VOLUME 2 OF 2

TECHNICAL SPECIFICATIONS

NORTH MACON FENCES

SUPPLEMENTARY GENERAL CONDITIONS CITY OF MACON

1.1 Spirit and Intent. It is the spirit and intent of these Specifications, and of the accompanying Drawings, to provide that the work and all parts thereof shall be fully completed and suitable in every way for the purposes for which they are designed. Mention in the Specifications or indications on the Drawings of articles or materials, operations or methods requires that the Contractor provide each item listed, of quality or subject to qualification notes; perform according to conditions stated each operation prescribed; and provide therefore all necessary labor, materials, tools, equipment and incidentals to complete the work as shown on the plans.

The Drawings and the Specifications are intended to be mutually explanatory and complete; and all work called for by one, even if not by the other, shall be fully executed. Detailed drawings shall take precedence over small-scale drawings. In case of discrepancy, either in the figures, in the drawings or in the Specifications, the matter shall be promptly submitted to the Landscape Architect who will promptly make a determination in writing. Any adjustment by the Contractor without this determination shall be at his own risk and expense.

1.2 Errors or Omissions. The Contractor shall not be allowed to take advantage of errors or omissions in the Specifications or Drawings as full instruction will be given if such errors are discovered. Upon his discovery of any statement or detail, which is discrepant or otherwise appears in error, the Contractor shall immediately call it to the attention of the Landscape Architect. There are specific notes on the drawings to help the contractor avoid missing important parts of the plans. Contractor shall pay close attention to the notes as stated on the plans.

1.3 Measurements. Before ordering any material or doing any work, the Contractor shall verify all measurements on the site and shall be responsible for correctness of same. No extra charge or compensation shall be allowed on account of difference between actual dimensions necessary and the measurements indicated on the drawings. Any difference, which may be found, shall be submitted to the Landscape Architect for consideration prior to beginning the work. The city did not perform an infield survey so many of the dimensions are taken from documents that may not be absolute. Therefore it is imperative that the contractor check the dimensions in the field and bid accordingly.

The following principles shall govern the settlement of disputes which may arise over discrepancies in the contract documents: (a) as between figures given on drawings and the scaled measurements, the scaled measurements shall govern; (b) as between large-scale drawings and small-scale drawings, the larger scale shall govern; (c) as between drawings and specifications requirements of the specifications shall govern; and (d) as between the

Form of Agreement and the Specifications, requirements of the Form of Agreement shall govern.

1.4 Quantities. Quantity estimates where shown have been made carefully, but the Landscape Architect assumes no liability for omissions or errors in the measurements. Estimates are only an aid to clarification of units and a check for the contractor to compare with his own estimates. Differences shall be brought to the attention of the Landscape Architect. Quantities necessary to complete the work on the Drawings shall be provided by the contractor. No extra compensation shall be allowed for extra quantities necessary to complete the work as shown on the plans.

1.5 Examination of Site. Before submitting bids for the work, each bidder shall be expected to have examined the premises of the site and satisfied himself as to the existing conditions under which he shall be pledged to operate or that in any manner shall affect the work. No allowance shall be made subsequently in this connection on behalf of the Contractor for any error or negligence on his part.

1.6 Environmental Protection

Trees to Save. Trees not marked to be removed shall be carefully protected by the Contractor from foliage, trunk and root damage. Roots shall be protected to the outer perimeter of tree foliage (or drip-line) and 2' beyond.

1.7 Temporary Suspension of Work. The Landscape Architect shall have the authority to suspend the work, wholly or in part, for such period as he may deem to be in the best interest of the Owner, due to conditions which are considered unfavorable to the suitable carrying out of work, or for failure on the part of the Contractor to carry out instructions or to perform any provision of the agreement. The Contractor shall immediately respect the written order of the Owner to suspend the work wholly or in part. The Contractor shall not suspend work without such written authority, and shall immediately resume work when conditions are favorable or when methods have been corrected, as approved by the Landscape Architect in writing.

1.8 Materials and Workmanship. Workmanship and materials shall be as prescribed by these Specifications and the Drawings. Whenever not explicitly described, all workmanship used or employed in carrying out the work shall be the best of the respective grades and qualities. Where equipment, materials or articles are referred to in the Specifications as "equal to" any particular standard, the Landscape Architect shall decide the question of equality. When required by the Specifications or when called for by the Landscape Architect, the Contractor shall furnish for approval full information concerning the materials or articles which he contemplates incorporating in the work. Samples of materials shall be submitted for approval when so directed. Machinery, equipment, materials, and articles installed or used without such approval shall be at the risk of subsequent rejection.

1.9 Other Contracts. The Landscape Architect may undertake or award other contracts for additional work, and the Contractor shall fully cooperate with other such contractors, including the Owner or his employees and carefully fit his own work to such additional work as directed by the Landscape Architect. The Contractor shall not commit or permit any act, which will interfere with the performance of work by any other contractor or employee of the Owner.

1.10 Minor Modifications. The Contractor shall make such minor modifications in the execution of the work to be done under these Specifications which in the judgment of the Landscape Architect shall be necessary or expedient to carry out the intent of the contract before or during the progress of the contract.

No increase over the contract price shall be paid to the Contractor on account of such minor modifications. Work, which materially increases the cost to the Contractor, shall not be ordered under the provisions of this paragraph.

1.11 Rejection. All materials which do not meet these Specifications or the requirements of the contract drawings shall be rejected by the Landscape Architect and shall be removed from the site and replaced by proper materials by the Contractor at his own expense.

1.12 Contractor's Responsibilities. The Contractor shall, without additional expense to the Owner, obtain all licenses and permits required for the execution of the work. The Contractor shall give supervision to the work and have a responsible foreman continuously on the job to act for him. The Contractor shall provide and maintain all temporary roadways and utilities which may be authorized and all barriers, colored lights, danger signals, and other devices necessary to provide for the traffic control and safety. The Contractor shall, at all times, be responsible for the safety and conduct of his employees. He shall, for the protection of the owner, maintain liability insurance for the duration of the job in limits described hereinafter and insurance covering property damages as well as any other insurance required by law. The Landscape Architect may in writing require the Contractor to remove from the work such employees as he deems incompetent, careless, insubordinate, or otherwise objectionable, or whose continued employment on the work is deemed by the Landscape Architect to be contrary to the Owner's interests.

1.13 Space for Storage of Construction Materials. The Contractor shall provide suitable protection for material and equipment on the site and shall maintain all storage space in a safe and orderly condition. The Owner assumes no liability for loss or damage to materials or equipment due to improper storage, lack of protection from the elements or from any other causes. Inflammable materials shall be enclosed in safe containers.

Contractor shall have access to the parking lot and open ballfields for storage or staging. However, contractor is responsible for any damage done to the parking lot or ballfields and shall leave them in the same condition as they were before the project execution.

1.14 Cleaning During Work. The Contractor shall clean up work and surrounding areas from all rubbish or objectionable matter during the course of the work. All mortar, cement and toxic material shall be removed from the surface of the earth and not allowed to become mixed with the earth.

1.15 Contracts. Each portion of the work shall be performed by an organization equipped and experienced to do work in the particular field. Contracts shall be awarded only to parties satisfactory to the Owner and the Landscape Architect.

1.16 Clean Up After Completion. Upon completion of the work, the ground shall be cleared of all debris, and all superfluous materials and all equipment shall be entirely removed from the premises to the satisfaction of the Owner before final payment.

1.17 Landscape Architect's Decisions. All the work under the contract shall be completed to the satisfaction of the Landscape Architect or his authorized representative who shall in all cases determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are paid for hereunder, and shall decide all questions and the fulfillment of the conditions of this contract on the part of the Contractor. His determination and decision, in case any questions shall arise, shall be a condition precedent to the right of the Contractor to receive any payment hereunder.

1.18 Field Display of Plans and Specifications. The Contractor shall maintain a well organized, up-to-date set of Drawings and Specifications to include, but not limited to, all revisions, addenda, change orders, copies of observation reports, memoranda, shop drawings, etc., that affect the work. Landscape Architect and Owner shall utilize these plans on site to authorize modifications of changes.

In addition to instruments mentioned include copies of requests for payment and correspondence between Landscape Architect and Contractor. Maintain all copies in orderly files in Contractor's job site office.

1.19 Time for Completion. It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that completion of the work in a timely manner is a prime condition of the contract. The Contractor agrees that the work shall be prosecuted regularly, diligently, and uninterruptedly at such a rate of progress as to insure full completion at the earliest time.

The schedule shall indicate the dates for the starting and completion of various stages of construction and shall be revised monthly as required by the conditions of the work. See Supplementary Instructions to Bidders for interim dates.

1.20 Performance Bond. The Contractor shall furnish a performance bond in an amount equal to one hundred percent (100%) of the contract price as security for the faithful performance of the contract and also a payment bond in an amount equal to one hundred percent (100%) of the contract price or in a penal sum not less than that prescribed by State, territorial or local law, as security for the payment of all persons performing labor

on the project under this contract and furnishing materials in connection with this contract. The Performance bond and the Payment bond may be in one or in separate instruments in accordance with local law. Before final acceptance, each bond must be approved by the Owner.

1.21 Scope of Work. The work required under this contract shall include all the work called for or implied by the Drawings and Specifications in strict accordance with all laws and ordinances. The work includes but is not necessarily limited to:

(a) Staking of the plan on the site
(b) Demolition of existing features to be replaced,
(c) Construction of fences, paving, footings, dugouts, roofs, gates, and backstops
(d) Utilities include protecting and adding new hose bibs at existing locations.
(e) Bleacher roof and all related components
(f) Scores Stand and associated components.
(g) Final clean up.
(i) All other items called for on the Construction Schedule, shown or implied by the Drawings and Specifications.

1.22 Sequence of Work. Work is to be processed in an orderly manner. The organization of the Specifications or contract drawings does not necessarily indicate the order or sequence in which work is to be performed. If prior construction or other contracts on the contract site will interfere with this work, the Landscape Architect will declare the time and date when this contract can be started, on the site.

It is the Contractor's duty to coordinate with his subcontractors in advance so that pipe holes, sleeves, inserts, etc., are installed as work progresses. This includes coordination with other independent Contractors working on related work.

The Contractor shall keep an adequate force on the job until all work is completed, except for interrupting weather conditions and extensions or suspensions approved by the Landscape Architect. The Contractor shall give due and adequate notice of all work he proposes to start to those in control of properties, which may be affected by his operations. Refer to paragraph 17 of Instructions to Bidders for integral completion dates.

1.23 Insurance. The Contractor shall procure and shall maintain during the life of this contract, whether such operation be by himself or by a subcontractor or anyone directly or indirectly employed by either of them, such insurance as required by statue, ordinance or this contract, to adequately protect the Owner from any claims or damages, including bodily injury or death, which may arise from them during operations under this contract.

Insurance shall be obtained for not less than the limits or liability as specified.

(a) Worker's Compensation: The Contractor shall procure and shall maintain during the life of this contract, Workman’s Compensation Insurance for all of the employees to be engaged in work on the project under this contract, and in case any such work is sublet, the Contractor shall require the subcontractor similarly to

provide Workmen's Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation Insurance. In case any class of employees engaged in Hazardous work on the project under this contract is not protected under the Workmen's Compensation statue, the Contractor shall provide and shall cause such subcontractor to provide a Workmen's Compensation policy for the protection of such of his employees not otherwise protected.

(b) Public Liability, Property Damage, and Automobile Liability Insurance: The Contractor shall take out and maintain during the life of the contract such Public Liability and Property Damage Insurance, Comprehensive Contractual Property Damage Insurance and Automobile Liability Insurance as shall protect him and any subcontractor performing work covered by this contract from claims for damage for personal injury, including accidental death as well as from claims for property damage, which may arise from operations under this contract, whether such operations are by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The amount of such insurance shall be as follows:

(c) Public Liability Insurance: in an amount not less than $500,000.00 for each person, and subject to the same limit for each person, in an amount not less than $1,000,000.00 on account of one accident.

(d) Property Damage Insurance: in an amount not less than $500,000.00 for any one damage claim and in an aggregate amount up to $1,000,000.00 during a period of twelve (12) months.

(e) Broad Form Blanket Contractual Liability Insurance: For bodily injury in an amount not less than $500,000.00 per occurrence and not less than $1,000,000.00 during a period of twelve months. For property damage in an amount not less than $500,000.00 per occurrence and not less than $1,000,000.00 during a period of twelve months. The contractor shall indemnify the Owner as follows.

The Contractor will indemnify and hold harmless the Owner, his agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of or resulting from the performance of the work, provided that any such claims, damage loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, or taking of property, including the loss of use resulting therefrom; and is caused in whole or part by any negligent or willful act or omission of the contractor; and subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

In any and all claims against the owner, or any of his agents or employees, by any employee of the contractor, any subcontractor, anyone directly or indirectly

employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the contractor, or any subcontractor under workmen's compensation acts, disability benefit acts or other employee benefits acts.

(f) Automobile Liability Insurance: (a) For bodily injury, including accidental death to any one person, in an amount not less than $500,000.00 and subject to the same limit for each person, in an amount not less than $1,000,000.00 on account of one accident; (b) For property damage in any amount not less than $500,000.00 for any one damage claim and in an aggregate amount up to $1,000,000.00 during a period of twelve (12) months.

(g) Owner's Protective Liability Insurance: Issued in the name of the Owner for liability and property damage in the same amount as stipulated for the Contractor.

(h) Builder's Risk Insurance: For the full contract value of the insurable portions of the work.

(i) Proof of Coverage of Insurance: The Contractor shall furnish the Owner with a certificate showing satisfactory proof of carriage of the insurance required and such insurance shall be approved by the Owner prior to commencing work on his contract nor shall the Contractor allow any subcontractor until all similar insurance required of the subcontractor has been so obtained and approved. Certificate shall be insured with performance bond within ten (10) days of Notice of Award.

(j) Scope of Insurance: The insurance required shall provide adequate protection for the Contractor and his subcontractors, respectively, as well as the Owner, and the Landscape Architect against damage claims which may arise from operations under this contract, whether such operations by the insured or by anyone directly or indirectly employed by him.

(k) Special Hazards: The Contractor's and his subcontractor's Public Liability and Property Damage Insurance shall provide adequate protection against the following special hazards: excavation, shoring and electrical hazards.

(l) Certificate of Insurance: The Contractor shall procure and deliver to the Landscape Architect and require subcontractors to procure and deliver to the Contractor, certificates of insurance executed by authorized officers or agents of the insurance companies prior to moving any equipment onto the site or commencement of any phase of the Work. Such certificates shall evidence the insurance companies' receipt of a copy of this Contract and its underwriting of the risks hereby created and as from time-to-time existing. At the request of the Owner, the Contractor shall procure and deliver to the Owner, certified duplicates

of insurance policies and applicable endorsements to which such certificates are applicable.

(m) Contractor's Equipment: The Contractor is solely responsible for any loss or damage to machinery, equipment or tools furnished by the Contractor or Subcontractors in connection with the Work and may carry insurance at its own expense to cover such exposure with no obligation or liability extending to the Owner. The premium for such insurance and any deductible charged to the Contractor in connection therewith are not reimbursable by the Owner and shall not be included in the Contract Sum.

END OF GENERAL CONDITIONS

SECTION 01010

SPECIAL CONDITIONS CITY OF MACON

1.1 General: These Special Conditions are a supplement to the General Conditions of the Contract for Construction

1.2 Drawings and Specifications: See Cover Sheet of Drawings for list of Contract Drawings.

See Table of Contents of Project Specifications for list of Technical Specification Sections.

1.3 Temporary Equipment: The Contractor shall furnish, maintain and remove at completion, all equipment such as temporary roads, ramps, chutes and like facilities, as required for proper execution of the work of all trades. The Contractor and each subcontractor shall provide, for his own use, all forms required for execution of his work. Such forming shall conform to requirements of authorities having jurisdiction over such work and shall be maintained in safe condition at all times and shall be removed when no longer required.

1.4 Lifting Devices and Hoisting Facilities: The Contractor shall provide, operate and maintain construction cranes for hoisting materials, as well as other type hoists, as may be required for execution of the work of all trades. Such apparatus, equipment and construction shall meet the requirements of labor laws and other applicable laws.

1.5 Temporary Support Facilities: Sanitary Facilities: At Contractor's option provide either piped (wet) toilet facilities or self-contained toilet units of type acceptable to governing authorities, adequate for use of personnel at project site.

Water and Electric Power: The Contractor shall be responsible for obtaining or providing temporary water and electric power as necessary for construction operations. Provide temporary service, equipment, or make arrangements with the Owner for use of existing installations.

Provide service with ground-fault circuit interrupter feature activated from each circuit at a 20-amp or less rating.

The Contractor shall provide potable water adequate for personnel at project site. Furnish paper cups and waste receptacles.

The Contractor shall provide temporary security and protection. The types of provisions required include, but not by way of limitation, barricades, warning signs/lights, environmental protection, and similar provisions intended to minimize property losses, personal injuries and claims for damages at project site.

1.6 Layout of the Work: All lines, grades, levels and benchmarks shall be established and maintained by the Contractor.

Before commencing any work, the Contractor shall verify all grades, lines, levels and dimensions as indicated on the Drawings. He shall report any errors or inconsistencies to the Landscape Architect before commencing work.

The Contractor shall stake the entire project, both as to location of all construction items as well as finish grades. This stakeout may be accurate or rough, depending on the Contractor's preference. This stakeout shall be made early in the construction process and preserved for reference during construction.

The purpose of the staking, with inspection and adjustment by the Landscape Architect, is to adapt the design to the site rather than allow the design to be forced upon the site. Staking is subject to various degrees of adaptation which can only be determined by the Landscape Architect. This variation is an aesthetic decision, the amount of adjustment most often determined by the existing trees, terrain, soil conditions, utilities, sub-surface water and by other intangibles which are impractical to survey in absolute accuracy.

The Contractor shall notify the Landscape Architect at least five working days before inspection of the stakeout must be made. During the inspection the Landscape Architect will adjust the stakeout as necessary to fit the trees, topography, and all other objects and conditions on the site. At this time the Landscape Architect will clearly mark all trees and other vegetation to be removed. This staking-inspection process must take place prior to any tree removal, grading, construction, or any other work on the site.

During the inspection, the Contractor shall be at the site along with the person who will superintend the work under this contract.

The staking inspection process shall be repeated for any work not staked and approved or adjusted during the first site visit. No work shall ever be done without the stakeout first being adjusted and approved by the Landscape Architect. All alignment, dimensions and elevation of any grading, excavation, construction, and planting is subject to adjustment to accommodate existing conditions and to save trees and other vegetation.

Any work progress delays caused by inadequate, incomplete or improper staking shall not merit an extension of the contract or delay charges by the contractor.

The Landscape Architect shall have 2 days to respond to any request to come to the site and adjust a stakeout.

The Landscape Architect shall have a minimum of three (3) days to resolve any problems created by unknown conditions discovered during the stakeout or construction.

Contractor shall be responsible to adequately schedule his work to allow constant work to continue. When unknown conditions inhibit the flow of work the contractor shall continue unhindered portions elsewhere on the project and notify the Landscape Architect immediately.

1.7 Unknown Conditions: Subsurface Conditions: Should the Contractor encounter, during the progress of the work, subsurface latent physical conditions at the site, materially differing from those shown on the drawings or specified for unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the drawings and Specifications, the attention of the Landscape Architect shall be called immediately to such conditions before they are disturbed. The Landscape Architect shall thereupon promptly investigate the conditions; and if he finds that they do so materially differ, the contract price shall, with the written approval of the Owner, be increased or decreased in accordance with such conditions.

1.8 Geo-Technical Assistance. The Contractor shall retain, at his own expense, the services of a qualified geo-technical engineer to advise on all construction techniques involved in the work, including the design, checking and approval of temporary bracing, shoring, underpinning and other items pertinent to the work, and on construction methods for solution of problems which may be encountered. The geo-technical engineer shall be primarily concerned with construction methods necessary to prevent settlement or failure of walkways, foundations and footings, and/or damage to such surrounding structures as sidewalks, roads, utilities, and embankments on the project site.

1.9 Existing Utilities Shown. Existing utility lines shown on the drawings, such as, cables, ducts, conduits, and piping shall, if damaged (unless they are to be abandoned) be immediately repaired, protected, and maintained in use until relocation of same has been completed or shall be cut and capped where directed or shall be prepared for service connections when so required.

1.10 Utilities Not Shown. Contractor shall be responsible for securing the services of a utility locator to determine any unknown utilities that may be on the site. Any utilities encountered that are not shown on the drawings and are to remain as active utilities, if inadvertently damaged by the Contractor, shall be repaired by him. An adjustment in the contract price will be made at rates determined by the Contractor and approved by the Landscape Architect. If an extra expense is incurred in protecting and maintaining any utility line not shown on the drawings, an adjustment in the price will be made. Contractor shall not be compensated if the utility was improperly located or omitted by locator if it is deemed that the utility could have been detected.

1.11 Inclusion of Accessories: Unless specifically mentioned otherwise, all anchors, bolts, screws, fittings, fillers, hardware accessories, trim and other parts required for, or in connection with, an item of material to make a complete, serviceable, finished and first quality installation shall be furnished and installed as part of the item whether or not shown on the drawings or specified.

1.12 Protection: All materials shall be shipped, stored and handled in a manner that will afford protection and insure their being in first class condition at the time they are incorporated in the work.

After installation all materials shall be properly protected against damage to insure their being in first class condition when the project as a whole is completed and accepted by the Owner.

1.13 Installation: All items shall be installed in a workmanlike manner in accordance with the best recognized practice of the trade. Manufactured items shall be installed in strict accordance with the manufacturer's printed directions, specifications and/or recommendations. All working parts shall be properly adjusted after installation and left in perfect working order. Unless otherwise indicated, items exposed to weather or subject to flooding shall be installed so as to shed water. Items shall in all cases be installed plumb and true and/or in proper relation to surrounding materials.

Samples: Contractor shall be responsible for preparing samples as required in the technical specifications and to obtain approvals prior to construction of the item.

1.14 Reference to Standard Specifications: When standard specifications such as The American Society for Testing and Materials, Federal Specifications, Department of Commerce (Commercial Standards), American Institute of Steel Construction, or other well known public or trade associates are cited as a standard to govern materials, and/or workmanship, such specifications or portions thereof as referred to shall be equally as binding and have the full force and effect as though it were copied into these specifications. Such standard as are mentioned are generally recognized by and available to the trades concerned.

1.15 Reference to Manufacture's Publications: Unless otherwise specifically stated, all manufacturer's catalogs, specifications, instructions or other information or literature that are referred to in the specifications shall be considered as the latest edition and/or revision of such publication that is in effect on the date of the Invitation or Advertisement for Bids.

1.16 Document Signatures: Within five (5) days of notification of award or prior to execution of a contract, whichever is earliest, the Contractor shall file with the Landscape Architect a list of all persons in his firm who are authorized to sign documents such as contracts, certificates, and affidavits on behalf of the firm and to fully bind the firm to all the conditions and provisions of such documents.

1.17. Materials Furnished by Others: Whenever the Contractor or any Subcontractor shall receive items from another contractor or from the Owner for storage, erection or installation, the Contractor or Subcontractor receiving such items shall give receipts for items delivered, and any necessary replacing of item or items received. No adjustment will be made to contract price for increased insurance premiums, except for materials and/or equipment furnished by the Owner and not listed as such in other Contract Documents.

1.18. Substitute Materials and Equipment: Approval, by the Landscape Architect, of substitute materials and equipment shall not relieve the Contractor from his responsibility to supply and install any additional materials, equipment, or labor required to make the substitution properly function within the intent of the Contract Documents, as issued for Bid, whether or not recognized by the Landscape Architect or Contractor. The Contractor shall supply and install such required additional cost to the Owner.

1.19. Protection of Existing Structures: The Contractor shall be liable for all damage to existing structures that occurs as a result of his negligence to provide proper and adequate protective measures, including but not limited to buildings, walls, fences, paving, conduits, furniture, pipe, wiring, drains, underground utilities and equipment.

The Contractor shall be liable for all damage to trees, shrubs, turf and other vegetation. See Tree Penalty Clause in Section 02110, page 2.

1.20. Security Considerations: Construction shall not interfere with reasonable access to the adjacent structures.

Contractor shall not interfere with reasonable use of the facilities.

1.21. Working Hours: Construction shall begin no earlier than 6:00 A.M. and may continue until nightfall or 7:00 P.M. whichever is later. Contractor may request special conditions for working hours if project conditions merit.

1.22. Order of Construction: The Contractor shall comply with the following order of construction.

The Contractor shall submit a progress schedule at the pre-construction conference outlining the order of his construction process - Priorities within this schedule shall be coordinated with the Owner. See paragraph 18 of Instructions to Bidders for interval completion dates.

Sequence of Work. Work is to be processed in an orderly manner. The organization of the Specifications or contract drawings does not necessarily indicate the order of sequence in which work is to be performed. If prior construction or other contracts on the contract site shall interfere with this work, the Landscape Architect shall declare the time and date when this contract can be started on the site.

Contractor shall not be granted extensions or delay charges when it is deemed clearly that Contractor could have continued work on other components of the project or locations on the site.

1.23. Record of Construction Changes and As-Built Documents: On completion of the work, the Contractor shall mark the appropriate contract drawings in indelible ink showing the final locations of all underground installations including, but not limited to, power lines, irrigation lines, sewage lines, drainage lines, septic tanks, fuel tanks, etc. They also shall record the proper location of all installations above ground where they have been changed on the site from designated locations on the plans.

Contractor shall provide electronic reproducible as-built plans to the Owner upon completion of the project.

1.24. Guarantee: The Contractor shall guarantee all work under this contract, to be free from defects of material and workmanship for a period of one year from the date of acceptance by

the Landscape Architect, except as otherwise agreed upon in writing by the parties to the contract.

All landscape materials shall be guaranteed by the Contractor in accordance with Section 02900.

This guarantee does not apply as follows:

Theft and "Acts of God" damage are the responsibility of the Contractor until final approval. Repair of such damage is the responsibility of the Owner from the date of approval for the entire job is given until the end of the guarantee period.

1.25. Application for Payment: The Contractor shall be eligible to initiate an application for payment at the end of each month's work. The Contractor shall submit to the Owner's Representative, if it requires receipts or other vouchers, showing his payment for materials and labor, including payments to subcontractors. The application shall be forwarded directly to the Owner's Representative and shall reflect a contract agreed retainage on work completed. On completion of the work, the Contractor can resubmit to the Owner's Representative an application for payment in full in the amount of the contract. Accompanying such application, the Contractor shall furnish an affidavit and such other information as the Owner's Representative may require as protection of the Owner against liens.

1.26. Certificates for Payment: Upon receipt of Application for Payment, Owner's Representative with the Landscape Architect shall make an inspection and issue to the Contractor a Certificate for Payment or state in writing to the Contractor a Certificate for Payment or state in writing to the Contractor the corrections which must be made according to the plans and Specifications before he shall be paid. These corrections shall be made at once, and the Owner's representative shall issue a Certificate for Payment on their acceptance. The Owner shall pay the full amount of the Certificate within fifteen (15) days after receiving the Certificate for Payment from the Owner's representative.

1.27. Maintenance: The Contractor shall be responsible for all maintenance, as required, until completion and acceptance of the work. Various items of maintenance are indicated in applicable sections of these Specifications, to which the Contractor is referred. The Owner shall become responsible for maintenance upon completion and acceptance of the work.

END OF SPECIAL CONDITIONS

SECTION 01012

SUMMARY OF WORK

1.1 GENERAL

A. The Project consists of

1. Project Location: North Macon Park– Macon, Georgia
2. Owner: Macon/Bibb County Parks and Recreation Department

B. Construction Documents – May 2016, prepared Mack Cain Design Studio, a division of Travis Pruitt and Associates, Norcross, Ga/
Project Manual – June 2016

Volume 1 - Bid Instructions and Construction Bid Schedule
Volume 2 -Technical Specifications,

C. The Work consists of:

1. A. Ballfield fencing layout, survey work, dugouts, backstops, and scoring towers.
   B. Demolition of existing fences, dugouts, bleacher roofs, and backstops.
   C. Location of new fences, dugouts, backstops and T-Ball field
   D. Fabrication of dugout frames, roofs and bleacher roofs.
   E. Pouring concrete topping slabs over existing dugout and bleacher pads
   F. Placing scoring towers as determined
   G. Replacing hose bibs at the dugouts
   H. Protecting 3 scoreboards and relocating the T-Ball scoreboard
   I. Reconnecting electrical to scores towers and scoreboard

D. The Work shall be constructed under a single contract as shown on the plans.

E. Cooperate with the North Macon Park staff so that work may be carried out smoothly, without interfering with or unnecessarily delaying use of the recreation center.

F. Contractor Use of Premises: During construction the Contractor shall have use of premises, including the immediate site. The Contractor's use of premises is limited only by the Owner's right to have a safe environment for parks visitors.

G. Use of the Site: Limit use of premises to areas indicated. Do not disturb portions of the site beyond the ballfield areas. Do not cross onto adjacent property.

1. Actual limits of construction to be determined with the Owner in the field.
2. Allow for Owner use of undisturbed areas of the park.
3. Keep roadways and entrances clear. Do not use these areas of parking for materials storage without consent of the Owner. Schedule deliveries to minimize on-site storage of materials and equipment.

4. No interference with recreation center, adjacent parking lot and facilities.
5. Contractor shall protect the existing vegetation and structures within the work area.
6. Contractor shall establish a suitable schedule with the Owner.

H. Owner Occupancy: The Owner shall not use the site until after construction is completed and accepted on the designated work.

I. Work includes providing support systems to receive equipment and materials on site.

1. The Owner shall arrange for Contractor to have necessary access to the site to begin his pre-construction work.
2. Contractor shall not damage any adjacent materials, paving, turf grass, irrigation or other property in the park..
3. The Owner shall inspect items delivered for damage.
4. If items are damaged, defective, or missing, the Contractor shall arrange for replacement.
5. The Owner shall allow for field survey by the Contractor..
7. The Contractor shall present field survey data to the Owner for use by the Landscape Architect.
8. The Contractor is responsible for receiving, unloading, and handling all materials at the site.
9. The Contractor is responsible for protecting items from damage, including exposure to the elements. The Contractor shall repair or replace items damaged as a result of his operations.
10. Contractor shall arrange with the Owner in the event there is a need to cut or undermine any service or utility lines on the site.
11. Contractor and Owner shall coordinate the best route access to and from the construction site.

END OF SECTION 01012

SECTION 01026

SCHEDULE OF VALUES

PART 1 GENERAL

1 SCOPE

The work under this Section includes preparation and submittal of a schedule of values.

2 GENERAL

A. Timing of Submittal: Submit to the Landscape Architect, a schedule of values based on the Bid Scheudle.
Allocated to the various portions of the Work, within 10 days after Notice to Proceed. The first progress payment will not be made until the next pay cycle following the Engineer's approval of the Contractor's values.

B. Supporting Data: Upon request of the Engineer, support the values with data which will substantiate their correctness.

C. Use of Schedule: The schedule of values, unless objected to by the Landscape Architect , shall be used as the basis of the Contractor's Application for Payment.

D. Construction Bid Items f\Form may serve as the Schedule of Values.

E. Construction Bid Items Form is available through the Consultant in Excel electronic format.

A. Form and Identification
1. Prepare schedule on 8-1/2 x 11-inch white paper.
2. Contractor's standard forms and automated printout may be used.
3. Identify schedule with:
   a. Title of project and location
   b. Engineer
   c. Name and address of Contractor
   d. Contract designation
   c. Date of submission

B. Schedule shall list the installed value of the component parts of the Work in sufficient detail as to quantity and unit price to serve as a basis for computing values for progress payments during construction. Breakdown shall be by items, for ease of field verification of quantities completed in each line item.

C. Format
   1. Follow the Construction Bid Items Form of the Contract Documents as the format for listing the component items as part of the Pay Request.
   2. Identify each item with the number and name of the respective item exactly as it appears on the Construction Bid Items Form.

D. For each major line item list sub-values of major products or operations under the item as shown on the Construction Bid Items Form.

E. For the Various Portions of the Work:
   1. Each item shall include the proportional amount of the Contractor's overhead and profit.
   2. For items on which progress payments will be requested for stored materials, break down the value into:
      a. The cost of the materials, delivered and unloaded, with taxes paid.
      b. The total installed value, less Contractor's overhead and profit and less item a. above.

F. The sum of all values listed in the schedule shall equal the Construction Bid Total and the agreed Contract Amount.

G. The Construction Bid Item Form shall serve as the basis for the Schedule of Values and the Schedule of Values shall be attached to the bid form.

END OF SECTION

SECTION 01027

APPLICATIONS FOR PAYMENT

1.1 GENERAL

A. Coordinate the Construction Bid Items Schedule and Applications for Payment with the Contractor's Schedule of Payment, Submittal Schedule, and List of Subcontracts.

B. Coordinate preparation of the Construction Bid Items Schedule with preparation of the Contractor's Project Construction Schedule of Work.

1. Correlate line items in the Construction Bid Items Schedule with other required administrative schedules and forms, including:

   a. Contractor's Project Construction Schedule.
   b. Application for Payment forms, including Continuation Sheets.
   c. List of subcontractors and consultants.
   d. List of products.
   e. List of principal suppliers and fabricators.
   f. Schedule of submittals.

2. Submit the Project Construction Schedule at the earliest possible date but no later than 7 days before the date scheduled for submittal of the initial Application for Payment.

C. Format and Content: Use the Construction Bid Items Schedule as the format for establishing a Schedule of Payments. Provide at least one line item for each Unit Item on the Construction Schedule as a payment item.

1. Include the Name of the Project as the Project Identification:

   a. Project name and location – North Macon Park Fences.
   b. Name of Architect – Mack Cain Design Studio
   c. Project number. 15-0535
   d. Contractor's name and address;
   e. Date of submittal;

2. Arrange the Schedule of Payment in tabular form with separate columns to indicate the following for each item listed:

   a. Item number.
   b. Name of the item.
   c. Total quantity of the item.
   d. Unit price.
   e. Total price.
   f. Current work completed by dollar value.

g. Previous dollar amount completed.
h. Total amount requested this payment.
h. Percentage of Total line item Sum to nearest one-hundredth percent.

3. Provide separate back up for each part of the Work where Applications for Payment include materials or equipment, purchased or fabricated and stored, but not yet installed.

4. Change Orders or Construction Change Directives that change the Contract Sum must be pre-approved before commencing the work or applying for payment. Pre-approved change orders may be attached to the application for payment after completion and acceptance of the work.

5. Approved Change Orders become line items at the bottom of the Schedule of Values.

6. Maintain a ledger list of deletions or additions to the contract that have not been converted to 'Change Orders" to be attached to each payment request.

7. Consultant will provide a sample pay request if requested by contractor.

D. Applications for Payment shall be consistent with previous applications and payments as certified by the Owner Representative and paid for by the Owner.

E. Payment-Application Times: Payment dates are indicated in the Agreement. The period covered by each application is the period indicated in the Agreement.

F. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment, or form supplied by the Owner.

G. Application Preparation: Complete every entry, including notarization and execution by a person authorized to sign on behalf of the Contractor. The Architect will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and the Contractor's Construction Schedule. Use updated schedules if revisions were made.
2. Include amounts of Change Orders and Construction Change Directives approved prior to the last day of the construction period covered by the application.

H. Transmittal: Submit 3 executed original copies of each Application for Payment to the Owner Representative within 24 hours. One copy shall be complete, including waivers of lien and similar attachments.

1. Transmit each copy with a transmittal listing attachments and recording appropriate information related to the application.

I. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of lien from every entity who may file a lien arising out of the Contract and related to the Work covered by the payment.

1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Submit each Application for Payment with Contractor's waiver of lien for the period of construction covered by the application.
4. Submit final Applications for Payment with final waivers from every entity involved with performance of the Work covered by the application who may file a lien.
5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.

J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:

Provisions of the contract regarding payment shall supersede any applicable provisions of the Georgia Prompt Payment Act.

1. List of subcontractors.
2. List of principal suppliers and fabricators.
3. Schedule of Payments.
4. Contractor's Construction Schedule (preliminary if not final).
5. Submittal Schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. Copies of land disturbance and building permits.
8. Copies of licenses from governing authorities.
9. Certificates of insurance and insurance policies.
10. Performance and payment bonds.

K. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner Occupancy of designated portions of the Work.

1. Administrative actions and submittals that shall precede or coincide with this application include the following:

Provisions of the contract regarding payment shall supersede any applicable provisions of the Georgia Prompt Payment Act:

a. Occupancy permits.
b. Warranties and maintenance agreements.
c. Test/adjust/balance records.
d. Maintenance instructions.
e. Meter readings (if necessary).

f. Changeover information related to Owner's occupancy.
g. Final clean up.
h. Application for reduction of retainage and consent of surety.
l. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:

L. Retainage: Client shall retain 10% of all approved pay requests until substantial completion of the project. Retainage shall drop to 5% until final inspection and acceptance.
1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Transmittal of Project construction records to the Owner.
4. Delivery of As-built documents.
5. Proof that taxes, fees, and similar obligations were paid.
6. Removal of temporary facilities and services.
7. Fulfillment of all erosion control measures.

M. Final Ledger: Contractor shall request payment for 100% of all construction items as shown on the Construction Schedule of Values.

The final tabulation of the ledger will be either a subtraction from the total contract or an addition. In the case of subtractions the contractor shall enter the total deleted at the bottom of the request. In the case of an addition, the Landscape Architect shall prepare a final change order for approval as part of the final pay request.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01035
MODIFICATION PROCEDURES

1.1 GENERAL

A. Minor Changes in the Work: The Landscape Architect will issue instructions authorizing changes in the Work that do not alter the contract amount on AIA Form G710.

B. Owner-Initiated Change Order Proposal Requests: The Landscape Architect will issue a description of proposed changes in the Work that require adjustment to the Contract Sum or Time. The description may include supplemental or revised Drawings and Specifications.

1. Proposal requests are for information only. Do not consider them an instruction to stop work or to execute the proposed change.

2. Within 20 days of receipt, submit an estimate of cost necessary to execute the change for the Owner's review.
    a. Include an itemized list of products required and unit costs, with the total amount of purchases.
    b. Indicate taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Indicate the effect the change will have on the Contract Time.

C. Contractor-Initiated Proposals: When unforeseen conditions require modifications, the Contractor may submit a request for a change to the Landscape Architect.
1. Describe the proposed change. Indicate reasons for the change and the effect of the change on the Contract Sum and Time.
2. Include an itemized list of products required and unit costs, with the total amount of purchases.
3. Indicate taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Additional work already included on the Unit Price List shall be submitted at the same price as originally quoted unless otherwise agreed prior to submittal.

D. Proposal Request Form: Use AIA Document G709.

E. Allowance Adjustment: Base Change Order Proposals on the difference between the purchase amount and the allowance, multiplied by the measurement of work-in-place. Allow for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs when indicated as part of the allowance.
2. Identify all charges against the allowance to validate exhaustion of the allowance.
3. Prepare explanations and documentation to substantiate additions claimed.
4. Submit substantiation of a change in work claimed in the Change Orders related to allowances.

F. Submit claims to increase costs due to a need to change an allowance, whether for purchase order amount or handling, labor, installation, overhead, and profit. Submit claims within 21 days of receipt of authorization to proceed. The Owner will reject claims submitted later than 21 days.

1. Do not include indirect expense in cost amount unless the Work has changed from that described in Contract Documents.
2. No change to indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

G. Construction Change Directive: When Owner and Contractor disagree on the terms of a Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714 instructing the Contractor to proceed with a change.

1. The Construction Change Directive contains a description of the change and designates the method to be followed to determine change in the Contract Sum or Time.

H. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completing the change, submit an itemized account and supporting data to substantiate Contract adjustments.

I. Change Order Procedures: Upon the Owner's approval of a Proposal Request, the Architect will issue a Change Order on AIA Form G701.

J. Contractor shall submit Requests for Information (RFI) whenever items or parts of the central documents are unclear or incorrect. Contractor shall maintain a list of Requests by the number and date with responses from the Landscape Architect.

K. Unit Item Cost: When changes effect unit items for which costs have already been established, change request must utilize the agreed unit prices for future additions or deletions.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION (Not Applicable)

A. Items:

The only items anticipated that may require field modifications are the dugouts, bleacher roof framing, and T-Ball field location.

END OF SECTION 01035

SECTION 01050
FIELD ENGINEERING

1.1 GENERAL

A. This Section specifies requirements for field-engineering services including, but not limited to, the following:
   1. Staking and adjusting the location of the fences.
   2. Adjusting the locations of the fields.
   3. Layout and fabrication of the dugouts.
   4. Sidewalk ADA access to pads
   5. Field adjustments
   6. Verification of existing conditions
   7. Location of the T-Ball Field
   8. Placement of the scoring towers

B. The Client did not order a field survey of the North Macon Park. Therefore the layout of the existing fields is taken for aerial photos and other data. The contractor cannot consider the locations of the existing nor proposed fences as absolutes.

C. Contractor shall be responsible for verifying the accuracy of the existing conditions and to replace the fences, dugouts, backstops, etc as close to their existing location as possible.

D. T-Ball field has been shifted on the plans to make more room for circulation and patrons. The T-Ball field location must be staked and accepted in the field by the Client prior to any construction beginning on the T-Ball field.

E. Submit a marked up redline of changes on the drawing if they vary from the plans.

F. Project Record Documents: Submit an electronic version of a record of changes performed and record copy of data collected in the field.

G. Surveyor Qualifications: Engage a surveyor registered in the state where the Project is located to perform the stakeout.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION

A. Identification: The Owner will identify limits of the project on the plans.

B. Verify layout information, in relation to existing conditions, before proceeding to lay out the Work. Locate and protect benchmarks and control points. Preserve permanent reference points during construction.

1. Do not change or relocate control points without written approval. Report destroyed reference points or requirements to relocate reference points because of changes in grades.
2. Replace destroyed Project control points.

C. Establish and maintain a minimum of two (2) permanent construction site control points

1. Record control locations, with horizontal and vertical data, on Project Record Documents.

D. Existing Utilities: The existence of underground utilities and irrigation is not guaranteed. Verify location of underground utilities and other items before beginning site work.

1. Prior to construction, verify location of water lines and power lines.

E. Dugouts are designed to fit over the existing slabs and within the new fence layouts. Contractor shall verify that the existing conditions match the proposed drawings. In the case of a discrepancy, the Owner and Landscape Architect will help the contractor resolve the issue.

Dugout frames have been designed to fit the existing conditions. Contractor shall verify in the field if the dugouts will match the conditions. Contractor shall submit shop drawings to fit exact field measurements to insure that the dugout fits existing site conditions and conforms to the layout of the field fences and backstop.

F. Surveyor's Log: Maintain a surveyor's log of control and other stakeout work. Make this log available for reference.

1. Record deviations from lines and locations. Advise the Landscape Architect when deviations exceed tolerances. On Project Record Drawings, record deviations that are accepted and not corrected.

G. Site Improvements: Locate and lay out site improvements, including fences, dugouts, backstops, gates, slabs and other items on the construction documents.

I. Existing Utilities: Furnish information necessary to adjust, move, or relocate fences, dugouts, backstops, gates, or other components located in or affected by existing utilities or pavement. Coordinate with local authorities having jurisdiction.

K. Subsurface Conditions: Contractor is responsible to report detection of any subsurface conditions that can affect the execution of the project.

END OF SECTION 01050

SECTION 01200

PROJECT MEETINGS

1.1 GENERAL

A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
   1. Preconstruction conferences.
   2. Pre-installation stakeout conferences as determined in the field.
   3. Progress meetings with Owners Representative once a week.
   4. Weather Records and Calendar
   5. Contractor to keep meeting minutes to distribute to all parties.

B. Preconstruction Conference: Schedule a preconstruction conference at the park before starting construction. Review responsibilities and personnel assignments.

   Attendees: Authorized representatives of the Owner, Landscape Architect, special consultants, Contractor and superintendent; major subcontractors; and other involved parties shall attend.
   1. Participants shall be familiar with the Project and authorized to conclude matters relating to the Work.

   Agenda: Discuss items that could affect progress, including the following:
   1. Tentative construction schedule
   2. Staking layout process and sequence.
   3. Submittal of Shop Drawings, Product Data, and Samples as required.
   4. Schedule use of the premises by the Parks Department and general public.
   5. Turn on the existing irrigation to document conditions
   6. Weather conditions and installation schedule

C. Pre-installation stakeout conferences: Conduct a conference before each major activity that requires coordination with other operations.

   Attendees: The Installer and representatives of manufacturers and fabricators involved in or affected by the installation shall attend the meeting. Contractor to advise the Landscape Architect of scheduled meeting dates.

   1. Review progress of other operations and preparations for the activity under consideration at each progress schedule, including requirements for the following:
      a. Review field stakeout and make adjustments.
      b. Time schedules and deliveries.
      c. Manufacturer's recommendations and warranties.
      d. Warranty requirements on chain link.

e. Shop drawings of the dugouts and bleacher roofs.

2. Record significant discussions and agreements and disagreements, and the approved changes in the stakeout. Promptly distribute the record of the meeting to everyone concerned, including the Owner and the Landscape Architect.
3. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate actions necessary to resolve problems and reconvene the conference.

D. Progress Meetings: Conduct progress meetings at the Project Site at regular intervals as agreed in the bid process. Notify the Owner and the Architect of scheduled dates. Coordinate meeting dates with preparation of the payment request.

Attendees: The Owner, Landscape Architect, and other parties involved with current progress, planning, coordination, or future activities shall be represented. Participants shall be authorized to conclude matters relating to the Work.

Agenda: Review and correct or approve minutes of the previous meetings. Review items of significance that could affect progress. Include topics for discussion appropriate to Project status.

1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule. Determine how to expedite construction behind schedule; secure commitments from parties involved. Discuss revisions required to insure subsequent activities will be completed within the Contract Time.
2. Review the present and future needs of each entity present, including the following:

    a. Time.
    b. Sequences.
    c. Status of submittals and shop drawings.
    d. Deliveries and off-site fabrication problems.
    e. Temporary facilities and services.
    f. Quality and work standards.
    g. Change Orders.
    h. Daily reports and weather conditions
    i. On-site inspections and stakeout adjustments

3. Reporting: Distribute meeting minutes to each party present and to parties who should have been present. Include a summary of progress since the previous meeting and report.
4. Schedule Updating: Revise the Contractor's Construction Schedule after each meeting where revisions have been made. Issue the revised schedule concurrently with the report of each meeting.
6. Record Drawings: Contractor shall maintain a current and complete set of Contract Documents on-site at all times for receiving markups and comments.

7. Review ‘Requests for Information’ and resolve.
8. Review ‘Change Orders’ and resolve.
9. Review pay requests and schedule of payments.
10. Resolve on-site issues and adjustments.
11. Review weather reports and status of schedule and delays.

E. Construction Records: Contractor shall maintain the following reports and records for review at each Project Meeting. See Section 1300 submittals for more detail of each report.

1. Daily Reports:
   a. Daily record showing work engaged, completed, and started
   b. Materials delivered or stored
   c. Inspection or testing completed
   d. Official visitors to the site
   e. Weather conditions and rain delays

2. As Built Field Set:
   Set of contract plans kept inside the field office for the purpose of updating and recording all changes and modifications.

3. Request for Information (RFI) record book:
   Sequential record of all requests and their subsequent responses.

4. Pay Requests:
   Maintain copies of each pay request on site for reference.

5. Change Orders:
   Sequential record of all accepted or pending change orders with backup data.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION (Not Applicable)

END OF SECTION 01200

SECTION 01300

SUBMITTALS

1.1 GENERAL

The following minimum items must be submitted on this project.

1. Chain link vinyl clad fabric
2. Post caps
3. Post sections of each size post
4. Clamps, fasteners and wires to assemble chain link fence
5. Piece of wind screen
6. Shop drawings on dugouts and bleacher roofs
7. Metal roof material sample in color
8. Manufactures cut sheets for bleacher, bench, bat rack,

A. Submittal Procedures: Coordinate submittal preparation with construction, fabrication, other submittals, and activities that require sequential operations. Transmit in advance of construction operations to avoid delay.

1. Coordinate submittals for related operations to avoid delay because of the need to review submittals concurrently for coordination. The Landscape Architect reserves the right to withhold action on a submittal requiring coordination until related submittals are received.

2. Processing: Allow 2 weeks for initial review. Allow more time if the Landscape Architect must delay processing to permit coordination. Allow 2 weeks for reprocessing.

3. Submittal Preparation: Place a permanent label on each submittal for identification. Provide a 4- by 5-inch space on the label or beside title block to record review and approval markings and action taken. Include the following information on the label for processing and recording action taken.

    a. Project name.
    b. Date.
    c. Name and address of the Engineer/Landscape Architect.
    d. Name and address of the Contractor.
    e. Name and address of the subcontractor.
    f. Name and address of the supplier.
    g. Name of the manufacturer.
    h. Number and title of appropriate Specification Section.
    i. Drawing number and detail references, as appropriate.

4. Submittal Transmittal: Package each submittal appropriately. Transmit with a transmittal form. The Landscape Architect will not accept submittals from sources other than the Contractor.

5. Transmittal Form: Use AIA Document G810. On the form, record requests for information and deviations from requirements. Include Contractor's certification that information complies with requirements.

B. Contractor's Construction Schedule: Prepare a horizontal bar-chart-type, contractor's construction schedule. Provide a separate time bar for each activity and a vertical line to identify the first working day of each week. Use the same breakdown of Work indicated in the "Schedule of Values." Indicate estimated completion in 10 percent increments. As Work progresses, mark each bar to indicate actual completion.

1. Submit on date of Pre-Construction Meeting.
2. Prepare the schedule on reproducible media, of width to show data for the entire construction period.
3. Secure performance commitments from parties involved. Coordinate each element with other activities; include minor elements involved in the Work. Show each activity in proper sequence. Indicate sequences necessary for completion of related Work.
4. Coordinate with the Schedule of Payment, list of subcontracts, Submittal Schedule, payment requests, and other schedules.
5. Indicate completion in advance of Substantial Completion. Indicate Substantial Completion to allow time for the Landscape Architect's procedures necessary for certification of Substantial Completion.
6. Phasing: Show how phased completion affects the Work.
7. Work Stages: Indicate important stages for each portion of the Work.
8. Area Separations: Provide a separate time bar to identify each construction area (field) for each portion of the Work. Indicate where each element must be sequenced with other activities.

C. Submittal Schedule: After developing the Contractor's Construction Schedule, prepare a schedule of submittals to submit within 10 days.
1. Coordinate with list of subcontracts, Schedule of Values, list of products, and the Contractor's Construction Schedule.

2. Prepare the schedule in chronological order. Provide the following information:
    a. Date for first submittal.
    b. Related Section number.
    c. Submittal category (Shop Drawings, Product Data, or Samples).
    d. Name of the subcontractor.
    e. Description of the Work covered.
    f. Date for the Landscape Architect's final approval.

3. Schedule Distribution: Distribute copies of the Contractor's Construction Schedule and the Submittal Schedule to the Architect, Owner, subcontractors, and parties required to comply with submittal dates. Post copies in the field office.

    a. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their Work and are no longer involved in construction activities.
    b. Updating: Revise the schedule after each meeting or activity where revisions have been made. Issue the updated schedule concurrently with the report of each meeting.

D. Daily Construction Reports: Prepare a daily report recording events at the site. Submit duplicate copies to the Architect at weekly intervals. Include the following information:
    1. List of subcontractors at the site.
    2. High and low temperatures, general weather conditions.
    3. Accidents and unusual events.
    4. Stoppages, delays, shortages, and losses.
    5. Meter readings and similar recordings.
    6. Emergency procedures.
    7. Orders and requests of governing authorities.
    8. Services connected, disconnected.
    9. Equipment or system tests and startups.
    10. Substantial Completions authorized.

E. Shop Drawings: Submit newly prepared information drawn to scale. Indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information. Include the following information:
    1. Dimensions.
    2. Identification of products and materials included by sheet and detail number.
    3. Compliance with standards and contract documents.
    4. Notation of coordination requirements.
    5. Notation of dimensions revised by field measurement.
    6. Sheet Size: Except for templates and full-size Drawings, submit one correctable, reproducible print and one blue- or black-line print on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 36 by 48 inches (890 by 1220 mm). The Architect will return the reproducible print.
        a. Do not use Shop Drawings without an appropriate final stamp indicating action taken.

F. Product Data: Collect Product Data into a single submittal for each element of construction. Mark each copy to show applicable choices and options. Where Product Data includes information on several products, mark copies to indicate applicable information.

    1. Include the following information:
        a. Manufacturer's printed recommendations.
        b. Compliance with trade association standards.

c. Compliance with recognized testing agency standards.
d. Application of testing agency labels and seals.
e. Notation of dimensions verified by field measurement.
f. Notation of coordination requirements.

2. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.

3. Submittals: Submit 2 copies; submit 4 copies where required for maintenance manuals. The Architect will retain one and return the other marked with action taken.
   a. Unless noncompliance with Contract Documents is observed, the submittal serves as the final submittal.

4. Distribution: Furnish copies to installers, subcontractors, suppliers, and others required for performance of construction activities. Show distribution on transmittal forms. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
   a. Do not use unmarked Product Data for construction.

G. Samples: Submit full-size Samples cured and finished as specified and identical with the material proposed. Mount Samples to facilitate review of qualities.

1. Include the following:
   a. Specification Section number and reference.
   b. Generic description of the Sample.
   c. Sample source.
   d. Product name or name of the manufacturer.
   e. Compliance with recognized standards.
   f. Availability and delivery time.

2. Submit Samples for review of size, kind, color, pattern, and texture, for a check of these characteristics, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed. Where variations are inherent in the material, submit at least 3 units that show limits of the variations.
   a. Refer to other Sections for requirements for Samples that illustrate workmanship, fabrication techniques, and details of assembly, connections, operation, and similar characteristics.
   b. Refer to other Sections for Samples to be incorporated in the Work. Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
   c. Samples not incorporated into the Work, or designated as the Owner's property, are the Contractor's property and shall be removed from the site.

3. Preliminary Submittals: Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from standard

choices. The Architect will review and return submittals indicating selection and other action.

4. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets. One set will be returned marked with the action taken. Maintain sets of Samples, at the Project Site, for quality comparison.

    a. Unless noncompliance with Contract Documents is observed, the submittal may serve as the final submittal.
    b. Sample sets may be used to obtain final acceptance of the construction associated with each set.

5. Distribution of Samples: Distribute additional sets to subcontractors, manufacturers, and others as required for performance of the Work. Show distribution on transmittal forms.

H. Quality Assurance Submittals: Submit quality-control submittals, including design data, certifications, manufacturer's instructions, and manufacturer's field reports required under other Sections of the Specifications.

1. Certifications: Where certification that a product or installation complies with specified requirements is required, submit a notarized certification from the manufacturer certifying compliance.
    a. Signature: Certification shall be signed by an officer authorized to sign documents on behalf of the company.

I. Sample Panels:

1. Contractor shall construct sample panels in accordance with the Technical Specifications for review and approval by Landscape Architect.
2. Samples shall be prepared in advance of construction sequencing to allow time for modifications and approvals.
3. Contractor shall allow Landscape Architect five days to respond to a request to see a sample.
4. Full scale construction of any work requiring a pre-approved sample shall not begin until after Landscape Architect issues a statement of approval.

J. Landscape Architect's Action: Except for submittals for the record or information, where action and return are required, the Landscape Architect will review each submittal, mark to indicate action taken, and return. Compliance with specified characteristics is the Contractor's responsibility.

1. Action Stamp: The Architect will stamp each submittal with an action stamp. The Architect will mark the stamp appropriately to indicate the action taken.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION (Not Applicable)

END OF SECTION 01300

SECTION 01340
SHOP DRAWINGS

PART 1 GENERAL

1.01 SCOPE

A. The work under this Section includes submittal to the Project Landscape Architect of shop drawings, product data and samples required by the various sections of these Specifications. The following items will require shop drawings.

1. Dugout framing and roof
2. T-Ball dugout framing and roof
3. Roof and connections to Bleacher posts

B. Submittal Contents: The submittal contents required are specified in each section.

C. Definitions: Submittals are categorized as follows:

1. Shop Drawings

a. Shop drawings shall include technical data, drawings, diagrams, procedure and methodology, performance curves, schedules, templates, patterns, test reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.

b. Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or appropriate number of prints hereof, with name or preparer (firm name) indicated. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail shop drawings. Show dimensions and note dimensions that are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawings to be used in connection with the Work without appropriate final "Action" markings by the Project Landscape Architect.

c. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail, specification section, schedule or room numbers shown on the Contract Drawings.

d. Minimum assembly drawings sheet size shall be 24 x 36-inches.
e. Minimum detail sheet size shall be 8-1/2 x 11-inches.
f. Minimum scale:
(1) Detail Sheet, scale: 1/4-inch = 1 foot.

2. Product Data

a. Product data includes standard printed information on materials, products and systems, not specially prepared for this project, other than the designation of selections from among available choices printed therein.

b. Collect required data into one submittal for each unit of work or system, and mark each copy to show which choices and options are applicable to the Project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked and special coordination requirements.

3. Samples

a. Samples include both fabricated and un-fabricated physical examples of materials, products and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or, where indicated, for more detailed testing and analysis.

b. Provide units identical with final condition of proposed materials or products for the work. Include “range” samples, not less than three units, where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where the Project Landscape Architect's selection is required. Prepare samples to match the Project Landscape Architect's sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and “kind” by the Project Landscape Architect. Project Landscape Architect will note “test” samples, except as otherwise indicated, for other requirements, which are the exclusive responsibility of the Contractor.

4. Miscellaneous submittals related directly to the Work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, security/protection/safety keys and similar information, devices and materials applicable to the Work but not processed as shop drawings, product data or samples.

1.02 Specific Category Requirements

A. General:
Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal. Submittals shall contain:

1. The date of submittal and the dates of any previous submittals.

2. The Project title.
3. Numerical submittal numbers, starting with 1.0, 2.0, etc. Revisions to be numbered 1.1, 1.2, etc.
4. The Names of the following:
    a. Contractor
    b. Supplier
    c. Manufacturer
5. Identification of the product, with the Specification section number, permanent equipment tag numbers and applicable Drawing No.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the fields or materials.
8. Applicable standards, such as ASTM or Federal Specification numbers.
9. Notification to the Project Landscape Architect in writing, at time of submissions, of any deviations on the submittals from requirements of the Contract Documents.
10. Identification of revisions on resubmittals.
11. An 8 x 3-inch blank space for Contractor and Project Landscape Architect stamps.
12. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria and coordination of the information within the submittal with requirements of the Work and of Contract Documents.
13. Submittal sheets or drawings showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.03 Routing of Submittals

A. Submittals and routine correspondence shall be routed as follows:
    1. Supplier to Contractor (through representative if applicable)
    2. Contractor to Project Landscape Architect
    3. Project Landscape Architect to Contractor and Owner
    4. Contractor to Supplier

Part 2 Products

2.01 Shop Drawings

A. Unless otherwise specifically directed by the Project Landscape Architect, make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the Work.

B. Submit all shop assembly drawings, larger than 11 x 17-inches, in the form of one reproducible transparency with two opaque prints or copies.

C. Submit all shop drawings, 11 x 17-inches and smaller, in the form of six opaque

prints or copies.

D. One reproducible for all submittals larger than 11 x 17-inches and no more than three prints of other submittals will be returned to the Contractor.

2.02 Manufacturer's Literature

A. Where content of submitted literature from manufacturers includes data not pertinent to this submittal, clearly indicate which portion of the contents is being submitted for the Project Landscape Architect's review.

B. Submit the number of copies which are required to be returned (not to exceed (3) three) plus three copies which will be retained by the Project Landscape Architect.

2.03 Samples

A. Samples shall illustrate materials, equipment or workmanship and established standards by which completed work is judged.

B. Unless otherwise specifically directed by the Project Landscape Architect, all samples shall be of the precise article proposed to be furnished.

C. Submit all samples in the quantity which is required to be returned plus one sample which will be retained by the Project Landscape Architect.

2.04 Colors

A. Unless the precise color and pattern is specifically described in the Contract Documents, wherever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Project Landscape Architect for review and selection.

B. Unless all available colors and patterns have identical costs and identical wearing capabilities, and are identically suited to the installation, completely describe the relative costs and capabilities of each.

Part 3 Execution

3.01 Contractor's Coordination of Submittals

A. Prior to submittal for the Project Landscape Architect's review, the Contractor shall use all means necessary to fully coordinate all material, including the following procedures:

1. Determine and verify all field dimensions and conditions, catalog numbers and similar data.

2. Coordinate as required with all trades and all public agencies involved.
3. Submit a written statement of review and compliance with the requirements of all applicable Technical Specifications as well as the requirements of this Section.
4. Clearly indicate in a letter or memorandum on the manufacturer's or fabricator's letterhead, all deviations from the Contract Documents.

B. Each and every copy of the shop drawings and data shall bear the Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Project Landscape Architect without the Contractor's stamp will be returned to the Contractor for conformance with this requirement.

C. The Owner may back charge the Contractor for costs associated with having to review a particular shop drawing, product data or sample more than two times to receive a “No Exceptions Taken” mark.

D. Grouping of Submittals

1. Unless otherwise specifically permitted by the Project Landscape Architect, make all submittals in groups containing all associated items.

2. No review will be given to partial submittals of shop drawings for items which interconnect and/or are interdependent. It is the Contractor's responsibility to assemble the shop drawings for all such interconnecting and/or interdependent items, check them and then make one submittal to the Project Landscape Architect along with Contractor's comments as to compliance, non-compliance or features requiring special attention.

E. Schedule of Submittals

1. Within 30 days of Contract award and prior to any shop drawing submittal, the Contractor shall submit a schedule showing the estimated date of submittal and the desired approval date for each shop drawing anticipated. A reasonable period shall be scheduled for review and comments. Time lost due to unacceptable submittals shall be the Contractor's responsibility and some time allowance for resubmittal shall be provided. The schedule shall provide for submittal of items which relate to one another to be submitted concurrently.

3.02 Timing of Submittals

A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.

B. In scheduling, allow sufficient time for the Project Landscape Architect's review

following the receipt of the submittal.

3.03 Reviewed Shop Drawings

A. Project Landscape Architect Review

1. Allow a minimum of 30 days for the Project Landscape Architect's initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals. The Project Landscape Architect will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination. Allow a minimum of two weeks for reprocessing each submittal. Advise the Project Landscape Architect on each submittal as to whether processing time is critical to progress of the Work, and therefore the Work would be expedited if processing time could be foreshortened.

2. Acceptable submittals will be marked “No Exceptions Taken”. A minimum of three copies will be retained by the Project Landscape Architect for Project Landscape Architect's and the Owner's use and the remaining copies will be returned to the Contractor.

3. Submittals requiring minor corrections before the product is acceptable will be marked “Make Corrections Noted”. The Contractor may order, fabricate and ship the items included in the submittals, provided the indicated corrections are made. Drawings must be resubmitted for review and marked “No Exceptions Taken” prior to installation or use of products.

4. Submittals marked “Amend and Resubmit” must be revised to reflect required changes and the initial review procedure repeated.

5. The “Rejected - See Remarks” notation is used to indicate products which are not acceptable. Upon return of a submittal so marked, the Contractor shall repeat the initial review procedure utilizing acceptable products.

6. Only two copies of items marked “Amend and Resubmit” and “Rejected - See Remarks” will be reviewed and marked. One copy will be retained by the Project Landscape Architect and the other copy with all remaining unmarked copies will be returned to the Contractor for resubmittal.

B. No work or products shall be installed without a drawing or submittal bearing the “No Exceptions Taken” notation. The Contractor shall maintain at the job site a complete set of shop drawings bearing the Project Landscape Architect's stamp.

C. Substitutions: In the event the Contractor obtains the Project Landscape Architect's

approval for the use of products other than those which are listed first in the Contract Documents, the Contractor shall, at the Contractor's own expense and using methods approved by the Project Landscape Architect, make any changes to structures, piping and electrical work that may be necessary to accommodate these products.

D. Use of the “No Exceptions Taken” notation on shop drawings or other submittals is general and shall not relieve the Contractor of the responsibility of furnishing products of the proper dimension, size, quality, quantity, materials and all performance characteristics, to efficiently perform the requirements and intent of the Contract Documents. The Project Landscape Architect's review shall not relieve the Contractor of responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site. The Contractor is also responsible for information that pertains solely to the fabrication processes or to the technique of construction and for the coordination of the work of all trades.

3.04 Resubmission Requirements

A. Shop Drawings

1. Revise initial drawings as required and resubmit as specified for initial submittal, with the resubmittal number shown.

2. Indicate on drawings all changes which have been made other than those requested by the Project Landscape Architect.

B. Project Data and Samples: Resubmit new data and samples as specified for initial submittal, with the resubmittal number shown.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

1.1 GENERAL

A. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 16.

B. Substantial Completion: Before requesting inspection for certification of Substantial Completion, complete the following:
   1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the Work claimed as substantially complete.
      a. Include supporting documentation for completion and an accounting of changes to the Contract Sum.
   2. Advise the Owner of pending insurance changeover requirements.
   3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
   4. Submit record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
   5. Deliver tools, spare parts, extra stock, and similar items.
   6. Turn on existing irrigation system to determine if damage was done during work.
   7. Remove temporary facilities, mockups, construction tools, and similar elements.
   8. Complete final cleanup requirements, including touchup painting.
   9. Touch up and repair and restore marred, exposed finishes.
   10. Repair ballfields and parking lots used for storage and staging.

C. Inspection Procedures: On receipt of a request for inspection, the Architect will proceed or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
   1. The Landscape Architect/Engineer will repeat inspection when requested and assured that the Work is substantially complete.
   2. Results of the completed inspection will form the basis of requirements for final acceptance.

D. Final Acceptance: Before requesting inspection for certification of final acceptance and final payment, complete the following:
   1. Final payment request with releases and supporting documentation. Include insurance certificates where required.
   2. Submit a statement, accounting for changes to the Contract Sum.
   3. Submit a copy of the final inspection list stating that each item has been completed or otherwise resolved for acceptance.

4. Submit final meter readings for utilities, a record of stored fuel, and similar data as of the date of Substantial Completion.
5. Submit consent of surety to final payment.
6. Submit a final settlement statement.
7. Submit evidence of continuing insurance coverage complying with insurance requirements.

E. Re-inspection Procedure: The Landscape Architect will re-inspect the Work upon receipt of notice that the Work has been completed, except for items whose completion is delayed under circumstances acceptable to the Landscape Architect.
1. Upon completion of re-inspection, the Landscape Architect will prepare a certificate of final acceptance. If the Work is incomplete, the Landscape Architect will advise the Contractor of Work that is incomplete or obligations that have not been fulfilled but are required.
2. If necessary, re-inspection will be repeated.

F. Record Document Submittals: Do not use record documents for construction. Protect from loss in a secure location. Provide access to record documents for the Landscape Architect's reference.

G. Record Drawings: Maintain a set of prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark the drawing most capable of showing conditions fully and accurately. Give attention to concealed elements.
1. Mark sets with red pencil. Use other colors to distinguish between variations in separate categories of the Work.
2. Organize record drawing sheets into manageable sets. Bind with durable-paper cover sheets; print titles, dates, and other identification on the cover of each set.
3. Upon completion of the work, submit one reproducible copy of the Record Drawings to the Owner.

H. Record Specifications: Maintain one copy of the Project Manual, including addenda. Mark to show variations in Work performed in comparison with the text of the Specifications and modifications. Give attention to substitutions and selection of options and information on concealed construction. Note related record drawing information and Product Data.
1. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.
2. Submit complete copies of all testing data and shop drawings to the Owner.

I. Maintenance Manuals: Organize operation and maintenance data into sets of manageable size. Bind in individual, heavy-duty, 2-inch (51-mm), 3-ring, binders, with pocket folders for folded sheet information. Mark identification on front and spine of each binder. Include the following information:
1. Emergency instructions.
2. Spare parts list.
3. Copies of warranties.

4. Wiring diagrams.
5. Shop Drawings and Product Data.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION

A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires maintenance to provide instruction in proper operation and maintenance. Include a detailed review of the following items:
1. Maintenance manuals.
2. Spare parts, tools, and materials.
3. Lubricants and fuels.
4. Identification systems.
5. Control sequences.
6. Hazards.
7. Warranties and bonds.
8. Maintenance agreements and similar continuing commitments.

B. As part of instruction for operating equipment, demonstrate the following:
1. Startup and shutdown.
2. Emergency operations and safety procedures.
3. Noise and vibration adjustments.

C. Final Cleanup: Employ experienced cleaners for final cleanup. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Complete the following operations before requesting inspection for certification of Substantial Completion.
1. Remove labels that are not permanent labels.
2. Clean transparent materials, including mirrors and glass. Remove glazing compounds. Replace chipped or broken glass.
3. Clean exposed finishes to a dirt-free condition, free of stains, films, and foreign substances. Leave concrete slabs broom clean.
4. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication. Clean plumbing fixtures. Clean light fixtures and lamps.
5. Clean the site of rubbish, litter, and foreign substances. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds to a smooth, even-textured surface.

D. Removal of Protection: Remove temporary protection and facilities.

E. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Remove waste materials and dispose of lawfully.

END OF SECTION 01700

SECTION 01740

WARRANTIES

1.1 GENERAL

A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.

B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.
   1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
   2. Refer to Section 02900 for plant material warranties.
   3. All conditions of this Section also apply to warranties stated in other sections.

C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

D. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

E. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

F. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

G. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
2. Where the Contract Documents require a special warranty, or similar commitment, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

H. Submit written warranties to the Landscape Architect prior to the date certified for Substantial Completion. If the Landscape Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion, submit written warranties upon request.
1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within 15 days of completion of that designated portion of the Work.

I. When the Contract Documents require the Contractor, a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Architect, for approval prior to final execution.
1. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.

J. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor.
3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION

A. List of Warranties: As follows:
Chain-link fence, dugout frame, metal roof, scoring towers, prefabricated gates etc,

B. Schedule: Provide warranties on products and installations as specified in the following Sections: Division 2, Division 3, Division 4, Division 5, Division 6, Division 15,

END OF SECTION 01740

SECTION 02060

DEMOLITION OF EXISTING FACILITIES

PART 1 GENERAL

1.01 SCOPE

The work in this Section consists of furnishing all equipment and performing all labor necessary for demolishing and disposing of designated facilities indicated on the Drawings.

1.02 SUBMITTALS

The Contractor shall submit a written request, to include a detailed demolition procedure, to the Owner and Landscape Architect for approval at least 10 days before demolition is started. The demolition procedure shall include a detailed description of the methods and equipment to be used for each operation and the sequence of work. The demolition procedures shall provide for safe conduct of work, protection of the property, which is to remain undisturbed and coordination with other work or operation, which may be in progress.

1.03 PERMITS

Contractor is responsible for securing all permits necessary to demolish and dispose of all demolition items.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 DEMOLITION

A. All site material shall be removed as necessary for construction, or in any event, to a minimum depth of three feet below finished grades as shown on the Drawings.

B. The location of existing utilities and irrigation is unknown and shall be field identified prior to beginning demolition. Any damage or unauthorized interruption of existing utilities or irrigation shall be the sole responsibility of the Contractor and shall be repaired at contractor's expense. Turning on the irrigation shall be part of the final punch list inspection.

C. Any structure, or part thereof, remaining below grade shall be fractured so that subsurface materials can be removed effectively.

D. The Contractor shall be allowed to use the open play fields and parking lots for storage and staging during construction. Contractor shall be responsible to repair any damage caused to the fields are parking lot and shall return said areas to previous conditions.

E. The Contractor will be responsible for any damage caused to other structures, and shall be held liable for any and all repairs, replacement of parts or renovations required to restore any structure, portion of structure, equipment or items, not intended for demolition. The Contractor shall restore any damaged facilities to their condition prior to demolition provided the damage was result of the demolition. If the Contractor does not repair any such damage immediately, or if the repairs are not suitable to the Owner, the Owner reserves the right to have such repairs made by another party and deduct the cost of required repairs from money due Contractor.

F. Dust-tight, weather tight partitions shall be erected to protect the concession stand from dust and weather while wrecking is in progress and until such time as closures have been made.

G. All salvageable signage materials shall remain the property of the Owner and shall be cleaned and stored on the Owner's property as directed by the Owner.

H. Advertisement signage on the fences shall be salvaged and given to the Owner.

I. Demolished concrete slab shall be removed to the landfill.

3.02 DISPOSAL

A. All materials, which are not delivered to the Owner as specified above, shall become the property of the Contractor, and shall be demolished, moved or otherwise disposed of at the option of the Contractor by a method approved by the Owner. All debris shall be disposed of off-site by the Contractor. No salvage or sale of demolished materials on site will be allowed.

B. All demolished structures, equipment and unusable materials shall be removed from the work site by the Contractor.

C. All demolished structures, equipment and materials which are either left in place or removed to the disposal site shall be in a non-hazardous condition.

D. Hose bibs at the dugouts shall be capped and protected until new hose bibs are installed.

E. Existing chain link fabrics, poles and accessories shall be considered property of the contractor and disposed of per his desires.

END OF SECTION

SECTION 02100

SITE PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

Conditions of Section 02112 Tree Protection and Clean Up shall apply to this section. Related Section 02060 Demolition.

1.2 SCOPE:

A. This Section describes materials and equipment to be utilized and requirements for their use in preparing the work site for construction. The Contractor shall furnish all materials, equipment and labor necessary to complete the work. Precautionary measures that prevent damage to existing trees and other site features to remain are part of the Work.

B. Comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction. All required permits of a temporary nature shall be obtained for construction operations by the Contractor.

C. Clearing and grading operations or not anticipated, but if they do occur they shall be coordinated with temporary and permanent erosion and sedimentation control procedures.

D. Protection of foul poles, scoreboards, batting cages, sidewalks, concession stand, bleacher posts, turf areas, and existing trees as identified by the drawings.

E. Construction Access shall conform to all erosion control protection requirements.

F. Fly ball protective netting is present on the site and shall be removed and provided to the Owner as part of the demolition process.

1.3 CLEARING AND GRUBBING:

A. Within the limits shown schematically on the Drawings, there is no need to clear any trees or vegetation on the site.

B. The Contractor shall verify existing conditions on the site, and examine adjoining work and buildings, which in any way will affect completion of the Work. Report to the Landscape Architect, in writing, any condition which will prevent the proper performance of the proposed site construction. Premises shall be

accepted as found. The Landscape Architect and Engineer assume no responsibility for conditions of the site.

C. Clearing:
1. All vegetable growth such as trees, shrubs, brush, logs, upturned stumps and roots of down trees, and other similar items shall be removed as shown on the Drawings and disposed of properly by the Contractor as specified below. Cultivated growth shall be removed and trees felled as necessary within the construction work site and as indicated. Any construction activities, including trench excavation and fill compaction, which could detrimentally impact existing trees larger than 10-inch diameter (defined as DBH) or their root systems shall be reviewed by and coordinated with the Landscape Architect.
2. Where the tree limb structure interferes with backstop fences, or protective netting, the tree shall be pruned to eliminate the possibility of interference with the fences.
3. All buildings, fences, trash, obstructions, except utility poles, and score boards shall be removed as noted on the Drawings and disposed of by the Contractor. Any work pertaining to utility poles shall comply with the requirements of the appropriate utility.
4. All fences or walkways adjoining any excavation or embankment that may be damaged or buried shall be carefully removed, stored and replaced.

D. Grubbing:
No grubbing is anticipated in the site.

E. Irrigation:
Contactor shall operate the existing irrigation to document the condition of the system. Operation inspection and documentation shall be completed in the presence of the Owner's Representative for the project.

1.4 TESTING AND INSPECTION SERVICES:

A. Concrete testing will be performed by an independent testing laboratory approved by the Owner. Payment for testing shall be made by the Contractor.

B. The testing laboratory is responsible for the following:
1. Concrete shall be tested in accordance with Section 03300.
2. Paying costs for additional testing performed beyond the scope of that required and for re-testing where initial tests reveals non-conformance with specified requirements.
3. Slump test for all concrete installations.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PREPARATION:

A. Maintain benchmarks, monuments and other reference points. Re-establish, at no cost to the Owner, any such reference points if disturbed or destroyed.
B. Remove all fences, backstops, dugout fences, frames, roofs and site objects as stated on the drawings.

3.2 CLEARING:

A. Clear areas required for access to site and execution of the work.

B. Remove trees and shrubs within the area to be cleared. All trees to be saved within the grading limits are shown on the Drawings. Coordinate removal of trees and shrubs with the Landscape Architect.

3.3 STAKING:

A. The Contractor shall stake the entire site, both as to location of major construction items prior to construction. This stakeout may be accurate or rough, depending on the Contractor's preference.

B. The purpose of the staking, with inspection and adjustment by the Landscape Architect, is to adapt the layout to the site rather than allow the design to be forced changes on the site. Staking is subject to various degrees of adaptation, which can only be determined by the Landscape Architect.

C. The Contractor shall notify the Landscape Architect at least three working days before inspection of the stakeout must be made. During the inspection the Landscape Architect will adjust the stakeout as necessary to fit the site, topography and all other objects and conditions on the site. At this time the Landscape Architect will clearly mark all changes on the plans. This staking-inspection process must take place prior to any construction or any other work on the site.

D. During the inspection, the Contractor shall be at the site along with the person who will superintend the work under this contract.

E. The staking-inspection process shall be repeated for any work not staked and approved or adjusted during the first site visit. No work shall ever be done without the stakeout first being adjusted and approved by the Landscape Architect. All alignment, dimensions and elevation of any grading, excavation, construction is subject to adjustment to fit the site.

3.4 DISPOSAL OF REFUSE:

A. The refuse resulting from demolition operations shall be hauled to a disposal site secured by the Contractor and shall be disposed of in accordance with all requirements of federal, state, county and municipal regulations. No debris of any kind shall be deposited in any stream or body of water, or in any street or alley. No debris shall be deposited upon any private property except by written consent of the property owner. In no case shall any material be left on the Project, shoved onto abutting private properties, or buried on the Project.

B. Contractor may not dispose of refuse by burning or burial on site. All refuse must be removed and properly disposed of off site.

3.5 STAGING AREA:

On-site locations are available for the Contractor to use for staging and storage on the fields and parking lot. These sites must be approved by the Client prior to utilization.

END OF SECTION

SECTION 02830
CHAIN LINK FENCING AND GATES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Extent of chain link fences, gates, dugouts, backstops, and concrete post foundations is indicated on drawings.

1.2 QUALITY ASSURANCE

A. Provide chain link fences as complete units provided by a single contractor including necessary erection accessories, fittings, and fastenings.

B. Installer Qualifications: Engage an experienced Installer who has at least (3) three years of experience and has completed at least five chain link fence projects with same material and of similar scope to that indicated for this project with a successful construction record of in-service performance.

C. Reference Standard: Fencing shall be installed in accordance with the Standards and Quality specified by the Chain link Fence Manufacturer's Institute.

1.3 SUBMITTALS

A. Product Data: Submit technical data and installation instructions for metal fencing, fabric, gates, posts, and accessories.

B. Shop drawings showing details of fences, posts, and post installation, gate swing, hardware, dugouts, and accessories. Design must conform to the Chain Link Fence Manufacturer's Institute.

C. Samples for verification of PVC color in form of 6-inch lengths of actual fabric wire to be used in color selection.

1. Include similar samples of polymer coating applied on posts, rails, and accessories in color selected. Color shall be Black.

1.4 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for fences shown on the drawings in relation to the playing field and existing fence locatons. Verify dimensions by field measurements.

PART 2 - PRODUCTS

2.1 GENERAL

A. Dimensions indicated for pipe, roll-formed, and H-sections are outside dimensions, exclusive of coatings. All materials are to be coated in the same manner and color as specified herein.

B. Manufacturer: Subject to compliance with requirements, provide products of one of the followings:

1. PVC Black Coated Galvanized Steel Fencing, Frame, Fabric, and all hardware:
   a. Anchor Fence, Inc.
   b. Southeastern Wire
   c. Master Halco
   d. Or approved equal

2. Outfield fences and fences beyond the bleachers shall not be vinyl clad.

C. Posts: All specified posts shall be schedule 40

D. Rails: All specified rails shall be SS20

2.2 STEEL FABRIC

A. Fabric: PVC coated No. 6 or 9 gauge. Fused and thermally bonded size steel wires, 2" mesh, with top and bottom selvages knuckled.

1. Provide one-piece fabric widths for fencing up to 12' high.
2. Steel Fabric Finish: Hot dip galvanized, ASTM A641-71a (2002). Comply with ASTM F 668 (2002), Type 2B, Class 2B.
3. No. 6 gauge fabric shall be used on the lower 10’ of the backstops only.

2.3 PVC COATING

A. Fused and thermally bonded 9 gauge (core) 8 finish, total thickness, minimum 10 mils meeting, ASTM D-792 (2002). Color shall be in accordance with Chart A of this specification. Manufacturer's Standard Colors (black).

B. All posts, accessories, attachments, fasteners, caps, etc., for fencing shall be PVC coated to match.

2.4 FRAMING AND ACCESSORIES

A. Steel Framework, General: Galvanized steel, ASTM A 120 or A 123 (2003), with not less than 1.8 oz. zinc per sq. ft. of surface.

1. Fittings and Accessories: Galvanized ASTM A 153 (2003), with zinc weights per Table I.
2. Steel Framework Finish: Provide framework, fittings and accessories in accordance with manufacturer's standard thermally bonded polyvinyl chloride (PVC) plastic resin finish over galvanizing, not less than 10 mils (0.010") thick. Color to match chain link fabric.

B. End, Corner, and Pull Posts: Minimum sizes and weights as follows:
1. 3.0" OD steel LCX pipe – gate and fencing
2. 4.0” OD steel LCX pipe – T-ball backstop, backstop lines posts, and dugout corners.
3. 6.0” OD steel LCX pipe - Backstop corners and Backstop pull posts

Deductive Alternate: Change 6” OD to 4” OD
Change 4” OD to 3” OD
See bottom of construction bid schedule

C. Line Posts: Space 10 - 0" oc. maximum, unless otherwise indicated, of following minimum sizes and weights:

1. 2.0" OD steel LCX pipe - fencing.

D. Gate Posts: Provide posts for supporting single gate leaf, or one leaf of a double gate installation, for nominal gate widths as follows (Double Drive =D/D, Walk Gate = W/G):

Gate Width	Gate Post	LCX
14' D/.D	3.0" OD pipe	LCX pipe
5' W/G	3.0" OD pipe	LCX pipe

E. Wire Ties: 9 gauge. Aluminum to match PVC coated fabric material.

F. Post Brace Assembly: Manufacturer's standard adjustable brace at end and gate posts and at both sides of corner and pull posts, with horizontal brace located at mid-height of fabric. Use same material as top rail for brace, and truss to line posts with 0.375" diameter rod and adjustable tightener.

G. Post Tops: Provide weathertight dome closure cap with loop to receive tension wire or top rail; one cap for each post of matching color.

H. Stretcher Bars: One-piece lengths equal to full height of fabric, with minimum cross-section of 3/16" x 3/4". Provide one stretcher bar for each gate and end

post, and two for each corner and pull post, except where fabric is integrally woven into post.

I. Stretcher Bar Bands: Space not over 15" oc., to secure stretcher bar to end, corner, pull, and gate posts.

2.5 GATES

A. Fabrication: Fabricate frames for gates from metal and finish to match fence framework. Assemble gate frames by welding for rigid connections. Provide horizontal and vertical members to ensure proper gate operation and attachment of fabric, hardware and accessories. Space frame members maximum of 8' apart unless otherwise indicated.

1. Provide same fabric as for fence, unless otherwise indicated. Install fabric with stretcher bars at vertical edges. Attach stretcher bars to gate frame at not more than 15” oc.

B. Swing Gates: Fabricate perimeter frames of minimum 2 7/8" OD round LCX Pipe.

C. Gate Hardware: Provide hardware and accessories for each gate, galvanized per ASTM A 153 (2003), and in accordance with the following:

1. Hinges: Size and material to suit gate size, non-lift-off type, offset to permit 90° gate opening. Provide 1 pair of hinges for each leaf.
2. Latch: Forked type or plunger-bar type to permit operation from either side of gate, with padlock eye as integral part of latch.

D. Double Gates: Provide gate stops for double gate, consisting of mushroom type flush plate with anchors, set in concrete and designed to engage center drop-rod or plunger bar. Including locking device and padlock eyes as integral part of latch, permitting both gate leaves to be locked with single padlock.

E. Provide miscellaneous hardware required for complete installation of removable and non-removable sleeved posts, as required.

F. Concrete: Provide concrete consisting of Portland cement, ASTM C 150 (2003), aggregates ASTM C 33 (2003), and clean water, Mix materials to obtain concrete with a minimum 28-day compressive strength of 3500 psi using at least 6 sacks of cement per cu. yd., 1" maximum size aggregate, maximum 3" slump, and 5% to 6% entrained air. Excess concrete and refuse shall be removed from the site.

G. Bottom Tension Wire: 7 gauge galvanized coil steel tension wire attached along the bottom of the fence, 24' on center with HOG ring.

2.6 BACKSTOPS

A. Fabrication: Install posts and framework to match fence framework. Assemble frames for rigid connections. Provide horizontal and vertical members to ensure proper strength and attachment of fabric, hardware and accessories. Space post members as indicated on the details.

B. Provide same fabric gauge for fences for all of the backstop except the lower 10' vertical section. Provide 6 gauge fabric across the bottom of the backstop, unless otherwise indicated. Install fabric with stretcher bars at vertical edges. Attach brace rails to backstop posts at not more than 10" vertical oc.

C. Lower brace rail shall not be more than 30" high to prevent visual interference of play.

D. Posts shall be as specified and indicated on the backstop details.

E. All corner 6" ODC corner and end posts shall be tied to the ground with a ¾" dia. copper clad grounding rod.

2.7 T-BALL BACKSTOP

A. Fabrication: Install posts and framework to match fence framework. Assemble frames for rigid connections. Provide horizontal and vertical members to ensure proper strength and attachment of fabric, hardware and accessories. Space post members as indicated on the details.

B. Provide same fabric as for fence for all of the backstop except the lower 10'. Provide 6 gauge fabric across the bottom of the backstop, unless otherwise indicated. Install fabric with stretcher bars at vertical edges. Attach brace rails to backstop posts at not more than 10" vertical oc.

C. Lower brace rail shall not be more than 30" high to prevent visual interference of play.

D. Posts shall be as specified and indicated on the T-ball backstop detail.

E. All corner 4" ODC corner and end posts shall be tied to the ground with a ¾" dia. copper clad grounding rod.

2.5 DUGOUTS

A. Fabrication: Install posts and framework to coordinate with dugout metal fabrication framework and backstop fence. Assemble gate frames for rigid connections. Provide horizontal and vertical members to ensure proper strength and attachment of fabric, hardware and accessories. Space post members to fit as indicated on the dugout details.

B. Provide same fabric as for fence for all dugout fencing. 10’. Attach brace rails to posts as indicated

C. Lower brace rail shall not be more than 30” high to prevent visual interference of play.

D. Posts shall be as specified and indicated on the dugout detail. Posts under the dugout roof shall not exceed the height of the bottom of the roof

E. Front face of the dugout fence is part of the backstop fence details.

F. Topping concrete slab or new slab for dugout shall be poured after the dugout fence posts are set and after the fabricated dugout frame is in place. Posts for the front face of dugout is part of the backstop fence and must be in place as well. Fabric for front face of dugout fence shall also be in place on the posts so that lower fabric can be embedded into the slab. Completion of dugout fencing and roofing may be completed after the slab has cured. See details on drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Coordinate fencing installation with layout of existing ballfield. Do not begin work until client has accepted the stakeout.

B. Excavation: Drill or hand excavate (posthole digger) holes for posts to diameters and spacing shown, in firm, undisturbed or compacted soil.

C. Setting Posts: Center and align posts in holes 6" above bottom of excavation.

1. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hold in position during placement and finishing operations.

D. Top Rails: Run Rail continuously through post caps, bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.

E. Intermediate, Bottom Rails: Provide center rails where indicated. Install in one piece between posts and flush with post on fabric side, using special offset fittings where necessary.

F. Brace Assemblies: Install braces so posts are plumb when diagonal rod is under proper tension.

G. Fabric: Pull fabric taut and tie to posts and rails. Install fabric on field side of fence, and anchor framework so that fabric remains in tension after pulling force is released.

H. Stretcher Bars: Thread through or clamp to fabric 4" oc., and secure to posts with metal bands spaced 15" oc.

I. Gates: Install gates plumb, level, and secure for full opening without interference. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

J. Tie Wires: Use U-shaped wire, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least 2 full turns. Bend ends of wire to minimize hazard to persons or clothing. Wire turns shall be to the outside of the playing field.

1. Tie fabric to line posts, with wire ties spaced 12' .c. Tie fabric to rails and braces, with wire ties spaced 24" oc.

K. Fasteners: Install nuts for tension bands and hardware bolts on side of fence opposite fabric side or outside the playing field. Pen ends of bolts or score threads to prevent removal of nuts.

L. Grounding Rods: Install grounding rods to all 6” or 4” corner posts on the backstops or T-Ball backstop.

3.2 FINAL CLEAN-UP

Contractor shall remove all refuse, extra and discarded parts from the site. Refuse shall not be disposed of on the premises of the park property.

END OF SECTION

SECTION 03310

CONCRETE WORK

PART 1 – GENERAL

RELATED DOCUMENTS:

The provisions of Division 1 shall govern this section

DESCRIPTION OF WORK:

Extent of concrete work is shown on the drawings, and includes, but is not necessarily limited to the following:

Topping slabs for dugouts and bleacher shelter, new slab for T-Ball dugout, scoring tower slabs, foundation concrete for posts on fences, dugouts, backstops, foul poles, and scoreboard relocation.

RELATED WORK SPECIFIED ELSEWHERE*:*

Section 02830 – Chain-link Fence

QUALITY ASSURANCE: .

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

Codes and Standards: Comply with the provisions of the following codes, specifications and standards, except where more stringent requirements are shown or specified:

ASTM C 33	Concrete Aggregates"
ASTM C 150	Portland Cement
ACI 311	"Recommended Practice for Concrete Inspection"
ASTM C 94	Ready-Mixed Concrete
ACI 347	"Recommended Practice for Concrete Form Work"
ACI 304	"Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete"

Concrete Testing Service:
Employ at Contractor's expense a testing laboratory acceptable to the Owner to perform material evaluation tests and to design concrete mixes.

Materials and Installed Work may require testing and re-testing, as directed by the Landscape Architect, at any time during the progress of the work. Allow free access to material stockpiles and facilities at all times. Tests, not specifically indicated to be done at the

Owner's expense, including the re-testing of rejected materials and installed work, shall be done at the Contractor's expense.

Tests for Concrete Materials:
Test aggregates by method of sampling and testing of ASTM C 33.
For Portland cement sample the cement and determine the properties by the methods of test of ASTM C 150.

Submit written reports to the Landscape Architect for each material sampled and tested, prior to the start of the work. Provide the project identification name and number, date of report, name of contractor, name of concrete testing service, source of concrete aggregates, material manufacturer and brand name for manufactured materials, and values specified in the referenced specification for each material as acceptable for intended use.

Certificates of material properties and compliance with specified requirements may be submitted in lieu of testing. Certificates of compliance must be signed by the materials producer and the Contractor.

SUBMITTALS:

Product Data:
Submit manufacturer’s product data with application and installation instructions for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, curing compounds, and others as requested by the Landscape Architect.

Laboratory Test Reports:
Submit laboratory test reports for concrete materials and mix design test as specified.

Material Certificates provide materials certificates in lieu of materials laboratory test reports when permitted by Landscape Architect. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds, specified requirements.

Color: No color specified, plain concrete

PART 2 - PRODUCTS

CONCRETE MATERIALS:

Portland Cement:
ASTM C 150, Type I, unless otherwise acceptable to Landscape Architect.

Use one brand of cement throughout project, unless otherwise acceptable to Landscape Architect.

Normal Weight Aggregates:
ASTM C 33 and as herein specified. Provide aggregates from a single source for exposed concrete. Local aggregates not complying with ASTM C 33 but which have shown by

special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to the Landscape Architect.

Fine Aggregate:
Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances.
Dune sand, bank-run sand and manufactured sand are not acceptable.

Coarse Aggregate:
Clean, uncoated, processed aggregate containing no clay, mud, loam or foreign matter, as follows:
Crushed stone processed from natural rock or stone.
Washed gravel, either natural or crushed. Use of pit or bankrun gravel is not permitted.

Maximum Aggregate Size:
Not larger than one-fifth of the narrowest dimension between sides of forms, one-third of the depth of slabs, nor three-fourths of the minimum clear spacing between individual reinforcing bars.

Water: Potable
Air Entraining Admixture: ASTM C 260.
Water-Reducing Admixture: ASTM C 494, Type A.
Calcium Chloride: will not be permitted in concrete.
Color: Schofield (Submit samples for selection) Price Sombrero Buff.

PROPORTIONING AND DESIGN OF MIXES:

Prepare design mixes for each type and strength of concrete in accordance with applicable provisions of ASTM C 94. Use an independent testing facility acceptable to Landscape Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Landscape Architect.

Submit written reports to Landscape Architect for each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Landscape Architect.

Adjustment to Concrete Mixes: Mix Design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Landscape Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Landscape Architect before using in work.

ADMIXTURES*:*

Use air-entraining admixture in exterior exposed concrete slabs, unless otherwise indicated. Add air-entraining admixture at manufacturer’s prescribed rate to result in concrete at point of placement having air content within following limits.

Pressure:

4% for maximum 2" aggregate
6% for maximum 3/4" aggregate, 7% for maximum 1/2" aggregate
Other concrete: 2% to 4% air

Use admixtures in strict compliance with manufacturer's directions.

CONCRETE STRENGTHS AND SLUMPS:

All concrete, except where shown or specified otherwise, shall have the following minimum compressive strengths at 28 days, and slump at time of placement:

LOCATION	STRENGTH	MAX. AGG. SIZE	SLUMP
Pole Bases	3000 psi	3/4"	1 - 3"
Exterior Slabs	3000 psi	3/4"	1 - 4"
Sidewalks & Paving	3000 psi	3/4"	1 - 4"

CONCRETE MIXING:

Ready-Mix Concrete:
Comply with requirements of ASTM C 94, and as herein specified.
Delete references for allowing additional water to be added to batch for material with insufficient slump. Addition of water to the batch will not be permitted.
During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.
When air temperature is between 85 F (30 C) and 90 F (32 C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes, and when air temperature is above 90F (32 C), reduce mixing and delivery time to 60 minutes.

Color: None specified.

PART 3 - EXECUTION

JOINTS:

Construction Joints:
Locate and install construction joints as shown on drawings, so as not to impair strength and appearance of the slab, as acceptable to Landscape Architect.

Provide keyways at least 1-1/2" deep in construction joints in slabs and footings; accepted bulkheads designed for this purpose may be used for slabs.

Place construction joints perpendicular to the main reinforcement. Continue reinforcement across construction joints.

Isolation Joints in Slabs-on-Ground: Construct isolation joints in slabs on ground at points of contact between slabs and vertical surfaces, such as pedestals, walls, steps, and elsewhere as indicated.

INSTALLATION OF EMBEDDED ITEMS:

General:
Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of items to be attached thereto.

Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support types of screed strips by use of strike-off templates or accepted compacting type screeds. Coordinate location of pipe conduits and other required penetrations of the surface.

CONCRETE PLACEMENT:

Pre-placement Inspection:

Set dugout frame posts and fence post adjacent to dugouts before pouring the slab.

Pressure wash and clean existing slab immediately before pouring the topping slab.

Before placing concrete, inspect and complete form work installation, reinforcing, and items to be embedded or cast-in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where coatings are not used.

Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

General:
Comply with ACI 304, and as herein specified.

Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable in its final location to avoid segregation.

Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.

Pour concrete around posts and insure that concrete has reached the bottom of the hole with no air pockets or gaps.

Bring slab surfaces to correct level with straightedge and strike off. Use bull floats or darbies to smooth surface, free of humps and hollows. Do not disturb slab surfaces prior to beginning finishing operations. Do not sprinkle water on the plastic surface.

Maintain reinforcing in proper position during concrete placement operations.

Cold Weather Placing:

Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

When air temperature has fallen to or is expected to fall below 40 F, uniformly heat water and aggregate before mixing to obtain a concrete mixture temperature of not less than 50 F, and not more than 80 F at point of placement.

Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.

Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.

Hot Weather Placing:
When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as herein specified.

Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 F (32 C). Mixing water may be chilled, or chopped ice may be used to control temperature provided water equivalent of ice is calculated to total amount of mixing.

Cover reinforcing steel with water-soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.

Do not use retarding admixtures unless otherwise accepted in mix designs.

FINISH OF FORMED SURFACES:

Light Broome Finish:
Provide light broom finish to scheduled concrete surfaces, shortly after having received a smooth form finish treatment. Broome strokes shall run parallel to the shortest dimension of the slab.

Trowel Finish:
Apply trowel finish around the edges of the slab.

After floating begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in 10' when tested with a 10' straightedge.

CONCRETE CURING AND PROTECTION

General:
Protect freshly placed concrete from premature drying and excessive hot or cold temperatures.

Method:
Apply approved liquid type curing material to exposed concrete slabs.

CONCRETE SURFACE REPAIR

Patching Defective Formed Areas:
Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Landscape Architect.

Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but in no case to a depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Before placing cement mortar or proprietary patching compound, thoroughly clean, dampen with water and brush-coat the area to be patched with neat cement grout, or proprietary bonding agent.

For exposed-to-view surfaces, blend white Portland cement and standard Portland cement so that, when dry, patching mortar will match color surrounding. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surfaces.

Repair defective slab surfaces by removing and replacing entire slab with fresh concrete.

QUALITY CONTROL TESTING DURING CONSTRUCTION:

The Contractor shall employ a testing laboratory suitable to the Owner and the Landscape Architect to perform tests and to submit test report.

Sampling and testing for quality control during placement of concrete shall include the following, as directed by Landscape Architect.

Sampling Fresh Concrete:
ASTM C 172, except modified for slump to comply with ASTM C 94.

Slump:
ASTM C 143; one test for each concrete load at point of discharge; and one test for each set of compressive strength test specimens.

Compression Test Specimen:
ASTM C 31: One set of 6 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.

Compressive Strength Tests:
ASTM C 39: One set for each 100 cy. yds. or fraction thereof of each concrete class placed in any one day or for each 5,000 sq. foot of surface area placed. 2 specimens tested at 7 days, 3 specimens tested at 28 days, and one specimen retained in reserve for later testing if required.

When frequency of testing will provide less than 3 strength tests for a given class of concrete, conduct testing from at least 3 randomly selected batches or from each batch if fewer than 3 are used.

When total quantity of a given class of concrete is less than 50 cy. yards strength test may be waived by Landscape Architect if, in his judgement, adequate evidence of satisfactory strength is provided.

When strength of field-cured cylinders is less than 85% of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

Test results will be reported in writing to Landscape Architect and Contractor on same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete placement, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.

Additional Tests:
The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained as directed by Landscape Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

Final Clean Up: Finished surface shall be left free and clean of tire marks, construction stains, residue, slug, grit, dirt, paint and other elements that mar the final appearance.

All excess concrete and debris shall be removed from the site. Plant beds shall be left clear of construction debris.

END OF SECTION 03310

Section 05411
Metal Roof Panels

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Factory-formed and field-assembled, standing-seam metal roof panels for the dugouts and bleacher structures.
   2. Metal roofs shall be fabricated and coordinated to attach to the existing bleacher poles and replace all wooden framing and roofing materials.
   3. Metal roofs shall be fabricated to coordinate and fit the metal frame system of the new dugouts as part of the fabrication of the dugouts.

1.2 DEFINITIONS

A. Metal Roof Panel Assembly: Metal roof panels, attachment system components, miscellaneous metal framing, and accessories necessary for a complete weather-proof roofing system over the bleachers and dugout.

1.3 PERFORMANCE REQUIREMENTS

A. General: Provide metal roof panel assemblies that comply with performance requirements specified as determined by testing manufacturers' standard assemblies similar to those indicated for this Project, by a qualified testing and inspecting agency.

B. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift resistance class indicated.

C. Thermal Movements: Provide metal roof panel assemblies that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
   1. Temperature Change (Range): 120 deg F, ambient; 180 degree F, material surfaces.

1.4 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal roof panel and accessory.

B. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and accessories; and special details. Distinguish between factory- and field-assembled works.

1. Accessories: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches:
   a. Flashing and trim.
2. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Coordination Drawings: Roof plans drawn to scale and coordinating penetrations and roof-mounted items. Show the following:
1. Roof panels and attachments.
2. Purlins and rafters.
3. Roof-mounted details for attachments to existing bleacher poles and dugout frames.

D. Samples for Initial Selection: For each type of metal roof panel indicated with factory-applied color finishes.
1. Include similar samples of trim and accessories involving color selection.

E. Qualification Data: For Installer.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for the following:
1. Metal Roof Panels: Include reports for air infiltration showing compliance with ASTM E-1680-95 and water penetration showing compliance with ASTM E-1646-95.
2. Documentation of compliance with U.L. 90 wind uplift testing.

G. Maintenance Data: For metal roof panels to include in maintenance manuals.

H. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
1. Installer's responsibilities include fabricating and installing metal roof panel assemblies and providing professional engineering services needed to assume engineering responsibility.
2. Engineering Responsibility: Preparation of data for metal roof panels, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

B. Source Limitations: Obtain each type of metal roof panels through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, metal roof panels, and other manufactured items so as not to be damaged or deformed. Package metal roof panels for protection during transportation and handling.

B. Unload, store, and erect metal roof panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal roof panels on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal roof panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Protect strippable protective covering on metal roof panels from exposure to sunlight and high humidity, except to extent necessary for period of metal roof panel installation.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal roof panels to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Verify size and dimensions of roof framing by field measurements before metal roof panel fabrication and indicate measurements on Shop Drawings.

1.8 COORDINATION

A. Coordinate metal panel roof assemblies with flashing, trim, and construction of dugout frames, purlins and rafters, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal roof panel assemblies that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Structural failures, including rupturing, cracking, or puncturing.
   2. Warranty Period: Ten years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
   1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

A. Metallic-Coated Steel Sheet Pre-painted with Coating: Steel sheet metallic coated by the hot-dip process and pre-painted by the coil-coating process to comply with ASTM A 755/A 755M.

1. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792, Class AZ50 coating designation, Grade 40 ; structural quality.
2. Surface: Smooth, flat finish.
3. Exposed Finishes: Apply the following coil coating, as specified or indicated on Drawings.
    a. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
        a) .
4. Provide strippable film applied to the top side of the prefinished coil to protect the finish during fabrication, shipping and field handling. Film to be removed before installation.

2.2 MISCELLANEOUS MATERIALS

A. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal roof panels by means of plastic caps or factory-applied coating.

1. Fasteners for Roof Panels: Self-drilling or self-tapping, zinc-plated, hex-head carbon-steel screws, with a stainless-steel cap or zinc-aluminum-alloy head and EPDM or neoprene sealing washer.
2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.
3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.

2.3 STANDING-SEAM METAL ROOF PANELS

A. General: Provide factory-formed metal roof panels designed to be field assembled by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.

B. 20 gauge corrugated steel roof material. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and flat pan between ribs; designed for sequential installation by mechanically attaching panels.
    a. l

2.4 ACCESSORIES

A. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly unless otherwise indicated.

B. If required, insert special requirements for ridge closures, corner units, copings, fasciae, and fillers.

2.5 FABRICATION

A. General: Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements, forming metal work with clear, sharp, straight, and uniform bends and rises.

B. .

C. Form all components true to shape, accurate in size, square and free from distortion or defects. Cut panels to precise lengths indicated on approved shop drawings.

D. Where indicated, fabricate metal roof panel joints with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will minimize noise from movements within panel assembly.

2.6 FINISHES, GENERAL

A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine structures and conditions, with Installer present, for compliance with requirements for installation tolerances, metal roof panel supports, and other conditions affecting performance of work.

1. Examine roof framing to verify that sheathing joints are supported by framing or blocking and that installation is within tolerances required by metal roof panel manufacturer.
2. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.

B. Examine roughing-in for components and systems penetrating metal roof panels to verify actual locations of penetrations relative to seam locations of metal roof panels before metal roof panel installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.

3.3 METAL ROOF PANEL INSTALLATION, GENERAL

A. General: Provide metal roof panels of full length from end to end, unless otherwise indicated or restricted by shipping limitations. Anchor metal roof panels and other components of the Work securely in place, with provisions for thermal and structural movement.
   1. Field cutting of metal roof panels by torch is not permitted.
   2. Rigidly fasten upper end of metal roof panels and allow lower end free movement due to thermal expansion and contraction. Predrill panels.
   3. Locate and space fastenings in uniform vertical and horizontal alignment.
   4. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.

B. Fasteners:
   1. Steel Roof Panels: Use stainless-steel fasteners for surfaces exposed to the exterior and galvanized steel fasteners for surfaces exposed to the interior.
   2. Aluminum Roof Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior and aluminum or galvanized steel fasteners for surfaces exposed to the interior..

C. Joint Sealers: Install joint fillers or sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of fillers or sealants indicated or, if not indicated, types recommended by metal roof panel manufacturer.

3.4 ERECTION TOLERANCES.

A. Installation Tolerances: Shim and align metal roof panel units within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.5 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.

B. Replace metal roof panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

C. Remove all discarded parts, pieces and installation refuse from the site.

END OF SECTION 07411

Section 05500
Metal Fabrications

Part 1 - General

1.1 Summary

A. This Section includes the following:
1. Scoring Tower fabrication
2. Steel framing for dugouts.
3. Steel framing and supports for bleacher roof structure.

1.2 Submittals

A. Product Data: For the following:

1. Paint products (see section 099000 Paint).

B. Shop Drawings: Detail fabrication and erection of each metal fabrication structure indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

1. Provide templates for anchors and bolts specified for installation under other Sections.

C. Welding Certificates: Copies of certificates for welding procedures and personnel.

D. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.3 Quality assurance

A. Fabricator Qualifications: A firm experienced in producing metal fabrications similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

B. Welding: Qualify procedures and personnel according to the following:

1. AWS D1.1, "Structural Welding Code--Steel."
2. AWS D1.2, "Structural Welding Code--Aluminum."
3. AWS D1.3, "Structural Welding Code--Sheet Steel."
4. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.

1.4 Project conditions

A. Field Measurements: Where metal fabrications are indicated to fit slabs, fences and other construction, verify dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.5 Coordination

A. Coordinate installation of anchorages for metal fabrications. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - Products

2.1 Metals, general

A. Metal Surfaces, General: For metal fabrications exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

2.2 Ferrous metals

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Steel Pipe: ASTM A 53, standard weight (Schedule 40), unless another weight is indicated or required by structural loads.

C. Malleable-Iron Castings: ASTM A 47, Grade 32510 .

D. Cast-in-Place Anchors in Concrete: Anchors of type indicated below, fabricated from corrosion-resistant materials capable of sustaining, without failure, the load imposed within a safety factor of 4, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.

1. Threaded or wedge type; galvanized ferrous castings, either ASTM A 47 malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, hot-dip galvanized per ASTM A 153/A 153M.

E. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded..

2.3 Paint

A. Shop Primers: Provide primers that comply with Division 09900 Section "Painting."

2.4 Fasteners**.**

A. Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A ; with hex nuts, ASTM A 563 ; and, where indicated, flat washers.

B. Anchor Bolts: ASTM F 1554, Grade 36.

C. Machine Screws: ASME B18.6.3 .

D. Lag Bolts: ASME B18.2.1 .

E. Plain Washers: Round, carbon steel, ASME B18.22.1 .

F. Lock Washers: Helical, spring type, carbon steel, ASME B18.21.1 .

G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.

2.5 Grout

A. Nonshrink, Metallic Grout: Factory-packaged, ferrous-aggregate grout complying with ASTM C 1107, specifically recommended by manufacturer for heavy-duty loading applications.

B. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.6 Fabrication, general

A. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Shear and punch metals cleanly and accurately. Remove burrs.

C. Ease exposed edges to a radius of approximately 1/32 inch, unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

E. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

F. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

G. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.

H. Allow for thermal movement resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening up of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

I. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

J. Remove sharp or rough areas on exposed traffic surfaces.

K. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

2.7 Loose steel lintels

A. Weld adjoining members together to form a single unit where indicated.

B. Size loose lintels to provide bearing length at each side of openings equal to one-twelfth of clear span, but not less than 8 inches , unless otherwise indicated.

2.8 Miscellaneous framing and supports

A. General: Provide steel framing and supports that are not a part of structural-steel framework as necessary to complete the Work.

1. Bat rack, back rest, coach's shelf, hat rack, and toe bar are all miscellanies components to the dugout as shown on the design details.

B. General: Provide steel framing and supports indicated and as necessary to complete the Work.

C. Fabricate units from structural-steel shapes, plates, and bars of welded construction, unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction retained by framing and supports. Cut, drill, and tap units to receive hardware, hangers, and similar items.

2.9 Finishes, general

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Finish metal fabrications after assembly.

2.10 Steel and iron finishes

A. Galvanizing: Hot-dip galvanize items as indicated to comply with applicable standard listed below:

1. ASTM A 123, for galvanizing steel and iron products.
2. ASTM A 153/A 153M, for galvanizing steel and iron hardware.

B. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for SSPC surface-preparation specifications and environmental exposure conditions of installed metal fabrications:

1. Exteriors (SSPC Zone 1B): SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

C. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes and those to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1," for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - Execution

3.1 Installation, general

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing metal fabrications to in-place concrete construction. Include threaded fasteners for concrete inserts, toggle bolts, through-bolts, lag bolts, and other connectors.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

E. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

3.2 Installing miscellaneous framing and supports

A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings, if any.

3.3 Adjusting and cleaning

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

B. Touchup Painting: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint are specified in Division 9 Section "Painting."

END OF SECTION 05500

SECTION 09900
PAINT

PART 1 - GENERAL

RELATED DOCUMENTS*:*

The provisions of Division 1 shall govern this Section.

DESCRIPTION OF WORK:

Extent of painting work is shown on drawings and details and as herein specified.

The work includes painting and finishing of exterior exposed items and surfaces.

Surface preparation, priming and coats of paint specified are in addition to shop-priming and surface treatment specified under other sections of work.

"Paint" as used herein means all coating systems materials, including primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.

Paint exposed surfaces whether or not colors are designated in "schedules", except where natural finish of material is specifically noted as a surface not to be painted. Where items or surfaces are not specifically mentioned, paint same as adjacent similar materials or areas. If color or finish is not designated, Landscape Architect will select these from standard colors available for materials systems specified.

Following categories of work are not included as part of field-applied finish work, or are included in other sections of these specifications.

Shop Priming: Unless otherwise specified, shop priming of ferrous metal items is included under other sections, miscellaneous metal, hollow metal work, and similar items. Also, for fabricated components such as shop-fabricated or factory-built framing or accessories.

Pre-Finished Items: Unless otherwise indicated, do not include painting when factory finishing or installer finishing is specified.

Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials will not require finish painting, unless otherwise indicated.

SUBMITTALS:

Product Data: Submit manufacturer's technical information including paint label analysis and application instructions for each material proposed for use.

Color Samples: The contractor will furnish manufacturer's standard color system for selection of colors by Landscape Architect. Colors noted on details is Black.

DELIVERY AND STORAGE:

Deliver materials to job site in original, new and unopened packages and containers bearing manufacturers' name and label, and following information:

Name or title of material
Manufacturer's stock number and date of manufacture Manufacturer's name
Contents by volume, for major pigment and vehicle constituents
Thinning instructions
Application instructions
Color name and number

JOB CONDITIONS:

Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50 F (10 C), and 90 F (32 C).

Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45 F (7 C) and 95 F (35 C), unless otherwise permitted by paint manufacturer's printed instructions.

Do not apply paint in snow, rain, fog or mist; or when relative humidity exceeds 85; or to damp or wet surfaces.

Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

PART 2 - PRODUCTS

COLORS AND FINISHES:

Use representative colors when preparing samples for review. Prior to beginning work, Landscape Architect or Owner’s Representative will approve color for surfaces to be painted.

Paint Coordination: Provide finish coats which are compatible with prime paints used. Review other sections of these specifications in which prime paints are to be provided to ensure compatibility of total coatings system for various substrates. Upon request from other trades, furnish information on characteristics of finish materials proposed for use, to ensure compatible prime coats are used. Provide barrier coats over incompatible primers or remove and reprime as required. Notify Landscape Architect in writing of any anticipated problems using specified coating systems with substrates primed by others.

MATERIAL QUALITY:

Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.

Proprietary names used to designate colors or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers. Sherwin-Williams Company products are shown in the paint systems to establish quality, except as noted otherwise.

Other manufacturers with acceptable products are: Glidden, Bher, Kilz, PPG, Pratt & Lambert, Benjamin Moore and others as reputable.

Provide undercoat paint produced by same manufacturer as finish

Coats. Use only thinners approved by manufacturer, and only within recommended limits.

EXTERIOR PAINT SYSTEMS:

Provide following paint systems for various substrates, as indicated:

Zinc Coated Metal:
Gloss Finish/Alkyd Base
1st. coat: S-W Galvanized Iron Primer
2nd. coat: Metalastic II Enamel
Topcoat: Metalistic II Enamel

Ferrous Metal frames and Structures
Gloss Finish/Polyurethane Base
1st. Coat: Tile-Clad Hi-Bild Primer @ 8 mils wet (4 mils dry).
2nd. Coat: Polane Polyurethane Enamel @ 5 mils wet (2 mils dry).
Topcoat: Polane Polyurethane Enamel @ 5 mils wet (2 mils dry).

PART 3 - EXECUTION

INSPECTION

Applicator must examine areas and conditions under which painting work is to be applied and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until satisfactory conditions have been corrected in a manner acceptable to Applicator.

Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.

Do not paint over dirt, rust scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.

SURFACE PREPARATION

General: Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.

Remove rust and paint from the existing bleacher posts using approved methods to leave the metal exposed and properly prepared to receive primer and paint as specified.

Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be finish-painted, or provide surface-applied protection prior to surface preparation and painting operations. Remove, if necessary, for complete painting of items and adjacent surfaces. Following completion of painting of each space or area, reinstall removed items.

Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall onto wet, newly painted surfaces.

Ferrous Metals: Clean ferrous surfaces, which are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.

Touch-up shop-applied prime coats wherever damaged or bare, where required by other sections of these specifications. Clean and touch-up with same type shop primer.

Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum solvent.

MATERIALS PREPARATION:

Mix and prepare painting materials in accordance with manufacturer's directions.

Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing and application of paint in a condition free of foreign materials and residue.

Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

APPLICATION*:*

General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to insure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted, unless otherwise indicated.

Scheduling Painting: Apply first-coat material to surfaces that have been cleaned, pretreated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated; as recommended by coating manufacturer.

Prime Coats: Apply prime coat on material which is required to be painted or finished, and which has not been prime coated by others.

Recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat, to assure a finish coat with no burn-through or other defects due to insufficient sealing.

Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.

Stain or Weathered Finish: A single properly applied coat should be sufficient. Apply number of coats required to obtain an initial uniform appearance.

Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

CLEAN UP AND PROTECTION*:*

Clean Up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each workday.

Upon completion of painting work, clean glazing and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

Protection: Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing and repainting, as acceptable to Landscape Architect.

Provide "Wet Paint" signs as required to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.

At the completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

END OF SECTION 09900