CITY OF SAN ANTONIO
TRANSPORTATION AND CAPITAL IMPROVEMENTS

SPECIFICATIONS

FOR

FY 2014/2015 ALLEY MAINTENANCE PROGRAM PACKAGE 1 (TASK ORDER)

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STATE OF TEXAS
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86197
LICENSED
PROFESSIONAL ENGINEER

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TBPE Reg. No. F-483

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Project Description

Project Scope
Project construction may include but is not limited to: alley roadway excavation and paving, concrete retaining walls, curb, sidewalks, driveways, topsoil, sodding, adjusting existing manholes, meters and valve boxes, and any other items required due to the site conditions to accomplish the project scope.

Quantities included in this contract, as well as the entire bid amount are not guaranteed. Unit prices established shall remain valid throughout the duration of the contract.

Project Location
The sites shall be assigned by the City Engineer or Program Manager and shall be located throughout the City of San Antonio. Separate Task Orders will be issued for each project site or for multiple sites, and quantities will be provided to the contractor. No changes will be allowed in the contractor's unit bid prices as a result of any project assignment(s).

It is anticipated that some project sites may require working time restrictions. No additional cost will be paid to the contractor for reduced working times.

Project Duration
This task order construction contract shall be terminated seven hundred and thirty (730) calendar days after the date the contract is awarded by City Council. The construction time (in calendar days) for each individual site will be negotiated between the City Engineer or Program Manager and the Contractor. The Contractor will be expected to begin construction for each individual site in accordance with Article 1- General Provisions, Section 1.2.4, Notice to Proceed and Commencement of Contract Times in the General Conditions-Heavy/Hwy. The Contractor may also be limited to the amount of individual project sites open at any given time. Liquidated damages for construction time will be assessed should the contractor fail to complete the construction of each individual site in the specified calendar days as negotiated by the City Engineer or Program Manager.

Important Notes
No direct payment shall be made for the following specification items. Contractor shall include cost of these items in various other bid items:

100.1	Mobilization
100.2	Insurance and Bond
101.1	Preparing Right-of-Way
530.1	Barricades, Signs, and Traffic Handling
540	Temporary Erosion, Sedimentation and Water Pollution Prevention and Control

Excavation due to construction of curb, sidewalk, cart pads, and driveways shall not be paid for directly but shall be included in various bid items of which it forms a component part.

Any temporary erosion, sedimentation, and Storm Water Pollution Prevention Plans (SW3P) that are to be developed shall be developed by the contractor's engineer at no direct pay. All implementation of control measures not specifically listed as bid items shall not be paid for directly but shall be subsidiary to the various pay items.

General Notes applicable to this project are available at:
http://www.sanantonio.gov/Portals/0/Files/CIMS/StandardDetails/PDF/GENERALNOTESSTD.pdf

Detour plans, when required, must be approved by the City of San Antonio Traffic Engineering Department.

CoSA Standard Specifications for Construction – June 2008 are available on City's Website at:
http://www.sanantonio.gov/CIMS/CurrentVendorResources/StandardSpecificationsandDetails.aspx

CoSA Standard Details for Construction are available on City's Website at:
http://www.sanantonio.gov/CIMS/CurrentVendorResources/StandardSpecificationsandDetails.aspx

All Construction and Material Specifications for SAWS bid items are available at:
http://www.saws.org/business_center/specs/constspecs/
http://www.saws.org/business_center/specs/matspecs/

CITY OF SAN ANTONIO, TEXAS

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS FOR

FY 2014/2015 ALLEY MAINTENANCE PROGRAM
PACKAGE 1 (TASK ORDER)

All Standard Specifications, Special Specifications and Special Provisions applicable to this project are identified as follows:

CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION
JUNE, 2008

ITEM		DESCRIPTION
100	-	Mobilization
101	-	Preparing Right-of-Way
103	-	Remove Concrete
104	-	Street Excavation
107	-	Embankment
200	-	Flexible Base
202	-	Prime Coat
203	-	Tack Coat
205	-	Hot Mix Asphaltic Concrete Pavement
210	-	Rolling
300	-	Concrete
301	-	Reinforcing Steel
303	-	Welded Wire Flat Sheets
307	-	Concrete Structures
500	-	Concrete Curb, Gutter, and Concrete Curb and Gutter
502	-	Concrete Sidewalks (Special Provision)
503	-	Asphaltic Conc., Portland Cement Conc., and Gravel Driveways (Special Provision)
505	-	Concrete Riprap (Special Provision)
506	-	Concrete Retaining Wall – Combination Type
515	-	Topsoil
516	-	Sodding
520	-	Hydromulching (Special Provision)
523	-	Adjusting of Vehicular & Pedestrian Gates (Special Provision)
524	-	Concrete Steps
530	-	Barricades, Signs and Traffic Handling
540	-	Temp. Erosion, Sedimentation, and Water Pollution Prevention and Control
552	-	Removing and Relocating Irrigation Systems
1000	-	Web Portal

SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR CONSTRUCTION, MARCH 2008

826 - Valve Box Adjustments
833 - Meter and Meter Box Installation

SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR CONSTRUCTION, REV. JUNE 2009

851 - Adjusting Existing Manhole
855 - Reconstruction of Existing Manholes

SPECIAL SPECIFICATIONS FOR CONSTRUCTION

SP 800 - Project Signs
SUP 1 - Cart Pad Removal

SPECIAL PROVISIONS TO CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION, JUNE 2008

503 - Asphaltic Concrete, Portland Cement Concrete, and Gravel Driveways

May 2009 Update:
502 - Concrete Sidewalks
505 - Concrete Riprap
520 - Hydromulching
523 - Adjusting of Vehicular & Pedestrian Gates

SPECIAL SPECIFICATION
Item SP800 Project Signs

Article SP800.1. Description. Furnish, install, maintain, move and remove project information signs on each street or alley whenever workmen, materials or equipment is present, or as directed. Project information signs will not be specific to any individual location within the program and may be moved from site to site and reused throughout the duration of the contract.

Article SP800.2. Materials. Furnish signs meeting the materials specifications of Item 531, the Barricade and Construction Standard details in the plans, and following the attached template of the layout, fonts, colors, size, and legend.

Article SP800.3. Construction. Erect all signs in conformance with the requirements of the TMUTCD and the Barricade and Construction Standard Details. It is the contractor's responsibility to see that all signs are properly installed and maintained at the job site. Erect project information signs at the locations directed by the Inspector, generally one sign facing each direction entering the project work area. Maintain the project sign so that no visual defect or graffiti is visible.

Article SP800.4. Measurement. Project signs will not be measured for payment.

Article SP800.5. Payment. The accepted quantity of signs shall not be paid for directly, but the cost for furnishing all materials, labor, tools, equipment and supplies to construct the signs, mountings, installation at the various street or alley sites, maintaining the signs, moving the signs from site to site, and removal of signs will be subsidiary to the various items in the contract.

Bid Item: Not applicable

IMP Transportation and Capital Improvements sign specs.

Colors: Burgundy vinyl, Columbia Blue vinyl, Black vinyl
Background: White High Intensity Prismatic sheeting.

Font: Century Gothic

Transportation and
Capital Improvements

(Forced Length centered)

Font: Clearview Hwy 2B

For project information
please call:
206-8481
311
City of San Antonio

SPECIAL SPECIFICATION
Item SUP 1 Cart Pad Removal

Article SUP1.1. Description. This item shall govern the breaking up, removing, and satisfactorily disposing of existing concrete pads.

Article SUP1.2. Equipment. Provide the machinery, tools and equipment necessary for proper prosecution of the work. All machinery, tools and equipment used shall be maintained in a satisfactory and workmanlike manner.

Article SUP1.3. Construction. Break up, completely remove, and dispose of the existing concrete in accordance with federal, state, and local regulations.

Article SUP1.4. Measurement. Concrete cart pads will be measured by each pad having a surface area of approximately 25 square feet.

Article SUP1.5. Payment. The accepted quantity of cart pads will be paid for at the unit price bid for "Cart Pad Removal" which price shall be full compensation for all work herein specified, including furnishing of all materials, equipment, tools, labor and incidentals necessary to complete the work.

Bid Item SUP1 – Cart Pad Removal – Each

ITEM 801

TREE AND LANDSCAPE PROTECTION

This item shall govern the placing of protection for trees and other landscape plant material or natural areas to be protected during construction. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved. *Where removal of trees is indicated on the drawings, they shall be marked as directed by the engineer or designated representatives.* This item shall also govern the excavation, filling, *trenching and boring* around trees described on the plans, and for furnishing all materials, water, labor, tools, equipment and supplies required as specified by this item or as indicated on the plans.

Reference Standards: City of San Antonio Tree Preservation ordinance # 85262

MATERIALS:

LEVEL I FENCE PROTECTION (Detail 1.1.2):

Fabric: Fabric (4 foot height or 1.2 m) shall consist of orange plastic fencing as shown on the plans and shall be woven with 2-inch (50 mm) mesh openings such that in a vertical dimension of 23 inches (584 mm) along the diagonals of the openings there shall be at least seven meshes.

1. Installation Posts: Installation posts shall be a minimum of *72* inches (1.5 m) long and steel "T" shaped with a minimum weight of 1.3 pounds per linear foot (6.3 kg per meter).
2. Tie Wire: Wire for attaching the fabric to the t-posts shall be not less than No. 12 gauge galvanized wire. Sufficient fastening material shall be furnished to provide for the securing of the fabric to the "T" line posts.
3. Used Materials: Previously-used materials, meeting the above requirements and when approved by the Engineer, may be used.

LEVEL IIA FENCE PROTECTION (Detail 1.1.3):

Materials same as Level I -OR-

LEVEL IIB FENCE PROTECTION (Detail 1.1.4):

1. Sleeve: 2x4 lumber to a height of 4 feet above the root crown.
2. 2x4 shall be utilized as called for on plan.
3. Tie Wire: Wire for securing the 2x4s shall not be less than No. 12 gauge.

OTHER MATERIALS:

1. Tree Dressing - Asphaltic Tree Wound Paint

CONSTRUCTION METHODS:

LEVEL I FENCE PROTECTION:

All trees and shrubs in the proximity of the construction site shall be protected prior to beginning any development activity.

Protective fencing shall be erected outside the dripline at locations shown in the plans or as directed by the Inspector and/or City Arborist or in accordance with the details shown on the plans at the drip line of trees (Root Protection Zone, RPZ) and/or landscape plant material including natural areas. Fencing shall be maintained and repaired by the contractor during site construction.

Protective fence locations in close proximity to street intersections or drives shall adhere to the City of San Antonio's site distance criteria.

The protective fencing shall be erected before site work commences and shall remain in place during the entire construction phase. Access to fenced areas will be permitted only with the approval of the engineer.

The installation posts will be placed every 6 feet (2 m) around the drip line or RPZ and embedded to 18 inches (457 mm) deep. Fabric attachment shall be attached to the installation posts by the use of sufficient wire ties to securely fasten the fabric to the "T" posts as to hold the fabric in a stable and upright position.

1. Do not clear, fill or grade in the RPZ of any tree.

2. Do not store, stockpile or dump any job material, soil or rubbish under the spread of the tree branches.

3. Do not park or store any equipment or supplies under the spread of the tree branches.

4. Do not set up any construction operations under the spread of the tree branches. (E.g. pipe cutting and threading, mortar mixing, painting or lumber cutting)

5. Do not nail or attach temporary signs, meters, switches, wires, bracing or any other item to the trees.

6. Do not permit runoff from waste materials including solvents, concrete washouts, asphalt tack coats (MC-30 oil), etc. to enter the RPZ. Barriers are to be provided to prevent such runoff substances from entering the RPZ whenever possible, including in an area where rain or surface water could carry such materials to the root system of the tree.

The contractor shall avoid cutting roots larger than one inch in diameter when excavation occurs near existing trees. Excavation in the vicinity of trees shall proceed with caution. The contractor shall contact the city inspector.

Remove all trees, shrubs or bushes to be cleared from protected root zone areas as directed by engineer by hand.

Trees damaged or lost due to contractor's negligence during construction shall be mitigated at the contractor's expense and to the engineer's satisfaction.

Any tree removal shall be approved by the city arborist prior to its removal.

Cover exposed roots at the end of each day with soil, mulch or wet burlap.

In critical root zone areas that cannot be protected during construction and where heavy traffic is anticipated, cover those areas with (8) inches of organic mulch to minimize soil compaction. This (8) inch depth of mulch shall be maintained throughout construction.

Water all trees, most heavily impacted by construction activities, deeply once a week during periods of hot dry weather. Spray tree crowns with water periodically to reduce dust accumulation on the leaves.

When installing concrete adjacent to the root zone of a tree, use a plastic vapor barrier behind the concrete to prohibit leaching of lime into the soil. See related specifications.

When an excavation or embankment is placed within the dripline of any tree greater than (8) inches in diameter, a Tree well shall be constructed to protect the tree as indicated, when the cut or fill exceeds (8) inches. See related specifications.

Where paving or filling is necessary within the dripline of any tree (8) inches or greater, a permeable pavement and aeration system must be installed as indicated. See related specifications.

CONSTRUCTION METHODS:

LEVEL II A FENCE PROTECTION:

Protective fencing shall be erected within the RPZ at locations shown in the plans or as directed by the Inspector and/or City Arborist or in accordance with the details shown on the plans at the drip line of trees (Root Protection Zone, RPZ) and/or landscape plant material including natural areas. Fencing shall be maintained and repaired by the contractor during site construction.

Fabric: Fabric (4 foot height or 1.2 m) shall consist of orange plastic fencing as shown on the plans and shall be woven with 2-inch (50 mm) mesh openings such that in a vertical dimension of 23 inches (584 mm) along the diagonals of the openings there shall be at least seven meshes.

1. Installation Posts: Installation posts shall be a minimum of *72* inches (1.5 m) long and steel "T" shaped with a minimum weight of 1.3 pounds per linear foot (6.3 kg per meter).
2. Tie Wire: Wire for attaching the fabric to the t-posts shall be not less than No. 12 gauge galvanized wire. Sufficient fastening material shall be furnished to provide for the securing of the fabric to the "T" line posts.
3. Used Materials: Previously-used materials, meeting the above requirements and when approved by the Engineer, may be used.

LEVEL II B FENCE PROTECTION:

Trunk protection shall be erected at locations shown in the plans or as directed by the Inspector and/or City Arborist shall be maintained and repaired by the contractor during site construction.

1. Installation Sleeve: 2x4 lumber to a height of 4 feet above the root crown.
2. Tie Wire for securing the 2x4s shall not be less than No. 12 gauge

MEASUREMENT:

Protective fencing will be measured by the linear foot of accepted work, complete in place for the duration of construction activity.

PAYMENT:

Tree and Landscape Protective Fencing will be paid for at the unit price bid per linear foot (meter), which price shall be full compensation for furnishing and placing all materials, manipulation, labor, tools, equipment and incidentals necessary to complete the work.

BID ITEMS

Item 801.1: Level I Protective Fencing - per linear foot (meter)

Item 801.2: Level IIA Protective Fencing - per linear foot (meter)

Item 801.3: Level IIB Protective Fencing - per linear foot (meter)

ITEM 802

TREE PRUNING, SOIL AMENDING AND FERTILIZATION

PART 1 GENERAL

1.01 DESCRIPTION:

The purpose of this specification is to describe a procedure for maintaining preserved trees before, during and after construction and for furnishing all materials, water, labor, tools, equipments and supplies required as specified by this item or as indicated on the plans.

1.02 REFERENCE STANDARDS:

The contractor shall comply with the applicable provisions and recommendations of the publication listed below and these shall be utilized as reference standards, and form a part of this specification to the extent indicated by reference:

American National Standard Institute - ANSI A300-2002

PART 2 PRODUCTS

2.01 MATERIALS:

1. Tree pruning paint: Any latex, oil or asphalt base wound dressing.
2. Soil amendment: Organic soil amendment with nitrogen content 10% or less.
3. Commercial fertilizer: Urea form based liquid suspension, which is soil injected. Salt Index is less than 3.5 (True Green, Boost) and a longevity period of up to 2 years.
4. Mulch: Shredded wood residue with size of pieces not more than 6 inches in length.
5. Water-By truck for trees.

PART 3 EXECUTION

3.01 CARE OF TREES PRIOR TO AND DURING CONSTRUCTION:

1. Prior to erecting tree enclosure and the start of any phase of construction, arborist will provide mycorrhizal inoculation and deep root fertilization to the tree roots, using 3 lbs. of actual nitrogen per 1000 square feet of root area in a slow release soil injection method. Then a certified arborist will perform pruning before construction to remove dead wood, improve the health of the trees to better tolerate the stresses endured during construction activities. In addition all pruning shall adhere to the standard practices in the American National Standard Institute ANS/A300-1995, and to improve the level of safety

   a. Crown Cleaning – shall consist of the removal of dead, dying, and diseased wood one inch in diameter and greater. Many of the existing trees are above and within the proposed walkway. This dead wood shall be removed to improve safety and liability issues.

2. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.

   a. Crown Raising – shall consist of removing lower limbs to provide a clearance specification of 8 feet over walkways and 13 feet over the

main road for vehicle clearance. Branches may be tied back instead of removed, in order to alleviate conflict. These specifications should protect the existing trees. Tree contractor is to be briefed by Project Engineer/Arborist prior to project commencement. All pruning and removals shall be overseen by a Certified Arborist. The awarded company shall have a Certified Arborist on staff to be able to bid on this Project.

3. No pruning or removal of limbs shall be allowed to provide clearance for work unless approved by the engineer.

4. Removal of limbs which are 6 inches in diameter or greater is prohibited without consent of the City Arborist. Occasional branches, up to 1/4 inch in diameter, which are dead, dying, diseased may remain when it is not practical to remove it.

5. Oak wounds must be painted with wound paint within 30 minutes to prevent infection of the Oak Wilt fungal organism.

6. Soil amendments will be applied within the drip line (RPZ).

7. Soil fertilization will be completed by a soil injection method, which will occur at a spacing of 3 feet on center around the tree within the drip line (Root Protection Zone, RPZ) only for those trees specified.

8. Excavate within drip line of trees only where required. Where excavating for new construction is required within drip line of trees, hand excavate to minimize damage to root systems. Use narrow spading forks and comb soil to expose roots. Relocate roots back into backfill areas wherever possible. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking. If root relocation is not practical, then contact Client representative for approval to cut roots 1/2" or greater. If approved, clean cut roots using handsaw or chainsaw approximately 3 inches back from new construction. Where existing grade is above new finish grade, carefully excavate within the drip line to the new finish grade. Carefully hand excavate an additional 8 inch below the finish grade. Use narrow line spading forks to comb the soil to expose the roots and prune the exposed root structure as recommended by the Arborist. After pruning and treatment is complete, backfill to within the finish grade with 8" of approved landscape fill material. Temporarily support and protect roots against damage until permanently relocated and do not allow exposure of root to air to occur beyond 12 hours. Cover with damp soil, peat moss, 8”bark or gunny sacks in order to keep moist so as not to dry out and permanently cover roots as soon as possible. Where it has been determined that trenching for utilities can seriously impact the roots of a desirable tree, then bore or tunnel under tree to minimize root impact.

9. The Contractor shall be responsible for coordinating all construction activities that may impact trees with clients representative and the Arborist, who will do the necessary pruning and deep root fertilization deemed necessary by the Arborist.

3.02 POST CONSTRUCTION CARE OF TREES:

1. The Contractor shall water when it is necessary to supplement natural rainfalls required preventing excess drying of the tree root area.

2. The Contractor is responsible for a fall and spring fertilization of the following year using a deep root fertilization method on trees deemed necessary by the Client.

3. The Contractor shall perform post construction care under the supervision of the arborist.

3.03 QUALITY ASSURANCE:

All tree pruning and fertilization work shall be performed by a single firm specializing in tree pruning work, with a minimum of 3 years experience in the acceptable performance of similar work to that specified. Pruning is to be performed by personnel who, by training and on the job experience, are familiar with the techniques and hazards of this work. The firm performing the work shall have the following minimum qualifications and certifications.

NAA - National Arborist Association Certified or
ISA - International Society of Arborists Certification
Be licensed for application and use of pesticides
Meet state requirements for insurance
Must be bonded

The Arborist shall:

a. Establish lines of communication for all work which may potentially impact trees, under story, or areas that are to be protected from construction activity.
b. Locate and properly identify or mark in the field trees, under story and areas that are to be protected from construction activity and are the responsibility of the Prime Contractor to protect.
c. Identify limits and extent of protective fencing around these trees, under story vegetation and other areas.

LEVEL II:

3.04 CARE OF TREES PRIOR TO AND DURING CONSTRUCTION:

1. Prior to erecting tree enclosure and the start of any phase of construction; provide mycorrhizal inoculation and deep root fertilization to the tree roots, using 3 lbs. of actual nitrogen per 1000 square feet of root area. Then pruning will be performed by a certified arborist before construction to remove dead wood, improve the health of the trees to better tolerate the stresses endured during construction activities. In addition all pruning shall adhere to the standard practices in the American National Standard Institute ANS/A300-1995, and to improve the level of safety

2. No site preparation work shall begin in areas where tree preservation and treatment measures have not been completed and approved.

3. No pruning or removal of limbs shall be allowed to provide clearance for work unless approved by the engineer.

4. Removal of limbs which are 6 inches in diameter or greater is prohibited without consent of the City Arborist. Occasional branches, up to 1/4 inch in diameter, which are dead, dying, diseased may remain when it is not practical to remove it.

5. Oak wounds must be painted with wound paint within 30 minutes to prevent infection of the Oak Wilt fungal organism.

6. Excavate within drip line of trees only where required. Where excavating for new construction is required within drip line of trees, hand excavate to minimize damage to root systems. Use narrow spading forks and comb soil to expose roots. Relocate roots back into backfill areas wherever possible. If large main lateral roots are encountered, expose beyond excavation limits as required to bend and relocate without breaking. If root relocation is not practical, then contact Client representative for approval to cut roots 1/2" or greater. If approved, clean cut roots using a handsaw or chainsaw approximately 3 inches back from new construction. Where existing grade is above new finish grade, carefully excavate within the drip line to the new finish grade. Carefully hand excavate an additional 8 inch below the finish grade. Use narrow line spading forks to comb the soil to expose the roots and prune the exposed root structure as recommended by the Arborist. After pruning and treatment is complete, backfill to within the finish grade with 8" of approved landscape fill material. Temporarily support and protect roots against damage until permanently relocated and do not allow exposure of root to air to occur beyond 12 hours. Cover with damp soil, peat moss, bark or gunny sacks in order to keep moist so as not to dry out and permanently cover roots as soon as possible. Where it has been determined that trenching for utilities can seriously impact the roots of a desirable tree, then bore or tunnel under tree to minimize root impact.
7. Water deeply trees that are substantially trimmed or within drip line of excavation work for the duration of this contract.

8. Water deeply trees that show signs of stress and are located in areas where the groundwater table has been lowered due to construction activities.

9. The Contractor shall be responsible for coordinating all construction activities that may impact trees with clients representative and the Arborist, who will do the necessary pruning and deep root fertilization deemed necessary by the Architect.

3.05 POST CONSTRUCTION CARE OF TREES:

1. The Contractor shall water when it is necessary to supplement natural rainfalls required preventing excess drying of the tree root area. Barring natural rainfall, the Contractor should apply 1” per week over entire root protection zone.

2. The Arborist shall monitor and authorize for removal the trees which show symptoms of stress, which might be indicated by branch die back chlorosis or fringe browning of the leaves. This would indicate that the crown is not in equilibrium with roots and additional pruning would be necessary. Subsequent pruning should remove only as much green wood as deemed necessary to reestablish equilibrium. If trees die during construction due to contractor negligence up to a one year post construction period, the Contractor will be required to replace trees at his or her own expense as called for in Paragraph 3.6.

3. The Contractor shall perform post construction care under the supervision of an arborist.

3.06 QUALITY ASSURANCE:

Same as Level I

3.07 MEASUREMENT:

"Maintenance Pruning" Soil Amendment, and Fertilization" , ½" or larger of dead, diseased wood.

"Maintenance Pruning" 1" or larger of dead, diseased wood.

3.08 PAYMENT:

Work performed and materials furnished as prescribed by this item and measured as provided under "Measurement" will be paid for as follows:

"Level I Pruning, Soil Amendment, and Fertilization" Will be paid for at the unit price bid per each tree receiving "Level I Pruning, Soil Amendment, and Fertilization" of the size
called for , which price shall be full compensation for furnishing all materials; preparation, hauling, handling charges, placement, labor, tools, and incidentals necessary to complete the work.

Level II Pruning will be paid for at the contract lump sum price bid, which price shall be full compensation for work herein specified, including the furnishing of all materials, equipment, tools, labor, and incidentals necessary to complete the work.

3.09 BID ITEM:

Item 802.1 - Level I Pruning, Soil Amendment, and Fertilization - per each tree

Item 802.2 - Level II Pruning - per Lump Sum

ITEM 805

TREES, PLANTS AND GROUND COVERS

PART 1 GENERAL

1.01 The requirements of Division 0, “Bidding Requirements, Contract Forms, And Conditions of the Contract”, and Division 1, “General Requirements”, shall apply to all work required by this Section.

1.02 **SECTION INCLUDES:**
The Contractor shall provide trees, plants and ground covers as shown and specified. The work includes:

A. Soil preparation.

B. Large specimen trees, small flowering trees, plants and ground covers.

C. Planting mixes.

D. Mulch and planting accessories.

E. Existing tree care.

F. Maintenance.

G. Backfill for large and small trees.

1.03 **RELATED SECTIONS:**

Item 800 – Tree Survey
Item 801 – Tree and Landscape Protection
Item 802 – Tree Pruning, Soil Amending & Fertilization
Item 803 - Tree Transplanting
Item 804 – Sodding & Seeding

1.04 **QUALITY ASSURANCE:**

A. Comply with Division 2 "Site Work".

B. Plant names indicated comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. The Contractor shall provide stock true to botanical name and legibly tagged.

C. The Contractor shall comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.

D. All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two (2) years.

E. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost to the Owner, and providing that the larger

plants will not be cut back to sizes indicated. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated.

F. The Contractor shall provide "specimen" plants with a special height, shape, or character of growth. Tag specimen trees or shrubs at the source of supply. The Engineer will inspect specimen selections at the source of supply for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.

G. Plants may be inspected and approved at the place of growth, for compliance with specification requirements for quality, size and variety.

Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

1.05 **SUBMITTALS:**

A. The Contractor shall submit the following materials certification: Topsoil source and pH value.

B. The Contractor shall provide plant material record drawings:

1. Legibly mark drawings to record actual construction.

2. Indicate horizontal and vertical locations, referenced to permanent surface improvements.

3. Identify field changes of dimension and detail and changes made by Change Order.

1.06 **DELIVERY, STORAGE AND HANDLING:**

A. The Contractor shall take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Dig, pack, transport and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock and on arrival, the certificate shall be filed with the Engineer. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Landscape Architect. Water heeled-in plantings daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches.

B. The Contractor shall cover plants transported on open vehicles with a protective covering to prevent wind burn.

C. The Contractor shall provide dry, loose friable topsoil for planting bed mixes. Frozen or muddy topsoil is not acceptable.

1.07 **PROJECT CONDITIONS:**

A. Work notification: The Contractor shall notify Engineer at least seven (7) working days prior to installation of plant material.

B. The Contractor shall protect existing utilities, paving and other facilities from damage caused by landscaping operations.

C. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the plans. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern. It is the Contractor's responsibility to verify all quantities.

D. The irrigation system will be installed prior to planting. The Contractor shall locate, protect and maintain the irrigation system during planting operations. Repair irrigation system components damaged during planting operations at the Contractor's expense.

1.08 **WARRANTY:**

A. The Contractor shall warrant plant material to remain alive and be in healthy, vigorous condition for a period of one (1) year after completion and acceptance of entire project for operation and maintenance.

Inspection of plants will be made by the Landscape Architect at completion of planting.

B. The Contractor shall replace, in accordance with the plans and specifications, all plants that are dead or, as determined by the Landscape Architect, are in an unhealthy or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the Contractor's negligence. Until issuance of the Certificate of Substantial Completion the Contractor shall replace all damage or loss to trees, plants or ground covers caused by fires, floods, freezing rains, lightning storms, or winds over 75 mph, winter kill caused by extreme cold and severe winter conditions, acts of vandalism or negligence. The cost of such replacement(s) is at the Contractor's expense. The Contractor shall warrant all replacement plants for one (1) year after completion and acceptance of the entire project for operation and maintenance.

C. Warranty shall not include damage or loss to trees, plants or ground covers caused by fires, floods, freezing rains, lightning storms, or winds over 75 mph, winter kill caused by extreme cold and severe winter conditions not typical of planting area; acts of vandalism or negligence on the part of the Owner.

D. The Contractor shall remove and immediately replace all plants, as determined by the Landscape Architect, to be unsatisfactory during the initial planting installation.

1.09 M**EASUREMENT AND PAYMENT:**

Measurement and payment will be as outlined in Section "Measurement and Payment" of Part 1, General Provisions.

PART 2 PRODUCTS

2.01 **MATERIALS:**

A. Plants: The Contractor shall provide plants typical of their species or variety; with normal, densely-developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sun scald injuries, frost cracks, abrasions of the bark, plant diseases, insect

eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces. Plants held in storage will be rejected if they show signs of growth during storage.

1. The Contractor shall dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable. All trees shall be nursery grown.

2. Container-grown stock: Plants shall be grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.

    a. No plants shall be loose in the container.

    b. Container stock shall not be pot bound.

3. The Contractor shall provide tree species that mature at heights over 25'-0" with a single main trunk unless multitrunks are specified. Trees that have the main trunk forming a "Y" shape are not acceptable.

4. Plants planted in rows shall be matched in form.

5. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.

    If the use of larger plants is acceptable, increase the spread of roots or root ball in proportion to the size of the plant.

6. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list.

7. Shrubs and small plants shall meet the requirements for spread and height indicated in the plant list.

    a. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.

    b. Single stemmed or thin plants will not be accepted.

    c. Side branches shall be generous, well twigged, and the plant as a whole well-bushed to the ground.

    d. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries.

2.02 **ACCESSORIES:**

A. A minimum of six (6) inches of topsoil, after settling occurs, shall be furnished in all shrub beds and raised planters shall be filled with good friable topsoil as

called for on the plans. Topsoil furnished shall be natural, fertile, friable soil, possessing characteristics of representative productive soils in the vicinity. It shall be obtained from naturally well drained areas. Topsoil shall be without admixture of sub-soil and free from nut grass (Cyperus rotundus) and other objectionable grass, weeds and toxic substances. Topsoil shall be approved by the Landscape Architect.

B. Commercial fertilizer shall be Carefree, Vertagreen, or approved equal, organic fertilizer containing the following minimum percentages of available plant food by weight: 15-5-5 or 16-8-8 Nitrogen-Phosphorus. Mixed Nitrogen, not less than 50% from organic source. Inorganic chemical nitrogen shall not be derived from the sodium form of nitrate or from the ammonia nitrate. It shall be delivered to the site in unopened containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted.

C. Soil conditioner shall be two (2") inches of compost or approved equivalent as provided by Garden-Ville/Horticultural Products, Route 3, Box 210 TA, San Antonio, Texas 78218, (210) 651-6115 or Landscape Architect approved equal. Compost is to be worked into the first four (4") inches of topsoil.

D. Sand shall be sharp, clean sand.

E Mulch shall be four (4) inches of native bark for surface dressing of shrub beds as provided by Garden-Ville/Horticultural Products, Route 3, Box 210 TA, San Antonio, Texas 78218, (210) 651-6115 or Landscape Architect approved equal or that shall be furnished from the onsite stockpile.

F. Water shall be free of substances harmful to plant growth. Hoses or other methods of transportation furnished by Contractor.

G. Backfill shall be provided for each new large specimen tree and small tree as called out on the planting plan and shall be landscape Garden Mix as provided by Curlex Erosion Control Matting or equivalent as provided by Garden-Ville/Horticultural Products, Route 3, box 210 TA, San Antonio, Texas 78218, (210) 651-6115 or Landscape Architect approved equal.

H. Edging shall be Shawtown Root Barrier Panels by NDS or equivalent to be provided on
all sides of Bamboo Planting. For more information call (800) 726-1994.

PART 3 EXECUTION

3.01 INSPECTION:

A. The Contractor shall examine proposed planting areas and conditions of installation. The Contractor shall not start planting work until unsatisfactory conditions are corrected.

B. Any ground cover or shrub plantings that are having existing infestation of nut grass, Bermuda grass, Johnson grass or other objectionable grasses or weeds shall be first treated with "round up" as manufactured by Monsanto, or Landscape Architect approved equal. Treatment shall be in strict accordance to manufacturer's specifications and shall be accomplished to allow sufficient time

for a complete kill prior to starting any soil preparation and planting in treated planting areas.

C. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.

D. Locate plants as indicated or as approved in the field after staking by the Contractor. If obstructions are encountered that are not shown on the plans, do not proceed with planting operations until alternate plant locations have been selected.

E. The Contractor shall excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide shrub pits at least 12" greater than the diameter of the root system and 24" greater for trees. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 4". Remove excavated materials from the site.

F. Soil Preparation: Soil used in planting shall be topsoil as hereinbefore specified, or suitable existing soil either of which shall be thoroughly mixed with the following materials and in the proper proportions: 1 cu. yd. topsoil; 6 cu. ft. shredded pine bark; 1/4 cu. yd. sand; 3 lbs sulphur; 6 lbs. fertilizer, as specified.

3.02 **INSTALLATION:**

A. The Contractor shall set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. No filling will be permitted around trunks or stems. Backfill the pit with planting mixture. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

B. After balled and burlapped plants are set, muddle planting soil mixture around bases of balls and fill all voids.

Remove all burlap, ropes and wires from the tops of balls.

C. The planting beds for ground cover areas, outline of which are shown on the plans, shall be prepared in the following manner. Apply 6 lbs. of hereinbefore specified fertilizer per 100 sq. ft. area, 2" sand, 2" shredded native bark and then thoroughly till the area to a depth of 8" using a roto tiller or similar equipment that will thoroughly pulverize the soil and evenly mix in the fertilizer. Roots, stones, grade stakes or other objects 1" in maximum dimension or larger shall be removed from the beds and disposed of off the site.

The Contractor shall space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of the trunks of trees and shrubs within planting bed and to within 6" of edge of bed.

D. Mulching:

1. The Contractor shall mulch existing trees, new trees and shrub planting pits and shrub beds with required mulching material three (3) inches deep immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

2. The Contractor shall mulch ground cover beds with required pine bark material 2" deep immediately after planting.

E. Pruning:

The Contractor shall prune branches of deciduous stock, after planting, to balance the loss of roots and preserve the natural character appropriate to the particular plant requirements. In general, remove 1/4 to 1/3 of the leaf bearing buds, proportion in all cases shall be acceptable to the Landscape Architect. Remove or cut back broken, damaged, and unsymmetrical growth of new wood.

F. Care of Existing Trees:

Item 801 – Tree & Landscape Protection
Item 802 – Tree Pruning, Soil Amending & Fertilization

3.03 **MAINTENANCE:**

A. The Contractor shall maintain plantings until completion and acceptance of the entire project.

B. Maintenance shall include pruning, cultivating, weeding, watering and application of appropriate insecticides and fungicides necessary to maintain plants free of insects and disease.

1. The Contractor shall re-set settled plants to proper grade and position. Restore planting saucer and adjacent material and remove dead material.

2. The Contractor shall tighten and repair guy wires and stakes as required.

3. The Contractor shall correct defective work as soon as possible after deficiencies become apparent and weather and season permit.

4. The Contractor shall water trees, plants and ground cover beds within the first twenty four (24) hours of initial planting, and not less than twice per week until final acceptance for operation and maintenance.

3.04 **ACCEPTANCE:**

A. Site visit to determine acceptance of planted areas will be made by the Landscape Architect, upon the Contractor's request. **Provide notification at least ten (10) working days before requested inspection date.**

Planted areas will be accepted provided all requirements, including maintenance, have been complied with and plant materials are alive and in a healthy, vigorous condition.

B. Upon acceptance, the Owner will assume plant maintenance.

3.05 **CLEANING:**

A. The Contractor shall perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris and equipment. Repair damage resulting from planting operations.

END OF SECTION

Item 810

TREE REMOVAL

This item shall govern for the removal of trees when directed by the City.

Reference Standards: City of San Antonio Tree Preservation ordinance # 85262 and 2006 Tree Ordinance Amendments.

MEASUREMENT:
Tree removal will be measured by each tree removed, completed to the stage of construction required by the plans.

PAYMENT:
Tree Removal will be paid for at the unit price bid per each, which price shall be full compensation for furnishing and placing all materials, manipulation, labor, tools, equipment and incidentals necessary to complete the work.

BID ITEMS

Item 810: Tree Removal – per each

SPECIAL PROVISION
Item 503 Asphaltic Concrete, Portland Cement Concrete, and Gravel Driveways

For this project, Item 503 of the Standard Specifications is hereby amended with respect to the clauses cited below, and no other clauses or requirements on the Item are waived or changed hereby.

Add:
Section 503.4. Construction

F. Construct concrete alley pavement using the provisions of these specifications for Portland Cement Concrete Driveways, the "Density Control" provisions of these specifications, the Typical Section shown in Figure 1, and standard details for "Typical Residential Driveway Section" shown on City of San Antonio Concrete Driveway Standards sheet.

Delete in its entirety:
Section 503.6 Payment

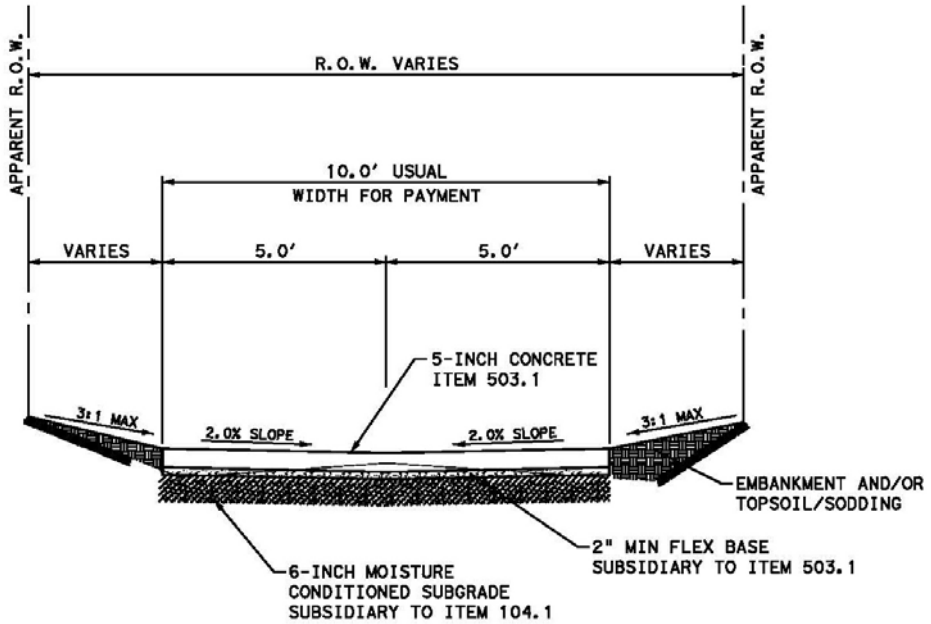
Add:

Section 503.6 Payment:
The work performed as prescribed by this item for driveways will be paid for at the contract unit price bid per square yard for "Portland Cement Concrete Driveway – Commercial", "Asphaltic Concrete Driveway", or "Gravel Driveway", which price shall be full compensation for preparing the subgrade, for furnishing and placing all materials, manipulations, labor, tools, equipment and incidentals necessary to complete the work.

Removal of existing concrete driveway, if required, will be paid for under Item 103.

The work performed as prescribed by this item for alley pavement will be paid for at the contract unit price bid per square yard for "Portland Cement Concrete Driveways – Alley Pavement (5" depth)", which price shall be full compensation for furnishing and placing all materials, including base material, joints and joint seal materials, manipulations, labor, tools, equipment and incidentals necessary to complete the work. Removal of existing alley asphaltic or concrete pavement, excavation, and preparation of the subgrade shall be paid for under Item 104.1. Embankment, topsoil and sodding shall be paid for directly under their respective items.

Section 503.7 Bid Item
Add the following Bid Item:
503.1 Portland Cement Concrete Driveways – Alley Pavement (5" Depth) – per SY



PROPOSED TYPICAL SECTION (INVERTED CROWN)

N.T.S.

NOTES:

1. **SURFACE TEXTURE FOR CONCRETE ALLEY PAVEMENT SHALL BE CARPET DRAG OR BROOM FINISH.**

2. **CONSTRUCT TRANSVERSE FORMED EXPANSION JOINTS AT THE END OF EACH CURB RADIUS AND AT INTERVALS NOT TO EXCEED 75-FT SPACING. FORM EXPANSION JOINTS WITH ¾" PREFORMED BITUMINOUS FIBER BOARD FULL DEPTH WITH ¾" JOINT SEALING COMPOUND. PROVIDE ¾" SMOOTH DOWELS SPACED AT 18" COATED TO PREVENT BOND ACROSS THE JOINT.**

3. **SAWCUT CONTRACTION JOINTS AT 20-FT MAX INTERVALS TO 2" DEPTH WITH ¼" JOINT SEALING COMPOUND.**

4. **PROVIDE CLASS 5 OR CLASS 8 JOINT SEALANT MATERIALS AND FILLERS IN ACCCORDANCE WITH TXDOT DMS-6310.**

FIGURE 1

THE FOLLOWING ITEMS ARE SPECIAL PROVISIONS TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED JUNE 2008

1. Item 401 Reinforced Concrete Pipe Page 2

2. Item 402 High Density Corrugated Polyethylene Pipe Page 2

3. Item 403 Storm Sewer Junction Boxes and Inlets Page 3

4. Item 404 Corrugated Metal Pipe Page 3

5. Item 405 Fiber Reinforced Concrete Pipe Page 4

6. Item 502 Concrete Sidewalks Page 4

7. Item 503 Asphaltic Concrete, Portland Cement Concrete and Gravel Driveways Page 5

8. Item 505 Concrete Riprap Page 5

9. Item 520 Hydromulching Page 5

10. Item 523 Adjusting of Vehicular & Pedestrian Gates Page 6

11. Bid Item Summary Revisions Page 8

General

Throughout the City of San Antonio Standard Specifications for Construction (June 2008) replace the following:

- "Item 407 Frames, Grates, Rings and Covers" with "Item 409 Cast Iron Castings"
- "Item 304 Expansion Joint Material" with "Item 307.2.E, Expansion Joint Material"
- "Item 305, Membrane Curing" with "Item 307.2.H, Membrane Curing"

Item 401 Reinforced Concrete Pipe

Delete in its entirety:
Section 401.6 Payment

Add:
Section 401.6 Payment:
The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Reinforced Concrete Pipe", "Reinforced Concrete Pipe (Arch)", or "Reinforced Concrete Pipe (Elliptical)" of the size and D-load specified or of the size and class specified. This price is full compensation for excavation and backfilling; constructing, furnishing, transporting, placing and joining pipes; shaping the bed; cutting pipes on skew or slope; connecting to new or existing structures; breaking back, removing and disposing of portions of the existing structure; replacing portions of the existing structure; cutting pipe ends skew or slope; and equipment, labor, tools and incidentals required to complete the work.

Protection methods for excavations greater than 5 ft. deep will be measured and paid for as required under Item 550, "Trench Excavation Safety Protection", or Item 551, "Special Shoring". When jacking, boring, or tunneling is used at the Contractor's option, payment will be made under this Item. When jacking, boring, or tunneling is required, payment will be made under Item 406, "Jacking, Boring or Tunneling Pipe or Box".

Item 402 High Density Corrugated Polyethylene Pipe

Delete in its entirety:
Section 402.7 Payment A & B

Add:
Section 402.7 Payment:
The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "High Density Corrugated Polyethylene Pipe" of the size and backfill specified. This price is full compensation for excavation and backfilling; furnishing, transporting, placing and joining pipes; shaping the bed; cutting pipes on skew or slope; connecting to new or existing structures; breaking back, removing and disposing of portions of the existing structure; replacing portions of the existing structure; cutting pipe ends skew or slope; and equipment, labor, tools and incidentals required to complete the work.

Protection methods for excavations greater than 5 ft. deep will be measured and paid for as required under Item 550, "Trench Excavation Safety Protection", or Item 551, "Special Shoring". When jacking, boring, or tunneling is used at the Contractor's option, payment will be made under this Item. When jacking, boring, or tunneling is required, payment will be made under Item 406, "Jacking, Boring or Tunneling Pipe or Box".

Item 403 Storm Sewer Junction Boxes and Inlets

Section 403.6 Bid Item
Delete:
Items 403.7 – 403.14

Add:
Item 403.7 – Inlet Type I (Complete)(10 ft)
Item 403.8 – Inlet Type II (Complete)(10 ft)
Item 403.9 – Inlet Extensions (10 ft)
Item 403.10 – Inlet (Complete)(5')(TxDOT)
Item 403.11 – Inlet (Extension)(5')(TxDOT)
Item 403.12 – Special Inlet (Complete)

Note: See Bid Item Summary revisions.

Item 404 Corrugated Metal Pipe

Delete in its entirety:
Section 404.6 Payment

Add:
Section 404.6 Payment:
The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Corrugated Metal Pipe," "Corrugated Metal Pipe Arch," "Spiral Rib Corrugated Metal Pipe," or "Spiral Rib Corrugated Metal Pipe Arch" of the type, size and coating specified. This price is full compensation for excavation and backfilling; furnishing, transporting, placing and joining pipes; shaping the bed; cutting pipes on skew or slope; connecting to new or existing structures; breaking back, removing and disposing of portions of the existing structure; replacing portions of the existing structure; cutting pipe ends skew or slope; and equipment, labor, tools and incidentals required to complete the work.

Protection methods for excavations greater than 5 ft. deep will be measured and paid for as required under Item 550, "Trench Excavation Safety Protection", or Item 551, "Special Shoring". When jacking, boring, or tunneling is used at the Contractor's option, payment will be made under this Item. When jacking, boring, or tunneling is required, payment will be made under Item 406, "Jacking, Boring or Tunneling Pipe or Box".

Item 405 Fiber Reinforced Concrete Pipe

Delete in its entirety:
Section 405.6 Payment

Add:
Section 405.6 Payment:
The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Fiber Reinforced Concrete Pipe" of the backfill type, size and D-load class specified. This price is full compensation for excavation and backfilling for Type I, Type II and Type III; constructing, furnishing, transporting, placing and joining pipes; shaping the bed; cutting pipes on skew or slope; connecting to new or existing structures; breaking back, removing and disposing of portions of the existing structure; replacing portions of the existing structure; cutting pipe ends skew or slope; and equipment, labor, tools and incidentals required to complete the work.

Item 502 Concrete Sidewalks

Delete first paragraph from 502.4.F.Joints:

Add **:**
Section 502.4.F Joints:
Unless otherwise specified on the plans or as agreed to by the Engineer, tooled joints with rounded edges will be placed at intervals equal to the sidewalk width and will be opened with one-half inch(1/2") radius by one and one-half inch (1 ½") depth and closed by one-half inch (1/2") radius by one-inch (1") depth.

Section 502.6 Payment:
Delete from first paragraph: "removal and disposal of existing concrete;"

Item 503 Asphaltic Concrete, Portland Cement Concrete and Gravel Driveways

Delete in its entirety:
Section 503.6 Payment

Add **:**
Section 503.6 Payment:
The work performed as prescribed by this item will be paid for at the contract unit price bid per square yard for "Portland Cement Concrete Driveway", Portland Cement Concrete Driveway – Commercial", "Asphaltic Concrete Driveway", or "Gravel Driveway", which price shall be full compensation for preparing the subgrade, for furnishing and placing all materials, manipulations, labor, tools, equipment and incidentals necessary to complete the work.

Item 505 Concrete Riprap

Delete in its entirety:
Section 505.4.A Concrete Reinforcement

Add **:**
Section 505.4.A Concrete Reinforcement:
Unless otherwise shown on the plans, reinforce concrete riprap with 6 x 6 – W6 x W6 welded wire fabric or with No. 4 reinforcing bars spaced at a maximum of 18 in. in each direction unless otherwise shown. A combination of welded wire fabric and reinforcing bars may be provided when both are permitted. Provide a minimum 6-in. lap at all splices. At the edge of the riprap, provide a minimum horizontal cover of 1 in. and a maximum cover of 3 in. Place the first parallel bar no more than 6 in. from the edge of concrete. Use approved supports to hold the reinforcement approximately equidistant from the top and bottom surface of the slab. Adjust reinforcement during concrete placement to maintain correct position. Reinforcement protruding from existing riprap shall be thoroughly cleaned.

Item 520 Hydromulching

Section 520.4 Construction (D) Slurry:
Delete: "Annual Ryegrass (Oct. through March 15) 20 lbs per 1,000 sqft".

Add: "Annual Ryegrass (Oct. through March 15) 5-10 lbs per 1,000 sqft".

Item 523 Adjusting of Vehicular & Pedestrian Gates

Delete in its entirety:
Item 523 Adjusting of Vehicular & Pedestrian Gates

Add:

523.1. DESCRIPTION: *This item shall govern for the adjustment of manual or motorized, chain link or wrought iron, vehicular or pedestrian gates made necessary by the construction of new driveways or sidewalk entrances.*

523.2. MATERIALS: Additional materials needed to perform chain link fences gate adjustments shall conform to those specified in Item 507, "Chain Link Wire Fence". Materials used to adjust wrought iron gates shall be of the same type of material and configuration as the existing gate including any masonry. A combination of new and existing materials may be used if approved by the Engineer and property owner.

523.3. EQUIPMENT: Provide the machinery, tools and equipment necessary for proper prosecution of the work. All machinery, tools and equipment used shall be maintained in a satisfactory and workmanlike manner.

523.4. CONSTRUCTION: Approval from the property owner and Engineer shall be obtained by the Contractor in order to perform the necessary work required. The Contractor shall adjust gates vertically and or relocated gates horizontally by removing the existing gate from the gate posts and relocating and/or replacing (if necessary) the existing hinges, sliding mechanism, or rollers at a level such that the gate shall be provided with the necessary clearance to operate properly. Contractor shall coordinated extent of adjustments to be made with the property owner and Engineer prior to commencing any gate adjustments. Contractor shall notify property owner or tenant 48 hours in advance of any gate adjustments.

All fabric, posts, braces, gates, fittings, bolts, tension wire, tracks, wheels, rollers, operating mechanism, electrical service, wiring and miscellaneous hardware shall be carefully removed in such a manner that they will not be marred or damaged. After removal of the existing gate has been complete, any material deemed not useable shall be replaced by the Contractor with new material of the same design and quality as the existing material. A new gate constructed of the same type of material and configuration as the existing gate may be installed if so desired by the Contractor. All fences and gates shall be cut and welded by a qualified welder.

If necessary, the existing fence may be extended, reinforced, or offset in a manner that will not detract from the decorative appeal of the fence. All extensions and offsets of existing fences and gates shall be approved by the property owner.

All gates adjusted vertically shall be extended vertically so that the height of the gate will match existing fence height. Gates that are adjusted vertically shall be provided with a concrete channel for track, gate, sliding mechanism as detailed on plans or as approved by the Engineer and property owner.

All welding will be performed in a workman-like manner with solid joints of minimum protrusion. The adjusted gate will be constructed in such a manner to have minimal flexure.

Any excessive splatter of the weld will be ground off. Existing wrought iron fences and gates will be cleaned and any surface imperfections, any rust and paint will be removed completely. All surfaces of the existing gates will be roughened to accept a new coat of paint. All newly added areas will be completely primed and painted to match existing paint. A second coat will be required to cover any holidays or spots of insufficient coverage. The existing fence and gate will be spot primed in areas where surface imperfections or rust have been removed.

Painting will be by hand or spray. Areas to be painted shall be primed in accordance with paint manufacturer's recommendations. Two coats of point shall be applied to the existing fence and gate and all newly added parts. The final surface will be of even color with out streaks, drips bubbles, or any other surface imperfection. Paint used shall match existing paint in color and texture. Color shall be approved in writing by the property owner.

523.5 MEASUREMENT: Vehicular and pedestrian gates will be measured for each driveway or sidewalk entrance and/or exit of each type that is adjusted. Additional fencing that may be required for relocation or adjustment of gates will be subsidiary to gate adjustments or gate relocation and will not be measured as a separate pay item.

523.6 PAYMENT: The work performed and the materials furnished as prescribed by this item will be paid for at the bid price per gate for "Adjusting of Vehicular & Pedestrian Gates," which price shall be full compensation for removing and installing the existing gate and for furnishing all additional materials, all labor, tools, equipment and incidentals necessary to complete the work.

523.7 Bid Item:

Item 523.1 – Adjusting Chain Link Vehicular Gate – Each
Item 523.2 – Adjusting Chain Link Vehicular Gate (Motorized) - Each
Item 523.3 – Adjusting Chain Link Pedestrian Gate – Each
Item 523.4 – Adjusting Wrought Iron Vehicular Gate – Each
Item 523.5 – Adjusting Wrought Iron Vehicular Gate (Motorized) - Each
Item 523.6 – Adjusting Wrought Iron Pedestrian Gate – Each

Bid Item Summary Revisions

Replace Item 403.7 with Item 403.7 – Inlet Type I (Complete)(10 ft) - Each
Replace Item 403.8 Item 403.8 – Inlet Type II (Complete)(10 ft) - Each
Replace Item 403.9 Item 403.9 – Inlet Extensions (10 ft) - Each
Replace Item 403.10 Item 403.10 – Inlet (Complete)(5')(TxDOT) - Each
Replace Item 403.11 Item 403.11 – Inlet (Extension)(5')(TxDOT) - Each
Replace Item 403.12 Item 403.12 – Special Inlet (Complete) - Each
Delete Items 403.13 & 403.14
Add Item 523.1 – Adjusting Chain Link Vehicular Gate – Each
Add Item 523.2 – Adjusting Chain Link Vehicular Gate (Motorized) - Each
Add Item 523.3 – Adjusting Chain Link Pedestrian Gate – Each
Add Item 523.4 – Adjusting Wrought Iron Vehicular Gate – Each
Add Item 523.5 – Adjusting Wrought Iron Vehicular Gate (Motorized) - Each
Add Item 523.6 – Adjusting Wrought Iron Pedestrian Gate – Each
Replace Item 682.1 with Item 682.1 – Install Vehicle Signal Section with Back Plate (3 second) – Each
Replace Item 682.2 with Item 682.2 – Install Vehicle Signal Section with Back Plate (4 second) – Each
Replace Item 682.3 with Item 682.3 – Install Vehicle Signal Section with Back Plate (5 second) – Each
Replace Item 682.4 with Item 682.4 – Install Pedestrian Signal Section (12 inch) LED (2 Ind) – Each
Add Item 682.5 – Louver (12 inch)(Adjustable) – Each