site Disposal of Debris

16.1. All visible debris and associated soil/material and other SCMP managed materials will be packaged onsite into a leak tight container as approved by CDPHE, consisting of woven polypropylene or other proven (i.e. CDPHE accepted) leak tight material prior to exiting the RWA and disposed as friable asbestos waste. Documentation stating that soil originating from this site shall not be used as daily cover or sold as clean fill must accompany each load of debris removed from the site.

16.2. The scope of this project does not include reuse of visible debris and associated soil/material back onsite. Any change to this will require an addendum to this SCMP covering appropriate engineering controls and work practices as received and approved by CDPHE.

17. Air Monitoring for Mechanical Disturbance in RWAs with Adjacent Receptors

17.1. In areas where debris is managed by mechanical disturbance and where public access cannot be prevented (i.e. a receptor zone) by the secured RWA work practices (see section 8.3 of this SCMP) air monitoring will be performed to demonstrate the effectiveness of the work practices set forth in this SCMP. Air monitoring will not be used to evaluate risk to the public from disturbance of debris by mechanical means. Air monitoring protocols shall be as follows:

17.1.1. Area monitoring within the RWA adjacent to a receptor zone shall consist

of air samples collected around the perimeter of each distinct RWA in the direction of the receptor zone(s) and no air monitoring is required for RWAs not adjacent to a receptor zone.

17.1.2. Area monitoring within the RWA adjacent to a receptor zone shall consist of one air monitoring unit setup adjacent to the direction(s) of each receptor zone with an additional air monitoring unit for every 75 feet within that receptor zone. In addition two downwind air monitoring units shall be setup and moved based on prevailing wind direction for each RWA.

17.1.3. RWAs larger than 1 acre shall require additional perimeter monitoring points to be added at a rate of one sample for every 200 linear feet (or approximately each additional $\frac{1}{4}$ acre).

17.1.4. PCM analysis will be performed on all samples collected. The laboratory will be directed to provide verbal results by the start of the next working day, or as soon as possible after the start of the next working day.

17.2. TEM analysis (presence/absence, counts optional) is required as described in 17.2.1 through 17.2.4 below. The laboratory will be directed to provide verbal results by the start of the next working day, or as soon as possible after the start of the next working day, with written results to be provided within 24 hours of the receipt of verbal results.

17.2.1. During the first five (5) days of disturbing ACM or assumed ACM – A minimum of 25% of the samples collected from each RWA pursuant to 17.1 shall be submitted for TEM analysis. The sample(s) selected for TEM analysis shall be the highest PCM result(s) based on fiber concentration. If all PCM results are

Below Detectable Limit (BDL) for fiber concentration, then the sample(s) selected for TEM analysis shall be determined by highest fiber count. If all samples have no fiber counts then no TEM analysis is required.

17.2.2. After five (5) days of continued disturbance of debris with no asbestos detections by TEM analysis, the frequency of analysis by TEM, on the highest 25% of PCM results(s), can be reduced to once every five (5) working days, or portions thereof, using the same selection criteria as in 17.2.1. During the period of reduced frequency of TEM analysis, the first occurrence of high winds, exceeding wind shut down criteria, or visible emissions shall result in that day's samples being submitted for TEM analysis. In the absence of high wind events or visible emissions the selected day for TEM analysis may be random.

17.2.3. If there are any asbestos detections during the random once every five days analysis by TEM, then TEM analysis shall be conducted for three (3) consecutive work days, or portions thereof, using the same procedures as in 18.2.1. If there are no additional asbestos detections during the three (3) consecutive working days with samples submitted for TEM analysis, then the frequency of TEM analysis may return to random once every five (5) working days.

17.3. All samples with PCM results having fiber concentrations greater than 0.01 f/cc shall be submitted for TEM analysis.

17.4. For each detection of asbestos by TEM analysis, the projects air monitoring specialist in conjunction with the site CABI and/or WI shall:

17.4.1. Notify, the general contractor, WI or CABI, Parks project manager and

DEH and CDPHE verbally or by email, within 24 hours of receipt of verbal or written results (whichever comes first) from lab.

17.4.2. Evaluate site conditions and engineering controls for each detection.

17.4.3. Submit an Emission Control Plan (ECP) to the Division for each detection (days with multiple detections can be addressed by a single ECP). The ECP shall be submitted within 48 hours from the asbestos detection event and shall contain:

17.4.3.1. The date of the detection.

17.4.3.2. A written description of sample details (sample ID, number of structures detected, type of asbestos detected, PCM analytical result) and suspected cause of the release. Include a description of site activity (engineering controls being employed, equipment being used, size of excavation/soil disturbing activity, types of materials encountered, etc.) and WI or CABI observations at the RWA before and during the presumed time of release.

17.4.3.3. Include a diagram or write up of all air sample positions clearly indicating the sample position(s) of each TEM detection. Indicate, through illustration or description, prevailing wind direction and average wind speeds for the detection event; include any wind speed shutdowns for the date of detection. If applicable, indicate through illustration or description downwind floater air sample relocation times and new positions.

17.4.3.4. Attach laboratory reports confirming the type and amount of fibers detected by TEM analysis.

17.4.3.5. Include any other pertinent information that will additionally describe the release and/or will assist in the prevention of future releases.

17.4.3.6. Provide a written description of actions to be taken to avoid future releases.

17.4.4. If there are three (3) TEM detections on consecutive analysis events or ten (10) detections during this project, consultation among CDPHE, the project's WI(s) or CABI(s), air monitoring specialist(s), the general contractor, Park's project manager and DEH is required to determine if appropriate work practices/engineering controls are being applied and whether;

17.4.4.1. Changes in work practices/engineering controls are likely to prevent future releases, or

17.4.4.2. Changes in work practices/engineering controls are not likely to prevent future releases and a SCMP addendum is necessary to address and prevent releases, or

17.4.4.3. If the project's WI(s) or CABI(s) believes fibers appear to be coming from offsite and are not under the control of the WI or CABI, in addition to the information provided in the ECP, the WI or CABI shall provide any available information about possible additional sources of asbestos fibers.

18. DOCUMENTATION

18.1. The following documents shall be maintained during the project and will be made available for Department review upon request; this documentation will not be submitted to CDPHE unless requested. Other appropriate personnel may also provide the following documentation.

18.1.1. Daily WI and CABI notes shall include documentation of:

- 18.1.1.1. site description including RWA location,
- 18.1.1.2. description of RWA activities,
- 18.1.1.3. description of equipment in use within RWA,
- 18.1.1.4. description of hand removals of debris (including GIS locations),
- 18.1.1.5. description of types of debris encountered,
- 18.1.1.6. description of suspect material encountered,
- 18.1.1.7. friability of ACM encountered,
- 18.1.1.8. sampling locations (GIS), if conducted,
- 18.1.1.9. decontamination visual clearances,
- 18.1.1.10. excavation visual clearances,
- 18.1.1.11. **staging and/or stockpiling presence of visible debris,**
- 18.1.1.12. **staging and/or stockpiling visible clearances,**
- 18.1.1.13. **location and description of debris or construction debris located in
Vanderbilt/Johnson-Habitat Park not generated by soil excavations,**
- 18.1.1.14. spill response activities,
- 18.1.1.15. observations of visible emissions and work practices/engineering controls
responses,
- 18.1.1.16. observations of non-earthen material or the appearance of fill,
- 18.1.1.17. observations of other indicators of impact to soils
- 18.1.2. AMS notes shall include documentation of:
 - 18.1.2.1. wind speed measurements,
 - 18.1.2.2. prevailing wind direction(s),
 - 18.1.2.3. wind shut down event(s),

- 18.1.2.4. initial air sample locations (GIS),
 - 18.1.2.5. air sample relocations (GIS),
 - 18.1.2.6. observations of visible emissions and responses,
 - 18.1.2.7. notes pertaining to sample malfunctions (pump faults, overloading, etc.),
 - 18.1.2.8. air sample data (flow rates, time of sampling, volumes, calibration method, etc.)
- 18.1.3. General documentation shall include:
- 18.1.3.1. disposal records,
 - 18.1.3.2. analytical reports,
 - 18.1.3.3. location of remaining ACM and assumed ACM
 - 18.1.3.4. dates of stockpile & staging piles creation, location and removal.

Exhibit U

Materials Management Plan – Vanderbilt/Johnson Habitat Park
Dated October 3, 2013 by Pinyon Environmental, Inc

October 3, 2013

Materials Management Plan

Vanderbilt/Johnson Habitat Park
Denver, Colorado

Prepared For:

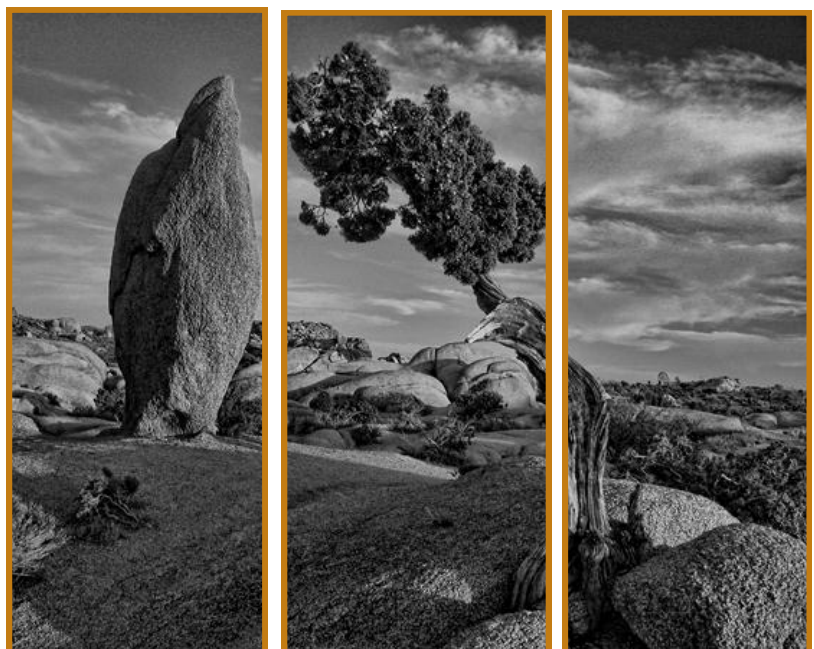
City and County of Denver, Department of Environmental Health
200 West 14th Avenue, Department 310
Denver, Colorado 80204

On Behalf Of:

Icon Engineering, Inc.
8100 South Akron Street, Suite 300
Centennial, Colorado 80112

Pinyon Project No.:

I/13-658-01.2003





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October 3, 2013

Materials Management Plan

Vanderbilt/Johnson Habitat Park
Denver, Colorado

Prepared For:

City and County of Denver, Department of Environmental Health
200 West 14th Avenue, Department 310
Denver, Colorado 80204

On Behalf Of:

Icon Engineering, Inc.
8100 South Akron Street, Suite 300
Centennial, Colorado 80112

Pinyon Project No.:

I/13-658-01.2003

Prepared by:

A handwritten signature in blue ink, appearing to read "Robyn Kullas", is written over a horizontal line.

Robyn Kullas
Environmental Scientist

Reviewed by:

A handwritten signature in blue ink, appearing to read "Brian R. Partington", is written over a horizontal line.

Brian Partington
Manager – Water Resources Group

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Appendix B	Asbestos-Contaminated Soil Management Standard Operating Procedure
Appendix C	EPA Toxicity Characteristic Maximum Concentration of Contaminants

I. Introduction

Pinyon Environmental, Inc. (Pinyon), was retained by Icon Engineering, Inc. (Icon), to prepare this Materials Management Plan (MMP) for improvements of Vanderbilt and Johnson-Habitat Parks located in Denver, Colorado. Icon is the prime design engineer contracted by the City and County of Denver (CCOD) for the project. Construction will be completed by a separate Contractor. This MMP has been developed to assist field operations, particularly construction, in preparing for identifying and managing soil and/or groundwater that may contain contamination.

The MMP is designed to minimize potential worker exposure to potentially contaminated material, prevent releases to the environment, and ensure proper disposal. It is the responsibility of the future-selected Contractor to follow all appropriate regulations, obtain the proper permits, and have the trained field personnel to identify potential contamination.

Pinyon understands that CCOD Department of Parks and Recreation (Parks) intends to complete improvements to these parks as part of the South Platte River Corridor Plan. Improvements to date are conceptual, and design is currently underway. The redevelopment of the parks is intended to inform children and adults of the important role that the South Platte River plays in nature, and create a significant environmental educational facility, diverse recreational area, and model of community cooperation and success.

The project is bound by the South Platte River on the east, South Jason Street and South Huron Streets to the west, West Tennessee Avenue to the south, and Alameda Avenue to the north. The South Platte River Trail crosses both Vanderbilt and Johnson-Habitat Parks. Figure I shows the park location, or the "Site."

Current land use in the area of the Site includes a mix of light industrial development (e.g., screen printing, Contractor supplies, industrial cutting, warehouses), residential, and a former animal shelter. The South Platte River extends north to south adjacent to the east of the Site.

I.1 Background

Both parks were previously used as gravel pits in the 1940s, and subsequently filled in the 1950s to early 1960s. A gravel pit located on Vanderbilt Park was not backfilled, and is now filled with water (Vanderbilt Lake).

The following technical reports were reviewed in preparation of this MMP:

- *Phase II Environmental Site Assessment at Johnson Habitat Park*, prepared by Pinyon, dated March 11, 1996.
- *Limited Landfill Evaluation, Johnson Habitat and Grant Frontier Parks, City and County of Denver, Colorado*, prepared by Pinyon, dated September 19, 2012.

The findings identified in the reports are summarized below:

Pinyon previously completed a Phase II Environmental Site Assessment at Johnsons Habitat Park (Pinyon, 1996). That investigation included the drilling of four direct-push borings, and the collection of soil, groundwater and soil vapor samples. The following summarizes the conclusions of the investigation:

- Little evidence of fill material was discovered; however, only four soil borings were advanced.
- Low methane concentrations were identified in one of the four borings at levels below the lower explosive limit (LEL) for methane.
- Elevated metals concentrations were identified; however, the concentrations appeared to be consistent with background concentrations for the Denver area.
- Concentrations of mercury and selenium were detected in groundwater samples that exceeded the Colorado Groundwater Standards.
- Three polycyclic aromatic hydrocarbons (PAHs) analytes were detected in soil and groundwater samples, but did not have regulatory standards at the time.

Pinyon previously completed a limited environmental evaluation at the Site in August 2012 to evaluate the presence and extent of materials and potential contaminants associated with an on-Site historical fill area (Pinyon, 2012). Twenty test pits were excavated throughout the Site to evaluate subsurface conditions. The following summarizes the conclusions of the investigation:

- Test pits were excavated up to eight feet below ground surface or up to refusal from the presence of concrete slabs or potential Asbestos Containing Material (ACM). Four of ten suspect materials observed and sampled were ACM. These materials included plaster/grout, gray cementitious tile, and a blue clay plaster material in plastic. In general these materials were noticed in small amounts, scattered among the debris in the excavated soil. However, 10 to 15 ten-pound bags containing ACM consisting of blue clay/plaster material were observed at the southern portion of the Site, three feet bgs.
- Fill, composed of silty sand with clays, gravel and cobbles, was generally identified throughout the Site to approximately eight feet bgs, or termination of the test pit. The fill material contained various non-soil components, including brick, concrete, and asphalt fragments, and building materials including ceramic tile, glass, metal, plaster, and wood.
- Drilling over site conducted adjacent to the south of the Site by Pinyon in 2012 identified similar fill material, up to 15 feet bgs as well as petroleum hydrocarbons at 2.5 to 15 feet bgs.
- Coal fines and potential petroleum contaminated soils were generally present at approximately five to eight feet bgs throughout the central portion of the park. Slightly elevated photoionization detector (PID) readings were noted in the areas where the material “looked bad, smelled bad”. Soil samples were collected in these areas and analyzed for volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), polychlorinated biphenyls (PCB), and Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver). Based on the sample results, fill material at the Site contains low-level SVOC and metal contamination with measured concentrations that exceed residential and/or worker protection Colorado Soil Evaluation Values (CSEV) and USEPA Regional Screening Levels (RSLs) for Industrial and Residential Soils (EPA, 2012) (Appendix A). However, based on analytical results, this material is not characteristically hazardous and may be disposed as a non-hazardous solid waste.
- Soil samples were analyzed for reactivity, corrosivity, and ignitability indicating soil is within the acceptable disposal requirements for these three parameters.

- Free liquids may be present at a depth of six to seven feet at the central portion of the Site (or where groundwater is encountered).
- ACMs were identified in four of 20 test pits; however, ACM could be distributed across the Site.
- Low-level metals concentrations in groundwater is a concern if groundwater dewatering activities are planned at the park. Water that may be subject to dewatering would likely need to be properly disposed off-Site, or treated to meet Surface Water Standards in accordance with CDPHE, Water Quality Control Division permit requirements.
- No evidence of a protective cover or liner was observed during the investigation.

1.2 Key Parties and Responsibilities

The key parties, their contact information and project responsibilities, are outlined below:

Organization	Role/Responsibility	Contact Information
City and County of Denver Department of Parks and Recreation	City Project Manager	Michael Bouchard, RLA 720-913-0613 (direct) 303-883-8985 (mobile) Michael.bouchard@denvergov.org
Icon Engineering Inc.	Engineering, Project Management	Douglas J. Williams, PE, Vice President 8100 South Akron Street Suite 300 Centennial, CO 80112 303-221-0802 (main office) dwilliams@iconeng.com
City and County of Denver, Department of Environmental Health	Environmental Quality Technical Oversight - Asbestos	Steve Gonzales 720-865-5447 (direct) 303-880-0981 (mobile) Steve.gonzales@denvergov.org
City and County of Denver, Department of Environmental Health	Environmental Quality Technical Oversight – Other	David Erickson 720-865-5433 (direct) 303-589-6526 (mobile) David.erickson@denvergov.org
Contractor	Construction	TBD
Pinyon Environmental, Inc.	MMP Author, Project Manager	Brian Partington (or TBD) 303-980-5200 (office) 303-870-6798 (mobile) Partington@pinyon-env.com

Organization	Role/Responsibility	Contact Information
Pinyon Environmental, Inc.	Certified asbestos Building Inspector, Air Monitoring Specialist – Asbestos Lead/Manager	Peter Becofske (or TBD) 303-980-5200 (office) 303-956-4661 (mobile) becofske@pinyon-env.com

I.3 Propose Soil Disturbing Activities

Subsurface disturbances will be associated with excavation of solid waste materials during the implementation of the park improvements. Soil disturbing activities would occur for general Site grading, installation of new utilities, construction of surface-water quality improvement features, and other park improvements. Generally, the majority of improvements would be to Johnson-Habitat Park. Limited disturbance is expected at Vanderbilt Park.

It should be noted that improvements to the parks do not constitute a remediation effort; only excavated waste required to be removed as part of park improvements will be addressed under this MMP.

I.4 Exclusions from this Plan

This plan has been developed to include municipal solid wastes and other special wastes which may be encountered during excavation. However, ACM management is not addressed within this MMP. For this project, the Contractor must conduct work in compliance with Section 5.5 of the Colorado Solid Waste Regulations and in accordance with the CCOD’s *Vanderbilt/Johnson-Habitat Park Asbestos-Contaminated Soil Management Standard Operating Procedure*, dated October 1, 2013 (Appendix B) (CCOD, 2013).

2. Health and Safety

There is a potential for increased risk to the health of workers during excavation of fill material at the Site. Awareness by Site personnel of these hazards is of the highest priority. Therefore, a Health and Safety Plan (HASP) will be developed by the Contractor. The Contractor's field personnel must conduct work in Level D attire according to Occupational Safety and Health Administration (OSHA) Standard 1910.120 App B until the Contractor's Health and Safety Officer (HSO) determines that additional protection may be required. The MMP Supervisor will provide the HSO with information, as available, to assist in that determination.

At that time, staff will be brought on Site to continue the work using the higher appropriate personal protective equipment (PPE) as determined by the Contractor's HSO. Site personnel must be provided with a copy of the HASP for review, and Site personnel must be aware of and agree to the requirements of the HASP. The Contractor will be required to employ the proper personnel, monitoring equipment, and PPE to provide a safe working environment for its employees, consultants and sub-Contractors. The provisions of this MMP are summarized below, and will be incorporated into the HASP. In no way shall the HASP be limited to these provisions; however:

- All work will be performed in accordance with the requirements of OSHA 29 CFR 1910;
- Workers who may come into contact with potentially contaminated media will provide documentation of appropriate OSHA safety training, in accordance with 29 CFR 1910.120, to the health and safety officer. Any worker who cannot provide training certification will be denied access to the Site;
- If required, personnel monitoring will be performed under the supervision of the health and safety officer;
- No personnel shall enter an excavation unless standard procedures have been followed and hazards have been eliminated;
- All project excavations below a depth of three feet bgs will require monitoring for explosive and asphyxiating gases. Monitoring shall be completed on a full-time basis using a combustible gas indicator (CGI) and/or LEL meter capable of detecting combustible gases;
- Combustible gases may build up to dangerous concentrations in low areas such as pits, excavations and/or trenches. No personnel shall enter an excavation unless standard procedures have been followed and hazards have been eliminated; and
- "Hot work" activities will be prohibited in proximity to any excavations, including but not limited to, welding/cutting, grinding, explosives, smoking, etc., due to the potential for explosion.

3. Supervisor Requirements and Training

Prior to implementation of the MMP, the project team will retain a MMP Supervisor in a quality assurance (QA) role to independently verify that the requirements of this MMP are adhered to. The MMP Supervisor will be responsible for the following:

- Be a competent individual experienced with chemical-related health and safety (documentation must be maintained on-Site);
- Be on-Site to verify Site operations on an as-needed basis when potential contaminated media have been encountered;
- Verify or perform field screening of soil in adherence to this plan;
- Complete logs thoroughly detailing quality assurance (QA) Site activities;
- Verify adherence of this plan; and
- Identify unknown soils or materials and implement the MMP.

The Contractor will be responsible for implementation and maintenance of environmental controls and ensure that:

- Contaminated material is not buried on Site;
- Contaminated material is not disposed of into storm drains, sanitary sewers, streams, irrigation facilities or waterways;
- Non-salvageable, non-hazardous solid waste materials removed by the Contractor are removed from the Site and disposed of at the Denver-Arapahoe Disposal Site (DADS) in accordance with local, state and federal laws; and
- The MMP Supervisor will be qualified to verify implementation of this MMP.

4. Material Handling Procedures

4.1 Non-Hazardous Solid Waste Procedures

Due to the presence of known solid wastes throughout the project area, and solid wastes that may contain ACMs, all excavated solid waste in project area will be direct-loaded for off-Site disposal at DADS.

These wastes would include (but are not limited to):

- Municipal solid waste (MSW) (e.g., trash or other refuse)
- Construction debris free of ACM (e.g., concrete, asphalt, dimensional lumber)
- Soil, and soil with waste fragments such as ceramic, brick, asphalt or concrete

During the excavation process, the City will retain a Certified Asbestos Building Inspector (CABI), as discussed in the City's SOP (CCOD, 2013). In coordination with the MMP Supervisor and CABI (who can be the same person if s/he is qualified to complete both roles), material that is free of ACM based on visual evaluation, and is not a special waste as determined below, will be direct-loaded into dump trucks and disposed in the mono-fill at DADS. Handling and disposal of benign solid wastes in this manner is preferred, as cost savings can be substantial.

The following procedures will apply:

- The MMP Supervisor, in coordination with the CCOD, will be required to complete the necessary waste profiling requirements, and obtain necessary waste manifests, completed through WM, prior to excavation and disposal of MSW from the project. Implementation of, and adherence to, this CDPHE-approved plan will be one major requirement to have this process completed;
- Disposal of non-hazardous waste will only be at the WM-operated DADS landfill. Cost for disposal will be invoiced directly to the CCOD through existing contract with WM. The Contractor will be responsible for costs for excavation, loading, transportation, etc.;
- For the purpose of this MMP, and profiling requirements of WM, non-hazardous solid waste is any solid (not saturated) material excavated including MSW, construction/demolition debris, rubbish, etc., provided that it does not meet the definition of special waste, or contain ACM, and will be loaded directly into trucks for disposal at DADS;
- Confirmation sampling will not be required or performed for material determined to be non-hazardous solid waste by the MMP Supervisor;
- Each load will be accompanied by a WM-issued non-hazardous waste manifest form to confirm appropriate disposal of the material at DADS. The waste manifests will be signed by the generator (CCOD representative), truck driver, and DADS representative. All manifests will be retained and submitted by the Contractor to the MMP Supervisor; and
- Exposed putrescible wastes shall be covered overnight with 6-mil poly sheeting to prevent nuisance conditions such as odors and attraction of vectors.

Materials that contain (or are suspected to contain) ACM, will be handled in accordance with the City's ACM SOP (CCOD, 2013). Materials that contain (or may contain) a special waste, as described in the following sections, will be handled according to this MMP. All material disposed at DADS will be done so in accordance with this MMP, the City's SOP, and under an approved waste profile/manifest from WM.

4.2 Special Waste Procedures

Project activities include the potential excavation of special wastes during construction of the park improvements. It is important that the Contractor be aware of the possibility of encountering special wastes and know how to manage those special wastes, which is a key purpose of this MMP.

The following procedures will apply to all excavation activities conducted at the project by the Contractor:

- The Contractor will be responsible for providing all necessary equipment and personnel (including health and safety officers, equipment operators, foremen, laborers, etc.) to implement this MMP;
- The Contractor will be responsible for coordinating with the MMP Supervisor, CDPHE, DADS, CCOD, and the Engineer prior to work commencement, in order to verify that provisions of this MMP are adhered to; and
- In areas of the project where special waste material is expected to be excavated, the Contractor and the MMP Supervisor shall coordinate so that the MMP Supervisor is on-Site on a full-time basis to verify that provisions of this plan are adhered to.

4.2.1 General Procedures

Special wastes may include items, including drums, chemical or fuel containers, batteries, medical waste, tar, sludge, petroleum-hydrocarbon impacted soil, materials that are hazardous waste, and potential PCB-containing equipment (e.g., transformers, light ballasts, voltage regulators, capacitors and circuit breakers), etc. These materials may be located in small quantities, and often are difficult to characterize. Upon identification of special wastes, excavation at that location will cease until additional assessment by the MMP Supervisor can be completed, and the CCOD is contacted. The MMP Supervisor will attempt to assess special wastes, including prudent and safe observation for the following:

- Markings and/or labels on containers/drums, condition of the containers/drums (i.e. rust, holes, damage, corrosion) and other indications of contents;
- Indications of unsafe conditions, including swelling drums, leaking, fumes, odors, etc.;
- Conditions of materials associated with the special wastes; and
- Assessment for evidence of release, obtained by utilizing field instruments (PID, CGI, LEL, etc.) and professional judgment.

Only under the direction of the MMP Supervisor will handling of any special wastes be completed. When handling is required, the following precautions will be used:

- Handling will be minimized whenever possible;
- When necessary, handling will be employed by mechanical means including the use of Site excavation equipment;
- Pressurized/swelling drums, suspected explosives, potential shock-sensitive materials, or other potentially dangerous items will not be handled until a person with appropriate experience with these situations has been consulted;
- All special wastes will be placed on 6-mil plastic sheeting and covered, until additional assessment has been completed by the MMP Supervisor;
- All stockpiles of special waste will be covered immediately or containerized upon generation, and will remain covered or containerized until final removal;
- Soil stockpiles of potentially contaminated soil or other materials will be limited to a maximum of 500 cubic yards each;
- Implementation of stormwater best-management practices (BMPs) of stockpiles of potentially contaminated material will be completed to prevent potentially contaminated stormwater runoff;
- Stockpile areas will be securely fenced to prevent contact with unauthorized personnel and the public;
- Suspicious materials will be further evaluated by the MMP Supervisor. When additional assessment of this material indicates that the material does not meet applicable regulatory requirements for disposal as a non-hazardous waste, the MMP Supervisor will arrange, in coordination with the CCOD, for off-Site disposal at a licensed facility;
- The material will be characterized and manifests will be obtained before it is disposed off-Site, and the material will be disposed as soon as possible;
- Any special wastes that are generated will be managed in accordance with applicable local, state and federal regulations; and
- Where suspicious material is determined to be non-hazardous by the MMP Supervisor through additional assessment, the material may be disposed as non-hazardous solid waste.

4.2.2 Hazardous Waste

If sample analysis indicates that the soil is designated as hazardous waste, the soil will be containerized immediately in a lined roll-off box, labeled, and transported to a designated storage area on-Site or off-Site pending off-Site disposal at a hazardous waste disposal facility. These wastes will be manifested and transported to the disposal facility in accordance with state and federal regulations. Once identified as hazardous waste, this material may not be stored on-Site longer than 90 days.

The disposal facility chosen to accept the hazardous waste will be decided based on the location of the materials and the location of an appropriate disposal facility. The Clean Harbors LLC, Deer Trail Landfill is the only facility within Colorado licensed to accept hazardous waste. Facilities in Utah and Texas are

the closest other licensed hazardous waste disposal facilities. Transportation and manifesting of these waste materials on public highways, streets, or roadways will be in accordance with 49 Code of Federal Regulations (CFR) and any applicable CDOT regulations.

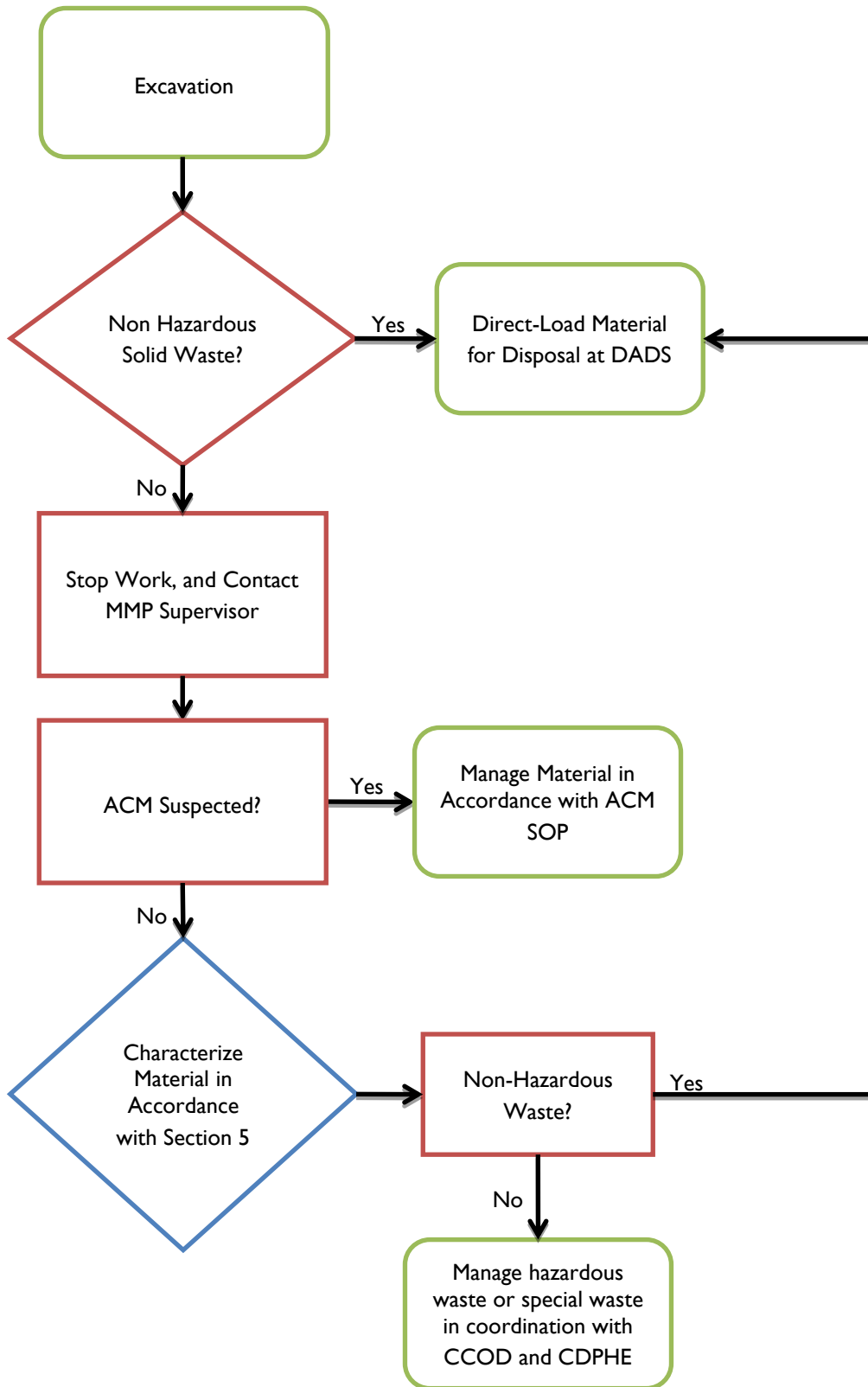
Note: Certain waste streams are specifically excluded in the Solid Waste Regulations (CDPHE, 2011a). The MMP Supervisor will be responsible for ultimate classification for disposal.

4.3 Post-Excavation

Icon has prepared detailed construction plans for the project, that detail Site grading, clean fill placement, stormwater management, and water-quality improvements. This MMP is intended to be appended to the construction plans.

4.3.1 Process Flow

The following process-flow chart presents a general flow of procedures that will be followed during excavation activities at the project:



4.4 Construction Water

Construction water may consist of stormwater, surface water, groundwater, and leachate and will be addressed using the following procedures.

4.4.1 Stormwater

The Contractor shall obtain a Colorado Discharge Permit System (CDPS) permit for stormwater discharges associated with construction. The Contractor shall comply with the stormwater management plan (SWMP) for construction of this project as required by the permit. As part of the SWMP, the Contractor is responsible for water control facilities as required to promptly remove and properly dispose of stormwater that may impact the project Site.

4.4.2 Surface Water

The Contractor shall obtain a construction dewatering permit that sets monitoring frequency and type and also the discharge limits, if necessary. The Contractor will adhere to the permit requirements. It is expected that work within the South Platte River can be conducted in accordance with a CDPHE-Water Quality Control Division (WQCD) General Permit for Construction Dewatering Operations, for any surface water to surface water discharge. However, the Contractor would be responsible for controlling any comingling of groundwater with surface water, according to this permit. All CDPHE-WQCD permit requirements supersede this MMP.

4.4.3 Groundwater

It is not expected that groundwater will be encountered during construction of the project. Sampling has confirmed that groundwater on the western portion of the project is impacted with metals that exceed likely surface water discharge limits. It is the responsibility of the Contractor to obtain all applicable CDPHE-WQCD permits for dewatering and discharge of groundwater, and to abide by the requirements of the permit(s). Groundwater discharge permits should be obtained separately from the surface water permit discussed in Section 4.4.2. The following are some general provisions; however, any requirements noted on the groundwater discharge permit(s) (if necessary) take precedence to this MMP.

- The MMP Supervisor will discuss treatment and/or disposal options with CCOD, and CCOD will provide direction to the Contractor, who will be responsible for water treatment and/or disposal in accordance with the Contractor's approved permit(s).
- Untested groundwater will not be discharged onto the ground, or into sanitary or storm sewers;
- Water determined to meet discharge standards by the MMP Supervisor may be discharged in accordance with applicable federal, state and local regulations, or may be used on-Site for moisture treatment of engineered fill material, or for dust suppression; and
- Where contamination is above permit limits, the water will be either treated on Site or transported off-Site and disposed at a licensed treatment facility.

4.4.4 Leachate

It is not anticipated that material excavated during this project will generate significant liquids, as groundwater is expected to be below the depth of excavation for the majority of the project. However, if saturated materials are encountered, stockpile areas will be constructed to drain material before re-use as engineered fill, or transport to DADS (assuming it is impacted). Generated liquids will drain to a central sump. The sump will be excavated into the ground and sloped to a central location. It will also be lined with 6-mil polyethylene sheeting, and have a layer of gravel to hold the sheeting in place. A berm will be placed around the sump to prevent surface water from commingling with the generated leachate water. Liquids accumulated within the sump will be submitted for analysis by the Contractor and coordinated with the MMP Supervisor. If constituents in the water exceed the CDPHE-WQCD permit limits, the water will be disposed off-Site using appropriate profiling and manifesting or treated and discharged in accordance with the permit(s). Solid waste which has been drained or mixed must pass the paint filter test prior to disposal at DADS by U.S. EPA Method 9095A.

4.5 Dust

In accordance with 5 CCR 1001 – Air Quality Control Commission (AQCC) Regulations, the Contractor will obtain an Air Pollution Emissions Notice (APEN) and Application for Construction Permit. The Contractor will implement best management practices to minimize dust, such as the following:

- The Contractor shall conduct construction operations and take all necessary reasonable measures to eliminate or minimize raising dust resulting from any stored materials, equipment or operations used during construction of the work.
- Blowing dust and airborne particulates shall be controlled by wetting or other means, if approved by the Project Manager. Dust control agents shall be applied in accordance with manufacturer's recommendations.
- The Contractor shall provide and apply dust control at all times, including holidays and weekends, as required to abate dust nuisance on and about the Site that is a direct result of construction activities. The Contractor shall be required to provide sufficient quantities of equipment and personnel for dust control sufficient to prevent dust nuisance on and about the Site.

4.6 Decontamination of Heavy Equipment

Equipment that has come into contact with special waste as identified by the MMP Supervisor will be decontaminated prior to leaving the project Site to prevent potentially contaminated material from being spread off Site. Gross removal of material from equipment will be completed using hand tools such as shovels, brooms and brushes. If the MMP Supervisor finds it necessary, more thorough decontamination may be required such as pressure washing. Spent decontamination water will be collected in basins and pumped into water containers. The Contractor will be responsible for analyzing the waste-water and working with CCOD to determine final disposal options in accordance with all applicable federal, state and local regulations.

4.7 Site Security

The Contractor will be responsible for maintaining effective project access control.

4.8 Nuisance Conditions

Nuisance conditions are possible during excavation of activities, including the generation of odors and attraction of vermin. These conditions will be managed using the following:

- MSW will be directly loaded into trucks for transportation to DADS to discourage nuisance conditions from developing;
- On-Site stockpiling will be minimized where ever practicable;
- Stockpiles that are necessary due to need for characterization will be placed on, and covered by, 6-mil plastic, and removed from the Site for disposal as soon as possible; and
- Excavations will be backfilled immediately do discourage attraction by vermin and generation of odors.

4.9 Public Complaints

The CCOD Contractor will maintain a construction trailer and project manager at all times during construction to manage and rectify any public complaints or concerns that may arise during the course of construction of this project. The MMP Supervisor will utilize professional judgment in cooperation with the Contractor to address these issues. Any complaint arising as a result of a nuisance condition(s) will be addressed within 24-hours of receipt.

5. Waste Characterization Protocols

The following presents protocols to characterize special and/or suspicious waste, which have not been previously characterized for disposal. When potentially contaminated material is encountered, the Contractor and MMP Supervisor will be responsible for coordinating with the CCOD for sampling, waste profiling, and agency notifications. The Contractor and MMP Supervisor will be responsible for evaluating special wastes (for disposal purposes) in accordance with 6 CCR 1007-3, Section 262.11, and in accordance with all other applicable federal, state and local regulations. This evaluation must identify whether the wastes are characteristic or listed hazardous waste.

5.1 Waste Identification

For the purpose of this MMP, soils generated during construction of the project will be assumed to be a non-hazardous solid waste if it meets **all the following conditions**:

- Material consists of either natural soils, or engineered fills such as roadway fill, MSW, construction debris (without ACM), rubble, etc.; and
- There is no visual or olfactory indication of contamination (e.g., staining, streaking, odor), or if there is visual or olfactory indications of contamination, then field screening results (PID) are less than 50 units above background conditions.

5.2 20-Times Rule

WM will accept solid material where concentrations are less than 20 times the hazardous listing for characteristic waste (20 Times Rule), except for PCBs as discussed in Section 5.6. The EPA Toxicity Characteristic Leaching Procedure (TCLP) Maximum Concentrations of Contaminants is presented as Appendix C. As an example, the regulatory level of lead (a RCRA regulated metal) is 5.0 milligrams per liter (mg/L) when analyzed by TCLP. The Waste Management acceptable limit, when analyzed by totals analysis, would then be less than 100 mg/kg, using the 20 Times Rule. If concentrations of any contaminant exceeds the 20 Times Rule by totals analysis, then analysis for TCLP is required. If the TCLP results exceed the toxicity characteristic maximum concentration then the material would require disposal at a hazardous waste disposal Site in accordance with CDPHE requirements.

If final analytical results are below 20 Times Rule concentrations, the material then may be transported to DADS for disposal as non-hazardous solid waste. If the material exceeds regulatory levels, then hazardous waste disposal will be required, in accordance with all applicable regulations. Table 5-1 presents the regulatory standards for the RCRA-8 metals:

Table 5-1. Regulatory Limits for the RCRA 8 Metals

Metal	RSLs (milligrams per kilogram)		20 Times Rule (milligrams per kilogram)	Hazardous Material Limit (milligrams per liter)
	Resident	Industrial		
Arsenic ¹	0.39	1.6	100	5.0
Barium	15,000	160,000	2,000	100
Cadmium	70	770	20	1.0
Chromium	120,000	1,500,000	100	5.0
Lead	400	800	100	5.0
Mercury	23	300	4.0	0.2
Selenium	390	5,100	20	1.0
Silver	390	5,100	100	5.0

¹ - In Colorado, arsenic occurs naturally, and often at concentrations greater than the RSLs. The CDPHE recently released guidance related to evaluating arsenic concentrations in soil, specifically regarding screening data collected from Sites where historical use does not indicate the potential for arsenic contamination (CDPHE, 2011b). The guidance is based on the collection of over 2,700 samples from 44 counties in Colorado. The average concentration of arsenic in soils based on this sampling was 11 mg/kg. The CDPHE has adopted a policy that if arsenic concentrations are lower than 11 mg/kg, and releases of arsenic could not have occurred at the Site, the CDPHE will require no further action to address arsenic in soil. Ultimate concurrence regarding this concentration must be provided by the CDPHE for decision-making purposes regarding disposal of material generated during construction at this project.

The MMP Supervisor will compare analytical results for other analytes to the applicable EPA RSL (Appendix A), and Maximum Concentrations of Contaminants (Appendix C).

5.3 Petroleum Hydrocarbons

Petroleum hydrocarbons could potentially be encountered during construction of this project as a result of local industrial uses. If the Contractor or MMP Supervisor classifies materials (using PID, odor, staining, etc.) as potentially impacted by petroleum hydrocarbons, the material will be segregated as previously discussed. If this material has not been previously profiled, one composite sample of soil for every 500 cubic yards of stockpiled soil will be acquired the MMP Supervisor, and will be analyzed for:

- VOCs using EPA Method 8260
- PAHs by EPA Method 8270
- RCRA eight metals using EPA Method 6010/7471
- PCBs using EPA Method 8082

- Reactivity, Corrosivity, and Ignitability (SW-846)

5.4 Asbestos-Containing Materials

Asbestos-containing materials will be characterized and managed accordance with the CCOD's *Asbestos-Contaminated Soil Management Standard Operating Procedure (CCOD)*.

5.5 Slag, Coal, Ash

If slag, coal, or ash is identified, then the material will be tested for:

- VOCs by EPA Method 8260
- PAHs by EPA Method 8270
- PCBs using EPA Method 8082
- RCRA eight metals using EPA Method 6010/7471
- Reactivity, Corrosivity, and Ignitability (SW-846)

5.6 Electrical Equipment (PCBs)

If any potential electrical equipment suspected of containing PCBs is identified, it will be segregated, tested and, depending on PCB concentrations, delivered off-Site for disposal at a PCB-permitted disposal facility, if necessary. Until testing is completed, any of this electrical equipment visually identified during excavation will be assumed to contain PCBs. Equipment not determined to contain PCBs may then be disposed as solid waste, or recycled. WM will accept materials where PCB concentrations are less than 50 parts per million. If this material will be disposed at DADS, the MMP Supervisor will work with the CCOD to complete a WM PCB Certification, which must include copies of analytical reports confirming the PCB concentrations.

5.7 Other Solid Waste

Other types of waste are not anticipated to be discovered during construction of this project. However, if encountered, the MMP Supervisor will coordinate with the CCOD Environmental Manager to select analytical methods appropriate for characterizing that material in accordance with the EPA "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," also known as SW-846.

5.8 Groundwater

If groundwater will require discharge, it must be analyzed for all constituents required by the CDPHE-WQCD-issued permit(s), and the results compared to the permit limits prior to discharge. All reporting requirements (and other conditions), must also be met by the Contractor.

6. Reporting

Upon project completion, the MMP Supervisor will prepare a summary report detailing the work performed at the project specifically related to the implementation of this MMP. The report will include the following:

- Property description;
- Work description;
- Copies of all field logs which detail daily operations;
- Summary of analytical results;
- Copies of all analytical reports;
- Waste manifests for all solid waste, soil, water or other material transported off-Site for disposal;
- Maps showing the locations of Site features related to this MMP, including sample locations, location of wastes discovered, and any other important features identified during the course implementation of this MMP;
- Representative Site photographs detailing work performed; and
- Any other documentation detailing important features related to this project.

7. References

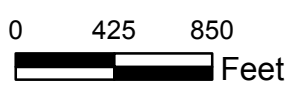
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- EPA, 2012. "Regional Screening Level Summary Table," United States Environmental Protection Agency, November 2012.
- Pinyon, 1996. "Phase II Environmental Site Assessment at Johnson Habitat Park," Pinyon, March, 1996.
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Figures



Legend

 Site



SITE MAP

*Vanderbilt/Johnson-Habitat Park
City and County of Denver, Colorado*

Site Location: Sections 16 and 25, Township 4S, Range 68W, 6th Principal Meridian	Drawn By: MJS	Figure 1
Path: F:\Open Projects\Johnson Habitat Parks\Figures\MXD\Fig 1 Johnson.mxd	Job No. 1/13-658-01.2003	Reviewed By: RK
		Date: 10/17/2013

**Appendix A Environmental Protection Agency Risk-Based
Screening Levels**

Regional Screening Level (RSL) Summary Table November 2012

Key: I = IRIS; P = PPRTR; A = ATSDR; C = Cal EPA; X = PPRTR Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1																																							
Toxicity and Chemical-specific Information														Contaminant														Screening Levels										Protection of Ground Water SSLs	
SFO (mg/kg-day) ⁻¹	ky	IUR (ug/m ³) ⁻¹	ky	RfD _o (mg/kg-day)	ky	RfCi (mg/m ³)	ky	vo	muta- gen	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)												
1.8E-02	C	5.1E-06	C	1.5E-01	I							0.1	ALAR	1596-84-5	2.7E+01	c	9.6E+01	c	4.8E-01	c	2.4E+00	c	3.7E+00	c		8.2E-04													
8.7E-03	I	2.2E-06	I	4.0E-03	I							0.1	Acephate	30560-19-1	5.6E+01	c**	2.0E+02	c*					7.7E+00	c**		1.7E-03													
												1.1E+05	Acetaldehyde	75-07-0	1.0E+01	c**	5.2E+01	c**	1.1E+00	c**	5.6E+00	c**	2.2E+00	c**		4.5E-04													
				2.0E-02	I							0.1	Acetochlor	34256-82-1	1.2E+03	n	1.2E+04	n					2.7E+02	n		2.2E-01													
				9.0E-01	I	3.1E+01	A	V				1	Acetone	67-64-1	6.1E+04	n	6.3E+05	nms	3.2E+04	n	1.4E+05	n	1.2E+04	n		2.4E+00													
				2.0E-03	X	V						1	Acetone Cyanohydrin	75-86-5	5.3E+01	n	2.2E+02	n	2.1E+00	n	8.8E+00	n	4.2E+00	n		8.4E-04													
				6.0E-02	I	V						1	Acetonitrile	75-05-8	8.7E+02	n	3.7E+03	n	6.3E+01	n	2.6E+02	n	1.3E+02	n		2.6E-02													
				1.0E-01	I	V						1	Acetophenone	98-86-2	7.8E+03	ns	1.0E+05	nms					1.5E+03	n		4.5E-01													
3.8E+00	C	1.3E-03	C									0.1	Acetylaminofluorene, 2-	53-96-3	1.3E-01	c	4.5E-01	c	1.9E-03	c	9.4E-03	c	1.3E-02	c		6.2E-05													
				5.0E-04	I	2.0E-05	I	V				1	Acrolein	107-02-8	1.5E-01	n	6.5E-01	n	2.1E-02	n	8.8E-02	n	4.1E-02	n		8.4E-06													
5.0E-01	I	1.0E-04	I	2.0E-03	I	6.0E-03	I	M				0.1	Acrylamide	79-06-1	2.3E-01	c	3.4E+00	c	9.6E-03	c	1.2E-01	c	4.3E-02	c		9.1E-06													
				5.0E-01	I	1.0E-03	I					0.1	Acrylic Acid	79-10-7	3.0E+04	n	2.9E+05	nm	1.0E+00	n	4.4E+00	n	7.7E+03	n		1.6E+00													
5.4E-01	I	6.8E-05	I	4.0E-02	A	2.0E-03	I	V				1	Acrylonitrile	107-13-1	2.4E-01	c*	1.2E+00	c*	3.6E-02	c*	1.8E-01	c*	4.5E-02	c*		9.8E-06													
				6.0E-03	P							0.1	Adiponitrile	111-69-3	8.5E+06	nm	3.6E+07	nm	6.3E+00	n	2.6E+01	n				7.5E-04													
5.6E-02	C			1.0E-02	I							0.1	Alachlor	15972-60-8	8.7E+00	c*	3.1E+01	c					9.1E-01	c	2.0E+00	1.6E-03													
				1.0E-03	I							0.1	Aldicarb	116-06-3	6.1E+01	n	6.2E+02	n					1.5E+01	n	3.0E+00(F)	3.8E-03	7.5E-04												
				1.0E-03	I							0.1	Aldicarb Sulfone	1646-88-4	6.1E+01	n	6.2E+02	n					1.6E+01	n	2.0E+00(F)	3.4E-03	4.4E-04												
				1.0E-03	I							0.1	Aldicarb sulfoxide	1646-87-3	6.1E+01	n	6.2E+02	n					4.0E+00(F)		4.0E+00(F)	8.8E-04													
1.7E+01	I	4.9E-03	I	3.0E-05	I							0.1	Aldrin	309-00-2	2.9E-02	c*	1.0E-01	c	5.0E-04	c	2.5E-03	c	4.0E-03	c		6.5E-04													
				2.5E-01	I							0.1	Allyl Chloride	74223-64-6	1.5E+04	n	1.5E+05	nm					3.8E+03	n		1.5E+00													
				5.0E-03	I	1.0E-04	X					0.1	Allyl Alcohol	107-18-6	3.0E+02	n	3.1E+03	n	1.0E-01	n	4.4E-01	n	7.8E+01	n		1.6E-02													
2.1E-02	C	6.0E-06	C									1.4E+03	Allyl Chloride	107-05-1	6.8E-01	c**	3.4E+00	c**	4.1E-01	c**	2.0E+00	c**	6.3E-01	c**		2.0E-04													
				1.0E+00	P	5.0E-03	P					1	Aluminum	7429-90-5	7.7E+04	n	9.9E+05	nm	5.2E+00	n	2.2E+01	n	1.6E+04	n		2.3E+04													
				4.0E-04	I							1	Aluminum Phosphide	20859-73-8	3.1E+01	n	4.1E+02	n					6.2E+00	n															
				3.0E-04	I							0.1	Amdro	67485-29-4	1.8E+01	n	1.8E+02	n					4.6E+00	n		1.7E+03													
				9.0E-03	I							0.1	Ametryn	834-12-8	5.5E+02	n	5.5E+03	n					1.2E+02	n		1.2E-01													
2.1E+01	C	6.0E-03	C									0.1	Aminobiphenyl, 4-	92-67-1	2.3E-02	c	8.2E-02	c	4.1E-04	c	2.0E-03	c	2.6E-03	c		1.3E-05													
				8.0E-02	P							0.1	Aminophenol, m-	591-27-5	4.9E+03	n	4.9E+04	n					1.2E+03	n		4.7E-01													
				2.0E-02	P							0.1	Aminophenol, p-	123-30-8	1.2E+03	n	1.2E+04	n					3.1E+02	n		1.2E-01													
				2.5E-03	I							0.1	Amitraz	33089-61-1	1.5E+02	n	1.5E+03	n					5.9E+00	n		3.0E+00													
				1.0E-01	I							1	Ammonia	7664-41-7					1.0E+02	n	4.4E+02	n																	
				2.0E-01	I							1	Ammonium Sulfamate	7773-06-0	1.6E+04	n	2.0E+05	nm					3.1E+03	n															
5.7E-03	I	1.6E-06	C	7.0E-03	P	1.0E-03	I					0.1	Aniline	62-53-3	8.5E+01	c**	3.0E+02	c*	1.0E+00	n	4.4E+00	n	1.2E+01	c**		3.9E-03													
4.0E-02	P			2.0E-03	X							0.1	Anthraquinone, 9,10-	84-65-1	1.2E+01	c*	4.3E+01	c*					1.2E+00	c*		1.2E-02													
				4.0E-04	I							0.15	Antimony (metallic)	7440-36-0	3.1E+01	n	4.1E+02	n					6.0E+00	n	6.0E+00	2.7E-01	2.7E-01												
				5.0E-04	H							0.15	Antimony Pentoxide	1314-60-9	3.9E+01	n	5.1E+02	n					7.5E+00	n															
				9.0E-04	H							0.15	Antimony Potassium Tartrate	11071-15-1	7.0E+01	n	9.2E+02	n					1.3E+01	n															
				4.0E-04	H							0.15	Antimony Tetroxide	1332-81-6	3.1E+01	n	4.1E+02	n					6.0E+00	n															
				2.0E-04	I							0.15	Antimony Trioxide	1309-64-4	2.8E+05	nm	1.2E+06	nm	2.1E-01	n	8.8E-01	n																	
2.5E-02	I	7.1E-06	I	1.3E-02	H							0.1	Apollo	74115-24-5	7.9E+02	n	8.0E+03	n					1.8E+02	n		1.1E+01													
1.5E+00	I	4.3E-03	I	3.0E-04	I	1.5E-05	C					0.03	Aramite	140-57-8	1.9E+01	c	6.9E+01	c	3.4E-01	c	1.7E+00	c	1.1E+00	c		1.3E-02													
				3.5E-06	C	5.0E-05	I					1	Arsenic, Inorganic	7440-38-2	3.9E-01	c*	1.6E+00	c	5.7E-04	c*	2.9E-03	c*	4.5E-02	c	1.0E+01	1.3E-03	2.9E-01												
				9.0E-03	I							0.1	Arsine	7784-42-1	2.7E-01	n	3.6E+00	n	5.2E-02	n	2.2E-01	n	5.4E-02	n		1.4E+00													
				5.0E-02	I							0.1	Assure	76578-14-8	5.5E+02	n	5.5E+03	n					9.3E+01	n		2.0E-01													
				3.5E-02	I							0.1	Asulam	3337-71-1	3.1E+03	n	3.1E+04	n					7.8E+02	n															
2.3E-01	C			3.5E-02	I							0.1	Atrazine	1912-24-9	2.1E+00	c	7.5E+00	c					2.6E-01	c	3.0E+00	1.7E-04	1.9E-03												
8.8E-01	C	2.5E-04	C									0.1	Auramine	492-80-8	5.5E-01	c	2.0E+00	c	9.7E-03	c	4.9E-02	c	5.7E-02	c		5.2E-04													
				4.0E-04	I							0.1	Avermectin B1	65195-55-3	2.4E+01	n	2.5E+02	n					6.3E+00	n		1.1E+01													
1.1E-01	I	3.1E-05	I									1	Azobenzene	103-33-3	5.1E+00	c	2.3E+01	c	7.8E-02	c	4.0E-01	c	1.0E-01	c		8.0E-04													
				2.0E-01	I	5.0E-04	H					0.07	Barium	7440-39-3	1.5E+04	n	1.9E+05	nm	5.2E-01	n	2.2E+00	n	2.9E+03	n	2.0E+03	1.2E+02	8.2E+01												
				4.0E-03	I							0.1	Baygon	114-26-1	2.4E+02	n	2.5E+03	n					6.1E+01	n		2.0E-02													
				3.0E-02	I							0.1	Bayleton	43121-43-3	1.8E+03	n	1.8E+04	n					4.3E+02	n		3.4E-01													

Regional Screening Level (RSL) Summary Table November 2012

Key: I = IRIS; P = PPRTR; A = ATSDR; C = Cal EPA; X = PPRTR Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF-1

Toxicity and Chemical-specific Information													Contaminant													Screening Levels													Protection of Ground Water SSLs	
SFO (mg/kg-day) ⁻¹	k _e	IUR (ug/m ³) ⁻¹	k _e	RfD _o (mg/kg-day)	k _e	RfC _i (mg/m ³)	k _e	Vo	muta- gen	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)													
	2.4E-03	I		2.0E-03	I	2.0E-05	I			0.007			Beryllium and compounds	7440-41-7	1.6E+02	n	2.0E+03	n	1.0E-03	c*	5.1E-03	c*	1.6E+01	n	4.0E+00	1.3E+01	3.2E+00													
				1.0E-04	I						1	0.1	Bidrin	141-66-2	6.1E+00	n	6.2E+01	n					1.6E+00	n		3.6E-04														
				9.0E-03	P						1	0.1	Bifentox	42576-02-3	5.5E+02	n	5.5E+03	n					7.5E+01	n		5.7E-01														
				1.5E-02	I						1	0.1	Biphenthrin	82657-04-3	9.2E+02	n	9.2E+03	n					2.3E+02	n		1.1E+03														
8.0E-03	X			5.0E-02	I	4.0E-04	X	V			1		Biphenyl, 1,1'-	92-52-4	5.1E+01	n	2.1E+02	n	4.2E-01	n	1.8E+00	n	8.3E-01	n		8.7E-03														
7.0E-02	H	1.0E-05	H	4.0E-02	I			V			1	1.0E+03	Bis(2-chloro-1-methylethyl) ether	108-60-1	4.6E+00	c	2.2E+01	c	2.4E-01	c	1.2E+00	c	3.1E-01	c		1.1E-04														
				3.0E-03	P						1	0.1	Bis(2-chloroethoxy)methane	111-91-1	1.8E+02	n	1.8E+03	n					4.6E+01	n		1.1E-02														
1.1E+00	I	3.3E-04	I					V			1	5.1E+03	Bis(2-chloroethyl)ether	111-44-4	2.1E-01	c	1.0E+00	c	7.4E-03	c	3.7E-02	c	1.2E-02	c		3.1E-06														
1.4E-02	I	2.4E-06	C	2.0E-02	I						1	0.1	Bis(2-ethylhexyl)phthalate	117-81-7	3.5E+01	c*	1.2E+02	c	1.0E+00	c	5.1E+00	c	4.8E+00	c*	6.0E+00	1.1E+00	1.4E+00													
2.2E+02	I	6.2E-02	I					V			1	4.2E+03	Bis(chloromethyl)ether	542-88-1	7.7E-05	c	3.9E-04	c	3.9E-05	c	2.0E-04	c	6.2E-05	c		1.5E-08														
				5.0E-02	I						1	0.1	Bisphenol A	80-05-7	3.1E+03	n	3.1E+04	nm					5.8E+02	n		4.4E+01														
				2.0E-01	I	2.0E-02	H				1		Boron And Borates Only	7440-42-8	1.6E+04	n	2.0E+05	nm	2.1E+01	n	8.8E+01	n	3.1E+03	n		9.9E+00														
				2.0E+00	P	2.0E-02	P	M			1		Boron Trichloride	10294-34-5	1.6E+05	nm	2.0E+06	nm	2.1E+01	n	8.8E+01	n	3.1E+04	n																
7.0E-01	I			4.0E-02	C	1.3E-02	C				1		Boron Trifluoride	7673-07-2	3.1E+03	n	4.1E+04	n	1.4E+01	n	5.7E+01	n	6.2E+02	n		7.4E-04	7.7E-02													
2.0E+00	X	6.0E-04	X	4.0E-03	I			V			1	2.4E+03	Bromate	15541-45-4	9.1E-01	c	4.1E+00	c	4.1E-03	c	2.0E-02	c	6.4E-03	c	1.0E+01	1.8E-06														
											1		Bromo-2-chloroethane, 1-	107-04-0	2.4E-02	c	1.2E-01	c	4.1E-03	c	2.0E-02	c	6.4E-03	c		3.6E-02														
				8.0E-03	I	6.0E-02	I	V			1	6.8E+02	Bromobenzene	108-86-1	3.0E+02	n	1.8E+03	ns	6.3E+01	n	2.6E+02	n	5.4E+01	n		2.1E-02														
						4.0E-02	X	V			1	4.0E+03	Bromochloromethane	74-97-5	1.6E+02	n	6.8E+02	n	4.2E+01	n	1.8E-02	n	8.3E-01	n		2.1E-02														
6.2E-02	I	3.7E-05	C	2.0E-02	I			V			1	9.3E+02	Bromodichloromethane	75-27-4	2.7E-01	c	1.4E+00	c	6.6E-02	c	3.3E-01	c	1.2E-01	c	8.0E+01(F)	3.2E-05	2.2E-02													
7.9E-03	I	1.1E-06	I	2.0E-02	I						1	0.1	Bromoform	75-25-2	6.2E+01	c*	2.2E+02	c*	2.2E+00	c	1.1E+01	c	7.9E+00	c*	8.0E+01(F)	2.1E-03	2.1E-02													
				1.4E-03	I	5.0E-03	I	V			1	3.6E+03	Bromomethane	74-83-9	7.3E+00	n	3.2E+01	n	5.2E+00	n	2.2E+01	n	7.0E+00	n		1.8E-03														
				5.0E-03	H						1	0.1	Bromophos	2104-96-3	3.1E+02	n	3.1E+03	n					2.6E+01	n		1.1E-01														
				2.0E-02	I						1	0.1	Bromoxynil	1689-84-5	1.2E+03	n	1.2E+04	n					2.5E+02	n		2.2E-01														
3.4E+00	C	3.0E-05	I	2.0E-02	I			V			1	0.1	Bromoxynil Octanoate	1689-99-2	1.2E+03	n	1.2E+04	n					1.0E+02	n		8.7E-01														
						2.0E-03	I	V			1	6.7E+02	Butadiene, 1,3-	106-99-0	5.4E-02	c*	2.6E-01	c*	8.1E-02	c*	4.1E-01	c*	1.6E-02	c		8.6E-06														
				1.0E-01	I						1	0.1	Butanol, n-	71-36-3	6.1E+03	n	6.2E+04	n					1.5E+03	n		3.2E-01														
1.9E-03	P			2.0E-01	I						1	0.1	Butyl Benzyl Phthlate	85-68-7	2.6E+02	c*	9.1E+02	c					1.4E+01	c*		2.0E-01														
				2.0E+00	P	3.0E+01	P				1	0.1	Butyl alcohol, sec-	78-92-2	1.2E+05	nm	1.2E+06	nm	3.1E+04	n	1.3E+05	n	3.1E+04	n		6.3E+00														
				5.0E-02	I						1	0.1	Butylate	2008-41-5	3.1E+03	n	3.1E+04	n					3.4E+02	n		3.3E-01														
2.0E-04	C	5.7E-08	C	5.0E-02	P			V			1	0.1	Butylated hydroxyanisole	25013-16-5	2.4E+03	c	8.6E+03	c	4.3E+01	c	2.2E+02	c	2.1E+02	c		3.9E-01														
											1	1.1E+02	Butylbenzene, n-	104-51-8	3.9E+03	ns	5.1E+04	ns					7.8E+02	n		2.5E+00														
				1.0E+00	I						1	0.1	Butylphthalyl Butylglycolate	85-70-1	6.1E+04	n	6.2E+05	nm					1.0E+04	n		2.3E+02														
				2.0E-02	A						1	0.1	Cacodylic Acid	75-60-5	1.2E+03	n	1.2E+04	n					3.1E+02	n																
1.8E-03	I			1.0E-03	I	2.0E-05	C				0.025	0.001	Cadmium (Diet)	7440-43-9	7.0E+01	n	8.0E+02	n																						
1.8E-03	I	5.0E-04	I	2.0E-05	C					0.05	0.001		Cadmium (Water)	7440-43-9					1.4E-03	c*	6.8E-03	c*	6.9E+00	n	5.0E+00	5.2E-01	3.8E-01													
				5.0E-01	I						1	0.1	Caprolactam	105-60-2	3.1E+04	n	3.1E+05	nm					7.7E+03	n		1.9E+00														
1.5E-01	C	4.3E-05	C	2.0E-03	I						1	0.1	Captafol	2425-06-1	3.2E+00	c*	1.1E+01	c	5.7E-02	c	2.9E-01	c	3.5E-01	c*		6.1E-04														
2.3E-03	C	6.6E-07	C	1.3E-01	I						1	0.1	Captan	133-06-2	2.1E+02	c*	7.5E+02	c	3.7E+00	c	1.9E+01	c	2.7E+01	c*		1.9E-02														
				1.0E-01	I						1	0.1	Carbaryl	63-25-2	6.1E+03	n	6.2E+04	n					1.4E+03	n		1.3E+00														
				5.0E-03	I						1	0.1	Carbofuran	1563-66-2	3.1E+02	n	3.1E+03	n					7.3E+01	n	4.0E+01	2.8E-02	1.6E-02													
7.0E-02	I	6.0E-06	I	4.0E-03	I	1.0E-01	I	V			1	7.4E+02	Carbon Disulfide	75-15-0	8.2E+02	ns	3.7E+03	ns	7.3E+02	n	3.1E+03	n	7.2E+02	n		2.1E-01														
				1.0E-02	I						1	0.1	Carbon Tetrachloride	56-23-5	6.1E-01	c	3.0E+00	c	4.1E-01	c	2.0E+00	c	3.9E-01	c	5.0E+00	1.5E-04	1.9E-03													
											1		Carbosulfan	55285-14-8	6.1E+02	n	6.2E+03	n					3.7E+01	n		9.0E-01														
				1.0E-01	I						1	0.1	Carboxin	5234-68-4	6.1E+03	n	6.2E+04	n					1.5E+03	n		8.0E-01														
						9.0E-04	I				1		Ceric oxide	1306-38-3	1.3E+06	nm	5.4E+06	nm	9.4E-01	n	3.9E+00	n																		
				1.0E-01	I						1	0.1	Chloral Hydrate	302-17-0	6.1E+03	n	6.2E+04	n					1.5E+03	n		3.1E-01														
				1.5E-02	I						1	0.1	Chloramben	133-90-4	9.2E+02	n	9.2E+03	n					2.2E+02	n		5.5E-02														
4.0E-01	H										1	0.1	Chloranil	118-75-2	1.2E+00	c	4.3E+00	c					1.6E-01	c		1.3E-04														
3.5E-01	I	1.0E-04	I	5.0E-04	I	7.0E-04	I				1	0.04	Chlorordane	12789-03-6	1.6E+00	c*	6.5E+00	c*	2.4E-02	c*	1.2E-01	c*	1.9E-01	c*	2.0E+00	1.3E-02	1.4E-01													
1.0E+01	I	4.6E-03	C	3.0E-04	I						1	0.1	Chlordecone (Kepone)	143-50-0	4.9E-02	c	1.7E-01	c	5.3E-04	c	2.7E-03	c	3.0E-03	c		1.1E-04														
				7.0E-04	A						1	0.1	Chlorfenvinphos																											

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Toxicity and Chemical-specific Information													Contaminant											Screening Levels										Protection of Ground Water SSLs	
SFO (mg/kg-day) ⁻¹	key	IUR (ug/m ³) ⁻¹	key	RfD _o (mg/kg-day)	key	RfC _i (mg/m ³)	key	V _o (m ³ /kg-day)	mutagen	GIABS	ABS	C _{sat} (mg/kg)	Chemical Name	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)								
		3.0E-02	X			3.0E-01	P	V		1	0.1	1.2E+02	Chlorobenzoic Acid, p- Chlorobenzotrifluoride, 4-	74-11-3 98-56-6	1.8E+03 2.1E+02	n ns	1.8E+04 2.3E+03	n ns	3.1E+02	n	1.3E+03	n	3.9E+02	n	2.6E+01	n	9.9E-02 2.3E-02								
		4.0E-02	P			5.0E+01	I	V		1		7.3E+02	Chlorobutane, 1- Chlorodifluoromethane Chloroethanol, 2-	109-69-3 75-45-6 107-07-3	3.1E+03 5.3E+04 1.2E+03	ns ns n	4.1E+04 2.2E+05 1.2E+04	ns nms n	5.2E+04	n	2.2E+05	n	4.8E+02	n	1.0E+05	n	3.1E+02	4.8E+02 4.3E+01 6.3E-02							
3.1E-02	C	2.3E-05	I	1.0E-02	I	9.8E-02	A	V		1		2.5E+03	Chloroform Chloromethane	67-66-3 74-87-3	2.9E-01 1.2E+02	c n	1.5E+00 5.0E+02	c n	1.1E-01 9.4E+01	c n	5.3E-01 3.9E+02	c n	1.9E-01	n	1.9E+02	n	8.0E+01(F)	5.3E-05 4.9E-02	2.2E-02						
2.4E+00	C	6.9E-04	C					V		1		2.6E+04	Chloromethyl Methyl Ether	107-30-2	1.9E-02	c	9.4E-02	c	3.5E-03	c	1.8E-02	c	5.6E-03	c			4.9E-02 1.2E-06								
3.0E-01 6.3E-03	P			8.0E-02 3.0E-03 1.0E-03	I	1.0E-05 6.0E-04	X	V		1	0.1		Chloronaphthalene, Beta- Chloronitrobenzene, o- Chloronitrobenzene, p-	91-58-7 88-73-3 100-00-5	6.3E+03 1.6E+00 6.1E+01	n c n	8.2E+04 5.7E+00 2.7E+02	n c c**	1.0E-02 6.3E-01	n	4.4E-02 2.6E+00	n	5.5E+02	n	2.0E-01	c	2.9E+00 1.9E-04 8.7E-03								
		5.0E-03	I			4.0E-04	C	V		1		2.2E+04	Chlorophenol, 2- Chloropiricin Chlorothalonil	95-57-8 76-06-2 1897-45-6	3.9E+02 2.1E+00 1.6E+02	n n c**	5.1E+03 8.8E+00 5.6E+02	n n c*	7.1E+01 4.2E-01	n	1.8E+00	n	7.1E+01	n	8.3E-01	n	5.7E-02	2.5E-04 4.3E-02							
2.4E+02	C	6.9E-02	C	2.0E-02 2.0E-02	I			V		1		9.1E+02 2.5E+02	Chlorotoluene, o- Chlorotoluene, p- Chlorozotocin	95-49-8 106-43-4 54749-90-5	1.6E+03 1.6E+03 2.0E-03	ns ns c	2.0E+04 2.0E+04 7.2E-03	ns ns c	3.5E-05	c	1.8E-04	c	1.8E+02	n	1.9E+02	n	1.7E-01 1.8E-01 6.2E-08								
		2.0E-01 1.0E-03 1.0E-02	I A H							1	0.1		Chlorpropham Chlorpyrifos Chlorpyrifos Methyl	101-21-3 2921-88-2 5598-13-0	1.2E+04 6.1E+01 6.1E+02	n n n	1.2E+05 6.2E+02 6.2E+03	nm n n			2.2E+03	n	6.2E+00	n	8.9E+01	n	1.9E+00 9.2E-02 4.1E-01								
		5.0E-02 8.0E-04 1.5E+00	I H I							1	0.1		Chlorsulfuron Chlorthiophos Chromium(III), Insoluble Salts	64902-72-3 60238-56-4 16065-83-1	3.1E+03 4.9E+01 1.2E+05	n n nm	3.1E+04 4.9E+02 1.5E+06	n c nm			7.7E+02	n	2.0E+00	n	1.6E+04	n	6.5E-01 5.2E-02 2.8E+07								
5.0E-01	J	8.4E-02	S	3.0E-03	I	1.0E-04	I	M		0.025 0.013		1	Chromium(VI) Chromium, Total Cobalt	18540-29-9 7440-47-3 7440-48-4	2.9E-01	c	5.6E+00	c	1.1E-05	c	1.5E-04	c	3.1E-02	c	1.0E+02	5.9E-04	1.8E+05								
		6.2E-04	P	4.0E-02 5.0E-02	H I	6.0E-01	C		M	1	0.1		Coke Oven Emissions Copper Cresol, m-	8007-45-2 7440-50-8 108-39-4	3.1E+03 3.1E+03	n n	4.1E+04 3.1E+04	n n	1.5E-03	c	2.0E-02	c	6.2E+02	n	7.2E+02	n	1.3E+03	2.2E+01 5.7E-01	4.6E+01						
		5.0E-02 1.0E-01 1.0E-01	I A A	6.0E-01	C	6.0E-01	C			1	0.1		Cresol, o- Cresol, p- Cresol, p-chloro-m-	95-48-7 106-44-5 59-50-7	3.1E+03 6.1E+03 6.1E+03	n n n	3.1E+04 6.2E+04 6.2E+04	n n n	6.3E+02	n	2.6E+03	n	7.2E+02	n	1.4E+03	n	5.8E-01 1.1E+00 1.3E+00								
1.9E+00	H	1.0E-01 1.0E-03 1.0E-01	A P I	6.0E-01	C	6.0E-01	C	V		1	0.1	1.7E+04 2.7E+02	Cresols Crotonaldehyde, trans- Cumene	1319-77-3 123-73-9 98-82-8	6.1E+03 3.4E-01 2.1E+03	n c ns	6.2E+04 1.5E+00 1.1E+04	n c ns	6.3E+02	n	2.6E+03	n	1.4E+03	n	3.5E-02	c	1.2E+00 7.1E-06 6.4E-01								
2.2E-01 8.4E-01	C H	6.3E-05	C	2.0E-03	H					1	0.1		Cupferron Cyanazine Cyanides	135-20-6 21725-46-2	2.2E+00 5.8E-01	c c	7.8E+00 2.1E+00	c c	3.9E-02	c	1.9E-01	c	3.1E-01	c	7.6E-02	c	5.3E-04 3.5E-05								
		1.0E-03 5.0E-03 6.0E-04	I I I			8.0E-04	S	V		1	1.0E+07		~Calcium Cyanide ~Copper Cyanide ~Cyanide (CN-)	592-01-8 544-92-3 57-12-5	7.8E+01 3.9E+02 2.2E+01	n n n	1.0E+03 5.1E+03 1.4E+02	n n n	8.3E-01	n	3.5E+00	n	1.6E+01	n	1.4E+00	n	2.0E+02	1.4E-02	2.0E+00						
		1.0E-03 9.0E-02 5.0E-02	I I I					V		1			~Cyanogen ~Cyanogen Bromide ~Cyanogen Chloride	460-19-5 506-68-3 506-77-4	7.8E+01 7.0E+03 3.9E+03	n n n	1.0E+03 9.2E+04 5.1E+04	n n n			1.6E+01	n	1.4E+03	n	7.8E+02	n									
		6.0E-04 2.0E-03 5.0E-03	I I I	8.0E-04	I	V				1	0.04	1.0E+07	~Hydrogen Cyanide ~Potassium Cyanide ~Potassium Silver Cyanide	74-90-8 151-50-8 506-61-6	2.3E+01 1.6E+02 3.9E+02	n n n	1.5E+02 2.0E+03 5.1E+03	n n n	8.3E-01	n	3.5E+00	n	1.4E+00	n	3.1E+01	n	1.4E-02								
		1.0E-01 1.0E-03 2.0E-04	I I X							1			~Silver Cyanide ~Sodium Cyanide ~Thiocyanate	506-64-9 143-33-9 463-56-9	7.8E+03 7.8E+01 1.6E+01	n n n	1.0E+05 1.0E+03 2.0E+02	nm n n			1.3E+03	n	1.6E+01	n	3.1E+00	n	2.0E+02								
2.3E-02	H			5.0E-02	I	6.0E+00	I	V		1	0.1	1.2E+02	~Zinc Cyanide Cyclohexane Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	557-21-1 110-82-7 87-84-3	3.9E+03 7.0E+03 2.1E+01	n ns c	5.1E+04 2.9E+04 7.5E+01	n ns c	6.3E+03	n	2.6E+04	n	1.3E+04	n	2.1E+00	c	1.3E+01 1.2E-02								
		5.0E+00 5.0E-03 2.0E-01	I P I	7.0E-01	P	1.0E+00	X	V		1	0.1	2.8E+02	Cyclohexanone Cyclohexene Cyclohexylamine	108-94-1 110-83-8 108-91-8	3.1E+05 3.1E+02 1.2E+04	nm ns nm	3.1E+06 2.8E+03 1.2E+05	nm ns nm	7.3E+02	n	3.1E+03	n	4.4E+03	n	7.7E+04	n	5.3E+01	n	1.8E+01 3.5E-02 7.9E-01						
		5.0E-03 1.0E-02 7.5E-03	I I I							1	0.1		Cyhalothrin/karate Cypermethrin Cyromazine	68085-85-8 52315-07-8 66215-27-8	3.1E+02 6.1E+02 4.6E+02	n n n	3.1E+03 6.2E+03 4.6E+03	n n n			7.8E+01	n	1.6E+02	n	1.2E+02	n	5.3E+01 2.5E+01 3.0E-02								
2.4E-01 3.4E-01 3.4E-01	I I I	6.9E-05 9.7E-05 9.7E-05	C C I	5.0E-04	I					1	0.1		DDD DDE, p,p'- DDT	72-54-8 72-55-9 50-29-3	2.0E+00 1.4E+00 1.7E+00	c c c*	7.2E+00 5.1E+00 7.0E+00	c c c*	3.5E-02	c	1.8E-01	c	2.7E-02	c	4.6E-02	c	6.4E-03 4.6E-02 6.7E-02								
7.0E-04	I	1.0E-02 3.0E-02 7.0E-03	I I I							1	0.1		Dacthal Dalapon Decabromodiphenyl ether, 2,2',3',3',4',4',5',5',6',6'- (BDE-209)	1861-32-1 75-99-0 1163-19-5	6.1E+02 1.8E+03 4.3E+02	n n n	6.2E+03 1.8E+04 2.5E+03	n n c**	9.3E+01	n	4.6E+02	n	2.0E+02	c**	9.3E+01	n	4.6E+02	n	1.1E-01 9.6E-02 5.3E+01	4.1E-02					

Regional Screening Level (RSL) Summary Table November 2012

Key: I = IRIS; P = PPRTR; A = ATSDR; C = Cal EPA; X = PPRTR Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1

Toxicity and Chemical-specific Information										Contaminant		Screening Levels										Protection of Ground Water SSLs							
SFO (mg/kg-day) ¹	ky	IUR (ug/m ³) ¹	ky	RfD _o (mg/kg-day)	ky	RfCi (mg/m ³)	ky	muta-	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)			
1.2E-03	I			4.0E-05	I					1	0.1	Demeton	8065-48-3	2.4E+00	n	2.5E+01	n												
6.1E-02	H			6.0E-01	I					1	0.1	O[2-ethylhexyl]adipate	103-23-1	4.1E+02	c*	1.4E+03	c								4.0E+02	4.0E+00	2.9E+01		
										1	0.1	Diallate	2303-16-4	8.0E+00	c	2.8E+01	c									6.8E-04			
8.0E-01	P	6.0E-03	P	7.0E-04	A	2.0E-04	I	V	M	1	0.1	Diazinon	333-41-5	4.3E+01	n	4.3E+02	n										4.9E-02		
				1.0E-02	I					1	0.1	Dibromo-3-chloropropane, 1,2-Dibromobenzene, 1,4-	96-12-8	5.4E-03	c	6.9E-02	c	1.6E-04	c	2.0E-03	c				2.0E-01	1.4E-07	8.6E-05		
8.4E-02	I	2.7E-05	C	2.0E-02	I			V		1	0.1	Dibromochloromethane	124-48-1	6.8E-01	c	3.3E+00	c	9.0E-02	c	4.5E-01	c	1.5E-01	c		8.0E+01(F)	3.9E-05	2.1E-02		
2.0E+00	I	6.0E-04	I	9.0E-03	I	9.0E-03	I	V		1	1.3E+03	Dibromoethane, 1,2-Dibromomethane (Methylene Bromide)	106-93-4	3.4E-02	c	1.7E-01	c	4.1E-03	c	2.0E-02	c	6.5E-03	c		5.0E-02	1.8E-06	1.4E-05		
				1.0E-02	H	4.0E-03	X	V		1	2.8E+03		74-95-3	2.5E+01	n	1.1E+02	n	4.2E+00	n	1.8E+01	n	7.9E+00	n		1.9E-03				
				1.0E-01	I					1	0.1	Dibutyl Phthalate	84-74-2	6.1E+03	n	6.2E+04	n										1.7E+00		
				3.0E-04	P					1	0.1	Dibutyltin Compounds	NA	1.8E+01	n	1.8E+02	n										4.7E+00		
				3.0E-02	I					1	0.1	Dicamba	1918-00-9	1.8E+03	n	1.8E+04	n										4.4E+02		
		4.2E-03	P					V		1	5.2E+02	Dichloro-2-butene, 1,4-	764-41-0	6.9E-03	c	3.5E-02	c	5.8E-04	c	2.9E-03	c	1.2E-03	c			5.4E-07			
		4.2E-03	P					V		1	5.2E+02	Dichloro-2-butene, cis-1,4-	1476-11-5	6.9E-03	c	3.5E-02	c	5.8E-04	c	2.9E-03	c	1.2E-03	c			5.4E-07			
		4.2E-03	P					V		1	7.6E+02	Dichloro-2-butene, trans-1,4-	110-57-6	6.9E-03	c	3.5E-02	c	5.8E-04	c	2.9E-03	c	1.2E-03	c			5.4E-07			
5.0E-02	I			4.0E-03	I					1	0.1	Dichloroacetic Acid	79-43-6	9.7E+00	c*	3.4E+01	c*									6.0E+01	2.7E-04	1.2E-02	
				9.0E-02	I	2.0E-01	H	V		1	3.8E+02	Dichlorobenzene, 1,2-Dichlorobenzene, 1,4-	95-50-1	1.9E+03	ns	9.8E+03	ns	2.1E+02	n	8.8E+02	n	1.3E+00	c*			6.0E+02	2.7E-01	5.8E-01	
5.4E-03	C	1.1E-05	C	7.0E-02	A	8.0E-01	I	V		1	1.7E+03	Dichlorobenzene, 1,4-	106-46-7	2.4E+00	c	1.2E+01	c	2.2E-01	c	1.1E+00	c	4.2E-01	c			7.5E+01	4.0E-04	7.2E-02	
4.5E-01	I	3.4E-04	C							1	0.1	Dichlorobenzidine, 3,3'-Dichlorobenzophenone, 4,4'-Dichlorodifluoromethane	91-94-1	1.1E+00	c	3.8E+00	c	7.2E-03	c	3.6E-02	c	1.1E-01	c			7.1E-04	3.5E-01	3.0E-01	
				9.0E-03	X					1	0.1		90-98-2	5.5E+02	n	5.5E+03	n										5.7E+01	n	
				2.0E-01	I	1.0E-01	X	V		1	8.5E+02		75-71-8	9.4E+01	n	4.0E+02	n	1.0E+02	n	4.4E+02	n	1.9E+02	n				1.9E+02	3.0E-01	
5.7E-03	C	1.6E-06	C	2.0E-01	P			V		1	1.7E+03	Dichloroethane, 1,1-Dichloroethane, 1,2-Dichloroethylene, 1,1-Dichloroethylene, 1,2-	75-34-3	3.3E+00	c	1.7E+01	c	1.5E+00	c	7.7E+00	c	2.4E+00	c			6.8E-04	6.8E-04	1.4E-03	
9.1E-02	I	2.6E-05	I	6.0E-03	X	7.0E-03	P	V		1	3.0E+03		107-06-2	4.3E-01	c*	2.2E+00	c*	9.4E-02	c*	4.7E-01	c*	1.5E-01	c*			5.0E+00	4.2E-05	1.4E-03	
				5.0E-02	I	2.0E-01	I	V		1	1.2E+03		75-35-4	2.4E+02	n	1.1E+03	n	2.1E+02	n	8.8E+02	n	2.6E+02	n			7.0E+00	9.3E-02	2.5E-03	
				9.0E-03	H			V		1	1.3E+03	Dichloroethylene, 1,2- (Mixed Isomers)	540-59-0	7.0E+02	n	9.2E+03	ns										3.7E-02	3.7E-02	
				2.0E-03	I			V		1	2.4E+03	Dichloroethylene, 1,2-cis-Dichloroethylene, 1,2-trans-	156-59-2	1.6E+02	n	2.0E+03	n										8.2E-03	2.1E-02	
				2.0E-02	I	6.0E-02	P	V		1	1.7E+03		156-60-5	1.5E+02	n	6.9E+02	n	6.3E+01	n	2.6E+02	n	8.6E+01	n			1.0E+02	2.5E-02	2.9E-02	
		3.0E-03	I							1	0.1	Dichlorophenol, 2,4-Dichlorophenoxy Acetic Acid, 2,4-Dichlorophenoxybutyric Acid, 4-(2,4-	120-83-2	1.8E+02	n	1.8E+03	n										3.5E+01	4.1E-02	
		1.0E-02	I							1	0.05		94-75-7	6.9E+02	n	7.7E+03	n										3.5E-02	1.8E-02	
		8.0E-03	I							1	0.1		94-82-6	4.9E+02	n	4.9E+03	n										9.1E+01	3.6E-02	
3.6E-02	C	1.0E-05	C	9.0E-02	A	4.0E-03	I	V		1	1.4E+03	Dichloropropane, 1,2-Dichloropropane, 1,3-Dichloropropanol, 2,3-	78-87-5	9.4E-01	c*	4.7E+00	c*	2.4E-01	c*	1.2E+00	c*	3.8E-01	c*			5.0E+00	1.3E-04	1.7E-03	
				2.0E-02	P			V		1	1.5E+03		142-28-9	1.6E+03	ns	2.0E+04	ns										9.9E-02	2.9E+02	
				3.0E-03	I					1	0.1		616-23-9	1.8E+02	n	1.8E+03	n										4.6E+01	9.8E-03	
1.0E-01	I	4.0E-06	I	3.0E-02	I	2.0E-02	I	V		1	1.6E+03	Dichloropropene, 1,3-Dichlorovos	542-75-6	1.7E+00	c*	8.3E+00	c*	6.1E-01	c*	3.1E+00	c*	4.1E-01	c*				1.5E-04	1.5E-04	
2.9E-01	I	8.3E-05	C	5.0E-04	I	5.0E-04	I	V		1	0.1		62-73-7	1.7E+00	c*	5.9E+00	c*	2.9E-02	c*	1.5E-01	c*	2.3E-01	c*				7.0E-05	7.0E-05	
				8.0E-03	P	7.0E-03	P	V		1	1.7E+03	Dicyclopentadiene	77-73-6	3.1E+01	n	1.3E+02	n	7.3E+00	n	3.1E+01	n	1.2E+01	n				4.3E-02	4.3E-02	
1.6E+01	I	4.6E-03	I	5.0E-05	I					1	0.1	Dieldrin	60-57-1	3.0E-02	c	1.1E-01	c	5.3E-04	c	2.7E-03	c	1.5E-03	c				6.1E-05	6.1E-05	
		3.0E-04	C			5.0E-03	I			1	0.1	Diesel Engine Exhaust	NA					8.1E-03	c	4.1E-02	c							8.1E-03	
				2.0E-03	P	2.0E-04	P			1	0.1	Diethanolamine	111-42-2	1.2E+02	n	1.2E+03	n	2.1E-01	n	8.8E-01	n	3.1E+01	n				6.3E-03	6.3E-03	
		8.0E-01	I							1	0.1	Diethyl Phthalate	84-66-2	4.9E+04	n	4.9E+05	nm											1.1E+04	4.7E+00
		3.0E-02	P	1.0E-04	P					1	0.1	Diethylene Glycol Monobutyl Ether	112-34-5	1.8E+03	n	1.8E+04	n	1.0E-01	n	4.4E-01	n	4.7E+02	n				1.0E-01	1.0E-01	
		6.0E-02	P	3.0E-04	P					1	0.1	Diethylene Glycol Monoethyl Ether	111-90-0	3.6E+03	n	3.6E+04	n	3.1E-01	n	1.3E+00	n	9.4E+02	n				1.9E-01	1.9E-01	
3.5E+02	C	1.0E-01	C	1.0E-03	P					1	0.1	Diethylformamide	617-84-5	6.1E+01	n	6.2E+02	n											1.6E+01	3.2E-03
				8.0E-02	I					1	0.1	Diethylstilbestrol	56-53-1	1.4E-03	c	4.9E-03	c	2.4E-05	c	1.2E-04	c	4.3E-05	c				2.4E-05	2.4E-05	
				2.0E-02	I					1	0.1	Difenzoquat	43222-48-6	4.9E+03	n	4.9E+04	n											1.2E+03	
				4.0E+01	I	V				1	1.4E+03	Diflubenzuron	35367-38-5	1.2E+03	n	1.2E+04	n											2.2E+02	2.5E-01
4.4E-02	C	1.3E-05	C					V		1	0.1	Difluoroethane, 1,1-Dihydrosafrole	75-37-6	5.2E+04	ns	2.2E+05	nms	4.2E+04	n	1.8E+05	n	8.3E+04	n				2.8E+01	2.8E+01	
								V		1	0.1		94-58-6	2.4E-01	c	1.2E+00	c	1.9E-01	c	9.4E-01	c	2.6E-01	c				3.2E-04	3.2E-04	
				7.0E-01	P	V				1	2.3E+03	Diisopropyl Ether	108-20-3	2.4E+03	ns	1.0E+04	ns	7.3E+02	n	3.1E+03	n	1.5E+03	n				3.7E-01	3.7E-01	
				8.0E-02	I			V		1	5.3E+02	Diisop																	

Regional Screening Level (RSL) Summary Table November 2012

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Toxicity and Chemical-specific Information										Contaminant							Screening Levels							Protection of Ground Water SSLs					
SFO (mg/kg-day) ¹	ky	IUR (ug/m ³) ¹	ky	RfD _o (mg/kg-day)	ky	RfC _i (mg/m ³) ¹	ky	vo	muta- gen	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)		
				1.0E-01	I		V		1				Dimethylterephthalate	120-61-6	7.8E+03	n	1.0E+05	nm						1.4E+03	n		3.8E-01		
4.5E-02	C	1.3E-05	C	8.0E-05	X		V		1	0.1	1.1E+03		Dimethylvinylchloride	513-37-1	2.0E-01	c	1.0E+00	c	1.9E-01	c	9.4E-01	c	2.8E-01	c		1.8E-04			
				2.0E-03	I				1	0.1			Dinitro- <i>o</i> -cresol, 4,6-	534-52-1	4.9E+00	n	4.9E+01	n						1.2E+00	n		2.0E-03		
									1	0.1			Dinitro- <i>o</i> -cyclohexyl Phenol, 4,6-	131-89-5	1.2E+02	n	1.2E+03	n						1.7E+01	n		5.7E-01		
				1.0E-04	P				1	0.1			Dinitrobenzene, 1,2-	528-29-0	6.1E+00	n	6.2E+01	n						1.5E+00	n		1.4E-03		
				1.0E-04	I				1	0.1			Dinitrobenzene, 1,3-	99-65-0	6.1E+00	n	6.2E+01	n						1.5E+00	n		1.4E-03		
				1.0E-04	P				1	0.1			Dinitrobenzene, 1,4-	100-25-4	6.1E+00	n	6.2E+01	n						1.5E+00	n		1.4E-03		
				2.0E-03	I				1	0.1			Dinitrophenol, 2,4-	51-28-5	1.2E+02	n	1.2E+03	n						3.0E+01	n		3.4E-02		
6.8E-01	I								1	0.1			Dinitrotoluene Mixture, 2,4/2,6-	25321-14-6	7.2E-01	c	2.5E+00	c						9.2E-02	c		1.3E-04		
3.1E-01	C	8.9E-05	C	2.0E-03	I				1	0.102			Dinitrotoluene, 2,4-	121-14-2	1.6E+00	c*	5.5E+00	c	2.7E-02	c	1.4E-01	c		2.0E-01	c		2.8E-04		
				1.0E-03	P				1	0.099			Dinitrotoluene, 2,6-	606-20-2	6.1E+01	n	6.2E+02	n						1.5E+01	n		2.0E-02		
				2.0E-03	S				1	0.006			Dinitrotoluene, 2-Amino-4,6-	35572-78-2	1.5E+02	n	2.0E+03	n						3.0E+01	n		2.3E-02		
				2.0E-03	S				1	0.009			Dinitrotoluene, 4-Amino-2,6-	19406-51-0	1.5E+02	n	1.9E+03	n						3.0E+01	n		2.3E-02		
1.0E-01	I	7.7E-06	C	1.0E-03	I	3.0E+00	C		1	0.1	1.0E-03		Dinoseb	88-85-7	6.1E+01	n	6.2E+02	n						1.1E+01	n	7.0E+00	9.8E-02	6.2E-02	
				3.0E-02	I				1	0.1			Dioxane, 1,4- Dioxins	123-91-1	4.9E+00	c	1.7E+01	c	3.2E-01	c	1.6E+00	c		6.7E-01	c		1.4E-04		
6.2E+03	I	1.3E+00	I						1	0.03			~Hexachlorodibenzo-p-dioxin, Mixture	NA	9.4E-05	c	3.9E-04	c	1.9E-06	c	9.4E-06	c	1.1E-05	c		1.5E-05			
1.3E+05	C	3.8E+01	C	7.0E-10	I	4.0E-08	C		1	0.03			~TCDD, 2,3,7,8- Diphenamid	1746-01-6 957-51-7	4.5E-06	c*	1.8E-05	c*	6.4E-08	c	3.2E-07	c	5.2E-07	c*	3.0E-05	2.6E-07	1.5E-05		
				3.0E-02	I				1	0.1			Diphenyl Sulfone	127-63-9	4.9E+01	n	4.9E+02	n						1.1E+01	n		2.8E-02		
				8.0E-04	X				1	0.1			Diphenylamine	122-39-4	1.5E+03	n	1.5E+04	n						2.4E+02	n		4.4E-01		
8.0E-01	I	2.2E-04	I	2.5E-02	I				1	0.1			Diphenylhydrazine, 1,2- Diquat	122-66-7 85-00-7	6.1E-01	c	2.2E+00	c	1.1E-02	c	5.6E-02	c		6.7E-02	c		2.2E-04		
				2.2E-03	I				1	0.1			Direct Black 38	1937-37-7	6.6E-02	c	2.3E-01	c	1.2E-03	c	5.8E-03	c		9.1E-03	c		4.4E+00		
7.4E+00	C	2.1E-03	C						1	0.1			Direct Blue 6	2602-46-2	6.6E-02	c	2.3E-01	c	1.2E-03	c	5.8E-03	c		9.1E-03	c		1.4E+01		
7.4E+00	C	2.1E-03	C						1	0.1			Direct Brown 95	16071-86-6	7.3E-02	c	2.6E-01	c	1.3E-03	c	6.5E-03	c		1.0E-02	c		2.0E+01	6.5E-01	3.7E-01
6.7E+00	C	1.9E-03	C	4.0E-05	I				1	0.1			Disulfoton	298-04-4	2.4E+00	n	2.5E+01	n									7.1E-04		
				1.0E-02	I		V		1	0.1			Dithiane, 1,4-	505-29-3	6.1E+02	n	6.2E+03	n						1.5E+02	n		3.8E-01		
				2.0E-03	I				1	0.1			Diuron	330-54-1	1.2E+02	n	1.2E+03	n							2.8E+01	n		1.2E-02	
				4.0E-03	I				1	0.1			Dodine	2439-10-3	2.4E+02	n	2.5E+03	n							6.2E+01	n		3.2E-01	
				2.5E-02	I		V		1				EPTC	759-94-4	2.0E+03	n	2.6E+04	n						2.9E+02	n		1.5E-01		
				6.0E-03	I				1	0.1			Endosulfan	115-29-7	3.7E+02	n	3.7E+03	n							7.8E+01	n		1.1E+00	
				2.0E-02	I				1	0.1			Endothall	145-73-3	1.2E+03	n	1.2E+04	n							3.0E+02	n	1.0E+02	7.1E-02	
				3.0E-04	I				1	0.1			Endrin	72-20-8	1.8E+01	n	1.8E+02	n							1.7E+00	n	2.0E+00	6.8E-02	8.1E-02
9.9E-03	I	1.2E-06	I	6.0E-03	P	1.0E-03	I V		1		1.1E+04		Epichlorohydrin	106-89-8	2.0E+01	n	8.8E+01	n	1.0E+00	n	4.4E+00	n		2.0E+00	n		4.5E-04		
						2.0E-02	I V		1		1.5E+04		Epoxybutane, 1,2- Ethephon	106-88-7 16672-87-0	1.7E+02	n	7.2E+02	n	2.1E+01	n	8.8E+01	n		4.2E+01	n		9.2E-03		
				5.0E-03	I				1	0.1			Ethion	563-12-2	3.1E+01	n	3.1E+02	n							3.2E+00	n		6.3E-03	
				1.0E-01	P	6.0E-02	P		1	0.1			Ethoxyethanol Acetate, 2- Ethoxyethanol, 2-	111-15-9 110-80-5	6.1E+03 2.4E+04	n n	6.2E+04 2.5E+05	n nm	6.3E+01 2.1E+02	n n	2.6E+02 8.8E+02	n n		1.5E+03 6.2E+03	n		3.2E-01 1.3E+00		
4.8E-02	H			9.0E-01	I		V		1		1.1E+04		Ethyl Acetate	141-78-6	7.0E+04	ns	9.2E+05	nms							1.4E+04	n		2.9E+00	
							V		1		2.5E+03		Ethyl Acrylate	140-88-5	1.3E+01	c	6.0E+01	cs						1.4E+00	c		3.0E-04		
							V		1		2.1E+03		Ethyl Chloride	75-00-3	1.5E+04	ns	6.1E+04	ns	1.0E+04	n	4.4E+04	n		2.1E+04	n		5.9E+00		
				2.0E-01	I		V		1		1.0E+04		Ethyl Ether	60-29-7	1.6E+04	ns	2.0E+05	nms							3.1E+03	n		6.8E-01	
				9.0E-02	H	3.0E-01	P V		1		1.1E+03		Ethyl Methacrylate	97-63-2	1.5E+03	ns	7.5E+03	ns	3.1E+02	n	1.3E+03	n		4.2E+02	n		9.9E-02		
				1.0E-05	I				1	0.1			Ethyl-p-nitrophenyl Phosphonate	2104-64-5	6.1E-01	n	6.2E+00	n							6.6E-02	n		2.1E-03	
1.1E-02	C	2.5E-06	C	1.0E-01	I	1.0E+00	I V		1		4.8E+02		Ethylbenzene	100-41-4	5.4E+00	c	2.7E+01	c	9.7E-01	c	4.9E+00	c		1.3E+00	c	7.0E+02	1.5E-03	7.8E-01	
				7.0E-02	P				1	0.1			Ethylene Cyanohydrin	109-78-4	4.3E+03	n	4.3E+04	n							1.1E+03	n		2.2E-01	
				9.0E-02	P				1	0.1			Ethylene Diamine	107-15-3	5.5E+03	n	5.5E+04	n							1.4E+03	n		3.2E-01	
				2.0E+00	I	4.0E-01	C		1	0.1			Ethylene Glycol	107-21-1	1.2E+05	nm	1.2E+06	nm	4.2E+02	n	1.8E+03	n		3.1E+04	n		6.3E+00		
				1.0E-01	P	1.6E+00	I		1	0.1			Ethylene Glycol Monobutyl Ether	111-76-2	6.1E+03	n	6.2E+04	n	1.7E+03	n	7.0E+03	n		1.5E+03	n		3.2E-01		
3.1E-01	C	8.8E-05	C			3.0E-02	C V		1		1.2E+05		Ethylene Oxide	75-21-8	1.7E-01	c	8.3E-01	c	2.8E-02	c	1.4E-01	c		4.4E-02	c		9.1E-06		
4.5E-02	C	1.3E-05	C	8.0E-05	I				1	0.1			Ethylene Thiourea	96-45-7	4.9E+00	n	3.8E+01	c**	1.9E-01	c	9.4E-01	c		1.2E+00	n		2.8E-04		
6.5E+01	C	1.9E-02	C				V		1	0.1	1.5E+05		Ethyleneimine Ethylphthalyl Ethyl Glycolate	151-56-4 84-72-0	2.3E-03 1.8E+05	c nm	1.0E-02 1.8E+06	c nm											

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Toxicity and Chemical-specific Information												Contaminant					Screening Levels								Protection of Ground Water SSLs		
SFO (mg/kg-day) ¹	key	IUR (ug/m ³) ¹	key	RfD _o (mg/kg-day)	key	RfC _i (mg/m ³)	key	vo	muta-	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
3.5E-03	I			1.0E-01	I						1	0.1	Folpet	133-07-3	1.4E+02	c*	4.9E+02	c					1.7E+01	c*		4.1E-03	
1.9E-01	I										1	0.1	Fomesafen	72178-02-0	2.6E+00	n	9.1E+00	c					3.4E+01	c		1.1E-03	
		2.0E-03	I								1	0.1	Fonofos	944-22-9	1.2E+02	n	1.2E+03	n					1.8E+01	n		3.5E-02	
	1.3E-05		I	2.0E-01	I	9.8E-03	A				1	0.1	Formaldehyde	50-00-0	1.2E+04	n	1.2E+05	nm	1.9E-01	c*	9.4E-01	c*	3.1E+03	n		6.2E-01	
				9.0E-01	P	3.0E-04	X				1	0.1	Formic Acid	64-18-6	4.9E+04	n	4.2E+05	nm	3.1E-01	n	1.3E+00	n	1.4E+04	n		2.8E+00	
		3.0E+00	I								1	0.1	Fosetyl-AL	39148-24-8	1.8E+05	nm	1.8E+06	nm					4.7E+04	n			
				1.0E-03	X		V				1		Furans ~Dibenzofuran	132-64-9	7.8E+01	n	1.0E+03	n					5.8E+00	n		1.1E-01	
				1.0E-03	I		V				1	6.2E+03	~Furan	110-00-9	7.8E+01	n	1.0E+03	n					1.5E+01	n		5.7E-03	
				9.0E-01	I	2.0E+00	I	V			1	0.1	~Tetrahydrofuran	109-99-9	1.8E+04	n	9.5E+04	n	2.1E+03	n	8.8E+03	n	3.2E+03	n		7.1E-01	
3.8E+00	H										1	0.1	Furazolidone	67-45-8	1.3E-01	c	4.5E-01	c					1.8E-02	c		3.4E-05	
				3.0E-03	I	5.0E-02	H				1	0.1	Furfural	98-01-1	1.8E+02	n	1.8E+03	n	5.2E+01	n	2.2E+02	n	4.6E+01	n		9.9E-03	
1.5E+00	C	4.3E-04	C								1	0.1	Furium	531-82-8	3.2E-01	c	1.1E+00	c	5.7E-03	c	2.9E-02	c	4.4E-02	c		5.9E-05	
3.0E-02	I	8.6E-06	C								1	0.1	Furmecycloxy	60568-05-0	1.6E+01	c	5.7E+01	c	2.8E-01	c	1.4E+00	c	9.6E-01	c		1.0E-03	
		4.0E-04	I								1	0.1	Glufosinate, Ammonium	77182-82-2	2.4E+01	n	2.5E+02	n					6.3E+00	n		1.4E-03	
						8.0E-05	C				1	0.1	Glutaraldehyde	111-30-8	1.1E+05	nm	4.8E+05	nm	8.3E-02	n	3.5E-01	n		n			
				4.0E-04	I	1.0E-03	H				1	0.1	Glycidyl	765-34-4	2.4E+01	n	2.5E+02	n	1.0E+00	n	4.4E+00	n	6.2E+00	n		1.3E-03	
				1.0E-01	I						1	0.1	Glyphosate	1071-83-6	6.1E+03	n	6.2E+04	n					1.6E+03	n	7.0E+02	3.2E-01	1.4E-01
				3.0E-03	I						1	0.1	Goal	42874-03-3	1.8E+02	n	1.8E+03	n					2.4E+01	n		1.9E+00	
				3.0E-03	A	1.0E-02	A				1	0.1	Guthion	86-50-0	1.8E+02	n	1.8E+03	n	1.0E+01	n	4.4E+01	n	4.3E+01	n		1.3E-02	
		5.0E-05	I								1	0.1	Haloxyp, Methyl	69806-40-2	3.1E+00	n	3.1E+01	n					5.8E-01	n		6.4E-03	
		1.3E-02	I								1	0.1	Harmony	79277-27-3	7.9E+02	n	8.0E+03	n					2.0E+02	n		6.1E-02	
4.5E+00	I	1.3E-03	I	5.0E-04	I						1	0.1	Heptachlor	76-44-8	1.1E-01	c	3.8E-01	c	1.9E-03	c	9.4E-03	c	1.8E-03	c	4.0E-01	1.4E-04	3.3E-02
				1.3E-05	I						1	0.1	Heptachlor Epoxide	1024-57-3	5.3E-02	c*	1.9E-01	c*	9.4E-04	c	4.7E-03	c	3.3E-03	c*	2.0E-01	6.8E-05	4.1E-03
		2.0E-03	I								1	0.1	Hexabromobenzene	87-82-1	1.2E+02	n	1.2E+03	n					3.1E+01	n		1.8E-01	
				2.0E-04	I						1	0.1	Hexabromodiphenyl ether, 2,2',4,4',5,5'-(BDE-153)	68631-49-2	1.2E+01	n	1.2E+02	n					3.1E+00	n			
1.6E+00	I	4.6E-04	I	8.0E-04	I						1	0.1	Hexachlorobenzene	118-74-1	3.0E-01	c	1.1E+00	c	5.3E-03	c	2.7E-02	c	4.2E-02	c	1.0E+00	5.3E-04	1.3E-02
7.8E-02	I	2.2E-05	I	1.0E-03	P						1	0.1	Hexachlorobutadiene	87-68-3	6.2E+00	c**	2.2E+01	c*	1.1E-01	c	5.6E-01	c	2.6E-01	c*		5.0E-04	
6.3E+00	I	1.8E-03	I	8.0E-03	A						1	0.1	Hexachlorocyclohexane, Alpha-	319-84-6	7.7E-02	c	2.7E-01	c	1.4E-03	c	6.8E-03	c	6.2E-03	c		6.3E-05	
1.8E+00	I	5.3E-04	I								1	0.1	Hexachlorocyclohexane, Beta-	319-85-7	2.7E-01	c	9.6E-01	c	4.6E-03	c	2.3E-02	c	2.2E-02	c		1.3E-04	
1.1E+00	C	3.1E-04	C	3.0E-04	I						1	0.04	Hexachlorocyclohexane, Gamma-(Lindane)	58-89-9	5.2E-01	c*	2.1E+00	c	7.8E-03	c	4.0E-02	c	3.6E-02	c*	2.0E-01	2.1E-04	1.2E-03
1.8E+00	I	5.1E-04	I								1	0.1	Hexachlorocyclohexane, Technical	608-73-1	2.7E-01	c	9.6E-01	c	4.8E-03	c	2.4E-02	c	2.2E-02	c		1.3E-04	
				6.0E-03	I	2.0E-04	I				1	0.1	Hexachlorocyclopentadiene	77-47-4	3.7E+02	n	3.7E+03	n	2.1E-01	n	8.8E-01	n	2.2E+01	n	5.0E+01	7.0E-02	1.6E-01
				7.0E-04	I	3.0E-02	I				1	0.1	Hexachloroethane	67-72-1	1.2E+01	c**	4.3E+01	c*	2.2E-01	c	1.1E+00	c	7.9E-01	c**		4.8E-04	
				3.0E-04	I						1	0.1	Hexachlorophene	70-30-4	1.8E+01	n	1.8E+02	n					4.7E+00	n		6.3E+00	
1.1E-01	I			3.0E-03	I						1	0.015	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	5.6E+00	c*	2.4E+01	c					6.1E-01	c*		2.3E-04	
						1.0E-05	I	V			1		Hexamethylene Diisocyanate, 1,6-	822-06-0	3.4E+00	n	1.4E+01	n	1.0E-02	n	4.4E-02	n	2.1E-02	n		2.1E-04	
											1	0.1	Hexamethylphosphoramide	680-31-9	2.4E+01	n	2.5E+02	n					6.2E+00	n		1.4E-03	
		6.0E-02	H	7.0E-01	I	V					1	1.4E+02	Hexane, N-	110-54-3	5.7E+02	ns	2.6E+03	ns	7.3E+02	n	3.1E+03	n	2.5E+02	n		1.8E+00	
		2.0E+00	P								1	0.1	Hexanedioic Acid	124-04-9	1.2E+05	nm	1.2E+06	nm					3.1E+04	n		7.7E+00	
				5.0E-03	I	3.0E-02	I	V			1	3.3E+03	Hexanone, 2-	591-78-6	2.1E+02	n	1.4E+03	n	3.1E+01	n	1.3E+02	n	3.4E+01	n		7.9E-03	
				3.3E-02	I						1	0.1	Hexazinone	51235-04-2	2.0E+03	n	2.0E+04	n					5.0E+02	n		2.3E-01	
3.0E+00	I	4.9E-03	I			3.0E-05	P				1		Hydrazine	302-01-2	2.1E-01	c	9.5E-01	c	5.0E-04	c*	2.5E-03	c*	2.2E-02	c			
3.0E+00	I	4.9E-03	I								1		Hydrazine Sulfate	10034-93-2	2.1E-01	c	9.5E-01	c	5.0E-04	c	2.5E-03	c	2.2E-02	c			
				4.0E-02	C	1.4E-02	C				1		Hydrogen Chloride	7647-01-0	2.8E+07	nm	1.2E+08	nm	2.1E+01	n	8.8E+01	n		n			
				2.0E-03	I						1		Hydrogen Fluoride	7664-39-3	3.1E+03	n	4.1E+04	n	1.5E+01	n	6.1E+01	n	6.2E+02	n			
				2.0E-03	I						1		Hydrogen Sulfide	7783-06-4	2.8E+06	nm	1.2E+07	nm	2.1E+00	n	8.8E+00	n		n			
6.0E-02	P			4.0E-02	P						1	0.1	Hydroquinone	123-13-9	8.1E+00	c	2.9E+01	c					1.1E+00	c		7.5E-04	
				1.3E-02	I						1	0.1	Imazalil	35554-44-0	7.9E+02	n	8.0E+03	n					1.4E+02	n		2.5E+00	
				2.5E-01	I						1	0.1	Imazaquin	81335-37-7	1.5E+04	n	1.5E+05	nm					3.8E+03	n		1.9E+01	
				1.0E-02	A						1		Iodine	7553-56-2	7.8E+02	n	1.0E+04	n					1.6E+02	n		9.4E+00	
				4.0E-02	I						1	0.1	Iprodione	36734-19-7	2.4E+03	n	2.5E+04	n					5.7E+02	n		1.7E-01	
				7.0E-01	P						1																

Regional Screening Level (RSL) Summary Table November 2012

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1																																	
Toxicity and Chemical-specific Information										Contaminant				Screening Levels						Protection of Ground Water SSLs													
SFO (mg/kg-day) ⁻¹	k _e	IUR (ug/m ³) ⁻¹	k _e	RfD _o (mg/kg-day)	k _e	RfC ₁ (mg/m ³)	k _e	v	mutagen	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)						
3.8E-02	C	1.1E-05	C										~Lead subacetate ~Tetraethyl Lead Linuron	1335-32-6 78-00-2 330-55-2	1.3E+01 6.1E-03 1.2E+02	c	4.5E+01 6.2E-02 1.2E+03	c	2.2E-01	c	1.1E+00	c	1.8E+00	c				3.5E-06 2.3E-02					
				1.0E-07 2.0E-03	I I								Lithium Londax MCPA	7439-93-2 83055-99-6 94-74-6	1.6E+02 1.2E+04 3.1E+01	n	2.0E+03 1.2E+05 3.1E+02	nm							3.1E+01 3.1E+03 5.7E+00	n		9.3E+00 7.9E-01 1.5E-03					
				1.0E-02 1.0E-03 2.0E-02	I I I								MPCB MCP Malathion	94-81-5 93-65-2 121-75-5	6.1E+02 6.1E+01 1.2E+03	n	6.2E+03 6.2E+02 1.2E+04	n							1.1E+02 1.2E+01 3.0E+02	n		4.4E-02 3.5E-03 7.9E-02					
				1.0E-01 5.0E-01 1.0E-04	I I P	7.0E-04	C						Maleic Anhydride Maleic Hydrazide Malononitrile	108-31-6 123-33-1 109-77-3	6.1E+03 3.1E+04 6.1E+00	n	6.1E+04 3.1E+05 6.2E+01	n	7.3E-01	n	3.1E+00	n	1.5E+03	n				3.0E-01 1.6E+00 3.2E-04					
				3.0E-02 5.0E-03 1.4E-01	H I I								Mancozeb Maneb Manganese (Diet)	8018-01-7 12427-38-2 7439-96-5	1.8E+03 3.1E+02	n	1.8E+04 3.1E+03	n										4.6E+02 7.7E+01	n	6.5E-01 1.1E-01			
				2.4E-02 9.0E-05 3.0E-02	S S I	5.0E-05	I			0.04			Manganese (Non-diet) Mephosfolan Mepiquat Chloride	7439-96-5 950-10-7 24307-26-4	1.8E+03 5.5E+00 1.8E+03	n	2.3E+04 5.5E+01 1.8E+04	n	5.2E-02	n	2.2E-01	n	3.2E+02	n				2.1E+01 2.1E-03 1.6E-01					
				3.0E-04	I	3.0E-04	S			0.07			Mercury Compounds ~Mercuric Chloride (and other Mercury salts) ~Mercury (elemental)	7487-94-7 7439-97-6	2.3E+01 1.0E+01	n	3.1E+02 4.3E+01	n	3.1E-01	n	1.3E+00	n	4.3E+00	n	2.0E+00 2.0E+00								
				1.0E-04 8.0E-05 3.0E-05	I I I								~Methyl Mercury ~Phenylmercuric Acetate Merphos	22967-92-6 62-38-4 150-50-5	7.8E+00 4.9E+00 1.8E+00	n	1.0E+02 4.9E+01 1.8E+01	n															
				3.0E-05 6.0E-02 1.0E-04	I I I								Merphos Oxide Metalaxyl Methacrylonitrile	78-48-8 57837-19-1 126-98-7	1.8E+00 3.7E+03 7.6E+00	n	1.8E+01 3.7E+04 9.2E+01	n			3.1E+01	n	1.3E+02	n	6.1E-02 9.2E+02 1.5E+00	n				3.0E-04 2.5E-01 3.4E-04			
				5.0E-05 5.0E-01 1.0E-03	I I I								Methamidophos Methanol Methidathion	10265-92-6 67-56-1 950-37-8	3.1E+00 3.1E+04 6.1E+01	n	3.1E+01 3.1E+05 6.2E+02	nm	4.2E+03	n	1.8E+04	n	7.8E-01 7.8E+03 1.5E+01	n				1.6E-04 1.6E+00 3.7E-03					
4.9E-02	C	1.4E-05	C										Methomyl Methoxy-5-nitroaniline, 2- Methoxychlor	16752-77-5 99-59-2 72-43-5	1.5E+03 9.9E+00 3.1E+02	c	1.5E+04 3.5E+01 3.1E+03	c	1.7E-01	c	8.8E-01	c	3.9E+02 1.3E+00 2.7E+01	c			4.0E+01	8.5E-02 4.6E-04 1.5E+00		2.2E+00			
				8.0E-03 5.0E-03 1.0E+00	P P X	1.0E-03	P						Methoxyethanol Acetate, 2- Methoxyethanol, 2- Methyl Acetate	110-49-6 109-86-4 79-20-9	4.9E+02 3.1E+02 7.8E+04	n	4.9E+03 3.1E+03 1.0E+06	n	1.0E+00 2.1E+01	n	4.4E+00 8.8E+01	n	1.2E+02 7.8E+01 1.6E+04	n				2.6E-02 1.6E-02 3.2E+00					
				3.0E-02 6.0E-01 1.0E-03	H I P	2.0E-02	P						Methyl Acrylate Methyl Ethyl Ketone (2-Butanone) Methyl Hydrazine	96-33-3 78-93-3 60-34-4	1.5E+02 2.8E+04 6.1E+01	n	6.4E+02 2.0E+05 6.1E+02	n	2.1E+01 5.2E+03 2.4E-03	n	8.8E+01 2.2E+04 c**	n	3.8E+01 4.9E+03 1.6E+01	n				8.1E-03 1.0E+00 3.5E-03					
				8.0E-02 1.0E-03 1.4E+00	H I I	3.0E+00	I						Methyl Isobutyl Ketone (4-methyl-2-pentanone) Methyl Isocyanate Methyl Methacrylate	108-10-1 624-83-9 80-62-6	5.3E+03 5.0E+00 4.8E+03	ns	5.3E+04 2.1E+01 2.1E+04	ns	3.1E+03 1.0E+00 7.3E+02	n	1.3E+04 4.4E+00 3.1E+03	n	1.0E+03 2.1E+00 1.4E+03	n				2.3E-01 5.9E-04 3.0E-01					
				2.5E-04 6.0E-02 6.0E-03	I X H								Methyl Parathion Methyl Phosphonic Acid Methyl Styrene (Mixed Isomers)	298-00-0 993-13-5 25013-15-4	1.5E+01 3.7E+03 2.4E+02	n	1.5E+02 3.7E+04 1.5E+03	n	4.2E+01	ns	1.8E+02	n	3.4E+00 9.4E+02 3.2E+01	n				5.7E-03 1.9E-01 5.2E-02					
9.9E-02	C	2.8E-05	C										Methyl methanesulfonate Methyl tert-Butyl Ether (MTBE) Methyl-1,4-benzenediamine dihydrochloride, 2-	66-27-3 1634-04-4 615-45-2	4.9E+00 4.3E+01 1.2E+01	c	1.7E+01 2.2E+02 1.2E+02	c	8.7E-02	c	4.4E-01	c	6.8E-01	c	1.2E+01 3.1E+00	c				1.4E-04 2.8E-03 1.9E-03			
1.8E-03	C	2.6E-07	C			3.0E+00	I						Methyl-5-Nitroaniline, 2- Methyl-N-nitro-N-nitrosoguanidine, N- Methylaniline Hydrochloride, 2-	99-55-8 70-25-7 636-21-5	5.4E+01 5.9E-02 3.7E+00	c*	1.9E+02 2.1E-01 1.3E+01	c*	1.0E-03	c	5.1E-03	c	8.1E-03 5.0E-01	c				7.0E+00 8.1E-03 5.0E-01	c*	3.9E-03 2.8E-06 2.1E-04			
				1.0E-02 2.0E-04 2.0E-04	A X X								Methylarsinic acid Methylbenzene,1,4-diamine monohydrochloride, 2- Methylbenzene-1,4-diamine sulfate, 2-	124-58-3 74612-12-7 615-50-9	6.1E+02 1.2E+01 1.2E+01	n	6.2E+03 1.2E+02 1.2E+02	n															
2.2E+01	C	6.3E-03	C										Methylcholanthrene, 3- Methylene Chloride Methylene-bis(2-chloroaniline), 4,4'-	56-49-5 75-09-2 101-14-4	5.2E-03 5.6E+01 1.2E+00	c	7.8E-02 9.6E+02 1.7E+01	c	1.5E-04 9.6E+01 2.2E-03	c	1.9E-03 1.2E+03 2.9E-02	c	9.8E-04 9.9E+00 1.4E-01	c	5.0E+00			1.9E-03 2.5E-03 1.6E-03		1.3E-03			
4.6E-02	I	1.3E-05	C										Methylene-bis(N,N-dimethyl) Aniline, 4,4'- Methylenebisbenzamine, 4,4'- Methylenediphenyl Diisocyanate	101-61-1 101-77-9 101-68-8	1.1E+01 3.0E-01 8.5E+05	c	3.7E+01 1.1E+00 3.6E+06	c	1.9E-01 5.3E-03 6.3E-01	c	9.4E-01 2.7E-02 2.6E+00	c	4.1E-01 4.1E-02 n	c				2.3E-03 1.8E-04					
				7.0E-02 1.5E-01 2.5E-02	H I I								Methylstyrene, Alpha Metolachlor Metribuzin	98-83-9 51218-45-2 21087-64-9	5.5E+03 9.2E+03 1.5E+03	ns	7.2E+04 9.2E+04 1.5E+04	ns															
1.8E+01	C	5.1E-03	C										Mineral oils Mirex	8012-95-1 2385-85-5	1.8E+05 2.7E-02	nms	1.8E+06 9.6E-02	nms	4.8E-04	c	2.4E-03	c	4.7E+04 3.7E-03	c				1.9E+03 2.7E-03					

Regional Screening Level (RSL) Summary Table November 2012

Toxicity and Chemical-specific Information															Contaminant															Screening Levels										Protection of Ground Water SSLs	
SFO (mg/kg-day) ¹	k e y	IUR (ug/m ³ -day) ¹	k e y	RfD _o (mg/kg-day)	k e y	RfC _i (mg/m ³ -day)	k e y	v o l a t i l	m u t a g e n	GI/ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)		Industrial Soil (mg/kg)		Resident Air (ug/m ³)		Industrial Air (ug/m ³)		Tapwater (ug/L)		MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)															
														key	key	key	key	key	key	key	key	key	key																		
				2.0E-03	I					1	0.1	Molinate	2212-67-1	1.2E+02	n	1.2E+03	n					2.3E+01	n		1.3E-02																
				5.0E-03	I					1		Molybdenum	7439-98-7	3.9E+02	n	5.1E+03	n					7.8E+01	n		1.6E+00																
				1.0E-01	I					1		Monochloramine	10599-90-3	7.8E+03	n	1.0E+05	nm					1.6E+03	n	4.0E+03	1.6E+00																
				2.0E-03	P					1	0.1	Monomethylaniline	100-61-8	1.2E+02	n	1.2E+03	n					3.0E+01	n		1.1E-02																
				3.0E-04	X					1	0.1	N,N'-Diphenyl-1,4-benzenediamine	74-31-7	1.8E+01	n	1.8E+02	n					2.7E+00	n		2.8E-01																
				2.0E-03	I					1	0.1	Naled	300-76-5	1.2E+02	n	1.2E+03	n					3.1E+01	n		1.4E-02																
				3.0E-02	X	1.0E-01	P	V		1		Naphtha, High Flash Aromatic (HFAN)	64724-95-6	2.3E+03	n	3.1E+04	n	1.0E+02	n	4.4E+02	n	1.4E+02	n																		
1.8E+00	C	0.0E+00	C							1	0.1	Naphthylamine, 2-	91-59-8	2.7E-01	c	9.6E-01	c					3.3E-02	c		1.7E-04																
				1.0E-01	I					1	0.1	Napropamide	15299-99-7	6.1E+03	n	6.2E+04	n					1.3E+03	n		8.3E+00																
				5.0E-02	C	5.0E-05	C			0.04		Nickel Carbonyl	13463-39-3	3.7E+03	n	4.4E+04	n	5.2E-02	n	2.2E-01	n	6.7E+02	n																		
				5.0E-02	C	1.0E-04	C			1		Nickel Oxide	1313-99-1	3.8E+03	n	4.7E+04	n	1.0E-01	n	4.4E-01	n	7.8E+02	n																		
		2.4E-04	I	5.0E-02	C	5.0E-05	C			0.04		Nickel Refinery Dust	NA	3.7E+03	n	4.4E+04	n	1.0E-02	c**	5.1E-02	c**	7.6E+02	n		1.1E+02																
		2.6E-04	C	2.0E-02	I	9.0E-05	A			0.04		Nickel Soluble Salts	7440-02-0	1.5E+03	n	2.0E+04	n	9.4E-03	c*	4.7E-02	c**	3.0E+02	n		2.0E+01																
1.7E+00	C	4.8E-04	I	5.0E-02	C	5.0E-05	C			0.04		Nickel Sub sulfide	12035-72-2	3.8E-01	c	1.7E+00	c	5.1E-03	c*	2.6E-02	c**	3.9E-02	c																		
				1.6E+00	I					1		Nitrate	14797-55-8	1.3E+05	nm	1.6E+06	nm					2.5E+04	n	1.0E+04	1.0E+04																
				1.0E-01	I					1		Nitrate + Nitrite (as N)	NA																												
				1.0E-01	I					1		Nitrite	14797-65-0	7.8E+03	n	1.0E+05	nm					1.6E+03	n																		
				1.0E-02	X	5.0E-05	X			1	0.1	Nitroaniline, 2-	88-74-4	6.1E+02	n	6.0E+03	n	5.2E-02	n	2.2E-01	n	1.5E+02	n		6.2E-02																
2.0E-02	P			4.0E-03	P	6.0E-03	P			1	0.1	Nitroaniline, 4-	100-01-6	2.4E+01	c*	8.6E+01	c*	6.3E+00	n	2.6E+01	n	3.3E+00	c*		1.4E-03																
				4.0E-05	I	2.0E-03	I	9.0E-03	I	V		1	Nitrobenzene	98-95-3	4.8E+00	c*	2.4E+01	c*	6.1E-02	c	3.1E-01	c	1.2E-01	c*		7.9E-05															
				3.0E+03	P					1	0.1	Nitrocellulose	9004-70-0	1.8E+08	nm	1.8E+09	nm					4.7E+07	n		1.0E+04																
				7.0E-02	H					1	0.1	Nitrofurantoin	67-20-9	4.3E+03	n	4.3E+04	n					1.1E+03	n		4.7E-01																
1.3E+00	C	3.7E-04	C							1	0.1	Nitrofurazone	59-87-0	3.7E-01	c	1.3E+00	c	6.6E-03	c	3.3E-02	c	5.2E-02	c		4.6E-05																
1.7E-02	P			1.0E-04	P					1	0.1	Nitroglycerin	55-63-0	6.1E+00	n	6.2E+01	n					1.5E+00	n		6.6E-04																
				1.0E-01	I					1	0.1	Nitroguanidine	556-88-7	6.1E+03	n	6.2E+04	n					1.6E+03	n		3.8E-01																
				9.0E-06	P	2.0E-02	P	V		1		Nitromethane	75-52-5	4.9E+00	c*	2.5E+01	c*	2.7E-01	c*	1.4E+00	c*	5.4E-01	c*		1.2E-04																
				2.7E-03	H	2.0E-02	I	V		1	4.9E+03	Nitropropane, 2-	79-46-9	1.3E-02	c	6.4E-02	c	9.0E-04	c	4.5E-03	c	1.8E-03	c		4.7E-07																
2.7E+01	C	7.7E-03	C							M	1	Nitroso-N-ethylurea, N-	759-73-9	4.3E-03	c	6.4E-02	c	1.2E-04	c	1.6E-03	c	7.9E-04	c		1.9E-07																
				1.2E+02	C	3.4E-02	C			M	1	Nitroso-N-methylurea, N-	684-93-5	9.6E-04	c	1.4E-02	c	2.8E-05	c	3.6E-04	c	1.8E-04	c		4.0E-08																
5.4E+00	I	1.6E-03	I							V	1	Nitroso-di-N-butylamine, N-	924-16-3	8.7E-02	c	4.0E-01	c	1.5E-03	c	7.7E-03	c	2.4E-03	c		4.8E-06																
7.0E+00	I	2.0E-03	C							1	0.1	Nitroso-di-N-propylamine, N-	621-64-7	6.9E-02	c	2.5E-01	c	1.2E-03	c	6.1E-03	c	9.3E-03	c		7.0E-06																
2.8E+00	I	8.0E-04	C							1	0.1	Nitrosodiethanolamine, N-	1116-54-7	1.7E-01	c	6.2E-01	c	3.0E-03	c	1.5E-02	c	2.4E-02	c		4.8E-06																
1.5E+02	I	4.3E-02	I							M	1	Nitrosodimethylamine, N-	55-18-5	7.7E-04	c	1.1E-02	c	2.2E-05	c	2.9E-04	c	1.4E-04	c		5.2E-08																
5.1E+01	I	1.4E-02	I	8.0E-06	P	4.0E-05	X	M		1	0.1	Nitrosodimethylamine, N-	62-75-9	2.3E-03	c	3.4E-02	c	6.9E-05	c	8.8E-04	c	4.2E-04	c		1.0E-07																
4.9E-03	I	2.6E-06	C							1	0.1	Nitrosodiphenylamine, N-	86-30-6	9.9E+01	c	3.5E+02	c	9.4E-01	c	4.7E+00	c	1.0E+01	c		5.7E-02																
2.2E+01	I	6.3E-03	C							1	0.1	Nitrosomethylthylamine, N-	10595-95-6	2.2E-02	c	7.8E-02	c	3.9E-04	c	1.9E-03	c	3.0E-03	c		8.7E-07																
6.7E+00	C	1.9E-03	C							1	0.1	Nitrosomorpholine [N-]	59-89-2	7.3E-02	c	2.6E-01	c	1.3E-03	c	6.5E-03	c	1.0E-02	c		2.5E-06																
9.4E+00	C	2.7E-03	C							1	0.1	Nitrosopiperidine [N-]	100-75-4	5.2E-02	c	1.8E-01	c	9.0E-04	c	4.5E-03	c	7.1E-03	c		3.8E-06																
2.1E+00	I	6.1E-04	I							1	0.1	Nitrosopyrrolidine, N-	930-55-2	2.3E-01	c	8.2E-01	c	4.0E-03	c	2.0E-02	c	3.2E-02	c		1.2E-05																
				1.0E-04	X					1	0.1	Nitrotoluene, o-	99-08-1	6.1E+00	n	6.2E+01	n					1.3E+00	n		1.2E-03																
2.2E-01	P			9.0E-04	P					V	1	Nitrotoluene, m-	88-72-2	2.9E+00	c*	1.3E+01	c*					2.7E-01	c*		2.5E-04																
1.6E-02	P			4.0E-03	P					1	0.1	Nitrotoluene, p-	99-99-0	3.0E+01	c**	1.1E+02	c*					3.7E+00	c*		3.4E-03																
				3.0E-04	X	2.0E-01	P	V		1	6.9E+00	Nonane, n-	111-84-2	2.1E+01	ns	2.3E+02	ns	2.1E+02	n	8.8E+02	n	4.6E+00	n		6.6E-02																
				4.0E-02	I					1	0.1	Norflurazon	27314-13-2	2.4E+03	n	2.5E+04	n					6.0E+02	n		3.9E+00																
				7.0E-04	I					1	0.1	Nustar	85509-19-9	4.3E+01	n	4.3E+02	n					8.3E+00	n		1.4E+00																
				3.0E-03	I					1	0.1	Octabromodiphenyl Ether	32536-52-0	1.8E+02	n	1.8E+03	n					4.7E+01	n		9.3E+00																
				5.0E-02	I					1	0.006	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX)	2691-41-0	3.8E+03	n	4.9E+04	n					7.8E+02	n		9.9E-01																
				2.0E-03	H					1	0.1	Octamethylpyrophosphoramide	152-16-9	1.2E+02	n	1.2E+03	n					3.1E+01	n		7.5E-03																
				1.2E-02	P					1	0.1	Octyl Phthalate, di-N-	117-84-0	7.3E+02	n	7.4E+03	n					1.9E+02	n		5.3E+01																
				5.0E-02	I					1	0.1	Oryzalin	19044-88-3	3.1E+03	n	3.1E+04	n					6.2E+02	n		1.1E+00																
				5.0E-03	I					1	0.1	Oxadiazon	19666-30-9	3.1E+02	n	3.1E+03	n					3.5E+01	n		3.6E-01																
				2.5E-02	I					1	0.1	Oxamyl	23135-22-0	1.5E+03	n	1.5E+04	n					3.9E+02	n	2.0E+02	8.6E-02	4.4E-02															
				1.3E-02	I					1	0.1	Paclitaxel	76738-62-0	7.9E+02	n	8.0E+03	n																								

Regional Screening Level (RSL) Summary Table November 2012

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1																													
Toxicity and Chemical-specific Information										Contaminant										Screening Levels								Protection of Ground Water SSLs	
SFO (mg/kg-day) ⁻¹	k _e y	IUR (ug/m ³) ⁻¹	k _e y	RfD _o (mg/kg-day)	k _e y	RfC _i (mg/m ³)	k _e y	v o c	muta-gen	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)		
				7.0E-04	I					1			Perchlorates																
				7.0E-04	I					1			*Ammonium Perchlorate	7790-98-9	5.5E+01	n	7.2E+02	n					1.1E+01	n					
				7.0E-04	I					1			*Lithium Perchlorate	7791-03-9	5.5E+01	n	7.2E+02	n					1.1E+01	n					
				7.0E-04	I					1			*Perchlorate and Perchlorate Salts	14797-73-0	5.5E+01	n	7.2E+02	n					1.1E+01	n	1.5E+01(F)				
				7.0E-04	I					1			*Potassium Perchlorate	7778-74-7	5.5E+01	n	7.2E+02	n					1.1E+01	n					
				7.0E-04	I					1			*Sodium Perchlorate	7601-89-0	5.5E+01	n	7.2E+02	n					1.1E+01	n					
2.2E-03	C	6.3E-07	C	5.0E-02	I					1	0.1		Permethrin	52645-53-1	3.1E+03	n	3.1E+04	n					7.8E+02	n			1.9E+02		
										1	0.1		Phenacetin	62-44-2	2.2E+02	c	7.8E+02	c	3.9E+00	c	1.9E+01	c	3.0E+01	c			8.3E-03		
				2.5E-01	I					1	0.1		Phenmedipham	13684-63-4	1.5E+04	n	1.5E+05	nm					3.0E+03	n			1.6E+01		
				3.0E-01	I	2.0E-01	C			1	0.1		Phenol	108-95-2	1.8E+04	n	1.8E+05	nm	2.1E+02	n	8.8E+02	n	4.5E+03	n			2.6E+00		
				5.0E-04	X					1	0.1		Phenothiazine	92-84-2	3.1E+01	n	3.1E+02	n					3.2E+00	n			1.0E-02		
				6.0E-03	I					1	0.1		Phenylenediamine, m-	108-45-2	3.7E+02	n	3.7E+03	n					9.4E+01	n			2.5E-02		
4.7E-02	H			1.9E-01	H					1	0.1		Phenylenediamine, o-	95-54-5	1.0E+01	c	3.7E+01	c					1.4E+00	c			3.8E-04		
										1	0.1		Phenylenediamine, p-	106-50-3	1.2E+04	n	1.2E+05	nm					3.0E+03	n			7.9E-01		
1.9E-03	H									1	0.1		Phenylphenol, 2-	90-43-7	2.5E+02	c	8.9E+02	c					2.6E+01	c			3.5E-01		
				2.0E-04	H					1	0.1		Phorate	298-02-2	1.2E+01	n	1.2E+02	n					2.3E+00	n			2.6E-03		
						3.0E-04	I	V		1		1.6E+03	Phosgene	75-44-5	3.3E-01	n	1.4E+00	n	3.1E-01	n	1.3E+00	n							
				2.0E-02	I					1	0.1		Phosmet	732-11-6	1.2E+03	n	1.2E+04	n					2.9E+02	n			6.4E-02		
				4.9E+01	P					1			Phosphates, Inorganic																
										1			*Aluminum metaphosphate	13776-88-0	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Ammonium polyphosphate	68333-79-9	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Calcium pyrophosphate	7790-76-3	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Diammonium phosphate	7783-28-0	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Dicalcium phosphate	7757-93-9	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Dimagnesium phosphate	7782-75-4	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Dipotassium phosphate	7758-11-4	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Disodium phosphate	7558-79-4	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Monoaluminum phosphate	13530-50-2	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Monoammonium phosphate	7722-76-1	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Monocalcium phosphate	7758-23-8	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Monomagnesium phosphate	7757-86-0	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Monopotassium phosphate	7778-77-0	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Monosodium phosphate	7558-80-7	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Polyphosphoric acid	8017-16-1	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Potassium tripolyphosphate	13845-36-8	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium acid pyrophosphate	7758-16-9	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium aluminum phosphate (acidic)	7785-88-8	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium aluminum phosphate (anhydrous)	10279-59-1	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium aluminum phosphate (tetrahydrate)	10305-76-7	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium hexametaphosphate	10124-56-8	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium polyphosphate	68915-31-1	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium trimetaphosphate	7785-84-4	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Sodium tripolyphosphate	7758-29-4	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Tetrapotassium phosphate	7320-34-5	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Tetrasodium pyrophosphate	7722-88-5	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Tricalcium phosphate	7758-87-4	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Trimagnesium phosphate	7757-87-1	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Tripotassium phosphate	7778-53-2	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				4.9E+01	P					1			*Trisodium phosphate	7601-54-9	3.8E+06	nm	5.0E+07	nm					7.6E+05	n					
				3.0E-04	I	3.0E-04	I			1			Phosphine	7803-51-2	2.3E+01	n	3.1E+02	n	3.1E-01	n	1.3E+00	n	4.7E+00	n					
				4.9E+01	P	1.0E-02	I			1			Phosphoric Acid	7664-38-2	3.0E+06	nm	2.7E+07	nm	1.0E+01	n	4.4E+01	n	7.6E+05	n					
				2.0E-05	I					1			Phosphorus, White	7723-14-0	1.6E+00	n	2.0E+01	n					3.1E-01	n			1.1E-03		
				1.0E+00	H					1	0.1		Phthalic Acid, P-	100-21-0	6.1E+04	n	6.2E+05	nm					1.5E+04	n			5.3E+00		
				2.0E+00	I	2.0E-02	C			1	0.1		Phthalic Anhydride	85-44-9	1.2E+05	nm	1.2E+06	nm	2.1E+01	n	8.8E+01	n	3.0E+04	n			6.6E+00		
				7.0E-02	I					1	0.1		Picloram	1918-02-1	4.3E+03	n	4.3E+04	n					1.1E+03	n	5.0E+02		2.9E-01		
				1.0E-04	X																								

Regional Screening Level (RSL) Summary Table November 2012

Toxicity and Chemical-specific Information														Contaminant						Screening Levels								Protection of Ground Water SSLs				
SFO (mg/kg-day) ⁻¹	key	IUR (ug/m ³) ⁻¹	key	RfD _o (mg/kg-day)	key	RfC _i (mg/m ³)	key	vo	muta-gen	GIABS	ABS	C _{sat} (mg/kg)		Analyte	CAS No.	Resident Soil (mg/kg)	key	Industrial Soil (mg/kg)	key	Resident Air (ug/m ³)	key	Industrial Air (ug/m ³)	key	Tapwater (ug/L)	key	MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)				
				4.0E-03	I						1	0.1		Rotenone	83-79-4	2.4E+02	n	2.5E+03	n								4.7E+01	n	2.4E+01			
2.2E-01	C	6.3E-05	C	2.5E-02	I				M		1	0.1		Safrole	94-59-7	5.2E-01	c	7.8E+00	c	1.5E-02	c	1.9E-01	c	8.3E-02	c		5.1E-05		3.6E-01			
				5.0E-03	I						1			Selenium	7782-49-2	3.9E+02	n	5.1E+03	n	2.1E+01	n	8.8E+01	n	7.8E+01	n	5.0E+01	4.0E-01	2.6E-01				
				5.0E-03	I	2.0E-02	C				1			Selenium Sulfide	7446-34-6	3.9E+02	n	5.1E+03	n	2.1E+01	n	8.8E+01	n	7.8E+01	n	5.0E+01	4.0E-01	2.6E-01				
				9.0E-02	I						1	0.1		Sethoxydim	74051-80-2	5.5E+03	n	5.5E+04	n								6.9E+00					
1.2E-01	H			5.0E-03	I						1		0.04	Silica (crystalline, respirable)	7631-86-9	4.3E+06	nm	1.8E+07	nm	3.1E+00	n	1.3E+01	n				6.0E-01	2.6E-04	2.0E-03			
				5.0E-03	I						1	0.1		Silver	7440-22-4	3.9E+02	n	5.1E+03	n							7.1E+01	n	4.0E+00	6.0E-01	2.6E-04	2.0E-03	
				1.3E-02	I						1	0.1		Simazine	122-34-9	4.1E+00	c*	1.4E+01	c								5.2E-01	c	6.0E-01	2.6E-04	2.0E-03	
2.7E-01	H			4.0E-03	I						1			Sodium Acifluorfen	62476-59-9	7.9E+02	n	8.0E+03	n							2.0E+02	n	1.6E+00	6.0E+01	2.6E-04	2.0E-03	
				3.0E-02	I						1	0.1		Sodium Azide	26628-22-8	3.1E+02	n	4.1E+03	n								6.2E+01	n	1.6E+00	6.0E+01	2.6E-04	2.0E-03
				3.0E-02	I						1	0.1		Sodium Diethyldithiocarbamate	148-18-5	1.8E+00	c	6.4E+00	c								2.5E-01	c	6.0E+01	2.6E-04	2.0E-03	
				5.0E-02	A	1.3E-02	C				1			Sodium Fluoride	7681-49-4	3.9E+03	n	5.1E+04	n	1.4E+01	n	5.7E+01	n	7.8E+02	n		3.3E-01	n	6.3E-05	6.0E+01	2.6E-04	2.0E-03
				2.0E-05	I						1	0.1		Sodium Fluoroacetate	62-74-8	1.2E+00	n	1.2E+01	n								3.3E-01	n	6.3E-05	6.0E+01	2.6E-04	2.0E-03
				1.0E-03	H						1			Sodium Metavanadate	13718-26-8	7.8E+01	n	1.0E+03	n								1.6E+01	n	6.3E-05	6.0E+01	2.6E-04	2.0E-03
2.4E-02	H			3.0E-02	I						1	0.1		Stirofos (Tetrachlorovinphos)	961-11-5	2.0E+01	c*	7.2E+01	c								2.4E+00	c	7.0E-03	6.0E+01	2.6E-04	2.0E-03
				6.0E-01	I						1			Strontium, Stable	7440-24-6	4.7E+04	n	6.1E+05	nm								9.3E+03	n	3.3E+02	6.0E+01	2.6E-04	2.0E-03
				3.0E-04	I						1	0.1		Strychnine	57-24-9	1.8E+01	n	1.8E+02	n								4.6E+00	n	5.1E-02	6.0E+01	2.6E-04	2.0E-03
				2.0E-01	I	1.0E+00	I	V			1		8.7E+02	Styrene	100-42-5	6.3E+03	ns	3.6E+04	ns	1.0E+03	n	4.4E+03	n	1.1E+03	n	1.0E+02	1.2E+00	1.1E-01	6.0E+01	2.6E-04	2.0E-03	
				1.0E-03	P	2.0E-03	P				1	0.1		Sulfolane	126-33-0	6.1E+01	n	6.2E+02	n	2.1E+00	n	8.8E+00	n	1.6E+01	n		3.4E-03	6.0E+01	2.6E-04	2.0E-03		
				8.0E-04	P						1	0.1		Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9	4.9E+01	n	4.9E+02	n								8.3E+00	n	4.9E-02	6.0E+01	2.6E-04	2.0E-03
				2.5E-02	I						1	0.1		Sulfuric Acid	7664-93-9	1.4E+06	nm	6.0E+06	nm	1.0E+00	n	4.4E+00	n				3.5E+02	n	4.3E+00	6.0E+01	2.6E-04	2.0E-03
				3.0E-02	H						1	0.1		Systhane	88671-89-0	1.5E+03	n	1.5E+04	n								3.7E+02	n	2.6E+00	6.0E+01	2.6E-04	2.0E-03
				7.0E-02	I						1	0.1		TCMTB	21564-17-0	1.8E+03	n	1.8E+04	n								3.7E+02	n	2.6E+00	6.0E+01	2.6E-04	2.0E-03
				2.0E-02	H						1	0.1		Tebuthiuron	34014-18-1	4.3E+03	n	4.3E+04	n								1.1E+03	n	3.0E-01	6.0E+01	2.6E-04	2.0E-03
				1.3E-02	I						1	0.1		Temephos	3383-96-8	1.2E+03	n	1.2E+04	n								3.1E+02	n	6.0E+01	6.0E+01	2.6E-04	2.0E-03
				2.5E-05	H						1	0.1		Terbacil	5902-51-2	7.9E+02	n	8.0E+03	n								2.0E+02	n	5.9E-02	6.0E+01	2.6E-04	2.0E-03
				1.0E-03	C						1			Terbufos	13071-79-9	1.5E+00	n	1.5E+01	n								1.8E-01	n	3.9E-04	6.0E+01	2.6E-04	2.0E-03
				1.0E-03	I						1	0.1		Terbutryn	886-50-0	6.1E+01	n	6.2E+02	n								1.0E+01	n	1.4E-02	6.0E+01	2.6E-04	2.0E-03
				1.0E-04	I						1	0.1		Tetrabromodiphenyl ether, 2,2',4,4'-(BDE-47)	5436-43-1	6.1E+00	n	6.2E+01	n								1.6E+00	n	4.2E-02	6.0E+01	2.6E-04	2.0E-03
2.6E-02	I	7.4E-06	I	3.0E-02	I						1		6.8E+02	Tetrachlorobenzene, 1,2,4,5-	95-94-3	1.8E+01	n	1.8E+02	n								1.2E+00	n	5.8E-03	6.0E+01	2.6E-04	2.0E-03
2.0E-01	I	5.8E-05	C	2.0E-02	I				V		1		1.9E+03	Tetrachloroethane, 1,1,1,2-	630-20-6	1.9E+00	c	9.3E+00	c	3.3E-01	c	1.7E+00	c	5.0E-01	c		1.9E-04	6.0E+01	2.6E-04	2.0E-03		
				2.1E-03	I	2.6E-07	I	6.0E-03	I	4.0E-02	I	V		1.7E+02	Tetrachloroethane, 1,1,1,2-	79-34-5	5.6E-01	c	2.8E+00	c	4.2E-02	c	2.1E-01	c	6.6E-02	c		6.6E-02	6.0E+01	2.6E-04	2.0E-03	
				3.0E-02	I						1	0.1		Tetrahaloethane, 1,1,1,2-	127-18-4	2.2E+01	c**	1.1E+02	c**	9.4E+00	c**	4.7E+01	c**	9.7E+00	c**	5.0E+00	4.4E-03	6.0E+01	2.6E-04	2.0E-03		
2.0E+01	H			3.0E-02	I						1	0.1		Tetrahaloethane, 1,1,1,2-	58-90-2	1.8E+03	n	1.8E+04	n								1.7E+02	n	1.1E+00	6.0E+01	2.6E-04	2.0E-03
				5.0E-04	I						1	0.1		Tetrahaloethane, 1,1,1,2-	5216-25-1	2.4E-02	c	8.6E-02	c								1.1E-03	c	3.9E-06	6.0E+01	2.6E-04	2.0E-03
				8.0E+01	I						1	0.1		Tetraethyl Dithiopyrophosphate	3689-24-5	3.1E+01	n	3.1E+02	n								5.3E+00	n	3.9E-03	6.0E+01	2.6E-04	2.0E-03
				4.0E-03	P						1	0.1	1.1E+03	Tetrafluoroethane, 1,1,1,2-	811-97-2	1.1E+05	nms	4.6E+05	nms	8.3E+04	n	3.5E+05	n	1.7E+05	n		1.7E+05	n	9.3E+01	6.0E+01	2.6E-04	2.0E-03
				7.0E-06	X						1			Tetryl (Trinitrophenylmethylnitramine)	479-45-8	2.4E+02	n	2.5E+03	n								6.1E+01	n	5.8E-01	6.0E+01	2.6E-04	2.0E-03
				1.0E-05	X						1			Thallium (I) Nitrate	10102-45-1	5.5E-01	n	7.2E+00	n								1.1E-01	n	1.1E-01	6.0E+01	2.6E-04	2.0E-03
				6.0E-06	X						1			Thallium (Soluble Salts)	7440-28-0	7.8E-01	n	1.0E+01	n								1.6E-01	n	1.1E-02	6.0E+01	2.6E-04	2.0E-03
				2.0E-05	X						1			Thallium Acetate	563-68-8	4.7E-01	n	6.1E+00	n								9.3E-02	n	1.1E-02	6.0E+01	2.6E-04	2.0E-03
				6.0E-06	X						1			Thallium Carbonate	6533-73-9	1.6E+00	n	2.0E+01	n								3.1E-01	n	3.1E-01	6.0E+01	2.6E-04	2.0E-03
				2.0E-05	X						1			Thallium Chloride	7791-12-0	4.7E-01	n	6.1E+00	n								9.3E-02	n	3.1E-01	6.0E+01	2.6E-04	2.0E-03
				2.0E-05	X						1			Thallium Sulfate	7446-18-6	1.6E+00	n	2.0E+01	n								3.1E-01	n	3.1E-01	6.0E+01	2.6E-04	2.0E-03
				1.0E-02	I						1	0.1		Thiobencarb	28249-77-6	6.1E+02	n	6.2E+03														

Regional Screening Level (RSL) Summary Table November 2012

Toxicity and Chemical-specific Information													Contaminant					Screening Levels								Protection of Ground Water SSLs	
SFO (mg/kg-day) ¹	k _e y	IUR (ug/m ³) ¹	k _e y	RfD _a (mg/kg-day)	k _e y	RfC _i (mg/m ³)	k _e y	V	muta- gen	GIABS	ABS	C _{sat} (mg/kg)	Analyte	CAS No.	Resident Soil		Industrial Soil		Resident Air		Industrial Air		Tapwater		MCL (ug/L)	Risk-based SSL (mg/kg)	MCL-based SSL (mg/kg)
															(mg/kg)	key	(mg/kg)	key	(ug/m ³)	key	(ug/m ³)	key	(ug/L)	key			
				3.0E-04	I						1	0.1	Tributyltin Oxide	56-35-9	1.8E+01	n	1.8E+02	n				4.4E+00	n			2.3E+02	
				3.0E+01	I	3.0E+01	H	V			1	9.1E+02	Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	4.3E+04	ns	1.8E+05	nms	3.1E+04	n	1.3E+05	n	5.3E+04	n	1.3E+02		
7.0E-02	I			2.0E-02	I						1	0.1	Trichloroacetic Acid	76-03-9	6.9E+00	c	2.5E+01	c				9.4E-01	c	6.0E+01	1.9E-04	1.2E-02	
2.9E-02	H			3.0E-05	X						1	0.1	Trichloroaniline HCl, 2,4,6-	33663-50-2	1.7E+01	c	5.9E+01	c				2.3E+00	c		6.4E-03		
7.0E-03	X										1	0.1	Trichloroaniline, 2,4,6-	634-93-5	1.8E+00	n	1.8E+01	n				3.0E-01	n		2.7E-03		
2.9E-02	P			8.0E-04	X			V			1	0.1	Trichlorobenzene, 1,2,3-	87-61-6	4.9E+01	n	4.9E+02	n				5.2E+00	n		1.5E-02		
				1.0E-02	I	2.0E-03	P	V			1	4.0E+02	Trichlorobenzene, 1,2,4-	120-82-1	2.2E+01	c**	9.9E+01	c**	2.1E+00	n	8.8E+00	n	9.9E-01	c**	7.0E+01	2.9E-03	2.0E-01
				2.0E+00	I	5.0E+00	I	V			1	6.4E+02	Trichloroethane, 1,1,1-	71-55-6	8.7E+03	ns	3.8E+04	ns	5.2E+03	n	2.2E+04	n	7.5E+03	n	2.0E+02	2.6E+00	7.0E-02
5.7E-02	I	1.6E-05	I	4.0E-03	I	2.0E-04	X	V			1	2.2E+03	Trichloroethane, 1,1,2-	79-00-5	1.1E+00	c**	5.3E+00	c**	1.5E-01	c**	7.7E-01	c**	2.4E-01	c**	5.0E+00	7.7E-05	1.6E-03
4.6E-02	I	4.1E-06	I	5.0E-04	I	2.0E-03	I	V	M		1	6.9E+02	Trichloroethylene	79-01-6	9.1E-01	c**	6.4E+00	c**	4.3E-01	c**	3.0E+00	c**	4.4E-01	c**	5.0E+00	1.6E-04	1.8E-03
				3.0E-01	I	7.0E-01	H	V			1	1.2E+03	Trichlorofluoromethane	75-69-4	7.9E+02	n	3.4E+03	ns	7.3E+02	n	3.1E+03	n	1.1E+03	n		6.9E-01	
1.1E-02	I	3.1E-06	I	1.0E-03	I						1	0.1	Trichlorophenol, 2,4,5-	95-95-4	6.1E+03	n	6.2E+04	n				8.9E+02	n		3.3E+00		
				1.0E-02	P						1	0.1	Trichlorophenol, 2,4,6-	88-06-2	4.4E+01	c**	1.6E+02	c**	7.8E-01	c	4.0E+00	c	3.5E+00	c**		1.3E-02	
				1.0E-02	I						1	0.1	Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5	6.1E+02	n	6.2E+03	n				1.2E+02	n		5.2E-02		
				8.0E-03	I						1	0.1	Trichlorophenoxypropionic acid, -2,4,5	93-72-1	4.9E+02	n	4.9E+03	n				8.4E+01	n	5.0E+01	4.6E-02	2.8E-02	
				5.0E-03	I			V			1	1.3E+03	Trichloropropane, 1,1,2-	598-77-6	3.9E+02	n	5.1E+03	ns				6.8E+01	n		2.7E-02		
3.0E+01	I			4.0E-03	I	3.0E-04	I	V	M		1	1.4E+03	Trichloropropane, 1,2,3-	96-18-4	5.0E-03	c	9.5E-02	c	3.1E-01	n	1.3E+00	n	6.5E-04	c		2.8E-07	
				3.0E-03	X	3.0E-04	P	V			1	4.5E+02	Trichloropropene, 1,2,3-	96-19-5	7.8E-01	n	3.3E+00	n	3.1E-01	n	1.3E+00	n	6.2E-01	n		3.1E-04	
				3.0E-03	I						1	0.1	Tridiphane	58138-08-2	1.8E+02	n	1.8E+03	n				1.3E+01	n		9.3E-02		
				7.0E-03	I	V					1	2.8E+04	Triethylamine	121-44-8	1.2E+02	n	5.2E+02	n	7.3E+00	n	3.1E+01	n	1.5E+01	n		4.4E-03	
7.7E-03	I			7.5E-03	I						1	0.1	Trifluralin	1582-09-8	6.3E+01	c**	2.2E+02	c*				2.2E+00	c*		7.2E-02		
2.0E-02	P			1.0E-02	P						1	0.1	Trimethyl Phosphate	512-56-1	2.4E+01	c*	8.6E+01	c*				3.4E+00	c*		7.4E-04		
				5.0E-03	P	V					1	2.9E+02	Trimethylbenzene, 1,2,3-	526-73-8	5.3E+01	n	2.2E+02	n	5.2E+00	n	2.2E+01	n	1.0E+01	n		1.5E-02	
				7.0E-03	P	V					1	2.2E+02	Trimethylbenzene, 1,2,4-	95-63-6	6.2E+01	n	2.6E+02	ns	7.3E+00	n	3.1E+01	n	1.5E+01	n		2.1E-02	
				1.0E-02	X			V			1	1.8E+02	Trimethylbenzene, 1,3,5-	108-67-8	7.8E+02	ns	1.0E+04	ns				8.7E+01	n		1.2E-01		
				3.0E-02	I					0.019	1	0.019	Trinitrobenzene, 1,3,5-	99-35-4	2.2E+03	n	2.7E+04	n				4.6E+02	n		1.7E+00		
3.0E-02	I			5.0E-04	I						1	0.032	Trinitrotoluene, 2,4,6-	118-96-7	1.9E+01	c**	7.9E+01	c**				2.2E+00	c**		1.3E-02		
				2.0E-02	P						1	0.1	Triphenylphosphine Oxide	791-28-6	1.2E+03	n	1.2E+04	n				2.8E+02	n		1.2E+00		
				1.0E-02	X				M		1	0.1	Tris(1-chloro-2-propyl)phosphate	13674-84-5	6.1E+02	n	6.2E+03	n				1.5E+02	n		5.0E-01		
2.0E-02	P			7.0E-03	P						1	0.1	Tris(2-chloroethyl)phosphate	115-96-8	2.4E+01	c*	8.6E+01	c*				3.3E+00	c*		3.2E-03		
3.2E-03	P			1.0E-01	P						1	0.1	Tris(2-ethylhexyl)phosphate	78-42-2	1.5E+02	c*	5.4E+02	c				2.1E+01	c*		1.0E+02		
				3.0E-03	I						1		Uranium (Soluble Salts)	NA	2.3E+02	n	3.1E+03	n				4.7E+01	n	3.0E+01	2.1E+01	1.4E+01	
1.0E+00	C	2.9E-04	C	9.0E-03	I	7.0E-06	P				1	0.1	Urethane	51-79-6	1.2E-01	c	1.7E+00	c	3.3E-03	c	4.2E-02	c	2.1E-02	c		4.8E-06	
		8.3E-03	P	5.0E-03	S					0.026	1	0.026	Vanadium Pentoxide	1314-62-1	4.0E+02	c**	2.0E+03	c**	2.9E-04	c*	1.5E-03	c*	1.1E+02	n		1.1E+02	
				1.0E-03	I						1	0.1	Vanadate and Compounds	NA	3.9E+02	n	5.2E+03	n				7.8E+01	n		7.8E+01		
				1.0E-03	I						1	0.1	Vernolate	1929-77-7	6.1E+01	n	6.2E+02	n				8.3E+00	n		6.6E-03		
				2.5E-02	I						1	0.1	Vinclozolin	50471-44-8	1.5E+03	n	1.5E+04	n				3.4E+02	n		2.6E-01		
				1.0E+00	H	2.0E-01	I	V			1	2.8E+03	Vinyl Acetate	108-05-4	9.7E+02	n	4.1E+03	ns	2.1E+02	n	8.8E+02	n	4.1E+02	n		8.7E-02	
		3.2E-05	H	3.0E-03	I	1.0E-03	I	V			1	3.4E+03	Vinyl Bromide	593-60-2	1.1E-01	c*	5.6E-01	c*	7.6E-02	c*	3.8E-01	c*	1.5E-01	c*		4.4E-05	
7.2E-01	I	4.4E-06	I	3.0E-03	I	1.0E-01	I	V	M		1	3.9E+03	Vinyl Chloride	75-01-4	6.0E-02	c	1.7E+00	c	1.6E-01	c	2.8E+00	c	1.5E-02	c	2.0E+00	5.3E-06	6.9E-04
				3.0E-04	I						1	0.1	Warfarin	81-81-2	1.8E+01	n	1.8E+02	n				4.4E+00	n		4.6E-03		
				2.0E-01	S	1.0E-01	S	V			1	3.9E+02	Xylene, p-	106-42-3	6.0E+02	ns	2.6E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n		1.8E-01	
				2.0E-01	S	1.0E-01	S	V			1	3.9E+02	Xylene, m-	108-38-3	5.9E+02	ns	2.5E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n		1.8E-01	
				2.0E-01	S	1.0E-01	S	V			1	4.3E+02	Xylene, o-	95-47-6	6.9E+02	ns	3.0E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n		1.9E-01	
				2.0E-01	I	1.0E-01	I	V			1	2.6E+02	Xylenes	1330-20-7	6.3E+02	ns	2.7E+03	ns	1.0E+02	n	4.4E+02	n	1.9E+02	n	1.0E+04	1.9E-01	9.8E+00
				3.0E-04	I						1		Zinc Phosphide	1314-84-7	2.3E+01	n	3.1E+02	n				4.7E+00	n		4.7E+00		
				3.0E-01	I						1		Zinc and Compounds	7440-66-6	2.3E+04	n	3.1E+05	nm				4.7E+03	n		2.9E+02		
				5.0E-02	I						1	0.1	Zincb	12122-67-7	3.1E+03	n	3.1E+04	n				7.7E+02	n		2.2E+00		
				8.0E-05	P						1		Zirconium	7440-67-7	6.3E+00	n	8.2E+01	n				1.2E+00	n		3.7E+00		

**Appendix B Asbestos-Contaminated Soil Management Standard
Operating Procedure**

**Appendix C EPA Toxicity Characteristic Maximum Concentration
of Contaminants**

Toxicity Characteristic - Maximum Concentration of Contaminants
(Determine Levels using TCLP, Test Method 1311, EPA SW-846)
40CFR 261.24

USEPA Hazardous Waste Number	Constituent	CAS Number	Regulatory Level (mg/l)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018 vol	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019 vol	Carbon Tetrachloride	56-23-5	0.5
D020 pest	Chlordane	57-74-9	0.03
D021 vol	Chlorobenzene	108-90-7	100.0
D022 vol	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023 semivol	o-Cresol	95-48-7	200.0*
D024 semivol	m-Cresol	108-39-4	200.0*
D025 semivol	p-Cresol	106-44-5	200.0*
D026 semivol	Cresol	-----	200.0*
D016 herbicide	2,4-D	94-75-7	10.0
D027 vol	1,4-Dichlorobenzene	106-46-7	7.5
D028 vol	1,2-Dichloroethane	107-06-2	0.5
D029 vol	1,1-Dichloroethylene	75-35-4	0.7
D030 semivol	2,4-Dinitrotoluene	121-14-2	0.13
D012 pest	Endrin	72-20-8	0.02
D031 pest	Heptachlor, and its epoxide	76-44-8	0.008
D032 semivol	Hexachlorobenzene	118-74-1	0.13
D033 semivol	Hexachloro-1,3-butadiene	87-68-3	0.5
D034 semivol	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013 pest	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014 pest	Methoxychlor	72-43-5	10.0
D035 vol	Methyl Ethyl Ketone (MEK) (2-Butanone)	78-93-3	200.0
D036 semivol	Nitrobenzene	98-95-3	2.0
D037 semivol	Pentachlorophenol	87-86-5	100.0
D038 semivol	Pyridine	110-86-1	5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039 vol	Tetrachloroethylene	127-18-4	0.7
D015 pest	Toxaphene	8001-35-2	0.5
D040 vol	Trichloroethylene	79-01-6	0.5
D041 semivol	2,4,5-Trichlorophenol	95-95-4	400.
D042 semivol	2,4,6-Trichlorophenol	88-06-2	2.0
D017 herbicide	2,4,5-TP (Silvex)	93-72-1	1.0
D043 vol	Vinyl Chloride	75-01-4	0.2

* If the o-, m-, and/or p-Cresol concentrations cannot be differentiated, then the total cresol (D026) concentration (200 ppm) is used.

Compounds presented in **blue** are the RCRA eight priority metals

Vol – Volatile organic compound

Semivol – Semi volatile organic compound

Pest - Pesticide