

FOX RUN REGIONAL PARK SPECIFICATIONS

Prepared for:
EL PASO COUNTY
PARKS & COMMUNITY SERVICES DEPARTMENT
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May 2025

Project No. 24.237.008

| PROJECT SUMMARY OF APPROXIMATE QUANTITIES | | | | |
|---|---|------|-------|---------------|
| ITEM NO. | DESCRIPTION | UNIT | PLAN | AS CONSTRUCT. |
| 201-00000 | CLEAR AND GRUB | LS | 1 | |
| 202-00010 | REMOVAL OF TREE | EA | 24 | |
| 202-00033 | REMOVAL OF PIPE | LF | 70 | |
| 202-00175 | REMOVAL OF CONCRETE | SY | 12 | |
| 202-00400 | REMOVAL OF BRIDGE | ea | 2 | |
| 203-00000 | UNCLASSIFIED EXCAVATION (SITE WORK) | CY | 171 | |
| 203-00050 | UNSUITABLE MATERIAL | CY | 6844 | |
| 203-00062 | EMBANKMENT MATERIAL (SPECIAL) | CY | 3761 | |
| 206-00000 | STRUCTURE EXCAVATION | CY | 131 | |
| 206-00100 | STRUCTURE BACKFILL | CY | 131 | |
| 206-00520 | CLASS B FILTER MATERIAL | CY | 12 | |
| 207-00604 | TOPSOIL | SF | 27307 | |
| 208-00000 | EROSION CONTROL | LS | 1 | |
| 212-00006 | SEEDING (NATIVE) | SF | 25752 | |
| 212-00100 | TREE PROTECTION | EA | 1 | |
| 214-00205 | DECIDUOUS TREE | EA | 4 | |
| 214-00450 | EVERGREEN TREE | EA | 5 | |
| 214-00900 | DECIDUOUS SHRUBS | EA | 39 | |
| 214-00910 | EVERGREEN SHRUBS | EA | 18 | |
| 214-00920 | ORNAMENTAL GRASSES | EA | 6 | |
| 214-00930 | PERENNIALS | EA | 55 | |
| 214-00935 | MULCH | SF | 4351 | |
| 214-00940 | WETLAND PLUGS | SF | 1555 | |
| 304-06000 | AGGREGATE BASE COURSE (CLASS 6) | TN | 232 | |
| 504-03411 | BOULDER WALL | LF | 36 | |
| 514-00000 | RETAINING WALL RAILING | LF | 155 | |
| 601-03020 | 24" HERCP FES TOEWALL - CONCRETE CLASS D (DRAINAGE) | CY | 0.67 | |
| 601-03027 | CLASS D CONCRETE | CY | 37 | |
| 602-00000 | REINFORCING STEEL EPOXY | LB | 3646 | |
| 603-02245 | 30x19 INCH REINFORCED CONCRETE PIPE ELLIPTICAL | LF | 34 | |
| 603-05124 | 30x19 HERCP FES | EA | 4 | |
| 603-02300 | 45x29 INCH REINFORCED CONCRETE PIPE ELLIPTICAL | LF | 11.9 | |
| 603-05130 | 45x29 HERCP FES | EA | 2 | |
| 605-00060 | 6" PERFORATED PIPE | LF | 103 | |
| 608-00000 | CONCRETE SIDEWALK | SY | 722 | |
| 609-23000 | GUTTER (SPECIAL) | SY | 40 | |
| 614-00035 | SIGNS | EA | 9 | |
| 614-00000 | SIGN POST | EA | 9 | |
| 622-00250 | RELOCATE BENCH | EA | 1 | |
| 622-00251 | BENCH | EA | 3 | |
| 622-00253 | TRASH CAN | EA | 3 | |
| 622-00550 | WHEEL STOP (CONCRETE) | EA | 2 | |
| 623-00000 | IRRIGATION AND PUMP | LS | 1 | |
| 625-00000 | SURVEY | LS | 1 | |
| 626-00000 | MOBILIZATION | LS | 1 | |
| 627-00002 | ADA STRIPING (THERMOPLASTIC) | SF | 2 | |

| PROJECT SUMMARY OF APPROXIMATE QUANTITIES | | | | |
|---|--|------|------|---------------|
| ITEM NO. | DESCRIPTION | UNIT | PLAN | AS CONSTRUCT. |
| 627-00004 | ADA STRIPING (EPOXY) | SF | 29 | |
| 630-00016 | TRAFFIC CONTROL (SPECIAL) | LS | 1 | |
| 800-00000 | ELECTRICAL DEMOLITION | LS | 1 | |
| 801-00000 | PANELBOARDS | LS | 1 | |
| 802-00000 | WIRING DEVICES | LS | 1 | |
| 803-00000 | LIGHTING | LS | 1 | |
| 902-00002 | RIPRAP PAD TYPE L | SY | 18.8 | |
| 902-00003 | RIPRAP PAD TPYE VL | SY | 5 | |
| 904-00004 | SLOTTED TRENCH DRAIN WITH GALV STEEL SLOTTED GRATE | LF | 15 | |
| 905-00005 | 6" HDPE CULVERT | LF | 272 | |
| 905-00007 | 10" HDPE CULVERT | LF | 57 | |
| 905-00008 | 12" HDPE CULVERT | LF | 45 | |
| 905-00010 | 10" HDPE FES | EA | 6 | |
| 905-00011 | 12" HDPE FES | EA | 2 | |
| 906-00012 | POND LINER | SY | 6212 | |
| 907-00013 | EX FOUNTAIN TO BE RELOCATED | LS | 1 | |
| 908-00014 | GAZEBO | LS | 1 | |
| 909-00015 | EX ELECTRICAL BOX TO BE REMOVED | EA | 2 | |
| 909-00016 | ELECTRICAL BOX | EA | 1 | |
| 910-00016 | REMOVAL OF GAZEBO AND WALKWAY | LS | 1 | |
| 911-00017 | SALVAGE RAILROAD TIES | EA | 26 | |
| 912-00018 | REPLACE RAILROAD TIES | EA | 26 | |
| 912-00019 | RAILROAD TIE STEP TO BE ADDED TO TRAIL | EA | 26 | |
| 912-00020 | CONNECT TO RAILROAD TIE AND AREA DRAIN | EA | 1 | |
| 913-00022 | RAILROAD TIES TO BE REMOVED AND REPLACED PR AREA DRAIN | EA | 26 | |
| 917-00026 | SALVAGE BOULDER | EA | 99 | |
| 919-00029 | BREEZE | SY | 418 | |
| 920-00030 | 4-6" ROCK | SF | 308 | |
| 921-00031 | LANDSCAPE EDGING | LF | 24 | |
| 924-00034 | 6" ROUND AREA DRAIN | EA | 8 | |
| 925-00035 | DEWATERING PONDS | LS | 1 | |
| 927-00037 | RELOCATE PICNIC TABLE | EA | 1 | |
| 928-00038 | 6" DRAIN AND GATE VALVE | EA | 1 | |
| 929-00039 | LOG EROSION BARRIERS | LF | 160 | |

SCHEDULE C – TECHNICAL PROVISIONS

The Project Specific Special Provisions amend or supplement the General Provisions of the Construction Contract and other provisions of the Contract Documents as indicated below. All Provisions, which are not so amended or supplemented, remain in full force and effect.

C.1 Standard Specifications

The following are the Standard Specifications which apply to this project. In the event there are conflicting Standard Specifications, the order of precedence will be based upon the order in which the Standard Specifications are listed.

All Contractors are required to have on the job site and utilize the current updated copy of the Standard Specifications applicable to the work.

C.1.2 COLORADO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS

The Standard specifications from the “Colorado Department of Transportation Standard Specifications for Road and Bridge Construction”, 2023 shall apply to this project. Contractors are required to have on the job site and utilize the current updated copies of the CDOT Standard Specifications for Road and Bridge Construction and Standard Plans – M&S Standards.

C.2 PROJECT SPECIFIC SPECIAL CONDITIONS

C.2.1 GENERAL

The Contractor shall perform all operations necessary for the construction of the work as described in the plans and specifications, including restoration of all areas disturbed by the construction activities to a condition equal to or better than pre-construction condition.

The Contractor shall obtain all permits and furnish all transportation, materials, tools, equipment, labor and supplies necessary to complete in a workmanlike manner the improvements as shown and specified in these documents.

The Contractor shall be responsible for verification and acceptance of the existing site conditions prior to proposing on the project. The Contractor shall notify the Engineer 48 hours prior to the commencement of construction activities if site conditions differ.

Work to be completed under this contract consists of furnishing all labor, materials, equipment, accessories, and performing all operations to complete the project work in accordance with the Drawings and Specifications.

All work shall be completed in accordance with the latest Colorado Department of Transportation Standard Specifications for Road and Bridge Construction and M & S Standards, referred to hereinafter as Standard Specifications, except as modified in these Special Conditions and the Project Special Technical Specifications contained in Schedule F of this document.

The Contractor shall visit the jobsite to carefully examine the proposed work. The Contractor shall also thoroughly review the Drawings and Specifications. The Contractor shall satisfy themselves as to the character, quality, and quantities of work to be performed, materials to be furnished, and as to the requirements of these Specifications.

C.3 PROJECT DESCRIPTION

C.3.1 OWNER

The El Paso County Parks and Community Development (hereinafter referred to as Owner) shall administer this project including the finalization of any change orders, pay estimates and payments of such, acceptance of work, and other matters as stipulated in these Contract Documents.

C.3.2 ENGINEER

Engineer refers to the County or designated representative (Matrix Design Group).

C.3.3 DRAWINGS

The drawings for this project are separate from the Contract Documents book and are entitled "Fox Run Regional Park – 100% Construction Documents" (hereinafter referred to as the Construction Plans or the Plans).

C.3.4 CONSTRUCTION LIMITS

The Contractor shall limit construction activities to the "Work Limits" as shown in the Construction Plans and details and as described in these Special Provisions. Even within the designated limits of construction there are existing native trees, shrubs and grasses that are desirable to maintain. To the full extent practical, the Contractor shall perform the work in a manner that minimizes damage to the existing vegetation. Any disturbance outside of the Limit of Construction, as shown on the approved Plans shall be restored by the Contractor at their own expense to a condition equal, or better than the existing conditions before such damage occurred. The additional areas of disturbance outside of the original limits of construction must be reviewed and accepted to the satisfaction of the Owner. The vegetation success within these additional areas fall within the warranty and maintenance period described in this document and the technical specifications.

C.3.5 INSPECTION

Inspections shall be coordinated with the County and to follow CDOT Specifications.

C.3.6 MATERIAL TESTING

Material testing to be per CDOT specifications.

C.3.7 EXISTING UTILITIES

The construction plans depict the approximate locations of these utilities to the best information available at the time of design. The Contractor shall field verify the existence of and horizontal and vertical location of all existing utilities which might affect the work and shall notify the Owner or Owner's Representative of any utilities identified in the field but not shown on the Construction Plans. The Contractor shall be responsible for the protection of all existing utilities depicted on the plans and/or identified in the field. The Contractor will be responsible for any damage to existing utilities identified in the field. Any damage to existing utilities not shown on the construction drawings and not identified by Colorado811 shall be the responsibility of the utility owner. The Contractor shall be responsible for notification of and communication with the owners of existing utilities prior to the start of construction

The Contractor shall inform the Owner or Owner's Representative of existing utilities, not previously designated as relocated, that may need to be relocated. The Contractor shall be responsible for contacting, coordinating, and requesting relocations from affected utility owners, and scheduling any relocation in his Work Sequence Plan to meet the Contract Time of Performance.

Contract time will not be extended to account for repair of utilities that are damaged by the Contractor due to their negligence.

The Contractor will be required to contact all utility owners a minimum of three business days prior to beginning excavation and/or grading.

Full compensation for compliance and cooperation, as required by this section, shall be considered to be included in the prices bid for items included on the contract bid schedule and no additional compensation will be provided.

C.3.8 FEES AND PERMITS

Except as noted below, the Contractor, prior to commencing any work, shall secure at their own expense (including fees) all permits required for the performance of the work.

The Contractor shall obtain at a minimum a,

- a) El Paso County Air Quality Permit,
- b) A Construction Dewatering Permit (Colorado Department of Public Health and Environment),
- c) A CDPS Stormwater Discharge Permit (CDPHE),
- d) The Contractor shall comply with all requirements of the permits.
- e) A copy of the CDPHE Authorization Letter

The Contractor shall submit required permits to the Owner for documentation at or prior to the preconstruction meeting. The Contractor shall also submit a traffic control plan at the preconstruction meeting for approval by the Owner. The Contractor shall obtain any additional permits required for the construction of the project. The Contractor shall comply with all conditions of all the required permits.

C.3.9 WASTE MATERIALS

The Contractor shall clean up any debris created by their construction activities and shall dispose of the same in suitable trash containers on a daily basis. All debris shall be disposed of off-site at a disposal site approved by the Owner. Should the Contractor fail to maintain the construction area in a suitable manner after receiving writing notice from the County, the Owner will have the right to contract with a third party and withhold any amounts incurred from the Contractor's payment.

C.3.10 CONSTRUCTION STAGING AND ACCESS

Staging areas shall be limited to within the limits of construction shown within the Plans and the Contractor shall restore staging areas at construction completion. Access to project areas shall be limited to those shown in the Plans and described in these Special Provisions. The Contractor shall be responsible for: establishing and maintaining access routes during construction; limiting disturbances from vehicles and equipment to the width and length of the access route; and restoring temporary access routes to match pre-project conditions at construction completion.

The Contractor shall be responsible for in-kind replacement of any temporarily removed fences or signage.

All areas affected by construction shall be restored to match pre-project site conditions at construction completion, except for public roadways that are damaged as a result of legal use of roadways for construction activity.

The Contractor shall comply with all legal load restrictions in the hauling of equipment or materials on public roads beyond the limits of the project. A special permit will not relieve the Contractor of liability for damage resulting from the moving of equipment or material

C.3.11 PUBLIC RELATIONS

The Contractor is required to have both letter and personal contact with residents and owners or operators of the buildings and businesses that are adjacent to the construction area. The Contractor will furnish the draft letter and contact list to the County's Public Relations group before any contact is made with adjacent landowners. The Public Relations group shall provide comments and recommended changes before approving the letter. The Contractor shall attempt to contact each landowner or business to distribute the letter and will provide a written update to the Owner and Engineer with any information or confrontations experienced during the letter distribution.

C.3.12 CONTRACTOR'S AND OWNER'S REPRESENTATIVES

The Contractor shall have on the job at all times as their agent, a competent superintendent capable of reading and thoroughly understanding the Plans and Specifications and being thoroughly experienced in the type of work being performed. The Owner will have a representative on the job site periodically to observe work for conformance with the Plans and Specifications and clarify questions the Contractor has relative to the job. The Contractor shall provide accurate records of any field changes made during construction.

C.3.13 DUST, EROSION, AND NOISE CONTROL

The Contractor shall be responsible to install sufficient temporary erosion control facilities to minimize erosion in areas impacted by access, staging, and construction and washouts that may occur due to the lack of proper erosion control facilities.

The Contractor shall use measures to prevent and control dust and mud within the area affected by the project in accordance with applicable permits. No additional compensation will be paid to the Contractor for general dust control. Vehicle-tracking control mats will be required at the access points to the County Parks roads. Removal of vehicle-tracking mats will be accomplished prior to re-vegetation.

The Contractor shall clean off any soil, dirt, or debris tracked onto any adjacent streets. When notified by the Owner that the adjacent streets require cleaning, the Contractor shall clean the streets within 2 hours of such notification, or the Owner shall arrange to have the streets cleaned and shall deduct the cost of such cleaning from the Contractor's payments.

All work and materials associated with installation and maintenance of temporary erosion control facilities until permanent stabilization is achieved will be paid for in the lump sum price bid for temporary erosion and sediment control.

Construction noise shall be limited to the required by the County Code.

C.14 ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT

The Contractor shall follow Section 250 of the CDOT Specifications – Environmental Health and Safety Management, and the Revision of CDOT Section 250 herein. Compliance with requirements of CDOT Specification 250 subsection 250.03 is not paid for separately, but included in the cost of work.

In the event that suspected asbestos-containing materials (ACM) are encountered, including with buried utilities, the Contractor shall follow CDOT Specification 250.07 – Asbestos- Containing Material Management and CDOT Asbestos-Contaminated Soil Management Standard Operating Procedure. Additionally, depending on the type of ACM, this material must also be abated in accordance with either Section 5.5 of the Colorado Solid and Hazardous Waste Commission regulations, or Regulation No. 8 of the Colorado Air Quality Control Commission regulations.

If groundwater is encountered during excavation activities, water generated should be analyzed before discharge in accordance with the Colorado Department of Public Health and Environment-Water Quality Control Division Dewatering Permit. If regulated constituents in the water exceed the Colorado Surface Water Standards, Colorado Groundwater Quality Standards, and/or permit limits, the water must be either treated before being discharged to Waters of the State, or disposed properly off-Site. If groundwater is present to contact engineer.

C.3.15 TRAFFIC CONTROL AND PEDESTRIAN BARRICADES

The Contractor shall furnish all necessary flag persons; erect and maintain warning lights, advance warning signs, detour signs, barricades, road closure, temporary fence, and sufficient safeguards around all excavations, embankments, obstructions; and any other work for this project for the protection of all work being performed and for the safety of the public and pedestrian traffic, as well as bicycles and motor vehicles.

The Contractor shall provide adequate temporary construction fencing around active work zones and access routes when hazards to pedestrian traffic exist. The contractor shall use orange blaze fencing, rope and posts, and/or chain link fence to mark out the limits of disturbance near private property to prevent pedestrians from entering the active construction site and to prevent encroachment of Contractor's equipment or personnel onto private property.

The Contractor shall provide proper warning signs on existing trails, driveways, and roadways that cross or are a part of temporary access routes, staging areas, or work zones.

All signs and barricades shall conform to the Manual of Uniform Traffic Control Devices and meet the requirements of General Provision 105.07 and Section 800 of the Standard Specifications.

The Contractor shall submit three (3) copies of a Traffic Control Plan and accepted permit, acceptable to the Owner and the County, for review at or before the Preconstruction Conference. This plan must provide pedestrian traffic control and traffic control at all vehicular access points, and when loading and unloading equipment and material in public street right-of-ways.

C.3.16 WATER CONTROL

Until the Owner issues final written acceptance of the project (Final Acceptance), the Contractor shall take every precaution against damage to any part of the project including the adjacent land, vegetation, utilities, paving and structures from any cause, including all surface and subsurface water, whether arising from the execution of work or any other cause. The Contractor shall rebuild, repair, restore, replant and make good all damages to any portion of the work due to causes beyond the control of and without the fault of the negligence of the Contractor, including but not restricted to high water, floods, or acts of God, of the public enemy, or of governmental authorities.

The Contractor shall be responsible for the project and shall take such precautions as may be necessary to construct the project in a dry condition and provide for drainage, dewatering, and control of all surface and subsurface water. The term water shall be interpreted as including water in all its forms including, but not limited to, liquid water, snow, and ice. The Contractor shall erect any necessary temporary structures or other facilities at their expense to control surface water and groundwater. The Contractor is advised they are working in an ephemeral drainage course subject without baseflow, but subject to potential flash flooding and intermittent flow of significant magnitude. As such, proper management and control of water through the project area will be required to avoid localized flooding, damage to the work and adjacent facilities and properties and/or extensive soil erosion. At or prior to the Preconstruction Conference and prior to beginning any work, the Contractor shall submit three (3) copies of a plan for Water Control and Dewatering to the Owner for review. The Owner, at his option, may require the Contractor to update the Water Control Plan as conditions warrant. The Contractor shall acquire a Construction Dewatering Permit from the Colorado Department of Public Health and Environment.

The Contractor shall carefully evaluate and plan the work and develop a water control plan that is compatible with the work plan and minimizes risks to adjacent properties, facilities and completed and in-progress work.

The Contractor, at their expense, shall furnish all necessary equipment and materials required to control the surface and subsurface water in all the areas from start of work through the completion of the total project work. The Contractor shall perform all work associated with “Water Control and Dewatering” in accordance with the Section 920 “Water Control and Dewatering” included in the Project Special Technical Specifications.

C.3.17 PROGRESS

If completion of any part of the work or the delivery of materials is behind the approved schedule, the Contractor must submit an updated schedule acceptable to the Owner. The Owner shall have the right to withhold progress payments for the work if the Contractor fails to submit an updated schedule.

C.3.18 PRE-CONSTRUCTION CONFERENCE RESPONSIBILITIES

The Contractor shall not commence work prior to the issuance of a Notice to Proceed. The "Notice to Proceed" will stipulate the date on which contract time commences. When the Contractor proceeds with work prior to that date, contract time will commence on the date work actually begins. The Contractor shall commence work under the Contract on or prior to the 15th day following Contract execution or the 30th day following the date of award, whichever comes later, or in accordance with the selected start date allowed in the special provisions.

Within 10 calendar days after issuance of the Notice to Proceed, or as otherwise established by the Owner and Engineer, a preconstruction conference shall be held for review of the construction schedule, Contractor’s list of Subcontractors and suppliers; project contracts; designated Erosion Control Supervisor; Traffic Control Plan with Supervisor name, telephone number and certifications; procedures for handling shop drawings; processing Applications for Payment; and other pertinent items. The Contractor (and Subcontractor) should address any construction problems which may be foreseen in the execution of the project work at the preconstruction conference.

The purpose of the meeting will be to discuss project issues, scheduling, phasing, environmental concerns, water control, private property issues, pedestrian issues, stormwater clean water act, safety, etc., the Contractor’s designated Superintendent or Supervisor assigned to the project shall attend this meeting. The Contractor shall, at a minimum, provide the following materials at or prior to the Pre-Construction Conference:

- a) Traffic Control and Pedestrian Safety Plan
- b) Water Control and Dewatering Plan
- c) Construction Dewatering Permit
- d) CDPS Stormwater Discharge Permit
- e) Construction Schedule and Manpower Report

- f) Detailed Construction Method and Phasing Plan for Construction
- g) Utility Owners Pre-Construction Meeting (See General Notes)

The Plans are to be reviewed by the Owner prior to construction. All issues are to be resolved prior to beginning construction.

At the Preconstruction Conference, the Contractor shall furnish the Engineer a written list of all permits required for the proper completion of the Contract. The list shall clearly identify the type of permit or permits that must be obtained before work on any particular phase or phases of work can be started.

C.3.19 DRAINAGE AND EROSION CONTROL

The Contractor shall provide for the drainage of storm water and such water as may be applied or discharged on the site in performance of the work. Drainage facilities shall be adequate to prevent damage to the work, the site and adjacent property.

The Contractor shall prevent the pollution of drains and watercourses by sanitary waste, sediment, debris, contaminated ground water and/or other substances resulting from this work. The Contractor shall be required to clean up, treat and/or isolate such materials on a continuing basis to prevent risk of washing into such drainage ways.

The Contractor shall be responsible for capturing and properly disposing of contaminated groundwater.

The Contractor shall obtain a copy of and follow the language of the MS4 permit and all other state and local permits.

The Contractor shall be responsible for maintaining erosion control for all phases of the project and shall be submitted to the Engineer for review and approval prior to beginning construction.

C.3.20 SOIL CONDITIONS

The Contractor assumes all risks connected with the surface and subsurface conditions actually encountered by them in performing the work, even though such actual conditions may result in the Contractor performing more or less work than they originally estimated.

The Contractor shall perform whatever exploratory excavations and tests they deem necessary to determine the site conditions.

The Contractor shall utilize all suitable excavated material as approved by the Engineer for raising grades and backfilling the new construction. If required, additional imported material shall be a well graded non-expansive inorganic soil or as herein after specified.

C.3.21 SHOP DRAWINGS

Contractor shall submit all required Shop Drawings and Product Submittals per the specifications and plans(digital in PDF format or 3 hard copies) to the Owner or Owner's Representative for review and approval. These include, at a minimum, the following:

- a) Test results for any imported compost, soil amendments, riprap, aggregate bedding, concrete, and boulders. If soil testing taken during construction requires modifications to the soil amendment plan, proposed soil amendment or compost shall be submitted for initial review 2 months before any soil preparation work begins and may take up to 10 business days for Owner to respond.
- a) Geotextiles
- b) Seed and mulch
- c) Flared End Section, RCP pipe drawings for storm pipe, HDPE pipe and FES, and area drains
- d) Owner shall respond to any Shop Drawings within 5 business days of receipt, unless otherwise previously noted.

C.3.25 COORDINATION WITH PRIVATE PROPERTY OWNERS

The Contractor is not to enter private property, outside of the construction easements as shown on the Plans unless written access permission from the owner of the property is obtained by the Contractor and approved by the Owner. All damages to private property shall be immediately repaired to as good or better conditions at no additional cost to the project. The Contractor will notify the Owner immediately if damages occur to private property.

C.3.25 COORDINATION WITH AQUATIC SPECIALIST

Contractor to coordinate with Owner for removal and proper disposal of existing fish within ponds prior to construction. Pond work shall not commence until the existing fish have been removed.

C.3.22 MOBILIZATION

The Bid Schedule has an item for mobilization, which may include such items as administration, bonding, and insurance.

C.3.23 DISPOSAL SITE

The Contractor is responsible for the removal of all debris, unsuitable material, asphalt, concrete, bushes, portions of trees not used in the work, stumps, remains from clearing and grubbing, and all other materials not used for the construction of the improvements. Disposal of unsuitable materials shall be measured and paid by the unit price bid for each

applicable item on the bid schedule. The Contractor shall designate in writing a disposal site acceptable to the Owner. Further, the Contractor shall consider the following for hauling suitable or disposing of unsuitable materials:

Access to the project beyond the immediate confines of the work area shall be over suitable roadways without violation of any City, County, State, or Federal restrictions for vehicle and truck weights or any other limitation on movement of heavy equipment hauling materials to and from the site.

Violation costs, including fines and repairs to either public or private roadways or appurtenance structures, above or below ground level, shall be at the Contractor's expense.

Unless otherwise presented in the Bid Schedule, the Contractor's cost for loading, hauling, daily cleaning of streets and trails, the disposal of material that must be removed from the site, together with the construction, maintaining and altering of haul roads, dump fees and permits, shall not be paid for separately.

C.3.24 EXCAVATION AND REPLACEMENT OF UNSUITABLE MATERIAL

Excavation and Replacement of Unsuitable Material is defined in the Technical Specifications. The Contractor shall not complete any excavation and replacement of unsuitable material without prior written approval from the Owner. Excavation and replacement of unsuitable material shall not be used in lieu of proper dewatering.

C.3.25 WORK HOURS

Normal work hours are 7:30 AM TO 5:30 PM Monday through Friday. Work outside normal hours may be allowed but must be approved in advance in writing by the owner.

C.3.26 ARCHAEOLOGICAL AND HISTORICAL DISCOVERIES

The Contractor is required to inform the Owner of any evidence which might suggest to a lay person that archaeological or historic materials may be present in the work area. Upon making such a discovery, the Contractor shall do whatever is necessary to avoid disturbing the work area. This could require that the Contractor's activities be redirected or stopped until the Owner or Engineer determines how to proceed.

C.3.27 CONSTRUCTION DOCUMENTATION

A. Submittals

- a) The contractor shall provide a submittal register in outline form in MS Excel format or similar based on the Bid Schedule at the preconstruction meeting. At a minimum, elements of the list will include:
 - 1. Anticipated product submittals
 - 2. Identified long lead time items
 - 3. Permits
 - 4. Phasing plans
 - 5. Traffic control plans
- b) All revegetation submittals shall be submitted for initial review 2 months before any revegetation work begins.

B. Photographs

- a) Construction photographs will be required illustrating pre-construction, construction, and post-construction conditions.
- b) Digital photographs shall be date stamped.
- c) The pre-construction photographs shall be delivered to and approved by the Owner or Owner's Representative, prior to the beginning of construction.
- d) Include progress photographs with each pay request. The photos will be a requirement for payment.

C. Red-line Drawings

The Contractor shall maintain a red-line set of drawings indicating field changes to the design, existing facilities not shown, pertinent construction data, etc. The Contractor shall submit a current set of red-line plans to the Owner with each pay estimate. The Contractor shall submit a complete set of red-line plans to the Owner at the completion of the project. The Contractor will be responsible for submitting incremental survey data information, including elevations of key structure points, for structure acceptance throughout the duration of the project. The engineer will be responsible for the formal as-built survey at the completion of the project.

C.3.28 SPILL KIT

The Contractor shall supply and maintain a spill kit on-site. The spill kit shall contain any and all necessary devices to be used in the event of a spill on-site during construction activities. The Contractor shall coordinate with the Owner's stormwater inspector regarding the site-specific contents of the spill kit. The spill kit shall remain on-site and be available at all times for the Contractor's crew. A meeting shall be set up by the Contractor's Stormwater Supervisor prior to any construction activities to clarify the uses and implementation of the spill kit.

The spill kit will not be paid for separately but will be considered incidental to the Bid Item for Erosion and Sediment Control.

C.3.33 CONSTRUCTION METHOD QUALITY CONTROL AND PHASING PLAN

The Contractor shall submit a construction method and phasing plan detailing the methods and sequence to be utilized in construction of the proposed facilities. The plan is to include the following items:

- a) Mobilization
- b) Dewatering plan to include control and routing of nuisance flooding, flood flows, and groundwater,
- c) Traffic Control as needed
- d) Establishment, maintenance, and restoration of access routes,
- e) Roadway/trail demolition and construction,
- f) Utility relocation and protection,
- g) Excavation for and construction of retaining wall,
- h) Slope shaping and channel grading,
- i) Seeding, and planting
- J) Boulder placement
- j) Materials testing requirements (in excel format outlined by Bid Schedule)
- k) Overall Project Phasing

The Owner is to review the construction method quality control and phasing plan and have all questions and issues addressed before construction can proceed. All costs associated with preparation and potential revisions to the method and phasing plan will be considered incidental to the price bid for associated items and no separate payment will be provided.

C.3.29 REQUESTS FOR INFORMATION (RFI)

“Requests for Information” (RFI) sheets shall be completed by the Contractor if additional information of clarification is required. The RFI shall be submitted to the Owner for processing. Owner shall respond to any RFIs within 5 business days of receipt. Any changes to the Plans, specifications, and construction requirements are to be made in writing. No changes will be permitted based on verbal agreements.

C.3.30 CONSTRUCTION COORDINATION MEETINGS

The Contractor will conduct weekly construction progress meetings with the attendance of all pertinent project related personnel. The Contractor shall coordinate with the Owner as to the location where the meetings are to be held. The Contractor shall create the meeting agenda, 3-week look ahead project schedule, and distribute meeting minutes within 48 hours of meetings.

C.3.31 CONSTRUCTION STAKING

The Contractor shall be responsible for providing grade and horizontal control for the project elements. At the Owner or Engineer's request, the Contractor shall survey grades and elevations to verify design during construction. The Contractor shall place stakes with flags at all property corners where the project area is adjacent to parcels not owned by the El Paso County, as of the date of notice to proceed and at 250-foot intervals along the project limit boundary to delineate the work limits. The Contractor shall protect all existing control points, property corners and monuments. The Contractor shall be responsible for replacing any damaged or destroyed monument, property corner or control point.

Prior to project completion, the contractor shall be responsible for the replacement of any property monumentation disturbed or removed by construction operations. This work shall be performed by a land surveyor licensed in the State of Colorado. Property corners which fall within new concrete flatwork shall be durable and set flush. This shall be considered incidental to the project.

Any cost associated with providing surveying and survey control is to be included in the Construction Staking bid item.

C.3.32 CLEAN UP AND REMOVAL OF SEDIMENT DEPOSITS

The Contractor shall implement stabilization measures within the project area to control erosion to the extent practical. If sediment or other material from the site migrates downstream of the project area or within the reach during construction, it shall be removed and disposed of by the Contractor without any additional compensation. If erosion control materials from the site migrates downstream of the project area or within the reach during construction, it shall be removed and replaced by the Contractor without any additional compensation. The Contractor is advised to document the existing conditions in the channel and to provide a copy of the documentation to the Owner prior to beginning construction.

C.3.33 FINAL INSPECTION AND ACCEPTANCE

Specification 105.21(b)109.04 shall include the following:

Upon written notice that the Contractor considers all work complete, the Engineer shall make a final inspection with the Owner and Contractor and shall notify the Contractor in writing of incomplete or defective work revealed by the inspection. The Contractor shall promptly remedy such deficiencies.

After the Contractor has remedied all deficiencies to the satisfaction of the Engineer and delivered all construction records, survey data drawings, maintenance and operating instructions. Schedules, guarantees, bonds, certificates of inspection and other documents (all as required by the Contract Documents), the Owner and Contractor shall be promptly notified in writing by the Engineer that the work is acceptable.

C.3.34 CUT AND FILL EARTHWORK CALCULATIONS

Earthwork calculations have been completed for the site that account for raw earthwork from existing to finished grade, removing material that will be displaced by proposed riprap, concrete, and soil amendment. Below are the calculations completed to determine the earthwork quantities.

Aspen Pond Excavation (does not include import): 1354 CY

Spruce Pond Excavation (does not include import): 90 CY

Site Work Earthwork (Outside Pond Limits, included cuts and fills): 513 CY

Aspen Pond Import (above and below liner): 2184 CY

Spruce Pond Import (above and below liner): 1580 CY

SCHEDULE E – MEASUREMENT AND PAYMENT

MEASUREMENT OF PAY QUANTITIES

The Contractor shall make all measurements and determine all quantities and amounts of work done under the Contract subject to approval by the Engineer. At the time measurements are made for quantity determinations, the Engineer or his authorized assistant shall be present to verify such measurements. From quantity figures so ascertained, it will be the Contractor's responsibility to prepare a monthly periodical estimate of the work accomplished to date. This estimate shall be submitted to the Engineer each month for his review and check not later than the date established at the pre-construction conference. The form of such monthly estimates is to be subject to the approval of the Engineer.

B. No measurement will be made for:

1. Work performed, or materials placed outside of lines indicated in the plans or established by the Engineer.
2. Materials wasted, used, or disposed of in a manner not called for under the contract.
3. Rejected materials (including material rejected after it has been placed, if the rejection is due to the Contractor's failure to comply with the provisions of the contract).
4. Hauling and disposing of rejected materials.
5. Materials on hand after completion of the work.
6. Any other work or material when payment is contrary to any provision of the contract.
7. All incidental costs necessary for proper performance of the work.

Payment for work performed by the CONTRACTOR under these Contract Documents will be made at the approved unit price or lump sum price for each of the items as listed in the bid proposal and measured as hereinafter specified. Such payment shall compensate the CONTRACTOR for all costs in connection with furnishing all labor, equipment and material required and performing the operations necessary to complete the item in accordance with the contract documents.

Any items of work which are called out in the DRAWINGS and/or the SPECIFICATIONS and do not have a specific line item in the bid proposal but which are necessary to complete the work in accordance with the requirements of good and standard practice, such as sub-grade preparation and form work are to be considered as incidental to the construction of the project and the CONTRACTOR'S cost for such work shall be included in the bid price for the related item of work.

The CONTRACTOR shall accomplish all incidental work essential to the completion of the project, including cleanup and disposal of waste or surplus material without additional cost to the County. The cleanup and disposal of waste or surplus material shall be performed during construction or as soon after as is reasonably possible to better maintain the safety and aesthetics of the construction area.

The quantities listed in the bid schedule are estimated quantities and are listed only for convenience in comparing bids. Unless otherwise noted, final payment will be made for the actual quantities constructed or installed at the contracted unit prices, be they more or less than the listed quantities, said quantities being measured as specified.

All improvement work shall be done in accordance with the most recent edition of the "CDOT Standard Specifications for Road and Bridge Construction and CDOT M+S Standard Plans" and all published

revisions and addenda incorporated therein, except as modified hereinafter, which are incorporated in the Contract Documents by reference as though embodied herein their entirety.

ESTIMATED QUANTITIES

The estimated quantities shown in the bid form are estimates only, being given only as the basis for comparison of the bids, and the County does not warrant, expressly or by implication, that the actual amount of work will correspond therewith. The right to increase or decrease the amount of any class or portion of the work, or to make changes in the work required as may be deemed necessary is reserved by the County as provided elsewhere in these specifications. The basis of payment will be the actual unit bid items of work performed and measured in accordance with the contract unless noted otherwise in the plans or specifications. All prospective bidders should note that certain bid items may be included in the Bid Form to establish a unit price should the use of those items become necessary during construction. Allowance will not be made for loss of anticipated profits of additional compensation should the use of these items be deemed unnecessary.

DESCRIPTION AND PAYMENT

Payment will be made only for those items listed in the bid form. All other items required for the work shall be considered incidental to the construction.

The following describes the method of measurement and payment for all the Bid Items in greater detail than shown on the Form of Bid. This section is intended to be used in conjunction with the DRAWINGS and SPECIFICATIONS to assist in defining the intent and scope of Work included in the Bid Item. Measurement and payment for items listed in the Special Provisions shall supersede the Measurement and Payment listed in the "CDOT Standard Specifications for Road and Bridge Construction and CDOT M+S Standard Plans" Refer to the SPECIFICATIONS for further information. Units of measure shown on the Bid Schedule shall be as follows, unless specified otherwise.

| Pay Item | Unit | Method of Measurement |
|---------------|------|--|
| Acre | AC | Field Measure of area using mean length and width or radius or calculated area within a boundary |
| Cubic Yard | CY | Field Measure of volume by using truck counts or by comparing pre-construction and proposed or post-construction topographic data. |
| Each | EA | Field count |
| Linear Foot | LF | Field Measure to the nearest whole foot or calculated from stationing shown on the Construction Design Plan. |
| Vertical Foot | VF | Field Measure to the nearest whole foot along the vertical plane, perpendicular to the ground or paved surface. |
| Lump Sum | LS | Unit is one; no measurement will be made. |
| Square Foot | SF | Field Measure of area using mean length and width or radius or calculated area within a boundary. |
| Square Yard | SY | Field Measure of area using mean length and width or radius or calculated area within a boundary. |
| Pound | LB | Field Measure of mass by using tickets of delivery. |
| Ton | TN | Field Measure of mass by using tickets of delivery. |

PAYMENT FOR LUMP SUM ITEMS

A. Measurement shall be for work and materials actually completed.

PAYMENT FOR MATERIAL ON HAND

- A. Partial payments may be made on monthly estimates to the extent of 90 percent of the cost of materials not yet incorporated in the completed work, if the materials conform to the following requirements:
 - 1. Meet the requirements of the Contract based upon inspections or testing by the Engineer, and
 - 2. Are delivered to or stockpiled in the vicinity of the project or other storage site(s) specifically approved by the Engineer, and
 - 3. Are properly stored, protected, and insured as to loss, damage, and title.
- B. Material delivered to an off-site storage facility will be considered for partial payment only if:
 - 1. The storage site has been approved by the Engineer.
 - 2. The off-site storage of materials is required for more than thirty calendar days.
 - 3. The material is tagged, labeled, or otherwise identified as belonging to the project.
 - 4. The cost of transportation to the site is provided for in advance.
- C. The cost of the material on hand will be determined by written evidence supplied by the Contractor in sufficient detail as will permit the Engineer to determine the Contractor's actual cost of the materials. The Contractor shall furnish the Engineer with an invoice prior to the progress payment.

201-00000

CLEAR AND GRUB

METHOD OF MEASUREMENT

The quantity of CLEAR AND GRUB to be paid for shall be lump sum. CLEAR AND GRUB shall be in accordance with Section 201 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to mobilize, prepare the project staging area, including stabilized construction access, temporary gravel access path and parking area, removal of facilities and gravel, cleaning up of site, establishment of sanitary facilities, installation of project construction signs, permitting including CDPHE Construction Activity Permit , and all other costs incurred or labor and operations which must be performed prior to beginning the other items under the contract. Payment of shall include, but is not limited to, scalping, roots, shrubs, bushes, landscape edging, and debris within the limits of the project. All holes left behind shall be filled with suitable material to existing grade.

202-00010

REMOVAL OF TREE

METHOD OF MEASUREMENT

The quantity of REMOVAL OF TREE to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. REMOVAL OF TREE shall be in accordance with Section 202 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, removal and off-site disposal of trees, stumps, hauling off tree and debris from tree removal offsite within 24 hours of removal. No additional measurements or payment will be made for removed trees not specifically called out on plans or in bid quantities.

202-00033

REMOVAL OF PIPE

METHOD OF MEASUREMENT

The quantity of REMOVAL OF PIPE to be paid for will be determined by measurement of linear foot of work performed and accepted by the Engineer as complying with the plans and specifications. REMOVAL OF PIPE

shall be in accordance with Section 202 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, remove, and dispose of all pipe that are identified on the project, except utilities, structures and obstructions removed under other contractual agreements, and salvable material designated to remain the property of the Department.

202-00175

REMOVAL OF CONCRETE

METHOD OF MEASUREMENT

The quantity of REMOVAL OF CONCRETE to be paid for will be determined by measurement of square yard of work performed and accepted by the Engineer as complying with the plans and specifications. REMOVAL OF CONCRETE shall be in accordance with Section 202 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, removal and off-site disposal of the concrete and attached materials such as handrailing, sawing, excavation and subsequent backfill of materials removed.

202-00400

REMOVAL OF BRIDGE

METHOD OF MEASUREMENT

The quantity of REMOVAL OF BRIDGE to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. REMOVAL OF BRIDGE shall be in accordance with Section 202 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, removal, off-site disposal, sawing, excavation and all methods related to the bridge removal.

203-00000

UNCLASSIFIED EXCAVATION (SITE WORK)

METHOD OF MEASUREMENT

The quantity of UNCLASSIFIED EXCAVATION (SITE WORK) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per cubic yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan cubic yard. UNCLASSIFIED EXCAVATION (SITE WORK) shall be in accordance with Section 203 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment shall include, but is not limited to, embankment, excavation, haul off of unsuitable materials and earthwork. For the Unclassified Excavation item, the material to be excavated within the pond limits will be excluded from the Unclassified Excavation item. The Unclassified Excavation item will only be for the material outside of the pond limits.

203-00050

UNSUITABLE MATERIAL

METHOD OF MEASUREMENT

The quantity of UNSUITABLE MATERIAL to be paid by the actual measurement of the final compacted material in the pond by the cubic yard. The contractor shall submit a topographic survey of the bottom of the excavated pond and a topographic survey of the final fill elevation of the pond for the calculation of the volume. The contractor shall submit the surveys to the engineer for review. The engineer shall be on site while topo operations are being performed. The cost of the topographic surveys will not be paid separately but shall be incidental to the cost of the work.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment shall include, but is not limited to, excavating and removing all Unsuitable Material from both ponds.

203-00062

EMBANKMENT MATERIAL (SPECIAL)

METHOD OF MEASUREMENT

The quantity of EMBANKMENT MATERIAL (SPECIAL) to be paid by the actual measurement of the final compacted material in the pond by the cubic yard. The contractor shall submit a topographic survey of the bottom of the excavated pond and a topographic survey of the final fill elevation of the pond for the

calculation of the volume. The contractor shall submit the surveys to the engineer for review. The engineer shall be on site while topo operations are being performed. The cost of the topographic surveys will not be paid separately but shall be incidental to the cost of the work.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, **survey** and materials necessary to complete the work. Payment of shall include, but is not limited to, placement of material over the subgrade of the excavation for the ponds and the minimum 1-foot of cover material over the pond liner.

206-00000

STRUCTURE EXCAVATION

METHOD OF MEASUREMENT

The quantity of STRUCTURE EXCAVATION to be paid for shall not be re-measured but shall be the quantities designated in the Contract per cubic yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan cubic yard. STRUCTURE EXCAVATION shall be in accordance with Section 206 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

206-00100

STRUCTURE BACKFILL

METHOD OF MEASUREMENT

The quantity of STRUCTURE BACKFILL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per cubic yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan cubic yard. STRUCTURE BACKFILL shall be in accordance with Section 206 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

206-00520

CLASS B FILTER MATERIAL

METHOD OF MEASUREMENT

The quantity of CLASS B FILTER MATERIAL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per cubic yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan cubic yard. CLASS B FILTER MATERIAL shall be in accordance with Section 206 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

207-00604

TOPSOIL

METHOD OF MEASUREMENT

The quantity of TOPSOIL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square foot. TOPSOIL shall be in accordance with Section 207 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, subgrade preparation, tilling, removal of frozen materials and removal of materials greater than 1" diameter.

208-00000

EROSION CONTROL

METHOD OF MEASUREMENT

The quantity of EROSION CONTROL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per lump sum. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan lump sum. EROSION CONTROL shall be in accordance with Section 208 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

212-00006

SEEDING (NATIVE)

METHOD OF MEASUREMENT

The quantity of SEEDING (NATIVE) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square foot. SEEDING (NATIVE) shall be in accordance with Section 212 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, soil amendments, mycorrhizae, humates imported topsoil as needed

212-00100

TREE PROTECTION

METHOD OF MEASUREMENT

The quantity of TREE PROTECTION to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. TREE PROTECTION shall be in accordance with Section 212 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00205

DECIDUOUS TREE

METHOD OF MEASUREMENT

The quantity of DECIDUOUS TREE to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. DECIDUOUS TREE shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00450

EVERGREEN TREE

METHOD OF MEASUREMENT

The quantity of EVERGREEN TREE to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. EVERGREEN TREE shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00900

DECIDUOUS SHRUBS

METHOD OF MEASUREMENT

The quantity of DECIDUOUS SHRUBS to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. DECIDUOUS SHRUBS shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00910

EVERGREEN SHRUBS

METHOD OF MEASUREMENT

The quantity of EVERGREEN SHRUBS to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. EVERGREEN SHRUBS shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00920

ORNAMENTAL GRASSES

METHOD OF MEASUREMENT

The quantity of ORNAMENTAL GRASSES to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. ORNAMENTAL GRASSES shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00930

PERENNIALS

METHOD OF MEASUREMENT

The quantity of PERENNIALS to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. PERENNIALS shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00935

MULCH

METHOD OF MEASUREMENT

The quantity of MULCH to be paid for will be determined by measurement of square foot of work performed and accepted by the Engineer as complying with the plans and specifications. MULCH shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

214-00940

WETLAND PLUGS

METHOD OF MEASUREMENT

The quantity of WETLAND PLUGS to be paid for will be determined by measurement of square foot of work performed and accepted by the Engineer as complying with the plans and specifications. WETLAND PLUGS shall be in accordance with Section 214 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

304-06000

AGGREGATE BASE COURSE (CLASS 6)

METHOD OF MEASUREMENT

The quantity of AGGREGATE BASE COURSE (CLASS 6) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per ton. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan ton. AGGREGATE BASE COURSE (CLASS 6) shall be in accordance with Section 304 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

504-03411

BOULDER WALL

METHOD OF MEASUREMENT

The quantity of BOULDER WALL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. BOULDER WALL shall be in accordance with Section 504 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, salvage boulders from onsite per plans, excavation, compaction and boulder placement .

514-00000

RETAINING WALL RAILING

METHOD OF MEASUREMENT

The quantity of RETAINING WALL RAILING to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. RETAINING WALL RAILING shall be in accordance with Section 514 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, railing, concrete footer, sleeve, paint, hardware, anchorage and anchorage bolts per plans.

601-03020

24" HERCP FES TOEWALL - CONCRETE CLASS D (DRAINAGE)

METHOD OF MEASUREMENT

The quantity of 24" HERCP FES TOEWALL - CONCRETE CLASS D (DRAINAGE) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per cubic yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan cubic yard. 24" HERCP FES TOEWALL - CONCRETE CLASS D (DRAINAGE) shall be in accordance with Section 601 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, concrete, reinforcing steel, formwork, curing, expansion joints, sealant and contraction joints.

601-03027

CLASS D CONCRETE

METHOD OF MEASUREMENT

The quantity of CLASS D CONCRETE to be paid for shall not be re-measured but shall be the quantities designated in the Contract per cubic yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan cubic yard. CLASS D CONCRETE shall be in accordance with Section 601 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment shall include, but is not limited to, form liner, concrete, formwork, curing, expansion joints, sealant, contraction joints and smooth round steel bar.

602-00000

REINFORCING STEEL EPOXY

METHOD OF MEASUREMENT

The quantity of REINFORCING STEEL EPOXY to be paid for shall not be re-measured but shall be the quantities designated in the Contract per pound. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan pound. REINFORCING STEEL EPOXY shall be in accordance with Section 602 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

603-02245

30x19 INCH REINFORCED CONCRETE PIPE ELLIPTICAL

METHOD OF MEASUREMENT

The quantity of 30x19 INCH REINFORCED CONCRETE PIPE ELLIPTICAL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. 30x19 INCH REINFORCED CONCRETE PIPE ELLIPTICAL shall be in accordance with Section 603 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

603-05124

30x19 HERCP FES

METHOD OF MEASUREMENT

The quantity of 30x19 HERCP FES to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. 30x19 HERCP FES shall be in accordance with Section 603 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

603-02300

45x29 INCH REINFORCED CONCRETE PIPE ELLIPTICAL

METHOD OF MEASUREMENT

The quantity of 45x29 INCH REINFORCED CONCRETE PIPE ELLIPTICAL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. 45x29 INCH REINFORCED CONCRETE PIPE ELLIPTICAL shall be in accordance with Section 603 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

603-05130

45x29 HERCP FES

METHOD OF MEASUREMENT

The quantity of 45x29 HERCP FES to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is

determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. 45x29 HERCP FES shall be in accordance with Section 603 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

605-00060

6" PERFORATED PIPE

METHOD OF MEASUREMENT

The quantity of 6" PERFORATED PIPE to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. 6" PERFORATED PIPE shall be in accordance with Section 605 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, pipe, fittings, aggregate and fabric.

608-00000

CONCRETE SIDEWALK

METHOD OF MEASUREMENT

The quantity of CONCRETE SIDEWALK to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. CONCRETE SIDEWALK shall be in accordance with Section 608 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

609-23000

GUTTER (SPECIAL)

METHOD OF MEASUREMENT

The quantity of GUTTER (SPECIAL) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. GUTTER (SPECIAL) shall be in accordance with Section 609 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

614-00035

SIGNS

METHOD OF MEASUREMENT

The quantity of SIGNS to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square foot. SIGNS shall be in accordance with Section 614 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

614-00000

SIGN POST

METHOD OF MEASUREMENT

The quantity of SIGN POST to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. SIGN POST shall be in accordance with Section 614 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, sign post and concrete.

622-00250

RELOCATE BENCH

METHOD OF MEASUREMENT

The quantity of RELOCATE BENCH to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. RELOCATE BENCH shall be in accordance with Section 622 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

622-00251

BENCH

METHOD OF MEASUREMENT

The quantity of BENCH to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. BENCH shall be in accordance with Section 622 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

622-00253

TRASH CAN

METHOD OF MEASUREMENT

The quantity of TRASH CAN to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. TRASH CAN shall be in accordance with Section 622 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

622-00550

WHEEL STOP (CONCRETE)

METHOD OF MEASUREMENT

The quantity of WHEEL STOP (CONCRETE) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. WHEEL STOP (CONCRETE) shall be in accordance with Section 622 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

623-00000

IRRIGATION AND PUMP

METHOD OF MEASUREMENT

The quantity of IRRIGATION AND PUMP to be paid for shall be lump sum. IRRIGATION AND PUMP shall be in accordance with Section 623 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, controllers, irrigation lines, pumps, valves and all equipment per irrigation plans.

625-00000

SURVEY

METHOD OF MEASUREMENT

The quantity of SURVEY to be paid for shall be lump sum. SURVEY shall be in accordance with Section 625 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

Before final payment is made, the following two items shall be completed, bear the seal and signature of the responsible PLS or PE identified in CDOT subsection 625.01, and have copies submitted to the Engineer for review:

- (1) All survey records
- (2) Supplemental or amended Project Control Diagram.
- (3) Verification of all survey monuments within the project area are intact.

626-00000

MOBILIZATION

METHOD OF MEASUREMENT

The quantity of MOBILIZATION to be paid for shall be lump sum. MOBILIZATION shall be in accordance with Section 626 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment will be according to the following schedule:

When 5% of the original contract amount is earned, 20% of the amount bid for mobilization will be paid.

When 20% of the original contract amount is earned, 50% of the amount bid for mobilization will be paid.

When 35% of the original contract amount is earned, 60% of the amount bid for mobilization will be paid.

When 75% of the original contract amount is earned, 100% of the amount bid for mobilization will be paid.

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

627-00002

ADA STRIPING (THERMOPLASTIC)

METHOD OF MEASUREMENT

The quantity of ADA STRIPING (THERMOPLASTIC) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square foot. ADA STRIPING (THERMOPLASTIC) shall be in accordance with Section 627 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

627-00004

ADA STRIPING (EPOXY)

METHOD OF MEASUREMENT

The quantity of ADA STRIPING (EPOXY) to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square foot. ADA STRIPING (EPOXY) shall be in accordance with Section 627 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

630-00016

TRAFFIC CONTROL (SPECIAL)

METHOD OF MEASUREMENT

The quantity of TRAFFIC CONTROL (SPECIAL) to be paid for shall be lump sum. TRAFFIC CONTROL (SPECIAL) shall be in accordance with Section 630 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

800-00000

ELECTRICAL DEMOLITION

METHOD OF MEASUREMENT

The quantity of ELECTRICAL DEMOLITION to be paid for shall be lump sum. ELECTRICAL DEMOLITION shall be in accordance with Section 800 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

801-00000

PANELBOARDS

METHOD OF MEASUREMENT

The quantity of PANELBOARDS to be paid for shall be lump sum. PANELBOARDS shall be in accordance with Section 801 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

802-00000

WIRING DEVICES

METHOD OF MEASUREMENT

The quantity of WIRING DEVICES to be paid for shall be lump sum. WIRING DEVICES shall be in accordance with Section 802 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

803-00000

LIGHTING

METHOD OF MEASUREMENT

The quantity of LIGHTING to be paid for shall be lump sum. LIGHTING shall be in accordance with Section 803 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

902-00002

RIPRAP PAD TYPE L

METHOD OF MEASUREMENT

The quantity of RIPRAP PAD TYPE L to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. RIPRAP PAD TYPE L shall be in accordance with Section 902 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

902-00003

RIPRAP PAD TPYE VL

METHOD OF MEASUREMENT

The quantity of RIPRAP PAD TPYE VL to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. RIPRAP PAD TPYE VL shall be in accordance with Section 902 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

904-00004

SLOTTED TRENCH DRAIN WITH GALV STEEL SLOTTED GRATE

METHOD OF MEASUREMENT

The quantity of SLOTTED TRENCH DRAIN WITH GALV STEEL SLOTTED GRATE to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. SLOTTED TRENCH DRAIN WITH GALV STEEL SLOTTED GRATE shall be in accordance with Section 904 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

905-00005

6" HDPE CULVERT

METHOD OF MEASUREMENT

The quantity of 6" HDPE CULVERT to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. 6" HDPE CULVERT shall be in accordance with Section 905 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

905-00007

10" HDPE CULVERT

METHOD OF MEASUREMENT

The quantity of 10" HDPE CULVERT to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. 10" HDPE CULVERT shall be in accordance with Section 905 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

905-00008

12" HDPE CULVERT

METHOD OF MEASUREMENT

The quantity of 12" HDPE CULVERT to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. 12" HDPE CULVERT shall be in accordance with Section 905 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

905-00010

10" HDPE FES

METHOD OF MEASUREMENT

The quantity of 10" HDPE FES to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. 10" HDPE FES shall be in accordance with Section 905 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

905-00011

12" HDPE FES

METHOD OF MEASUREMENT

The quantity of 12" HDPE FES to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. 12" HDPE FES shall be in accordance with Section 905 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

906-00012

POND LINER

METHOD OF MEASUREMENT

The quantity of POND LINER to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is

determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. POND LINER shall be in accordance with Section 906 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, 45 MIL reinforced polyethylene liner and pond liner attachments

907-00013

EX FOUNTAIN TO BE RELOCATED

METHOD OF MEASUREMENT

The quantity of EX FOUNTAIN TO BE RELOCATED to be paid for shall be lump sum. EX FOUNTAIN TO BE RELOCATED shall be in accordance with Section 907 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, existing fountain to be relocated per the plans.

908-00014

GAZEBO

METHOD OF MEASUREMENT

The quantity of GAZEBO to be paid for shall be lump sum. GAZEBO shall be in accordance with Section 908 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, coordination with El Paso County, gazebo as specified in plans, foundation, and paint.

909-00015

EX ELECTRICAL BOX TO BE REMOVED

METHOD OF MEASUREMENT

The quantity of EX ELECTRICAL BOX TO BE REMOVED to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. EX ELECTRICAL BOX TO BE REMOVED shall be in accordance with Section 909 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

909-00016

ELECTRICAL BOX

METHOD OF MEASUREMENT

The quantity of ELECTRICAL BOX to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. ELECTRICAL BOX shall be in accordance with Section 909 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

910-00016

REMOVAL OF GAZEBO AND WALKWAY

METHOD OF MEASUREMENT

The quantity of REMOVAL OF GAZEBO AND WALKWAY to be paid for shall be lump sum. REMOVAL OF GAZEBO AND WALKWAY shall be in accordance with Section 910 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, removal and disposal of all materials related to existing gazebo including gazebo, walkway and foundation 2' below bottom of pond liner installation.

911-00017

SALVAGE RAILROAD TIES

METHOD OF MEASUREMENT

The quantity of SALVAGE RAILROAD TIES to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. SALVAGE RAILROAD TIES shall be in accordance with Section 911 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, salvage railroad ties as directed by engineer

912-00018

REPLACE RAILROAD TIES

METHOD OF MEASUREMENT

The quantity of REPLACE RAILROAD TIES to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. REPLACE RAILROAD TIES shall be in accordance with Section 912 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, replace railroad ties as directed by engineer

912-00019

RAILROAD TIE STEP TO BE ADDED TO TRAIL

METHOD OF MEASUREMENT

The quantity of RAILROAD TIE STEP TO BE ADDED TO TRAIL to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. RAILROAD TIE STEP TO BE ADDED TO TRAIL shall be in accordance with Section 912 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

912-00020

CONNECT TO RAILROAD TIE AND AREA DRAIN

METHOD OF MEASUREMENT

The quantity of CONNECT TO RAILROAD TIE AND AREA DRAIN to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. CONNECT TO RAILROAD TIE AND AREA DRAIN shall be in accordance with Section 912 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

913-00022

RAILROAD TIES TO BE REMOVED AND REPLACED PR AREA DRAIN

METHOD OF MEASUREMENT

The quantity of RAILROAD TIES TO BE REMOVED AND REPLACED PR AREA DRAIN to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. RAILROAD TIES TO BE REMOVED AND REPLACED PR AREA DRAIN shall be in accordance with Section 913 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

917-00026

SALVAGE BOULDER

METHOD OF MEASUREMENT

The quantity of SALVAGE BOULDER to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. SALVAGE BOULDER shall be in accordance with Section 917 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

Payment of shall include, but is not limited to, Ex boulders to be replaced along walkway.
Ex boulders impacted by ADA seating area to be relocated. Contractor to coordinate with county staff.
Existing boulders to be removed and stored for future placement around the ponds. Contractor to coordinate with county staff for relocation of existing boulders.
Existing boulders to be placed along shoreline

919-00029

BREEZE

METHOD OF MEASUREMENT

The quantity of BREEZE to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. BREEZE shall be in accordance with Section 919 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

920-00030

4-6" ROCK

METHOD OF MEASUREMENT

The quantity of 4-6" ROCK to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. 4-6" ROCK shall be in accordance with Section 920 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

921-00031

LANDSCAPE EDGING

METHOD OF MEASUREMENT

The quantity of LANDSCAPE EDGING to be paid for shall not be re-measured but shall be the quantities designated in the Contract per linear foot. Exceptions will be made when field changes are ordered or when

it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan linear foot. LANDSCAPE EDGING shall be in accordance with Section 921 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

922-00032

SITE LIGHTING

METHOD OF MEASUREMENT

The quantity of SITE LIGHTING to be paid for shall be lump sum. SITE LIGHTING shall be in accordance with Section 922 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

924-00034

6" ROUND AREA DRAIN

METHOD OF MEASUREMENT

The quantity of 6" ROUND AREA DRAIN to be paid for shall not be re-measured but shall be the quantities designated in the Contract per each. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan each. 6" ROUND AREA DRAIN shall be in accordance with Section 924 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work. Payment of shall include, but is not limited to, 6" HDPE Atrium Grate, 6" Drain, 4" concrete pad, railroad ties and associated materials needed to connect to the drain line per plans.

925-00035

DEWATERING PONDS

METHOD OF MEASUREMENT

The quantity of DEWATERING PONDS to be paid for shall be lump sum. DEWATERING PONDS shall be in accordance with Section 925 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

927-00037

RELOCATE PICNIC TABLE

METHOD OF MEASUREMENT

The quantity of RELOCATE PICNIC TABLE to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. RELOCATE PICNIC TABLE shall be in accordance with Section 927 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

928-00038

6" DRAIN AND GATE VALVE

METHOD OF MEASUREMENT

The quantity of 6" DRAIN AND GATE VALVE to be paid for will be determined by measurement of each of work performed and accepted by the Engineer as complying with the plans and specifications. 6" DRAIN AND GATE VALVE shall be in accordance with Section 928 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

929-00039

LOG EROSION BARRIERS

METHOD OF MEASUREMENT

The quantity of LOG EROSION BARRIERS to be paid for will be determined by measurement of linear foot of work performed and accepted by the Engineer as complying with the plans and specifications. LOG

EROSION BARRIERS shall be in accordance with Section 929 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

608-00000

CONCRETE SIDEWALK

METHOD OF MEASUREMENT

The quantity of CONCRETE SIDEWALK to be paid for shall not be re-measured but shall be the quantities designated in the Contract per square yard. Exceptions will be made when field changes are ordered or when it is determined that there are discrepancies in the plans in an amount of at least plus or minus five percent of the plan square yard. CONCRETE SIDEWALK shall be in accordance with Section 608 of the CDOT Standard Specifications for Road and Bridge Construction.

BASIS OF PAYMENT

Payment shall be made at the applicable contract unit price for Bid Item and shall include full compensation for all labor, equipment, tools, and materials necessary to complete the work.

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TECHNICAL SPECIFICATIONS

This section contains the Standard Specifications and Revisions of Standard Specifications.

STANDARD SPECIFICATIONS

The following are the Standard Specifications which apply to this project. In the event there are conflicting Standard Specifications, the order of precedence will be based upon the listed order of precedence below.

1. Drawings (Plans)
2. Schedule F - Technical Specifications
3. Schedule E - Measurement and Payment
4. Schedule C - Technical Provisions
5. Field Markings and Construction Oversight (Figure dimensions will govern over scaled dimensions on all Plans) G
6. General Provisions
7. Digital drawing files, if provided to the Contractor.

All Contractors are required to have on the job site and utilize the current updated copy of the Standard Specifications applicable to the work.

Any revisions to the Standard Specifications can be found in this document.

COLORADO DEPARTMENT OF TRANSPORTATION

1. The "Colorado Department of Transportation Standard Specifications for Road and Bridge Construction", 2023 version, and all published standard special provisions, except as modified hereinafter, which are incorporated in the contract documents by reference as though embodied herein in their entirety, shall apply to this project. This document is referenced as the "CDOT Standard Specifications". The following Technical Specifications, or revisions to the CDOT Standard Specifications, shall apply to this project unless otherwise contradicted hereinafter. Inclusion of these revisions does not override the detailed M&P specifications.
2. The "Colorado Department of Transportation M&S Standard Plans", latest version, except as modified hereinafter, which are incorporated in the contract documents by reference as though embodied herein in their entirety, shall apply to this project. This document is reference as the "CDOT Standard Plans".

Revisions to Colorado Department of Transportation Standard Specifications

The definition of the Engineer in the Colorado Department of Transportation (CDOT) Standard Specifications is revised to mean the Engineer as defined in Schedule C of the Technical Provisions.

References within the CDOT Standard Specifications that identify approval by CDOT are hereby revised to mean approval by the Engineer.

References within the CDOT Standard Specifications that identify requirements with CDOT Procedures are in effect to the extent the Engineer determines applicability to the County project.

References within the CDOT Standard Specifications that identify pre-approved products that are on the CDOT Approved Products List are recognized by the County as acceptable material for this County project.

The following Revisions supplement or modify the Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction. Measurement and Payment for all bid items shall be in accordance with Schedule E - Measurement and Payment and shall take precedence over the measurement and payment sections of the Standard Specifications and revisions thereof.

REVISION OF CDOT SECTIONS 201
CLEAR AND GRUBBING

Sections 201 of the Standard Specifications are revised to include the following:

Subsection 201.01 shall include the following:

The contractor shall keep all construction activities within the limits of disturbance as detailed in the plans. If construction activities exceed the limits of disturbance, the contractor shall be responsible for obtaining a Stormwater Control Plan and all necessary permits.

REVISION OF CDOT SECTIONS 202
REMOVAL OF TREE

Sections 202 of the Standard Specifications are revised to include the following:

Subsection 202.01 shall include the following:

The contractor shall haul off all tree debris from the project site and off Fox Run Regional Park within 24 hours of the trees being cut down. The tree trunks that are to be used as log erosion barriers shall be stored offsite and brought back on site when the log erosion barriers are to be installed. All tree stump removal shall be included in the removal of tree. Stumps shall be removed a minimum of 6 inches below the surface of the final slope line.

SECTIONS 203 EXCAVATION AND EMBANKMENT

Sections 203 of the Standard Specifications are revised to include the following:

Subsection 203.01 shall include the following:

Contractor to confirm location of existing intake pipe with County prior to earthwork operations within the pond and intake pipe to remain and to be protected in place.

For item 203-00000 Unclassified Excavation (SITE WORK) item, will be for the material to be excavated and placed outside of the pond limits. This work will include embankment, excavation, haul off of unsuitable materials and earthwork outside of the limits of the ponds.

For item 203-00050 UNSUITABLE MATERIAL, work shall consist of excavating and removing all Unsuitable Material from both ponds. Unsuitable Material is any material that, in the opinion of the Engineer, is not suitable for use as fill, subgrade, or base beneath the pond liner. This includes but is not limited to organic materials, highly compressible soils, or materials containing a high level of moisture. Excavation of unsuitable material shall be performed in accordance with the project specifications. The Engineer will identify the unsuitable material and the areas requiring excavation. All unsuitable material shall be removed from the work site and disposed of in an approved location. Disposal shall conform to the environmental and waste disposal regulations. The subgrade of the ponds shall be prepared to ensure proper installation of the pond liner. Grading the subgrade to a smooth and level surface. Ensuring that the subgrade is free of sharp objects, debris, and any material that could damage the liner. Compaction of the subgrade to the required density.

For item 203-00062 EMBANKMENT MATERIAL (SPECIAL), work will consist of placement of material over the subgrade of the excavation for the ponds and the minimum 1-foot of cover material over the pond liner. After the liner is properly installed and anchored, a minimum of 1-foot of cover material shall be placed over the liner. The cover material shall conform to the requirements in the approved plans. The cover material must be free of material larger than ½ inch rocks, roots, or debris that could puncture or damage the liner. During placement of the cover material, the liner shall not be damaged during placing operations.

REVISION OF CDOT SECTIONS 207 TOPSOIL

Sections 207 of the Standard Specifications are revised to include the following:

Subsection 207.02 shall include the following:

A. Topsoil Testing Requirements

- a. After rough grading has been completed, a minimum of three (3) composite soil samples shall be collected, one (1) in areas to receive Upland Seed Mix and one (1) in areas to receive Riparian Transition Seed Mix, and one (1) from the topsoil stockpile.
- b. Contractor shall indicate topsoil stockpiles or placement locations to the Engineer prior to sampling.
- c. Soil samples must be collected by the Engineer and submitted for soil fertility and texture testing prior to application of soil conditioner or amendments and application of seed.
- d. If soil testing indicates native topsoil and wetland topsoil meet the minimum specifications as defined in the seeding specifications, native material may be reused, unamended as determined by the Engineer.
- e. If soil testing indicates native topsoil does not meet minimum specifications, the Engineer shall confirm the required amendments necessary to meet the minimum specifications.
- f. Based on the soil test results, the Engineer shall provide recommendations for soil amendments, conditioners, or treatments to be incorporated to produce a soil suitable for healthy, viable plant growth based on the species indicated in the design plans.

B. Topsoil required characteristics

- a. Soil reaction (pH): 6.5 – 7.8
- b. Organic Matter Content: 1-3%
- c. Cation exchange capacity: 10-30 meq/100g
- d. Soluble Salt Content (conductivity): <0.8 mmhos/cm for soil: water ratio of 1:2
- e. Nitrogen: 5-15 ppm
- f. Phosphorus: 10 – 15 ppm (Olson bicarbonate method); 20 – 30 ppm (Mehlich III method)
- g. Potassium: 100 – 200 ppm
- h. Magnesium: 60 - 300 ppm
- i. Sulfur: 5.0 - 20 ppm
- j. Zinc: 1.0 – 3.0 ppm

Subsection 207.03 shall include the following:

- A. Within the project area, the top six inches (6") of topsoil and/or wetland topsoil shall be salvaged and stockpiled for reuse.
- B. Topsoil stockpiles shall not exceed a height of ten feet (10') to preserve soil microbes.
- C. Any stockpiles remaining longer than 30 days shall be seeded with a sterile temporary cover (such as Quick Guard sterile triticale hybrid cover crop or approved equivalent) or the approved specified final seed mix.
- D. Stockpiled topsoil shall be treated for any weeds that may start to grow. The stockpile shall be ripped/turned as necessary to maintain the inherent organic material present in the soil from drying due to compaction.
- E. Prior to placement of topsoil, the contractor shall rip the subgrade a minimum of twelve inches (12") deep.
 - a. Soil shall be de-compacted to a field soil penetrometer test between 75-125 psi prior to placement of topsoil. If de-compaction requirements cannot be met, notify the Engineer immediately.
 - b. The use of excavator tines for ripping is not an acceptable method.
 - c. Soil shall be ripped in rows perpendicular to the slopes.
 - d. Remove all frozen materials and materials greater than three inches (3") in diameter.
 - e. After de-compaction has taken place, any soil that becomes recompacted due to construction activity shall be de-compacted again.
- F. Topsoil shall be placed to a minimum depth of six inches (6") on all disturbed areas. If depth is not possible, notify the Engineer immediately.
 - a. Topsoil shall not be placed when subsoil is frozen or saturated.
- G. Where soil amendment is required, it shall be applied according to Section 212 – Seeding, Fertilizer, Soil Conditioner, and Sodding.
 - a. No soil conditioning, seeding, or planting shall occur until topsoil testing is accepted.

REVISION OF CDOT SECTIONS 208 EROSION CONTROL

Sections 208 of the Standard Specifications are revised to include the following:

Subsection 208.01 shall include the following:

The contractor shall be responsible for The Contractor shall be responsible to install sufficient temporary erosion control facilities to minimize erosion in areas impacted by access, staging, and construction and washouts that may occur due to the lack of proper erosion control facilities.

The Contractor shall use measures to prevent and control dust and mud within the area affected by the project in accordance with applicable permits. No additional compensation will be paid to the Contractor for general dust control. Vehicle-tracking control mats will be required at the access points to the County Parks roads. Removal of vehicle-tracking mats will be accomplished prior to re-vegetation.

The Contractor shall clean off any soil, dirt, or debris tracked onto any adjacent streets. When notified by the Owner that the adjacent streets require cleaning, the Contractor shall clean the streets within 2 hours of such notification, or the Owner shall arrange to have the streets cleaned and shall deduct the cost of such cleaning from the Contractor's payments.

All work and materials associated with installation and maintenance of temporary erosion control facilities until permanent stabilization is achieved will be paid for in the lump sum price bid for temporary erosion and sediment control.

REVISION OF CDOT SECTIONS 212
SEEDING, FERTILIZER, SOIL CONDITIONER, AND SODDING

Sections 212 of the Standard Specifications are revised to include the following:

Subsection 212.02 shall include the following:

- A. Humate Soil Conditioner
 - a. Contractor should bid assuming humate will be applied at a rate of 250 pounds per one (1) acre as shown on the design plan. Final rates will be determined by the soil sampling results and approved by the Engineer prior to placement and incorporation.
 - b. Humate shall have the following characteristics:
 - (a) Humic Acids > 50%
 - (b) Organic Matter > 85%
 - (c) pH: 3.4, maximum.
 - (d) Nitrogen: 1%
 - (e) Phosphorus P₂O₅ < 0.1%
 - (f) Potassium K₂O < 0.1%
 - (g) Mountain peat, aspen humus, gypsum, and sand will not be accepted.
- B. Organic Compost
 - a. Contractor should bid assuming organic compost shall be applied at a rate of two (2) cubic yards per 1,000 SF as shown on the design plan. Final rates will be determined by the soil sampling results and approved by the Engineer prior to placement and incorporation.
- C. Prior to seed purchase, the contractor shall submit to the Engineer the individual seed lot analyses with weed species information certifying that the seed being furnished is from a lot that has been tested by a recognized laboratory for seed testing with twelve (12) months prior to purchase.
 - a. The Engineer may reject the submittal and request a different seed lot be utilized if materials found in the seed lot analyses are deemed inappropriate to use on the site.
 - b. Seed purchased prior to review and approval of the seed lot analysis will be at the contractor's expense and is not allowed to be used onsite.
- D. Seed shall be only that which is specified by the Engineer and these Specifications. No species substitutions shall be permitted without prior approval of the Engineer.

a. Upland Seed Mix

UPLAND SEED MIX

[illegible]

b. Riparian Transition Seed Mix

RIPARIAN TRANSITION SEED MIX

[illegible]

Subsection 212.03 shall include the following:

- A. Contractor shall notify the Engineer when seeding is to take place one (1) week prior to seeding. Seed tags from all mixtures shall be supplied to the Engineer before being placed.
- B. Seed shall not be applied during inclement weather including rain and high winds, or when soil is frozen, or soil moisture is too high to evenly distribute seed.
- C. Seeding locations and extents shall be in accordance with the design plans.
- D. Moisten prepared areas to be seeded prior to planting when soil is dry. Water thoroughly and allow the surface to dry before seeding. Do not create muddy conditions. Restore prepared areas if eroded or disturbed after fine grading and before planting.
- E. Following seeding, all seeded areas shall be watered sufficiently to saturate the soil.

REVISION OF CDOT SECTIONS 504
BOULDER WALL

Sections 504 of the Standard Specifications are revised to include the following:

Subsection 504.01 shall include the following:

504.01 This work consists of excavation and installation of the Boulder Wall as detailed in the plans. The boulders for the wall shall be sourced from on-site. Boulders shall be approved by the engineer prior to installation.

Subsection 504.02 shall include the following:

Engineer to approve of boulder selection prior to installation. Rejected boulders shall be removed at contractor's expense.

REVISION OF CDOT SECTIONS 514
PEDESTRIAN AND BIKEWAY RAILING

Sections 514 of the Standard Specifications are revised to include the following:

Subsection 504.01 shall include the following:

The work for the retaining wall railing shall include the railing, concrete footing, sleeve, hardware, anchorage and paint for the railing.

Subsection 504.02 shall include the following:

The paint color shall be approved by the engineer prior to fabrication.

REVISION OF CDOT SECTIONS 601
STRUCTURAL CONCRETE

Sections 601 of the Standard Specifications are revised to include the following:

Subsection 601.01 shall include the following:

The work for the Class D Concrete Pay Item shall include form liner, expansion joint and sealant, non-sag sealant, sika green streak water stop and smooth round steel bar with expansion cap.

Subsection 601.03 shall include the following:

The following materials shall be submitted to the Engineer for approval: form liner, expansion joint and sealant, non-sag sealant, sika green streak water stop and smooth round steel bar with expansion cap.

REVISION OF CDOT SECTIONS 622

REST AREAS AND BUILDINGS

Sections 622 of the Standard Specifications are revised to include the following:

Subsection 622.02 shall include the following:

The contractor shall submit product data and shop drawings for the benches, picnic table benches and trash cans including materials, dimensions, and details to the Engineer for review and approval prior to installation.

The footings shall be included in the work for the trashcan item.

REVISION OF CDOT SECTIONS 623 IRRIGATION SYSTEM

Sections 623 of the Standard Specifications are revised to include the following:

Subsection 623.01 shall include the following:

The Irrigation System and Pump item shall include all required Irrigation and Pump station improvement scope as detailed in the plans.

Delete subsection 623.03, 623.07(b), 623.09, 623.11(c), 623.13

Delete subsection 623.10(c) and replace with the following.

623.10(c) Lateral Line Pipe. Lateral line pipe shall be rigid, unplasticized polyvinyl chloride (PVC) round pipe, National Sanitation Foundation (NSF) approved, extruded from material meeting the requirements of Cell Classification 12454 as defined in ASTM Standard D1784, with an integral belled end. Use Class 200, SDR-21, rated at 200 PSI, conforming to the dimensions and tolerances established by ASTM Standard D2241. Use PVC pipe rated at higher pressures than Class 200 in the case of small nominal diameters that are not manufactured in Class 200. All belled end pipe shall have tapered sockets to create an interference type fit, which meet or exceed the dimensional requirements and minimum socket length for pressure type sockets as defined by ASTM Standard 2672. Use Schedule 40/80, Type 1, Cell Classification 12454, PVC solvent weld fittings conforming to ASTM Standard D1784 and ASTM Standard D2466 (Schedule 40)/D2467 (Schedule 80). Use primer approved by the pipe manufacturer. Solvent cement to conform to ASTM Standard D2564, of a type approved by the pipe manufacturer. Solvent welded pipe shall not be installed when the outside temperature drops below forty-five (45) degrees Fahrenheit.

Subsection 623.02 shall include the following:

The Pump Station improvement scope materials shall be in accordance with the following requirements, 716.02 Welded Steel Pipe, 716.03 Galvanized Pipe and 716.04 Copper Pipe.

Subsection 623.11(g) shall include the following:

Air/Vacuum Relief Valve Assembly. As presented in the installation details

CONSTRUCTION REQUIREMENTS

Delete subsection 623.20

Subsection 623.13 shall include the following:

623.14. Submersible Pump. Construction of major parts of the pumping unit(s) including pump casing, impeller, motor head cover and intermediate brackets shall be manufactured

from recyclable, application appropriate resins. All exposed fasteners shall be stainless steel and shall have stainless steel mating anchors integrally cast into the mating part. All units shall be furnished with a NPT discharge companion flange. Impellers shall be of the multi-vane, semi-vortex, solids handling design and shall be slip fit to the shaft. The motor shaft shall be machined to provide a positive drive of the impeller. The pump casing shall incorporate an air relief valve.

Pump shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber. Units shall be fitted with a device that shall provide positive lubrication of top mechanical seal (down to one third of the standard oil level). The device shall not consume any additional electrical power. Units shall have silicon carbide mechanical seal faces. Mechanical Seal hardware shall be stainless steel.

The pump motor(s) shall be 1 hp., 115V., 60 Hz., single phase and have a 1.15 service factor and shall be rated for 6 starts per hour.

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief, a one piece, three-way mechanical compression seal with a fatigue reducing cable boot. The cable entrance assembly shall contain an anti-wicking block to eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.

Pump Vault. Furnish rotational molded polyethylene vault with lid and 3-inch discharge port and a minimum free open area of 8 square inches.

Plastic Pipe and Fittings. Supply pipe shall be Class 200 PVC manufactured from virgin polyvinyl chloride (PVC) compound per ASTM D1784 and D2241, cell classification 12454-B, Type I, Grade I. Pipe sizes 3 inches and smaller shall be of the solvent weld type. Fittings shall be standard weight schedule 40 injection molded PVC conforming to ASTM D1784 and D2466, cell classification 12454-B. Threaded nipples shall be schedule 80 PVC with molded threads conforming to ASTM D2464. Threaded fittings shall be kept to a minimum. Cement and cleaner for solvent weld pipe and fittings shall conform to ASTM D2564.

Balance Valve. Furnish cast iron resilient seat gate valve conforming to AWWA C-509 with threaded connections as shown in the drawings.

Check Valve. Furnish plastic 90-degree swing-style check valve with dual-union connections.

Valve Box. The valve box, cover and necessary extensions shall be as shown on the plans, and shall be manufactured or molded, virgin plastic materials conforming to ASTM D638 and D648.

Supply Fitting. Furnish fitting with a 2-inch PVC slip connection a maximum flowrate of 125 gpm.

CONSTRUCTION REQUIREMENTS

Subsection 623.14 shall include the following:

Excavation and Backfill. Excavation and backfill shall conform to the requirements of Section 206 and subsection 703.08(b) (Class 2 Structure Backfill), except that compaction of backfill outside of the roadway prism may be done by water flooding, with the approval of the Engineer. The Contractor shall maintain bottoms of trenches flat to permit all piping to be supported on an even grade. Where lines occur under paved areas, dimensions shall be considered to be below the subgrade. All pipe shall be bedded in sand to allow a minimum of 2 inches of sand on all sides. Rock larger than 1 inch shall not be placed in the backfill material.

Where it is necessary to excavate adjacent to existing trees or shrubs, the Contractor shall use all possible care to avoid injury to the plant root system.

- Pipe Installation. Minimum cover for supply pipe shall be as follows:

Supply Pipe 24 inches below finished grade

Pipe Sleeving 30 inches below finished grade

All pipes under hardscape shall be encased in a plastic pipe sleeve placed by trenching on new construction. The Contractor shall tape all open ends of the pipe during installation to prevent entry of any foreign matter into the system.

- Valve Boxes. All valve boxes shall be installed flush with the finished grade. Geotextile filter fabric shall be placed under valve box and extend a minimum of 4 inches beyond bottom rim of valve box. Valves and valve boxes shall not be installed in low areas subject to standing water.
- System Flushing. After all pipelines and valves are in place and connected, and before installation of supply fitting, the Contractor shall thoroughly flush all lines with water at system operating pressure.
- Inspections. Inspections by the Engineer or the Engineer's representative can be made at any point during construction. Milestone progress dates shall be established at the Pre-construction Conference and 72-hour notice shall be given by the Contractor when a milestone event is approaching.
- As-Constructed Plans. The Contractor shall dimension from two permanent reference points, building corners, sidewalk corners, road intersections or any permanent structures, the location of the following items:

- (1) Location of pump and vault assembly
- (2) Routing of supply pipe
- (3) Location of balance valve

(4) Location of supply fitting

The Contractor shall provide an accurately detailed as-constructed layout of the system at the same scale as the design plans within 90 days after installation is complete and before notice of substantial landscape completion as defined in subsection 214.04. An in-progress as-constructed plan shall be kept on the construction site at all times and available for impromptu review by the Engineer or the Engineer's representative.

Provision of the final as-constructed plan is a condition for final acceptance and release of retainage.

All changes in the system layout shall also be indicated on as-constructed plans.

The Contractor shall provide finalized as-constructed plans to the Engineer at the time of Final Landscape Acceptance.

- Maintenance Manuals and Training. Before Final Landscape Acceptance, the Contractor shall provide two individually bound maintenance manuals to the Department for the water feature system, and shall train the owner's maintenance personnel in the proper operation of all equipment, including winterization procedures. Each manual shall contain the following:

(1) Index sheet, stating contractor's name, address, telephone number and name of person to contact.

(2) Duration of equipment or component warranty and warranty form.

(3) Equipment list providing the following for each item:

- a. Manufacturer's name
- b. Make and model number.
- c. Name and address of manufacturer's local authorized distributor
- d. Spare parts list in detail
- e. Detailed operating and maintenance instructions for pump and balance valve

(4) Descriptions of all installed materials and systems in sufficient detail to permit maintenance personnel to understand, operate, and maintain the equipment. A printout of the as-constructed plans shall be provided. Following approval of charts by the Engineer, they shall be hermetically sealed between two layers of plastic sheet, each 20 mils thick.

- Warranty. The Contractor shall warranty the system for a duration of 30 calendar days. To ensure proper operation of the system, the Contractor shall perform, as required, warranty activities including, but not limited to the following:

(1) Inspection of the system and correction of system leaks, improperly operating valves, and other components.

- Cleanup. Upon completion of the work, the Contractor shall restore ground surfaces to required elevations and remove excess materials, debris, and equipment from the site.
- Keys and Repair Components. Two keys shall be furnished for manual operation of balance valve. Keys shall be of adequate length and made of non-corrosive metal. A replacement impeller for the submersible pump shall be furnished.

PUMP ELECTRICAL CONTROLS. Furnish NEMA 1 control enclosure with hand off automatic switch to house pump magnetic starter, pilot operating lights, timers, relays, lightning protection, control transformer, ground fault circuit, etc. Furnish panel and components designed for 120 volt, three phase operation. Contractor to provide shop drawing with a bill of materials, mechanical layout, and electrical schematic to Owner for approval prior to fabrication and installation. All equipment and controls furnished shall conform to Article 680 of the National Electric Code.

Control panel must perform the following functions

1. Operate circulation pump based on pump start signal from Water Feature Timer/Controller.
2. Indicating lamps shall signal "On - Off - Failure" operation.
3. Shut off pump based on low voltage, phase failure, or ground fault.
4. Indicate mechanical seal failure with lamp.
5. Protect controls and pump from lightning.

WATER FEATURE TIMER/CONTROLLER. Furnish 2 station, solid state controller for operation of filter skids and pumps. Furnish controller with multiple program capability and multiple starts per day. Furnish OMRON model H5L-A timer with 2 pole, SPST switches rated for 15 amps at 120 VAC or Engineer approved equal.

REVISION OF CDOT SECTIONS 626
MOBILIZATION

Sections 626 of the Standard Specifications are revised to include the following:

Subsection 626.01 shall include the following:

The contractor shall remain responsible for all equipment operations and replace any damage to the Fox Run Regional Park that was not called to be removed and replaced on the plans. Any damage that occurs to the Fox Run Regional Park will be replaced with equal or better conditions. The contractor shall be responsible for all construction related traffic in and out of the park. The contractor shall be responsible for the condition of the access roads in Fox Run Regional Park.

REVISION OF CDOT SECTIONS 630
CONSTRUCTION ZONE TRAFFIC CONTROL

Sections 630 of the Standard Specifications are revised to include the following:

Subsection 630.01 shall include the following:

The contractor shall be responsible for closure of all adjacent trails, managing vehicle and pedestrian traffic around the construction site. The contractor shall keep all pedestrians and trail users out of the construction site and provide adequate traffic control devices and signage.

Subsection 630.10 shall include the following:

This work will include all temporary signs, construction fencing, traffic control devices and flagging needed for safe operations of the project.

REVISION OF CDOT SECTIONS 800 ELECTRICAL DEMOLITION

DESCRIPTION

800.01 This work shall consist of demolishing electrical equipment, electrical devices, lighting devices and lighting controls. This work also consists of maintaining and abandoning the existing conduit to existing gazebo. Electrical Contractor shall coordinate installation with electrical drawings.

MATERIALS

800.02 Electrical Contractor shall use materials and equipment required for demolishing electrical equipment, electrical devices, lighting devices and lighting controls. Contractor shall use materials and equipment for maintaining and abandoning the existing conduit to existing gazebo. Provide materials and equipment for patching and extending work.

CONSTRUCTION REQUIREMENTS

800.03 All work shall conform to these specifications and the National Electric Code (NEC). Contractor shall verify that wiring and equipment that shall be abandoned serve only abandoned facilities. Contractor shall accept existing conditions at the beginning of demolition. Maintain existing system until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.

(a) Receptacles. Disconnect and remove existing receptacles as shown on drawings. Remove abandoned outlets and conduits servicing existing receptacle that shall be removed.

(b) Light Fixtures. Disconnect and remove existing light fixture as shown on drawings. Remove abandoned outlets and conduits servicing existing lighting fixtures that shall be removed.

(c) Panel. Disconnect and remove existing panel. Remove abandoned outlets, branch circuit wires and conduits from existing panel that shall be removed.

(d) Conduit to Gazebo Panel. Abandon and Maintain existing underground feeder as shown on drawing. Remove abandoned wiring to source of supply. Conduit shall be capped off. Abandon in Place.

REVISION OF CDOT SECTIONS 801 PANELBOARDS

DESCRIPTION

801.01 This work shall consist of furnishing and installing panelboard, conduits, wiring, and grounding to electrical panel. Electrical Contractor shall coordinate installation with electrical drawings.

MATERIALS

801.02 Electrical Contractor shall use materials and equipment required for installing a new panelboard. Furnish panelboards and associated components produced by the same manufacturer as the other electrical distribution equipment used for this project and obtained from a single supplier. Coordinate panelboard electrical requirements with electrical drawings.

CONSTRUCTION REQUIREMENTS

801.03 All work shall conform to these specifications and the National Electric Code (NEC). Electrical Contractor shall install panelboard in proper location and at proper mounting heights. Panelboard shall be installed with required NEC clearances. Configure for top or bottom incoming feed as required for the installation. Provide clear plastic circuit directory holder mounted on inside of door, with type written branch circuit directory. Perform work in accordance with NECA 1 (general workmanship).

(a) Panelboard. Furnish and Install Panelboard as shown on drawings. Furnish and install conduits, wiring, and grounding as required by NEC for a complete electrical system.

Panelboard shall have voltage, phase, amperage, enclosure type, AIC rating, and branch circuit overcurrent protective devices as shown on electrical drawings.

REVISION OF CDOT SECTIONS 802 WIRING DEVICES

DESCRIPTION

802.01 This work consists of furnishing and installing lighting control dimmers, receptacles, wall plates, and sump pump. Coordinate installation of wiring devices with electrical drawings.

MATERIALS

802.02 Electrical Contractor shall use materials and equipment required for furnishing and installing wiring devices. Furnish wiring devices suitable for intended use and with rating adequate for load served. Provide GFCI protection as required by NEC. Coordinate wiring devices electrical requirements with electrical drawings for wiring devices.

CONSTRUCTION REQUIREMENTS

802.03 All work shall conform to these specifications and the National Electric Code (NEC). Contractor shall install outlet boxes in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NEC. Perform work in accordance with NECA 1 (general workmanship).

Provide Conduit, Wiring and grounding as required. Conduit shall be no smaller than $\frac{3}{4}$ ". Provide copper conductors to all wiring devices with correct size conductors and equipment ground conductors.

(a) Receptacles. Furnish and install Receptacles as shown on drawings. Furnish and install conduits, wiring, and grounding as required by NEC for a complete electrical system.

(b) Sump Pump. Sump Pump Furnished by others. Installed by Electrical Contractor. Furnish and Install conduits, wiring, and grounding as required by NEC for a complete electrical system. Coordinate with the General Contractor for Controls of Sump Pump.

(c) Dimming Switch. Furnish and install Dimming Switch as shown on drawings. Furnish and install conduits, wiring, and grounding as required by NEC for complete electrical system.

REVISION OF CDOT SECTIONS 803 LIGHTING

DESCRIPTION

803.01 This work shall consist of furnishing and installing lighting fixtures. Coordinate installation of lighting fixtures with electrical drawings.

MATERIALS

803.02 Electrical Contractor shall use materials and equipment required for furnishing and installing lighting fixtures. Provide lighting fixtures as shown on electrical drawings. Provide conduit, wiring, and grounding required for a fully functional and code compliant electrical system. A complete wiring system to include required dimming control wiring. Furnish products as indicated in luminaire schedule included on drawings. Include foundations for bollards.

CONSTRUCTION REQUIREMENTS

803.03 All work shall conform to these specifications and the National Electric Code (NEC). Contractor shall install junction boxes in proper locations and at proper mounting heights and are properly sized to accommodate devices and conductors in accordance with NEC. Perform work in accordance with NECA 1 (general workmanship).

Provide Conduit, wiring and grounding as required by NEC for a complete electrical system. Conduit shall be a minimum ¾". Provide copper conductors to lighting fixtures with correct size conductors and equipment ground conductors.

(a) Fixture AA – Furnish and install fixture as indicated in luminaire schedule shown on electrical drawings. Product shall comply with the requirements of NFPA 70 and be listed and labeled as complying with UL 1598, where applicable. Luminaires shall be listed and labeled as suitable for wet locations.

(b) Fixture BB – Furnish and install fixture as indicated in luminaire schedule shown on electrical drawings. Product shall comply with the requirements of NFPA 70 and be listed and labeled as complying with UL 1598, where applicable. Luminaires shall be listed and labeled as suitable for wet locations.

SECTION 902
RIPRAP PAD

DESCRIPTION

902.01. This work consists of the construction of riprap per these specifications and in conformity with the lines and grades shown on the plans or established.

MATERIALS

902.02. Riprap shall consist of hard, dense, durable stone, angular in shape and resistant to weathering. Rounded stone or boulders shall not be used as riprap material. The stone shall have a specific gravity of at least 2.5. Each piece shall have its greatest dimension not greater than three times its least dimension.

Material used for riprap may be approved by the Engineer if, by visual inspection, the rock is determined to be sound and durable. The Engineer may require the Contractor to furnish laboratory results if, in the Engineer's opinion, the material is marginal or unacceptable. At the request of the Engineer, the Contractor shall furnish laboratory test results indicating that the material meets the requirements for abrasion resistance or compressive strength as indicated in Table 902-1.

TABLE 902-1

RIPRAP MATERIAL TEST REQUIREMENTS

| Test Description | Test Method | Specification Requirement |
|--|-------------|---------------------------|
| Abrasion Resistance by Los Angeles Machine | ASTM C535 | 50% Loss, max. |
| Unconfined Compressive Strength of Drilled Core Specimen | AASHTO T 24 | 2500 psi, min. |

Riprap shall conform to the gradation requirements given in Table 902-1.

TABLE 902-1
RIPRAP GRADATION REQUIREMENTS

| Pay Item | Stone Size d50* (Inches) | Percent of Material Smaller Than Typical Stone# | Typical Stone Dimensions^ (Inches) | Typical Stone Weight+ (Pounds) |
|----------|--------------------------------|---|---|---|
| Riprap | 6 | 70-100 50-70 35-50 2-10 | 12 9 6 2 | 85 35 10 0.4 |
| Riprap | 9 | 70-100 50-70 35-50 2-10 | 15 12 9 3 | 160 85 35 1.3 |
| Riprap | 12 | 70-100 50-70 35-50 2-10 | 21 18 12 4 | 440 275 85 3 |
| Riprap | 18 | 100 50-70 35-50 2-10 | 30 24 18 6 | 1280 650 275 10 |
| Riprap | 24 | 100 50-70 35-50 2-10 | 42 33 24 9 | 3500 1700 650 35 |

Table 506-2 Notes: *d50 = nominal stone size

#based on typical rock mass

^equivalent spherical diameter

+based on a specific gravity = 2.5

Nominal stone size and total thickness of the riprap shall be as shown on the plans.

Control of gradation will be by visual inspection. The Contractor shall provide two samples of rock at least 5 tons each, meeting the gradation specified. One sample shall be provided at the construction site and may be a part of the finished riprap covering. The other sample shall be provided at the quarry.

These samples will be used as a reference for judging the gradation of the riprap supplied.

When it is determined necessary, conformance of the gradation will be verified by dumping and checking the gradation of two random truckloads of stone. Mechanical equipment, a sorting site, and labor needed to assist in checking gradation shall be provided at the Contractor's expense.

CONSTRUCTION REQUIREMENTS

902.03 Stones with typical stone dimensions that are equal to d50 and larger shall be placed at the top surface with faces and shapes matched to minimize voids and form as smooth a surface as practical. Dumping and backhoe placement alone is not sufficient to ensure a properly interlocked system. The material may be machine-placed and then arranged as necessary by use of an excavator with a multi-prong grapppling device or by hand to interlock and form a substantial bond.

Excavation for toe or cut-off walls shall be made to the neat lines of the wall. Allowance will not be made for work outside the neat lines.

SECTION 904

SLOTTED TRENCH DRAIN WITH GALV STEEL SLOTTED GRATE

DESCRIPTION

904.01. This work consists of constructing underdrains, edge drains and geocomposite drains per the specifications and in conformity with the lines and grades shown on the plans or established.

MATERIALS

904.02. The contractor shall submit shop drawings to the engineer for approval prior to installation.

CONSTRUCTION REQUIREMENTS

904.03 The work shall be installed per manufacturer recommendations and requirements.

SECTION 905 HDPE CULVERT

DESCRIPTION

905.01. This work consists of the construction of culverts, where a specific pipe material is required. Work shall be per these specifications and in conformity with the lines and grades shown on the plans or established.

MATERIALS

905.02. Materials shall meet the requirements shown on the plans and in the following subsections:

| | |
|------------------------------|--------|
| Pipe Joint Sealing Compounds | 705.04 |
| Plastic Pipe | 712.13 |
| Gaskets | 705.03 |

CONSTRUCTION REQUIREMENTS

905.03 General. Pipe shall be protected during handling against impact shocks and free fall.

All appurtenances shall be thoroughly cleaned before final acceptance of this work.

905.04 Excavation. Trenches shall be excavated per the requirements of Section 206 to a width sufficient to allow for proper jointing of the conduit and thorough compaction of the bedding and backfill material under and around the conduit.

The completed trench bottom shall be firm for its full length and width. The trench for cross drains shall have a minimum longitudinal camber of 1 percent of the length of the pipe. Camber may be increased to suit the height of fill and supporting soil.

When conduits are to be installed in new embankments, the embankment shall first be constructed to the required height of at least 0.3 times the outside diameter or raise of the conduit, and for a distance each side of the conduit location of at least 5 times the diameter or span of the conduit, after which, the trench shall be excavated, and the conduit installed.

Excavation shall be by open cut from the surface, except when pipe jacking is specified or directed in writing by the Engineer.

905.06 Placing Pipe. The pipe laying shall begin at the downstream end of the conduit line. The lower segment of the pipe shall be in contact with the prepared

bedding throughout its full length. Bell or groove ends of plastic conduits shall be placed facing upstream.

905.07 Joining Conduit. Joint systems for siphons, irrigation systems, and storm drains shall be watertight.

- (a) Plastic Conduit. Couplings shall be as recommended by the conduit manufacturer. Watertight joint systems for plastic pipe shall conform to subsection 705.02.

905.08 Backfilling. After the pipe or section of pipe is placed, it shall be inspected before any backfill is placed.

Conduit found to be damaged shall be replaced, and pipe found to be out of alignment or unduly settled shall be taken up and relaid. The trench shall then be backfilled with material per Section 206.

Special care shall be taken when backfilling around pipe to bring the backfill materials up on both sides of the conduit, evenly and simultaneously. Protection of pipes during construction shall be the Contractor's responsibility. Damage to the pipe due to the Contractor's operations shall be repaired or replaced at the Contractor's expense.

After culvert pipe is backfilled and earthwork over the pipe is complete to the top of the subgrade, the pipe deflection shall be measured in the presence of the Engineer. The maximum allowable deflection shall be 5 percent. Deflection is a reduction in the inside diameter of the pipe measured in any direction. Measurement shall be made using a mandrel, laser profile, or other method approved by the Engineer. Measurement shall be made 30 days or more following the pipe installation. Pipe having any deflections in excess of 5 percent at any location within the pipe shall be removed and reinstalled. Pipe that is permanently deformed or damaged in any way shall be replaced. Replaced pipe shall be retested 30 days or more after the installation per the method described above.

905.10 Deflection Testing of Plastic Pipe. After a metal or plastic pipe is backfilled and earthwork over the pipe is complete to the top of the subgrade, the pipe deflection shall be measured in the presence of the Engineer. The maximum allowable deflection shall be 5 percent. Deflection is a reduction in the nominal diameter of the pipe measured in any direction. Measurement shall be made using a mandrel, laser profile, or other method approved by the Engineer. Measurement shall be made 30 days or more following the pipe installation. Pipe having any deflections in excess of 5 percent at any location within the pipe shall be removed and reinstalled at the Contractor's expense. Pipe that is permanently deformed or damaged in any way shall be replaced at the Contractor's expense. Replaced pipe shall be retested 30 days or more after the installation per the method described above.

905.11 Repair of Damaged Culvert. Damaged pipe shall not be repaired. The Engineer will determine when the pipe is either acceptable or unacceptable per the provisions of subsection 105.03. Unacceptable pipe shall be removed and replaced.

SECTION 906 POND LINER

DESCRIPTION

906.01. This work consists of installation of 45 MIL reinforced polyethylene liner and pond liner attachments/anchor.

This work consists of installation of 45 MIL reinforced polyethylene pond liner and attachment of the pond liner. The work also includes all materials, labor, equipment, and incidentals necessary to complete the pond liner installation as specified.

MATERIALS

The materials for this work shall consist of the following:

45 MIL Reinforced Polyethylene Liner: The liner shall be a 45 MIL thick, reinforced polyethylene material, free of defects, and suitable for the intended application in a pond environment. It shall meet the following properties per manufacture recommendations.

CONSTRUCTION REQUIREMENTS

906.04. Pond Liner. The pond liner shall be installed according to the manufacturer's recommendations and project requirements. The liner shall be installed with a smooth, wrinkle-free surface, ensuring that it covers the entire pond area as specified. All seams shall be welded or sealed according to the manufacturer's specifications to provide a continuous, impermeable barrier. The liner shall be anchored at the perimeter with appropriate anchorage systems to prevent displacement due to water or wind.

906.05. Pond Liner Attachments/Anchors. The pond liner shall be securely attached to any existing structures, embankments, or edges of the pond as required by the project. Attachment methods shall follow the approved plans, however alternative methods shall be approved by the Engineer before installation.

SECTION 907

EX FOUNTAIN TO BE RELOCATED

DESCRIPTION

907.01. This work includes the relocation of an existing fountain, as shown on the plans, to a new designated location. The scope of work consists of documenting the existing fountain, removing and resetting the fountain, reinstalling all water service lines, electrical connections, and foundation for the fountain.

MATERIALS

907.02. Fountain Components. The existing fountain shall be carefully removed and relocated to the new location without damage. Any damaged components must be replaced with equivalent materials approved by the Engineer.

907.03. Water Service Lines. All water service lines shall be of suitable material and size to match the existing service and shall meet the requirements outlined in the project plans and CDOT specifications.

907.04. Electrical Connections. The electrical connections shall be restored using appropriate conductors, connectors, and electrical components per the local electrical code, CDOT standards.

907.05. Foundation. The new foundation shall be constructed in accordance with the design requirements provided in the plans, ensuring the fountain is securely and safely positioned in the relocated location.

CONSTRUCTION REQUIREMENTS

907.06. Documentation of Existing Fountain. The contractor shall thoroughly document the existing fountain's dimensions, layout, water service lines, electrical connections, and foundation location before removal.

A detailed report, including photographs and schematics, shall be submitted to the Engineer for approval prior to commencement of work.

907.07. Removal of Existing Fountain. The contractor shall carefully remove the existing fountain, taking care to avoid damage to the fountain components, water service lines, electrical connections, and foundation.

All existing materials, such as water lines and electrical wiring, shall be disconnected in a manner that allows for their reuse.

907.08. Resetting and Relocating Fountain. The fountain shall be relocated to the new position as indicated in the project plans. The contractor shall ensure that all components are reassembled correctly and securely.

Any damaged components identified during removal shall be repaired or replaced to the satisfaction of the Engineer.

907.09. Reinstallation of Water Service Lines. All water service lines, fittings, and valves shall be reinstalled as per the original configuration or as modified by the plans.

New materials shall be used where required, and all connections must be watertight and properly sealed to prevent leaks.

907.10. Reinstallation of Electrical Connections

The contractor shall reinstall the electrical connections according to the original configuration, including the installation of any necessary conduit, wiring, and electrical boxes.

The contractor shall verify all electrical connections for proper operation before final acceptance.

907.11. Foundation Construction

A new foundation for the relocated fountain shall be constructed as per the specifications and requirements outlined in the plans.

The foundation shall be designed to support the weight and operational loads of the fountain, ensuring it is secure and level.

SECTION 908 GAZEBO

DESCRIPTION

908.01. This work includes the installation of the Gazebo, as shown on the plans. The scope of work consists of coordination with the Engineer, purchasing the Gazebo and installation of Gazebo. The work shall also include masonry columns around the gazebo posts, foundations per the manufacture recommendations and all paint/stain. The work also includes all materials, labor, equipment, and incidentals necessary to complete the Gazebo installation.

CONSTRUCTION REQUIREMENTS

908.02. Gazebo. The contractor shall coordinate with the Engineer on the final manufacture, model and location. Construction shall follow the manufacturer's recommendations for installation.

SECTION 909

EX ELECTRICAL BOX TO BE REMOVED AND REINSTALLED

DESCRIPTION

909.01. This work includes the removal of an existing electrical box for the Gazebo and installation of a new electric box as designated on the plans. The scope of work consists of documenting the existing electrical box, removing and installation of new electrical box.

MATERIALS

907.04. Electrical Connections. The electrical connections shall be restored using appropriate conductors, connectors, and electrical components per the local electrical code, CDOT standards.

CONSTRUCTION REQUIREMENTS

900.06. Documentation of Existing Electrical Connections. The contractor shall thoroughly document the existing electrical box dimensions, layout and electrical connections. The electrical connections that will be terminated shall be disconnected in safe manner and per electrical code.

A detailed report, including photographs and schematics, shall be submitted to the Engineer for approval prior to commencement of work.

907.10. Reinstallation of Electrical Connections

The contractor shall reinstall the electrical connections, including the installation of any necessary conduit, wiring, and electrical boxes.

The contractor shall verify all electrical connections for proper operation before final acceptance.

SECTION 910 REMOVAL OF GAZEBO AND WALKWAY

DESCRIPTION

910.01. This work consists of the removal and disposal of the existing gazebo, walkway and stairs as detailed in the approved plans. It shall also include salvaging, stockpiling and loading salvable materials, and sawing and cutting to facilitate controlled breaking and removal of concrete. Except in areas to be excavated, the resulting trenches, holes, and pits shall be backfilled. Materials removed and not designated in the Contract to be salvaged or incorporated into the work shall become the property of the Contractor.

CONSTRUCTION REQUIREMENTS

910.02. The Contractor shall raze, remove, and dispose of all structures and obstructions that are identified on the project, except utilities, structures and obstructions removed under other contractual agreements, and salvable material designated to remain the property of the Department.

Basements and other cavities left by structure removal shall be filled to the level of the surrounding ground with suitable material and, if within the construction limits, shall be compacted per subsection 203.06.

Where portions of structures are to be removed, the portions designated to remain shall be prepared to fit the new construction and shall be protected from damage. All damage to structures designated to remain in place shall be repaired at the Contractor's expense. Method of repair shall be approved by the Engineer.

Sawing of concrete shall be done to a true line, with a vertical face, unless otherwise specified. The minimum depth of a saw cut in concrete shall be 2 inches or to the depth of the reinforcing steel, whichever occurs first.

The existing underground service line servicing the existing gazebo shall be disconnected and capped off. Abandon underground line in place.

910.03. Salvable Material. All salvable material designated in the Contract to remain the property of the County shall be removed without damage, in sections or pieces that may be readily transported and shall be stockpiled by the Contractor at specified locations within the project limits. The Contractor shall safeguard salvable materials and shall be responsible for the expense of repairing or replacing damaged or missing material until it is incorporated into the work or is loaded onto County equipment by the Contractor.

910.04. Salvable Material. All salvable material designated in the Contract to remain the property of the County shall be removed without damage, in sections or pieces that

may be readily transported and shall be stockpiled by the Contractor at specified locations within the project limits. The Contractor shall safeguard salvable materials and shall be responsible for the expense of repairing or replacing damaged or missing material until it is incorporated into the work or is loaded onto County equipment by the Contractor.

SECTION 911 SALVAGE RAILROAD TIES

DESCRIPTION

911.01. This work shall consist of the salvaging, stockpiling, and reinstallation of railroad ties as specified in the plans and/or as directed by the Engineer. The salvaged railroad ties will be coordinated with the Engineer to ensure that the correct ties are selected for reinstallation.

MATERIALS

911.02. Any ties found to be damaged, unsuitable for reuse, or not approved by the Engineer for use shall be replaced with new ties, subject to the approval of the Engineer. All new railroad ties will be paid for as the pay item 912-00019 – REPLACE RAILROAD TIES

CONSTRUCTION REQUIREMENTS

911.02. The salvaged ties shall be reinstalled per the project plans or the Engineer's direction.

Salvable Material. All salvable material designated in the Contract to remain the property of the County shall be removed without damage, in sections or pieces that may be readily transported and shall be stockpiled by the Contractor at specified locations within the project limits. The Contractor shall safeguard salvable materials and shall be responsible for the expense of repairing or replacing damaged or missing material until it is incorporated into the work or is loaded onto County equipment by the Contractor.

SECTION 912
REPLACE RAILROAD TIES

DESCRIPTION

912.01. This work shall consist of the purchasing and installing railroad ties as specified in the plans and/or as directed by the Engineer.

MATERIALS

912.02. All new railroad ties shall be approved by the engineer prior to delivery. Railroad ties shall be pressure-treated wood. The contractor shall include the railroad attachments per the plans.

CONSTRUCTION REQUIREMENTS

912.02. The new railroad ties shall be installed per the project plans or the Engineer's direction.

SECTION 917 SALVAGE BOULDER

DESCRIPTION

917.01. This work shall consist of the salvaging, stockpiling, and reinstallation of boulders as specified in the plans and/or as directed by the Engineer. The salvaged boulders will be coordinated with the Engineer to ensure that the correct boulders are selected for reinstallation.

MATERIALS

911.02. Any boulders found to be unsuitable for reuse, or not approved by the Engineer for use shall be replaced with new ties, subject to the approval of the Engineer.

CONSTRUCTION REQUIREMENTS

911.02. The salvaged boulder shall be reinstalled per the project plans or the Engineer's direction.

Salvable Material. All salvable material designated in the Contract to remain the property of the County shall be removed without damage, in sections or pieces that may be readily transported and shall be stockpiled by the Contractor at specified locations within the project limits. The Contractor shall safeguard salvable materials and shall be responsible for the expense of repairing or replacing damaged or missing material until it is incorporated into the work or is loaded onto County equipment by the Contractor.

SECTION 919
BREEZE

DESCRIPTION

919.01. This work shall consist of the furnishing and placing breeze as specified in the plans.

MATERIALS

919.02. All breeze shall conform to the Crushed Limestone Surfacing requirements in the plans and shall be approved by the engineer prior to delivery.

SECTION 920
4-6" ROCK

DESCRIPTION

919.01. This work shall consist of the furnishing and placing 4"-6" rock as specified in the plans.

MATERIALS

919.02. All breeze shall conform to the requirements in the plans and shall be approved by the engineer prior to delivery.

SECTION 921
LANDSCAPE EDGING

DESCRIPTION

919.01. This work shall consist of furnishing and placing landscape edging as specified in the plans.

MATERIALS

919.02. All landscape edging shall conform to the requirements in the plans and shall be approved by the engineer prior to delivery.

SECTION 924

6" ROUND AREA DRAIN

DESCRIPTION

924.01. This work includes the installation of a 6" round area drain, a 6" HDPE Atrium Grate, 6" drain pipe, concrete pad, railroad ties, and all associated materials required to connect the area drain to the drain line as shown in the construction plans.

MATERIALS

924.02. 6" HDPE Atrium Grate. The grate shall be 6" HDPE, designed for traffic or pedestrian load-bearing as per the design specifications. Grate shall have an atrium-type design. The grate shall be approved by the Engineer.

6" Drain Pipe. The drain pipe shall be 6" diameter, constructed of HDPE. The pipe shall be approved by the Engineer.

Concrete Pad. Concrete shall meet a mix design yielding a compressive strength of at least 4500 psi at 28 days. The concrete mix shall be approved by the Engineer.

Railroad Ties. Railroad ties shall be pressure-treated wood or other material with the approval of the Engineer.

Connecting Materials. Materials used for connections to the drain line shall be HDPE pipe couplers, gaskets, or other approved connection materials. All connections shall be watertight, durable, and constructed to prevent infiltration or exfiltration of water.

CONSTRUCTION REQUIREMENTS

Drain Installation. The 6" drain pipe shall be installed to ensure that water flows efficiently to the drain line.

Concrete Pad Placement. The concrete pad shall be poured per the approved plans.

Grate Installation. The 6" HDPE Atrium Grate shall be securely positioned on top of the drain, ensuring proper alignment with the drainage opening and the surrounding surface.

Railroad Tie Installation. Railroad ties shall be placed around the area drain and concrete pad as shown in the construction plans, ensuring proper flow into the area drain.

SECTION 925 DEWATERING PONDS

DESCRIPTION

924.01. The work includes dewatering the existing ponds at the project site, including necessary equipment, labor, and materials. The Contractor shall coordinate with the County to ensure that the discharge location for the dewatering process is approved prior to commencement of any dewatering activities.

CONSTRUCTION REQUIREMENTS

925.02. The Contractor shall remove water from the existing ponds in a manner that ensures no adverse impact to adjacent areas, structures, or the environment. Dewatering shall be done gradually, ensuring stability of surrounding soil and minimizing erosion or sedimentation. The Contractor shall submit discharge location details to the Engineer, and receive approval prior to starting dewatering activities. The Contractor shall comply with all regulations related to water discharge during the dewatering process. Prior to any dewatering activities, the contractor shall coordinate with the Aquatic Specialist for the removal of the existing fish from the pond. All fish must be removed from ponds prior to any dewatering activity.

SECTION 927
RELOCATE PICNIC TABLE

DESCRIPTION

927.01. This work shall consist of the removing, stockpiling, and reinstallation picnic table as specified in the plans and/or as directed by the Engineer. The relocated picnic table will be coordinated with the Engineer.

CONSTRUCTION REQUIREMENTS

927.02. The relocated picnic table shall be reinstalled per the project plans or the Engineer's direction.

Relocated Material. All relocated material designated in the Contract to remain the property of the County shall be removed without damage, in sections or pieces that may be readily transported and shall be stockpiled by the Contractor at specified locations within the project limits. The Contractor shall safeguard relocated materials and shall be responsible for the expense of repairing or replacing damaged or missing material until it is incorporated into the work or is loaded onto County equipment by the Contractor.

SECTION 928
6" DRAIN AND GATE VALVE

DESCRIPTION

928.01. This work shall consist of the remove and replacing the existing 6" drain pipe and gate valve

MATERIALS

928.02. All materials shall be in accordance with the plans and will be approved by the Engineer prior to installation.

CONSTRUCTION REQUIREMENTS

928.03. The contractor shall remove and replacing the existing 6" drain pipe and gate valve. The pipe shall extend beyond the pond liner and cover with the soil per the [plans](#).

SECTION 929
LOG EROSION BARRIERS

DESCRIPTION

929.01. This work shall consist of using removed trees on site and using the tree trucks as Log Erosion Barriers. The contractor shall coordinate with the Engineer prior to installation and determining trees to be used as Log Erosion Barriers.

MATERIALS

929.02. The contractor shall coordinate with the Engineer on which trees are to be used as Log Erosion Barriers.

CONSTRUCTION REQUIREMENTS

929.03. The contractor shall coordinate on the final locations of the Log Erosion Barriers.