OTAY VALLEY BIKE PARK

BIKE PARK RIDING AMENITIES

CONSTRUCTION SPECIFICATIONS

SECTION 1 - GENERAL PARK IMPROVEMENTS

1.1 GENERAL PARK IMPROVEMENTS - TASKS AND QUALIFICATIONS
General park improvements including: 1.) site preparation, 2.) clearing and grubbing, 3.) mass grading, 4.) product and material import and handling, 5.) installation of general park amenities: fencing, signage, site furniture, etc. shall be performed by general contractor.

1.11 PROJECT ENGINEER: 1. The project engineer (engineer) shall provide construction administration including: 1.) coordinating communication between the Bike Park Designer (designer), Contractor and Client, 2.) responding to requests for information and 3.) providing technical direction in the field. 2. engineer shall be responsible for providing the final approval and certification of completion for all work products. 3. Final engineer approval and certification of completion for riding features, tracks and trails shall require prior approval by designer.

1.2 BIKE PARK IMPROVEMENTS - TASKS AND QUALIFICATIONS
Bike park improvements including: 1.) rough grading of dirt riding features, trails and tracks, 2.) fine grading of dirt riding features, trails and tracks, 3.) installation of natural timber log rides, 4.) installation of natural landscape rock rides, 5.) installation of prefabricated riding features, 6.) application of soil stabilizer and herbicides and 7.) installation of artificial dirt system shall be performed by a qualified specialty contractor.

1.21 BIKE PARK DESIGNER: 1. Bike park designer (designer) shall provide construction administration: 1.) coordinating communication between the engineer, Contractor and Client, 2.) responding to requests for information and 3.) providing technical direction in the field. 2. Bike park designer shall be responsible for providing the approval for all completed work products including all riding features, tracks and trails.

1.22 BIKE PARK SPECIALTY CONTRACTORS: 1. Contractors bidding the bike park features as described above shall have satisfactorily completed the installation of at least three (3) similar bike park projects in accordance with the project plans and written specifications. 2. Qualifying projects must include bike park specific terrain, features and elements of comparable size, type and layout built within the last six (6) years. 3. Only bike park projects where the contractor bidding the "specialty work" has performed all of the same work as described herein shall be considered as acceptable projects to evidence credible experience and qualifications of the bidding contractor. 4. The bike park specialty contractor shall provide references for three (3) qualifying projects including the location of qualifying projects, size, owner, budget, and owners contact information. 5. Specialty contractor must be an active member of the professional trail builders Association (PTBA).

1.3 APPLICABLE LAW
1. All work shall be done in accordance with applicable laws, regulations, statutes and ordinances. 2. All work shall be performed in accordance with local, state and/or federal building codes and requirements. 3. All work shall be performed in accordance with local, state and/or federal codes and regulations subsequent to the occupational health and safety act of 1970. 3.). 4. Contractor shall be responsible for traffic control and safety measures in accordance with local, state and federal OSHA regulations. 5. Contractor shall immediately notify the engineer in writing any discrepancies within the plans, specifications, codes or standards prior to commencement of work. 6. Should the contractor fail to comply with applicable local, state and federal laws, regulations, statutes or ordinances they shall be responsible for all costs and construction

activities required for corrective work and/or fines for non-compliance.

1.4 EXISTING FACILITIES
1. It is not the intent of the plans to show the exact location of existing or relocated utilities, and the Bike Park Designer and Engineer assume no responsibility thereof. 2. The Contractor is advised that not all underground utilities are shown on the plan drawings and that only approximately locations are given when shown on the plan drawings. 3. The Contractor shall be responsible for verifying actual location and depth of existing utilities in the field. 4. Where excavation is contemplated, the Contractor shall notify Underground Service Alert at (800) 227-2600 or 811, prior to such excavation.

1.5 REQUIRED INSPECTION POINTS
1. During the course of construction, approval of engineer and bike park designer shall be required at each of the following points: 1.) Clearing and grubbing layout/staking prior to clearing and grubbing. 2.) Site mass grading layout/staking prior to mass grading of site. 3.) Layout/staking of riding trails and features prior to construction/installation of riding features (start hills, jumps, berms, rollers, prefabricated features, etc.). 4.) Approval of completed construction of each riding feature prior to construction of the next feature in the sequence. 5.) Approval of fine drainage enhancements (dry sumps, swales, drainpipes, etc.) Prior to construction of fine drainage enhancements. 6.) Approval of pre-emergent and herbicides prior to application on finished riding surfaces. 7.) Approval of soil stabilizer prior to application on finished riding surfaces. 8.) Approval of extreme carpet system layout prior to installation. 9.) Layout of signage prior to installation of signage. 10.) Final acceptance. 2. In the event the contractor continues operations without receiving the above approvals, the designer may require the Contractor to return all construction status to the previous approval point. 3. There shall be no additional payment for any removal or reconstruction required under this section.

1.6 SUBMITTALS, SHOP DRAWINGS, PLANS AND SPECIFICATIONS
1. This section defines the submittals and shop drawings required for this project. 2. Should one of these requirements be found elsewhere in the specifications or on the plans and not be listed herein below, it shall still be the Contractor's responsibility to provide said submittals and shop drawings. 3. The Contractor's superintendent shall retain a copy of approved submittals at the work site at all times for the Engineer's use and review. 4. The submittals shall be kept in a binder and cataloged for ease of reference. 5. In addition, pursuant to the Standard Specifications, the contractor shall at all times have on the work site an approved and signed set of bid document plans and specifications, issued revisions and authorized change orders available for the Engineers use and review. 6. Failure on the contractor’s part to comply with these requirements will result in the suspension of work until conformance with this section. 7. Unless stated otherwise, it is intended that any specified material or equipment items shall be deemed to include the term “or approved equal”.

1.61 REQUIRED SUBMITTALS
1. The following submittals shall be required: 1.) Construction schedule. 2.) Itemized worksheet for all bid items. 3.) Construction phasing plan. 4.) Staging plan. 5.) Soils analysis. 6.) Imported Products and Materials 7.) Prefabricated elements. 8.) Drainage materials. 9.) Park signage. 2. Upon receipt of the "Notice to Proceed", the Contractor shall order all materials in order to insure that all materials will be available and to insure that all materials will arrive at the job site within the time limit for completion of the project. 3. A copy of all invoices shall be submitted to the engineer and Bike Park Designer.

1.7 CONSTRUCTION SCHEDULE

1. Contractor shall be responsible for providing a construction schedule prior to mobilization on-site. 2. The construction schedule shall include a timeline with construction tasks and the associated equipment, materials and staff that will be on-site during construction operations. 3. The contractor shall be responsible for creating and maintaining a construction progress punch list that shall be updated weekly with completed construction tasks through final completion of the project. 4. Should the contractor at any point during the project fail to provide a construction schedule and/or maintain the progress punch list, access to the construction site will be shut down and construction operations prohibited until the materials are provided.

1.8 SEQUENTIAL CONSTRUCTION OF TRAILS AND RIDING FEATURES

1. The contractor shall be responsible for building all trails and features in the ordered sequence as detailed in the plans. 2. Each feature shall be built to completion and certified as complete by the engineer prior to construction of the next feature in the sequence. 3. Should the contractor wish to build a trail and/or feature out-of-sequence they are required to gain the approval of the designer before proceeding. 4. If the contractor fails to gain the approval of the designer they are responsible for all costs associated with corrective work required for construction of the trails or features to the design intent of the plans and the satisfaction of the designer in the field.

1.9 FIELD FIT DESIGN AND CONSTRUCTION

1. Contractor shall be responsible for building all trails and features and fitting them to the actual conditions found in the field. 2. Field fit changes might include the following: 1.) Trail alignment: field fit might require adjustments to the planned trail alignment in order to avoid an obstacle like a tree or to route toward a natural feature or obstacle like a rock outcropping or other terrain feature not accounted for in the plans. 2.) Feature spacing: field fit might require adjustments to the spacing of a feature and/or the spacing of a sequence of features. 3.) Feature sequencing: field fit might require modifying the sequence of a feature and/or a sequence of features. Feature location: field fit might require modifying the location or orientation of a feature to better work with the existing and/or constructed landscape. 4.) Feature dimensions: field fit might require modification of the dimensions of a feature in size and scale including when actual field conditions result in higher speeds than anticipated features may need to be increased in size and when conditions result in slower speeds than anticipated features may need to be reduced in size. 5.) Feature elimination: field fit might require the elimination of a feature or sequence of features. 3. Field fit changes includes the range of modifications as described above to allow for the streamlined construction of the project and to maximize the existing field conditions to create the most dynamic riding tracks, trails and features possible. 4. Field fit changes that do not require significant additional work and/or materials (significant defined as exceeding 5% of the total required work for the task) shall be performed by the contractor at no additional cost. 5. Field fit does not include significant (significant defined as exceeding 5% of the original work task) changes that result in additional work and/or materials, equipment or labor or the associated costs to complete. 6. Contractor shall provide a cost estimate and timeline for work considered “additional” that is requested by the designer. 7. Contractor shall gain approval for all additional work prior to commencement of that work. 8. Contractor shall not be compensated for any work not expressed approved by designer prior to performance.

1.10 RIDE SMART FEATURES AND CONSTRUCTION TOOLS

1. Contractor shall be responsible for constructing the dirt riding features to the specifications called out in the project plans. 2. Riding features that are labeled “Ride Smart®” are designed to

be compatible with Ride Smart® tools. 3. Ride Smart tools are designed to aid in field layout and fitting, rough and fine grading, certification of completed work products and compliance with maintenance and operational standards. 4. The Ride Smart® tools specified for the project are required to be kept onsite during the construction of the project and readily available for use by contractor's staff, client, engineer, a designer, site inspector, supervisor, etc. 5. Final construction certification will be provided when features have been constructed and are in conformance with the Ride Smart® specifications.

1.11 CERTIFICATION OF COMPLETED CONSTRUCTION

1. The contractor shall be responsible for building all trails and features according to the design specifications of the project. 2. The contractor shall be responsible for gaining certification of completion of constructed features when all construction tasks have been completed including; 1.) Rough grading, 2.) Riding feature installation, 3.) Fine grading, 4.) herbicide and pre-emergent application, 5.) Soil stabilizer application, 6.) Durable surface system installation. 3. Designer shall inspect constructed features and provide contractor with a certification of completion for features that pass inspection. 4. For features that do not pass inspection designer will provide contractor with verbal instructions in the field and/or a written memo describing the issue and the required corrective work. 5. Contractor shall perform corrective work and assume all associated costs until the work is certified as completed.

1.12 PROTECTION AND MAINTENANCE OF COMPLETED RIDING FEATURES

1. The contractor shall be responsible for the security of the site, for controlling access to the site and for the protection of completed work products until project hand off. 2. The contractor shall be responsible for the routine maintenance of all completed construction work products including all tracks, trails and features until project hand off. 3. Required maintenance might include 1.) daily, weekly moisture conditioning of earthen features to prevent them from drying out, cracking and creating fractures, 2.) dewatering areas during high rain events, 3.) recompaction and regrading of dirt surfaces, 4.) mechanical or chemical control of weeds and vegetation. 4. Suggested preventative maintenance during these conditions might include covering features with tarps to prevent access or to provide protection during heavy rain or snow conditions, etc. 5. If the contractor fails to properly maintain the completed earthen features they are responsible for all costs associated with corrective work required for re-construction of the trails or features to the design intent of the plans and the satisfaction of the designer in the field.

SECTION 2 - LAYOUT OF IMPROVEMENTS

2.1 FIELD LAYOUT AND VERIFICATION

1. The contractor shall be responsible for confirming all existing ground elevations, finish grades, trail and feature layouts in the field prior to the start of construction. 2. Contractor shall immediately notify the engineer, in writing, of any discrepancies discovered in the field that differ from the dimensions and/or locations of any trails and/or features indicated in the plans, details or specifications. 3. Contractor shall obtain written clarification and approval from the designer for any field changes required to the project layout or design prior to any construction activities. 4. Should the contractor not notify the designer of any discrepancies and/or not obtain clarification and/or approval from the designer before proceeding with construction of any trail or feature, they shall be responsible for all costs of corrective work required to satisfy the intent of the design plans and the direction of the designer.

2.2 CONSTRUCTION STAKING
1. The Contractor shall be responsible for all survey work and shall be responsible for replacing points lost or damaged during the course of construction. 2. The Contractor shall be responsible for the accuracy of all layout work. 3. Equipment operators and workers are to be skilled in grading operations and are to be supervised by a competent superintendent who is familiar with the nature of the work, these provisions, and all permit conditions. 4. All grading, sub-grading, and finished grading areas shall be controlled by such intermediate grade stakes and lines as may be necessary to obtain the slopes and levels required by the finished grade elevations shown on the plans. 5. All benchmarks, monuments and other reference points shall be carefully protected and maintained at no increased cost and, if disturbed or destroyed, shall be replaced as directed by the designer at Contractor's expense. 6. Exact locations, distances, dimensions, elevations, etc. shall be governed by actual field conditions and verified by the Contractor. 7. Staking shall be reviewed and approved by designer prior to starting mass grading activities. 8. The location of riding features (jumps, berms, rollers, prefabricated features, etc.) as depicted in the design plans shall be considered approximate and requiring field fit (e.g. heights, lengths, widths, spacing between features) with oversight from the designer. 9. Staking shall be reviewed and approved by designer prior to starting construction and fine grading activities. 10. The Contractor shall not be eligible for additional compensation for field fit design changes other than those that cause a significant change in quantities.

SECTION 3 - PRODUCTS AND MATERIALS

3.1 PRODUCTS AND MATERIALS
1. The Contractor shall be responsible for ordering, handling, importing, storing, and installing all products and materials for the project including: fill materials, natural timbers and lumber for log rides, landscape rock and boulders for rock rides, prefab riding features, pre-emergent/ herbicides for soil treatment, soil stabilizer, artificial dirt system required to construct the riding features, tracks and trails. 2. The contractor shall be responsible for providing all material samples, and gaining approval prior to ordering and/or delivery to the site. 3. The contractor shall be liable for all costs related to the handling of materials that have not been pre-approved by designer.

3.2 FILL DIRT (USED FOR DIRT RIDING FEATURES)

3.21. GENERAL FILL DIRT SPECIFICATION: All bulk and top fill dirt required for mass, rough and fine grading operations generated onsite and/or imported shall be approved by designer prior to delivery and shall be free of organic material, debris, clods, rocks, etc. and free of trash, chemicals, paints, and any other toxic substances.

3.22. BULK FILL DIRT SPECIFICATION: Non-expansive soil mixtures suitable as bulk fill dirt for mass and rough grading operations shall be sandy clay loam soil approaching 80% sand and 20% clay content as defined by the USDA Soil Classification Index with a maximum particle size of less than 4” and a maximum 30PI as defined by the ASTM Plasticity Index.

3.23. TOP FILL DIRT SPECIFICATION: Non-expansive soil mixtures suitable as top fill dirt for fine grading operations shall be sandy clay loam soil with approximately 80% sand and 20% clay content as defined by the USDA Soil Classification Index, a maximum particle size of 1/4” and a medium plasticity between 15-30 PI as defined by the ASTM Plasticity Index.

3.24. FILL DIRT TESTING (SOIL TESTING): 1. All imported fill materials require a complete soil

analysis report, to ensure that they are free of chemicals, paints, and any other toxic substances and that they meet fill material specifications. 1.) 2-Soil Samples shall be collected from each source location in a 1-gallon zip lock bag from several locations and represent a composite of the overall quality of the soil being tested. 2.) One sample shall be sent to a professional soil analysis laboratory (per their instructions). Soil analysis and report available from Soil and Plant Laboratory, Inc., 352 Mathew Street, Santa Clara, CA 95050, (408) 727-0330 or approved equal. 3.) And one sample shall be provided to the designer for testing. 4.) All samples must be approved by designer prior to delivery.

3.25. FILL DIRT IMPORT: 1. All material imported onsite shall be required to be accompanied with documentation recording the: 1.) Date, year, month, day, 2.) the time of delivery, 3.) the name and address of the source location and 4.) the volume and quantity of material delivered calculated in both tons and cubic yards. 2. Any deliveries of materials lacking documentation will be rejected and turned away from the site, until documentation is provided. 3. Any materials imported onsite without prior approval will be rejected. All costs associated with rejected deliveries and or cleanup and export of delivered materials shall be the responsibility of the contractor.

3.26. FILL DIRT QUANTITY: 1. No guarantee is made or implied that the fill material requirements will not be reduced or increased. 2. Contractor is responsible for verifying import fill quantities for all grading and fill operations related to construction of the park. 3. Contractor shall provide cut and fill calculations prior to import or export of soil and grading. 4. Grading calculations should be reviewed and approved by Designer prior to import. 5. Should contractor become aware at any point during the project of the need for the additional fill material they shall immediately inform the designer and provide quantity and cost estimates for the additional material required.

3.27. FILL DIRT COMPACTION: 1. Moisture Conditioning On-site fill, backfill, and scarified subgrades shall be moisture conditioned to within 3% of the optimum moisture content. 2. Compacted Lifts: Properly moisture conditioned and cured on-site fill dirt shall be placed in loose horizontal lifts of 6 inches thick or less. 3. Relative Compaction: Fill dirt shall be uniformly compacted to at least 90% relative compaction. 4. Testing and Approval: All features will be inspected and tested for compaction prior to final approval and certification of completion.

3.28. ADDITIONAL FILL DIRT: 1. Should contractor become aware at any point during the project of the need for the additional fill material they will immediately inform the engineer and provide quantity and cost estimates for the additional material required. 2. Additionally contractor shall propose either the importation and/or generation of fill material onsite. 3. All imported fill material shall be tested by the designer prior to delivery to the site.

3.29. RIDE SMART DIRT FEATURES AND TOOLS:
1. Ride Smart Dirt Features are designed to be compatible with Ride Smart Tools. 2. RIDE Smart Dirt Features shall be graded and compacted to conform within 1” (+/-) of the specified Ride Smart Tool template. 3. Ride Smart Features will be certified as completed when they conform to the Ride Smart Specifications and are verified and approved by designer in the field.

<u>3.3 NATURAL TIMBERS (USED FOR LOG RIDE FEATURES)</u>

3.31 ORDERING NATURAL TIMBERS FOR ROCK RIDE FEATURES: 1. Natural timbers used to construct log ride features shall be hard wood logs free of rot and decay and harvested and dried for at least 1-season prior to use. 2. Photos of the natural timbers and a memo describing

the materials shall be sent to the designer for approval. 3. All materials shall be approved by designer prior to ordering or delivery to the site.

3.32 INSTALLING NATURAL TIMBER LOG RIDE FEATURES: 1. Natural timbers shall be cut to length, cleared of branches and debarked prior to installation to prevent premature rot and decay. 2. Timbers shall be located in the field, oriented and positioned to provide the most ideal riding configuration. 3. Timbers shall be set on pads of compacted fill dirt and/or set in to scarified subgrade configured to embed the timber in position and provide structural support. 4. Timbers shall be set and secured in place with 1/4" dia. rebar anchor pins to be drilled through the timber and driven at least 2' into the existing ground and/or compacted subgrade. 5. Once secured in position the entry and exit ramps should be cut level to the ground to provide smooth transitions onto and off of the log ride. 6. With the entry and exit ramps have cut the tread surface should cut to match the specified tread width. 7. The entire tread surface should then be scored with cross cuts the full to provide positive traction for riders. 8. Cross cut scoring at a maximum depth of ½" should be out sloped cut to promote positive drainage from the feature in order to prevent rot and decay. 9. With the entry, exit and treadway created complete fine grading of the in-run and run out, to and from the feature. 10. Clear all vegetation and obstructions from in-run, run out and fall zones on either side of the log ride. 11. Whenever possible clear the path parallel to the log to eliminate "wheel traps" that can impede rider movement.

3.33 INSPECTION, TESTING AND APPROVAL OF LOG RIDE FEATURES: 1. Completed log ride features shall be inspected by designer and tested to ensure all elements are properly secured in place. 2. Upon passing inspection designer will provide approval and certification of the completed feature.

3.34 NATURAL TIMBER LOG RIDE FEATURES LIST: See attached spreadsheet.

3.4 LANDSCAPE ROCK (USED FOR ROCK RIDE FEATURES)

3.41 ORDERING LANDSCAPE ROCK FOR ROCK RIDE FEATURES: 1. Landscape rock and field stones used to construct rock ride features shall be selected to provide a range of common sizes with each rock providing at least one significant flat surface suitable for configuration as a riding feature. 2. Landscape rock dimensions and quantities required to construct each feature will be provided in the riding features list. 3. Contractor shall provide photos of the landscape rock and submit to designer for final approval prior to ordering or delivery to site.

3.42 INSTALLING ROCK RIDE FEATURES: 1. Rock features shall be located in the field and excavated to allow for installation. 2. All rocks shall be embedded at least ⅓ into the ground then backfilled filled and compacted to secure in position. 3. When all rocks for the feature have been configured and installed compact all infilled areas to 90% compaction and complete the fine grading of the run in and run out trail sections for the feature.

3.43 INSPECTION TESTING AND APPROVAL OF ROCK RIDE FEATURES: 1. When all grading and installation has been completed designer will provide inspection, and testing of the feature to ensure that all elements have been properly constructed and are secured in position. 2. Upon passing inspection, the designer shall provide approval and certification of feature completion.

3.44 ROCK RIDE FEATURES LIST: See attached spreadsheet.

3.5 PRE-FABRICATED RIDING FEATURES

3.51 MANUFACTURER OF PREFABRICATED RIDING FEATURES: 1. Manufacturer Shall be Progressive Bike Ramps (PBR) or approved equal. 2. PBR and/or approved equal companies providing pre-fabricated riding features must meet the following requirements: 1.) Product liability: must have at least $10 million of product liability insurance in effect and provide a certificate of insurance. This requirement is standard for prefabricated equipment used in municipal applications and is necessary for proper liability protection. 2.) Warranty: 10 year limited warranty. 3.) Experience: must have at least 10 years of experience in steel manufacturing and ramp building. List at least three references that have a steel-framed ramp system. 4.) Installation: must have the availability to perform installation. 6.) Fastener Free Riding Surface: Riding surface must NOT have screw or bolt heads present. 7.) Transition Plate: All ladder bridge and skinny sections will have a transition plate from dirt to riding surface. Must be 7-gauge steel with a vertical support in the middle. 8.) Steel Frame: Framing of the equipment must be steel. 9.) American Made: Product must be made in the USA, and company must be a registered American Company. 10.) Installation Options: Must offer the option of a full factory install or for the contractor to easily install equipment themselves. Must present the option of providing a factory supervisor to oversee self-install either for initial installation or for future add-on considerations. 11.) Colors: Must offer custom colors. 12.) Modular: Equipment must be able to easily bolt together on all sides with the ability to expand widths and lengths by bolting in additional sections. 13.) Equipment Selection: Must have the option to have ramps any height, width, and unlimited ramp selection. 14.) Hardware (connections metal to metal): Must be stainless steel tamper resistant bolts and nuts with nylon inserts. No self-tapping or "factory press fit" nuts will be allowed. 15.) Hardware (connection metal to wood): 1⁄4” by 1⁄4” galvanized hex, lag screw.

3.52 ORDERING PREFABRICATED RIDING FEATURES: 1. The Bike Park features list includes: 1.) Feature Name: 2.) Dimensions: a. Dimensions of height, width, length and radius are in feet unless otherwise noted. b. Dimensions of each feature shown on the design plans reflect measurements of the products to be supplied by PBR or approved equal. 3.) Material: As specified in typical details. 4.) Finish: Shall be Powder Coat with Diamond Vogel colors.

3.53 INSTALLATION OPTIONS FOR PREFABRICATED RIDING FEATURES: 1. Contractor shall be responsible for the installation of pre-fabricated features per specifications supplied by PBR (or approved equal) 2. Contractor shall have the option of hiring a PBR install manager to oversee the installation of prefabricated features by contractor staff. 3. Contractor shall have the option of hiring PBR install team to install prefabricated features. 4. Contractor shall be responsible for: 1.) coordinating the preparation of the areas where features are to be installed, 2.) for coordinating the installation of the features and 3.) the rough and fine grading operations required to complete feature installation.

3.54 INSTALLATION OF PREFABRICATED RIDING FEATURES: 1. Prefabricated riding features shall be located in the field, oriented and positioned to provide the most ideal riding configuration. 2. Contractor shall gain approval of the final configuration of the feature prior to final installation. 3. Once the final configuration has been approved, final installation including using supplied landscape screws to secure the features in position and anchor them to the existing and/or compacted subgrade shall be completed. 4. When the feature has been fully installed smooth all disturbed areas and compact loose fill dirt then completed fine grading of feature in run and run out.

3.54 INSPECTION, TESTING AND APPROVAL OF PREFABRICATED RIDING FEATURES: 1. When all grading and installation has been completed designer will provide inspection, and testing of the feature to ensure that all elements have been properly constructed and are secured in position. 2. Testing could include spot checking bolts, fasteners and mounting hardware to ensure proper connections, etc. 3. Upon passing inspection, designer will provide approval and certification of feature completion.

3.55 PREFABRICATED RIDING FEATURES LIST: See attached spreadsheet.

3.6 HERBICIDE AND HERBICIDE PRE-EMERGENTS

3.61 ORDERING HERBICIDES AND PRE-EMERGENTS: 1. All of the dirt riding surfaces of the tracks, trails and features as specified shall be treated with a combination of herbicide and pre-emergent chemical to stabilize fill dirt by killing ambient weeds and vegetation in and around the graded areas and preventing the germination regrowth of new weeds and vegetation. 2. The herbicide product named “Round Up” and/or an alternative herbicide product more suitable for local application shall be recommended by the contractor and approved by the designer. 3. The pre-emergent herbicide product named “Barricade” and/or an alternative more suitable for local application shall be recommended by the contractor and approved by the designer.

3.62 APPLYING HERBICIDES AND PRE-EMERGENTS: 1. All herbicide and pre-emergent chemicals shall be applied by contractor per the manufacturer's specifications and in accordance with safe use practices for the handling, storage and application and disposal of chemical products. 2. Areas to be treated include all dirt riding surfaces that are intended to be kept cleared of vegetation. 3. Areas not to be treated include any areas not intended to be kept clear of vegetation as riding surface including the backs and sides of dirt features where vegetation will help stabilize the soil and prevent erosion.

3.63 DOCUMENTATION OF HERBICIDE APPLICATION: 1. Contractor shall provide a written memo with photographs documenting application of the herbicide chemicals including; 1.) the extent of treated areas, 2.) the date and time of the application and 3.) the quantity of chemicals applied.

3.62 HERBICIDE PRE-EMERGENT LIST: See attached spreadsheet.

3.7 SOIL STABILIZER

3.71 ORDERING SOIL STABILIZER
1. All of the dirt riding surfaces of the tracks, trails and features as specified shall be treated with a soil stabilizer to stabilize dirt and minimize erosion. 2. Stabilizer shall be applied on all primary riding surfaces and over-applied to stabilize and encapsulate the critical edges of features. 3. The stabilizer product name “SoilTac” and/or an alternative product more suitable for local application shall be recommended by contractor and approved by project designer.

3.72 APPLYING SOIL STABILIZER: 1. Soil stabilizer chemicals shall be applied by contractor per the manufacturer's specifications and in accordance with safe use practices for the handling, storage, application and disposal of chemical products. 2. Soil stabilizer shall be applied to all finish dirt riding features, tracks and trails to stabilize the fill dirt and minimize mechanical erosion. 4. Prior to application of soil stabilizer treatment areas shall be moisture conditioned to promote

penetration of the stabilizer. 4. Stabilizer shall be applied as a slurry top coat in three applications to ensure full penetration and coverage of the treatment areas.

3.73 DOCUMENTATION OF STABILIZER APPLICATION: 1. Contractor shall provide a written memo with photographs documenting application of the soil stabilizer chemicals including 1.) the extent of the treated areas 2.) the date and time of the application and 3.) the quantity of chemicals applied.

3.74 SOIL STABILIZER LIST: See attached spreadsheet.

3.8 ARTIFICIAL DIRT

3.81 ORDERING ARTIFICIAL DIRT: 1. All of the dirt riding surfaces as specified shall be protected with artificial dirt as defined by the following specifications: 1.) Product Manufacturer: AstroTurf 2.) Product Name: Poligrass 3.) Material: Polyethelene PE Fibers 4.) Construction: Tufted 5.) Weight: NA 6.) Color: Brown or Terra Cotta 7.) Warranty: 8-Years (Typical Use). 2. Alternative products more suitable for the local application shall be recommended by the contractor and approved by the designer. 3. Samples to be provided to designer for testing and approval prior to ordering or delivery to site.

3.82 INSTALLATION OF ARTIFICIAL DIRT: 1. Install artificial dirt to protect completed dirt riding surfaces, tracks, trails and features that have been fine graded, compacted and stabilized as specified from mechanical erosion caused by rain, wind and rider dynamics. 2. Fasten artificial dirt carpet to the takeoff ramp using the carpet bracket as specified in the plans. 3. Roll out and position artificial dirt carpet on the jump landing covering the jump platform, transition and run out through to the in run and jump takeoff ramp of the next feature to provide end to end protection of the underlying dirt surfaces. 4. Use carpet through brackets and landscape screws to anchor carpet in position as specified. 5. Anchor carpet in position under jump takeoff ramp plate as specified. 6. With anchored carpet secured in position spread ballast sand as specified to further secure in position and to further conform carpet to underlying dirt surfaces. 7. In highest use areas carpet nails shall be installed as specified to secure the artificial dirt carpet matrix in position.

3.83 INSPECTION, TESTING AND APPROVAL OF ARTIFICIAL DIRT SURFACES: 1. When the installation of the artificial dirt system has been completed designer shall provide an inspection and test to ensure that all elements have been properly installed. 2. Inspection and testing might include riding of completed work products to ensure proper performance under actual use conditions. 3. If the system has been installed properly approval and certification of completion shall be provided by the designer.

3.84 ARTIFICIAL DIRT LIST: See attached spreadsheet.

PART 4 - EXECUTION

4.1 GENERAL

4.11 GRADING: 1. Exact locations, distances, dimensions, elevations, etc. shall be governed by actual field conditions and verified by the contractor. 2. Excavated material shall become the property of the contractor. Subject to the approval of the Bike Park Designer and Engineer, suitable excavated material may be used as backfill where necessary. 3. The contractor shall

notify the Bike Park Designer (or Engineer) immediately after identifying a grade conflict. The contractor shall not be eligible for additional compensation for minor design changes other than those that cause a significant change in quantities. 4. In the event of a grade conflict, the contractor shall pursue other work, which is not affected by the conflict. 5. If such alternative work is available, the contractor shall not be eligible for additional compensation due to the grade conflict.

4.12 MEASUREMENT: 1. Measurement for excavation shall be measured by the cubic yard (unless otherwise noted) based on quantities determined from the limits shown on the plans.

4.12 STOCKPILING OF MATERIALS: 1. The Contractor shall stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. 2. The Contractor shall stockpile suitable soil materials separate from topsoil and unsuitable material stockpiles without intermixing. 3. Contractor shall place, grade, and shape stockpiles to drain surface water and away from the edge of excavations and outside of the drip line of trees or immediately next to property lines.

4.13 DEMOBILIZATION: 1. The designer shall approve finish grades prior to removal of earth moving equipment from project site and prior to planting operations.

4.2 CONSTRUCTION METHODS

4.21 SITE CLEARING AND GRUBBING: 1. Site Clearing to be performed by General Contractor. 2. Prior to grading, the site shall be cleared of all obstructions and deleterious materials. 3. Debris and materials arising from clearing and removal operation shall be properly disposed of off- site. 4. Surface vegetation in the location of the riding zones shall be stripped and removed. 5. Soil material containing more than 2% organic matter by weight shall be considered organic. 6. Contractor shall plan to strip to a depth of 2 inches, actual stripping depths may be less. 7. Native soil shall be cleared and grubbed of native vegetation prior to placing fill dirt on native materials.

4.22 MASS GRADING: 1. Prior to the placement of riding features (jumps, berms, etc.) and/or fill material, the soil shall be scarified to a minimum depth of six (6) inches, moisture- conditioned, and re-compacted to a minimum 90% relative compaction based on ASTM D1557-00 Test Procedure to achieve optimal uniform compaction. 2. In areas where there is existing topography and natural hill slope, features shall be excavated out of cleared and grubbed native soil and moisture-conditioned and compacted in place to the relative compaction mentioned above. 3. No abrupt changes in slope or contour will be accepted. Contractor shall take special care to feather or taper graded areas to match grade at the edge of existing landscape. 4. When the Contractor indicates that site grading is complete and conforming to the plans, City Surveyors may verify the grades. 5. Any discrepancies with the grading plan must be corrected by the Contractor. Mass grading shall be performed by general contractor.

4.23 ROUGH GRADING: 1. Prior to rough grading and the placement of any fill dirt to construct dirt riding features, the Contractor shall layout (stake, chalk, flag, etc.) the location of each bike park feature in the order and sequence to be built as shown on the plans. 2. Layout of riding features shall be approved by the designer. 3. After approval of the layout, riding features shall be constructed or installed in the sequence as shown on the plans. 4. Rough grading shall be performed by specialty contractor. 5. The Contractor shall be responsible for verifying the actual location, and type of riding feature and gaining approval from the designer prior to construction.

CONSTRUCTION SPECIFICATIONS

6. Bulk Fill Dirt used for rough grading of dirt riding features shall be moisture conditioned and backfilled in 6” lifts to 90% compaction. 5. Contractor shall rough grade dirt riding features to roughly 80% of the designed dimensions of the feature so that they can be tested to confirm actual field conditions and to determine final field fit dimensions by designer.

4.24 FINE GRADING: 1. Fine grading of field fit dirt riding features shall be performed by a specialty contractor with the finish grades as the completed work product. 2. Contractor shall fine grade riding features with moisture conditioned top fill dirt compacted in 6” lifts to 90% compaction. 3. Compaction of all finished surfaces shall be to 90% compaction. 4. Finished grades of RideSmart riding features shall be verified using RideSmart Construction Tools as specified.

4.25 HERBICIDE AND HERBICIDE PRE-EMERGENT TREATMENT: 1. Herbicides to be applied per manufacturer’s specifications and per specifications outlined in the Materials Section of this document.

4.26 SOIL STABILIZER TREATMENT: 1. Soil stabilizer to be applied per manufacturer’s specifications and per specifications outlined in the Materials Section of this document.

4.27 INSTALLATION OF ARTIFICIAL DIRT SYSTEM: 1. Artificial dirt system to be installed per manufacturer’s specifications and per specifications outlined in the Materials Section of this document.