

PROJECT MANUAL

Kensington Park Improvements



Bid B41516

PARKS & RECREATION DEPARTMENT

UNIFIED GOVERNMENT OF WYANDOTTE COUNTY/ KANSAS CITY, KANSAS

CONTRACT DOCUMENTS

FOR

Bid B41516

KENSINGTON PARK IMPROVEMENTS

PROJECT PRJ2077

Prepared by: _____
Professional Engineer

Date

TABLE OF CONTENTS

Title	No. of Pages
Legal Notice of Invitation for Bids	1
Instructions and Information to Bidders	5
Agreement	
General Conditions	23
Exhibit A – Unified Government Cost Principles	14
Other Forms	
Bid Form	2
Bid Bond Form	2
Labor and Material Payment Bond Form	2
Performance Bond Form	2
Appointment of Process Agent Form	1
Foreign Corporation Resident Agent Designation	1
Relations Between Contractor and Labor	1
Copeland Anti-Kickback Act	1
Technical Provisions	61
Detail Drawings	(Separate)

LEGAL NOTICE OF INVITATION FOR BIDS
UNIFIED GOVERNMENT OF WYANDOTTE COUNTY/KANSAS CITY, KANSAS
OFFICE OF THE COUNTY ENGINEER

Bids are being solicited for a capital construction project known as:

Project Name	Kensington Park Improvements, B41516
Project ID No.	PRJ2077
Bid Date	May 21, 2025
Contract Time	One Hundred Twenty (120) Calendar Days
Estimated Value	\$625,000-\$700,000 (Base Bid) \$4,000-\$6,000 (Bid Alternate No.1)

Bids will be received until 8:45 a.m. on the above date, the Office of the Unified Government Clerk, Municipal Office Building, 701 North Seventh Street, Kansas City, Kansas, 66101. At 9:00 a.m., in the Commission Chambers, the bids will be publicly opened and read aloud.

Prevailing Wage Rate is part of this solicitation.

1. Pertaining to section 54, Prevailing Wage Rate, of the General Conditions:

Due to state and/or federal requirements, the contractor and all subcontractors shall comply with the prevailing wage rate as described in General Condition No. 54. The current general wage rate decision for Wyandotte County may be found at the following location:

<http://www.access.gpo.gov/davisbacon/ks.html>

This contract will use the "Heavy & Highway" General Decision

A pre-bid conference will be held **at 2:00 PM, Central Standard Time, on May 1, 2025 at Kensington Park, 2900 State Ave., Kansas City, Kansas 66102**. The purpose of the conference is to discuss the work to be performed with the prospective contractors and allow them to ask questions concerning the Bid. Questions and answers will be transcribed and sent to prospective offerors as soon as possible after the meeting.

Bid security is required. The Unified Government reserves the right to reject any or all bids. The Instructions to Bidders section of this Project Manual, below, contains additional requirements.

The Unified Government of Wyandotte
County/Kansas City, Kansas

INSTRUCTIONS AND INFORMATION TO BIDDERS

1. This Project Manual is the official communication from the Unified Government regarding this project. No information outside the Project Manual or any subsequent amendment shall modify or change the Project Manual or affect the risk or obligation assumed by the bidder or relieve him from fulfilling any of the conditions of the Project Manual. Prospective bidders shall familiarize themselves with the Project Manual in its entirety, including all Contract Documents and the definitions contained in Section 1 of the General Conditions. Should a prospective bidder be in doubt as to the meaning of any provision in the Project Manual, he or she may submit to the Unified Government a written request for an interpretation. Any written request for interpretation shall be submitted to the Unified Government no later than seven (7) days from the date set for bid opening. Any interpretation of the Project Manual shall be made by amendment and provided to all bidders.
2. Sealed bids will be received until the date and time stated in the Legal Notice of Invitation for Bids, at which time the bids will be publicly opened and read aloud in the Chambers of the Unified Government Board of Commissioners, located in the Lobby Level of the Municipal Office Building, 701 N 7th Street, Kansas City, Kansas.
3. Bids shall be submitted in sealed envelopes, addressed to the Unified Government Clerk, 701 North 7th Street, Suite 323, Kansas City, Kansas 66101. The outside of each sealed envelope containing a Bid Form shall plainly be marked "Bid" and shall state the name of the project and the name and address of the bidder. If forwarded by mail, the sealed envelope containing the Bid Form must be mailed inside another envelope to the addressee.
4. Within ten days from the date of receipt of the notice of award, the successful bidder shall come into compliance with Article XI, section 29-586 of the Unified Government's Procurement Code regarding Equal Employment Opportunity and Affirmative Action Programs; see also Sections 18-137 and 18-138. For information regarding compliance requirements, Contact the Procurement & Contract Compliance Department located on the 6th Floor of the Municipal Office Building, 701 N. 7th Street, Kansas City, Kansas 66101, Room 649 or reed@wycokck.org call (913) 573-5440 for information regarding compliance requirements.
5. ~~Along with the bid, all bidders must submit, on the form provided, a completed Affidavit of Intended Utilization, listing the names of Subcontractors and Suppliers proposed for use and designating what Work each is to perform under the contract. An Affidavit of Intended Utilization is required whether or not project goals are established. The Unified Government encourages solicitations from local, minority, and women-owned businesses, on all projects whether or not project goals are established. Prime bidders may access a listing of L/M/WBE firms by visiting www.wycokck.org and clicking the link titled "Supplier Database."~~
6. ~~When a project goal for participation by MBEs or WBEs is established in the agreement, additional submittals are required. These additional requirements are located in the section of this project manual titled "Additional Requirements when MBE/WBE Goals are Established"~~.

7. All bids shall be submitted on the printed Bid Form, or photocopy thereof, included in this Project Manual. All blank spaces must be filled in, in ink or typewritten, and the Bid Form must be fully completed and executed when submitted. Only one executed copy of the Bid Form is required. All other forms required to be submitted shall be completed by the bidder and submitted with the Bid Form. The Bid Form and all required forms shall be fastened together in one package. A second complete copy of the Bid Form and all other required forms, fastened as a second package, shall be submitted in the same envelope.
8. All Bids in excess of \$50,000.00 must be accompanied by bid security in the form of a bank-certified check, cash, or a Bid Bond underwritten by a surety company licensed to issue Bid Bonds in the State of Kansas. The bid security shall be in an amount not less than five percent (5%) of the total bid. The Bid Bond shall be in substantially the Bid Bond form provided in this Project Manual. The check or Bid Bond shall be made payable to the Unified Government of Wyandotte County/Kansas City, Kansas. As soon as the bids have been compared, the Unified Government will return the checks or cash of all except the three lowest responsible and responsive bidders. Upon execution of the contract by the Unified Government, the checks or cash shall be returned to unsuccessful bidders.
9. Bids may be modified or withdrawn by written notice to the Unified Government Clerk, 701 North 7th Street, 3rd Floor Suite 323, Kansas City, Kansas 66101, prior to the time and date for bid opening. No bidder may withdraw or modify a bid within sixty (60) days after the actual date of bid opening.
10. The Unified Government may issue amendments to this Project Manual prior to the time for receipt of bids. The bidder shall acknowledge receipt of all amendments by executing and submitting them with the bid. Amendments shall be sent to all prospective bidders known to have received a Legal Notice of Invitation for Bids. Any postponement of the opening date of bids shall be effectuated by amendment.
11. Bidders shall visit the site of work and existing facilities and shall fully inform themselves of existing conditions and limitations. Responsibility for differing site conditions shall be determined in accordance with Section 16 of the General Conditions, attached Bidders are responsible for studying all reports of subsurface exploration and other technical data which may be identified in the bidding documents; being familiar with all federal, state, and local laws and regulations that may affect cost, progress, or performance of the work; and preparing a complete bid including all required documents.
12. A conditional or qualified bid will be rejected. The Unified Government reserves the right to waive minor irregularities in a bid and to correct obvious mathematical errors on a bid form. The Unified Government reserves the right to reject any or all bids, as provided Section 29-178 of the Procurement Code of the Unified Government of Wyandotte County/Kansas City, Kansas. Bidders understand and agree that rejection of bids shall create no liability on the part of the Unified Government of Wyandotte County/Kansas City, Kansas.

13. All bids must include a unit price tabulation for one or more geographical sites and single grand total. Comparison of bids will be based on the grand total. A single bidder will be selected.

Lastly, the Offeror **must** provide a **minimum of three (3) references** for projects similar in scope and size the Offeror has completed. Each reference should include the name of the client, name of the contact, title of the contract, phone number and email of the contact and role the contact performed on the project with their company/agency/entity.

14. The contract for the work shall be awarded to the lowest responsive and responsible bidder whose bid does not exceed available funds as certified by the appropriate Fiscal Officer. Bidders not complying with all of the requirements contained in the Legal Notice of Invitation for Bids and the Instructions and Information to Bidders may be judged nonresponsive. Bidders' responsibility or non-responsibility shall be determined. Bidders shall supply information as requested by the Procurement Officer concerning the responsibility of such bidder. The Unified Government may waive informalities in its determination of responsiveness and responsibility.

15. **SAM.gov Registration Requirements**

As required by federal law, all potential contractors must be registered in the System for Award Management (SAM.gov) before submitting a proposal. SAM.gov is a centralized database that is used by the federal government to manage procurement and financial assistance. **Failure to be registered in SAM.gov will result in disqualification from this Bid/RFP process.**

To register, contractors must:

- Visit <https://sam.gov> and create a user account.
- Complete the SAM.gov registration, including obtaining a **Unique Entity Identifier (UEI)**, as required.
- Provide current information on their business status, including any certifications, debarment information, and financial capability.

Verification of SAM.gov Registration

- Contractors must include their **SAM.gov registration status** in their proposal, including their **UEI** number and the expiration date of their registration.
- The [Agency Name] will verify the SAM.gov status of all contractors before making an award. Contractors whose registrations are expired, inactive, or incorrect will not be eligible for consideration.

16. Written notice of award shall be sent to the successful bidder via email with read receipt for acknowledgement. Within ten (10) days from the date of receipt of the notice of award, the successful bidder shall perform the following:
 - (a) For contracts in excess of \$50,000.00, submit a performance bond to the Unified Government Clerk, at the address paragraph 9., above, in the amount of 100% of the contract price and a payment bond to the State of Kansas in the amount of 100% of the price specified in the contract for the protection of all persons supplying labor, materials, equipment, and supplies to the contractor or its subcontractor. Said payment bond shall comply with the requirements of K.S.A. 60-1111, as amended, and shall be filed with the Clerk of the District Court of Wyandotte County, Kansas.
 - (b) Designate an Agent:
 - i. If the contractor is not a corporation or a resident of the State of Kansas, file an Appointment of Process Agent Form in the office of the Clerk of the Wyandotte County District Court, with a copy to the Clerk of the Unified Government and the Buyer.
 - ii. If the contractor is a foreign corporation, but has applied to and been authorized by the Kansas Secretary of State to do business in Kansas in accordance with Chapter 17 of the Kansas Statutes Annotated, as amended, and has a resident agent in the State of Kansas, execute and submit the foreign Corporation Resident Agent Designation form to the Clerk of the Unified Government with a copy to the Buyer.
 - (c) Submit a certificate of insurance evidencing insurance as required by Section 27 of the attached General Conditions.
 - (d) Execute the agreement.

The Unified Government may at its option declare the bidder in default if the bidder fails to perform all of the above-enumerated conditions, in which case the bid security shall become the property of the Unified Government.

17. All bonds required by this Project Manual shall contain all terms and conditions contained in the provided bond forms and shall be executed by a surety company authorized to do business in the State of Kansas and countersigned by an agent licensed by the Unified Government of Wyandotte County/Kansas City, Kansas. The attorney in fact who signs bonds must file with each bond a certified and effective dated copy of their power of attorney.
18. The Unified Government, within thirty (30) days of the successful bidder's compliance with all the conditions contained in paragraph number 15, above, shall sign and return to the bidder a photocopy of the executed agreement. Should the Unified Government not execute the Agreement within thirty (30) days period, the Bidder may by written notice withdraw its signed agreement. Such notice of withdrawal shall be effective upon receipt of notice by the Unified Government.

19. A Notice to Proceed will be issued to the successful bidder within thirty (30) days of the execution of the Agreement by the Unified Government. In the event a Notice to Proceed cannot be issued within such period, the time may be extended by mutual agreement between the Unified Government and the successful bidder. If a Notice to Proceed has not been issued within the mutually agreed time, the successful bidder may, by written notice as provided in section 17, above, terminate the Agreement without further liability on the part of either party.
20. Prior to beginning performance under the Agreement, the successful Bidder must pay all occupational taxes due the Unified Government. For information, contact the Unified Government of Wyandotte County/Kansas City, Kansas Business License Division at (913) 573-8690.
21. The Unified Government of Wyandotte County/Kansas City, KS, Johnson County KS, City of Kansas City MO, and Jackson County MO, (collectively the “Local Governments”), have agreed to cooperate with each other to ensure that tax funded contracts are performed in compliance with the Local Governments’ tax laws. The successful bidder agrees that it shall comply with the respective these tax laws throughout the term of this Agreement and any Agreement renewals and that proof of its compliance shall be a condition of award. All successful bidders entering into an Agreement and subsequent renewal with the Unified Government in the amount of \$50,000.00 or more must obtain a Tax Clearance Certification. The Tax Clearance Certification must be signed by an authorized official from all four (4) of the Local Governments and submitted to the Unified Government Procurement and Contract Compliance Department. The Tax Clearance Certification shall be valid for a period of one year from the date of issuance and shall not be dated more than sixty (60) days prior to any notice to proceed to contract by the County. For information, instructions, and forms regarding compliance requirements, contact the Contract Compliance Division located on the 3rd Floor of the Municipal Office Building, 701 N. 7th Street, Kansas City, Kansas 66101, Room 318 or call (913) 573-5443

AGREEMENT

**UNIFIED GOVERNMENT OF WYANDOTTE COUNTY/KANSAS CITY, KANSAS
AGREEMENT**

THIS AGREEMENT, made this _____ day of _____, 20____, by and between the Unified Government of Wyandotte County/Kansas City, Kansas, hereinafter called "Unified Government," and

(Contractor)

as (an individual), or (a partnership), or (a corporation), hereinafter called "Contractor," collectively referred to as "the Parties."

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned:

1. The Contractor will commence and complete the construction of the Project known as:

**Project Name: Bid B41516, Kensington Park
Improvements Project I.D.: PRJ2077**

2. The Contractor will furnish all of the Work, Material, Equipment, and other services necessary for the construction and completion of the Project described above.
3. The Contractor will complete all the Work required by the Contract Documents within **one hundred twenty (120)** Days after the date established in the Notice to Proceed unless the period for completion is otherwise extended by mutual agreement in writing by the Parties. Should the Contractor fail to complete the work within this period or any mutually agreed extension of time, it further agrees to pay, as liquidated damages, the sum of **\$1,200.00** for each **Day** thereafter as provided in Section 24 of the General Conditions.
4. The Contractor agrees to perform and complete all the Work described in the Contract Documents for the unit prices listed in the Bid Form, for an estimated total amount of **AMOUNT WORDS (AMOUNT NUMBERS)**. Actual payment shall be the sum of the products of the installed and accepted quantity of each bid item, measured by the Architect/Engineer as described in Contract Documents, times its unit price. The Contractor acknowledges that the unit prices listed in the Bid Form contemplate the construction of all facilities complete, in conformance with the Contract Documents, and that the cost of work required by the Contract Documents for which a specific unit price is not listed is included in the unit price for the closest applicable item.
5. It is understood that the Architect/Engineer representing the Unified Government shall be **the Unified Government's Director of Parks and Recreation**.

6. The term "Contract Documents" is defined as "The contract including the complete Project Manual, Legal Notice of Invitation for Bids, Instructions and Information to Bidders, executed Bid Form, Bid Bond, Amendments, Agreement, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Change Order, additional written instruction and detailed drawings approved by the Engineer/Architect, Drawings, general Conditions, Supplemental General Conditions, Special Conditions, Technical Provisions." See section 1.1.9 of the General Conditions.
7. In the event of conflict between any provision of the Contract Documents, the order of precedence is as provided by Section 4 of the General Conditions.
8. The Unified Government will pay the Contractor in the manner and at such times as set forth in Section 25 of the General Conditions such amounts as required by the Contract Documents. Said work shall be paid for from a Community Development Block Grant.
9. This Agreement shall be binding upon all parties hereto and their representative heirs, executor, administrators, successors, and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, an original on the date first above written.

OWNER:
Unified Government of Wyandotte
County/Kansas City, Kansas

By _____
County Administrator

CONTRACTOR:

 (Contractor)

By _____

Name _____

Address _____

ATTEST:

Unified Government Clerk

ATTEST:

Title

**UNIFIED GOVERNMENT OF WYANDOTTE COUNTY/KANSAS CITY, KANSAS - GENERAL CONDITIONS
TABLE OF CONTENTS**

<u>Section</u>	<u>Title</u>
1.	Definitions
2.	Additional Instructions and Detail Drawings
3.	Schedules, Reports and Records for Public Projects
4.	Drawings and Specifications
5.	Shop Drawings
6.	Materials, Services and Facilities
7.	Inspection and Testing
8.	Substitutions
9.	Patents
10.	Construction Staking
11.	Protection of Work, Property and Persons
12.	Supervision by Contractor
13.	Changes
14.	Price Adjustment
15.	Variations in Estimated Quantities
16.	Differing Site Conditions, Price Adjustments
17.	Time for Completion
18.	Termination for Default for Non-performance or Delay - Damages for Delay - Time Extensions
19.	Specific Acts Constituting Substantial Breach
20.	Correction of Work
21.	Suspension of Work
22.	Claims Based on a Procurement Officer's Actions or Omissions
23.	Termination for Convenience
24.	Liquidated Damages
25.	Payments for Work Performed in Accordance with the Contract Documents
26.	Acceptance of Final Payment as Release
27.	Insurance
28.	Contract Security
29.	Assignments
30.	Indemnification
31.	Separate Contracts and Right to Enter to Perform Work
32.	Subcontracting
33.	Engineer/Architect's Authority
34.	Project Representative
35.	Land and Rights-of-Way
36.	Permits and Licenses
37.	Guaranty
38.	Disputes
39.	Taxes
40.	Process Agent
41.	Saturday, Sunday, Holiday and Night Work
42.	Public Convenience and Safety
43.	Pre-Construction Conference
44.	Interruption of Service
45.	Utilities
46.	Additional Copies of Plans and Specifications
47.	Work on Railroad and Highway Rights-of-Way
48.	Records
49.	Historical or Archaeological Deposits
50.	Forty (40) Hour Week Provision
51.	Interest Payable on Claims
52.	Multiple Awards
53.	Inaccurate Pricing Data
54.	Prevailing Wage Rate
55.	Removal of Employees
56.	Nondiscrimination in Employment
57.	Revisions to Standard General Conditions

UNIFIED GOVERNMENT OF WYANDOTTE
COUNTY/KANSAS CITY, KANSAS
GENERAL CONDITIONS

1. **DEFINITIONS:** Wherever used in the Invitation for Bids, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural and/or of either sex thereof:

1.1 **AMENDMENT** - Written or graphic instruments issued prior to the opening of Bids which modify or interpret the Invitation for Bids by additions, deletions, clarifications, or corrections.

1.2 **AGREEMENT** - The Unified Government's Agreement Form voluntarily signed and witnessed by the Unified Government and Contractor and made a part of the Contract Documents.

1.3 **BID** - The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.4 **BIDDER** - Any person, firm, or corporation submitting a Bid for the Work.

1.5 **BONDS** - Bid, performance and payment bonds, and other instruments of security, furnished by the contractor and his surety in accordance with the Invitation for Bids.

1.6 **CHANGE ORDER** - a written order signed by the Procurement Officer, directing the contractor to make changes which the Changes clause of the contract authorizes the Procurement Officer to order without the consent of the contractor.

1.7 **UNIFIED GOVERNMENT** - The Unified Government of Wyandotte County/Kansas City, Kansas, a Municipal Corporation.

1.8 **CONSULTANT** - A person, firm, or corporation contracted with by the Unified Government to perform specific technical or professional tasks as set forth in the signed written agreement between the Unified Government and Consultant.

1.9 **CONTRACT DOCUMENTS** - The contract including Project Manual, Legal Notice of Invitation for Bids, Instructions and Information to Bidders, executed Bid Form, Bid Bond, Amendments, Agreement, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Change Order, additional written instruction and detailed drawings approved by the Engineer/Architect, Drawings, general Conditions, Supplemental General Conditions, Special Conditions, Technical Provisions.

1.10 **CONTRACT PRICE** - The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

1.11 **CONTRACT TIME** - The number of days stated in the Contract Documents for the completion

of the Work. Time shall be measured in calendar days or working days as specified in the Agreement.

1.12 **CONTRACTOR** - The person, firm, or corporation with whom the Unified Government has executed the Agreement.

1.13 **CONTROLLING ITEM OR CURRENT CONTROLLING ITEM** - That feature or features of the work which if delayed or prolonged, at the time in question, will delay the completion of the project. The controlling item may be an activity or it may be a curing period or other mandatory waiting period.

1.14 **DAYS** - Except for calculation of Contract Time when working days are specified, all periods of time prescribed in the Contract Documents shall be measured in calendar days. In computing time, the day of the event from which the designated period of time begins to run shall not be included, but the last day of the period shall be included unless it is Saturday, Sunday, or a Unified Government holiday, in which event the period shall run to the end of the next business day.

1.15 **DRAWINGS** - The part of the Contract Documents which show the characteristics and scope of the Work to be performed and which have been prepared and/or approved by the Engineer/Architect.

1.16 **ENGINEER/ARCHITECT** - The Procurement Officer or his designee, or the Consultant hired by the Unified Government to perform professional services as designated in the Agreement.

1.17 **EQUIPMENT** - All machinery and equipment, together with the necessary supplies for operation, upkeep, and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the work.

1.18 **INVITATION FOR BIDS** - All documents, whether attached or incorporated by reference, utilized for soliciting bids, including but not limited to the Legal Notice of Invitation for Bids, Instructions and Information to Bidders, General Conditions, Supplemental General Conditions, Technical Provisions, Special Conditions, Agreement Form, Bid Form, Bond Forms, EEO Requirements, Drawings, and Amendments.

1.19 **MANUFACTURER** - The person, firm or corporation responsible for the commercial manufacturing, assembling or processing of materials and/or equipment to be incorporated in the Project.

1.20 **MATERIAL** - Any substance specified for use in the construction of the project and its appurtenances.

1.21 **MONUMENT** - A boundary marker.

1.22 **NOTICE OF AWARD** - The written notice of the acceptance of the Bid by the Unified Government to the successful Bidder.

1.23 **NOTICE TO PROCEED** - A written notice

issued by the Unified Government to the Contractor authorizing him to proceed with the Work and establishing the date of commencement of the Contract Time.

1.24 **PROCUREMENT CODE** - The Procurement Code of the Unified Government of Wyandotte County/Kansas City, Kansas, effective June 27, 1983 by ordinance Number 64497, and amendments thereto. This document may be viewed during normal business hours in the office of the Unified Government Clerk or online:
https://library.municode.com/ks/wyandotte_county_-_unified_government/codes/code_of_ordinances?nodeId=CH29PRCO.

1.25 **PROCUREMENT OFFICER** - Any person duly authorized to administer contracts and make written determinations with respect thereto. The term also includes an authorized representative acting within the limits of authority.

1.26 **PROJECT** - The undertaking to be performed as provided in the Contract Documents with payment to the Contractor from the Unified Government.

1.27 **PROJECT REPRESENTATIVE** - The Engineer/Architect's agent assigned to the project site who shall act under the supervision and direction of the Engineer/Architect. He shall confer with the Engineer/Architect regarding his actions, and shall generally communicate with the Unified Government only through the Engineer/Architect.

1.28 **SHOP DRAWINGS** - All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the Contractor, a Subcontractor, Manufacturer, Supplier, or Distributor, which illustrate how specific portions of the Work will be fabricated, installed, formed, or constructed.

1.29 **SPECIFICATIONS** - A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards, and workmanship, including Technical Provisions and Special Conditions.

1.30 **SPECIAL CONDITIONS** - A part of the Contract Documents being a modification, amplification and/or additional information of the General, or Supplemental General Conditions or Technical Provisions.

1.31 **SPECIFIED COMPLETION DATE** - The date on which the contract work is specified to be completed.

1.32 **SUBCONTRACTOR** - An individual, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the site.

1.33 **SUBSTANTIAL COMPLETION** - That date as certified by the Engineer/Architect when the construction of the Project or a specified part thereof is sufficiently completed in accordance with the Contract

Documents, so that the Project or specified part can be utilized for the purposes for which it is intended.

1.34 **SUPPLEMENTAL GENERAL CONDITIONS** - A part of the Contract Documents consisting of modifications and additions to the General Conditions or Instructions to Bidders that are applicable to a specific project of procurement agency.

1.35 **SUPPLIER** - Any person, firm, corporation, or organization who supplies Materials or Equipment for the Work, including that fabricated to a special design, but who does not perform labor at the site.

1.36 **SURETY** - The corporation, partnership, or individual, other than the Contractor, executing a bond furnished by the Contractor.

1.37 **TECHNICAL PROVISIONS** - A part of the Contract Documents consisting of written descriptions of a technical nature of materials, equipment, construction systems, standards, and workmanship required for the Project.

1.38 **WORK** - All labor, equipment, and tools necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in the Project.

1.39 **WORKING DAY** - When working days are specified, a working day shall be any day from the starting date through the completion of the project except as follows:

- a. Saturdays, Sundays, Unified Government holidays, and the dates from December 24 through January 2, inclusive, unless the Contractor requests and receives permission to work on these dates.
- b. Days on which adverse weather, or conditions immediately resulting from adverse weather, prevent work on the controlling item for at least 50% of the total daily time.
- c. Days on which the current controlling item is delayed or suspended due to acts of the Engineer/Architect for at least 50% of the total daily time.
- d. Days on which correction of differing site conditions prevent work on the current controlling item for at least 50% of the total daily time. Differing site conditions shall be those listed in General Condition 16.1.

Only whole days will be counted. On non-working days Contractor may, at his option and with no count against the contract time, pursue any work not affected by weather or other conditions affecting the controlling item.

Working and non-working days shall be determined and recorded at regular intervals by the Engineer/Architect. Contractor shall review calculation of time and resolve any differences with the Engineer/Architect prior to each partial pay

submittal.

1.40 WRITTEN NOTICE - Any notice to any party to the Agreement in writing the service thereof is completed when posted by certified or registered mail to the said party at his last given address, or delivered in person to said party or his authorized representative on the Work, or so mailed or delivered to the party listed with the Clerk of the District Court of Wyandotte County as the Contractor's Process Agent.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS.

2.1 The Contractor may be furnished additional written instructions and detail drawings, by the Engineer/Architect, as necessary to carry out the Work required by the Contract Documents.

2.2 The Contractor shall carry out the Work in accordance with the additional written instructions and detail drawings.

3. SCHEDULES, REPORTS, AND RECORDS FOR PUBLIC PROJECTS.

3.1 The Contractor shall submit to the Engineer/Architect such schedule of quantities and costs, progress schedules, payrolls, reports, estimates record, and other data where applicable as are required by the Contract Documents for the Work to be performed.

3.2 Prior to the commencement of Work, the Contractor shall submit construction progress schedules showing the order in which he proposes to carry on the Work, including dates at which he will start the various parts of the Work, estimated date of completion of each part and, as applicable, the dates at which special detail drawings will be required, and respective dates of submission of Shop Drawings, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

3.3 The Contractor shall also submit a schedule of payments that he anticipates he will earn during the course of the Work.

4. DRAWINGS AND SPECIFICATIONS.

4.1 The intent of the Drawings and Specifications is that the Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the Work in accordance with the Contract Documents and all incidental work necessary to complete the Project in an acceptable manner, ready for use, occupancy, or operation by the Unified Government.

4.2 In case of conflict between the Drawings and Specifications, the drawings shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings. Special Conditions shall govern over Technical Provisions and the General Conditions.

4.3 Any discrepancies, inconsistencies, or

ambiguities found between the Drawings or Specifications shall be immediately reported to the Engineer/Architect, in writing, who shall promptly correct them in writing. Work done by the Contractor after his discovery of such discrepancies, inconsistencies or ambiguities, but before correction by the Engineer/Architect, shall be done at the Contractor's risk.

5. SHOP DRAWINGS.

5.1 Where required by the special conditions or technical provisions, the Contractor shall provide to the Engineer/Architect not less than 4 copies of all Shop Drawings which bear the certification that the Contractor has reviewed, checked, and approved the Shop Drawings and that they are in conformance with the requirements of the Contract Documents. The Contractor shall also note on the Shop Drawings all deviations from the Contract Documents. The Engineer/Architect's approval of any Shop Drawing shall not release the Contractor from responsibility for deviations from the Contract Documents. The Engineer/Architect may elect not to review shop drawings not required by the contract documents. The approval of any Shop Drawing which substantially deviates from the requirement of the Contract Documents shall be evidenced by a Change order. If the Contractor requires more than 1 copy returned of "approved" or "approved if corrected as noted" drawings, additional copies shall be included in original submittal with all additional copies returned to the Contractor.

5.2 The review action by the Engineer/Architect will be as shown:

Action By <u>Engineer</u>	Retained By <u>Engineer</u>	Required <u>Resubmittal</u>
Approved	3	no
Approved if Corrected as Noted	3	no
Correct and Resubmit	1	yes
Not Approved	1	yes

5.3 Portions of the Work requiring a Shop Drawing or sample submission shall not begin until the Shop Drawing or sample has been approved by the Engineer/Architect. A copy of each approved Shop Drawing and each approved sample shall be kept in good order by the Contractor at the site and shall be available to the Engineer/Architect.

6. MATERIALS, SERVICES AND FACILITIES.

6.1 It is understood that, except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all Materials, labor, tools, Equipment, water, light, power, transportation, supervision, temporary construction of

any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the Work within the specified time.

6.2 Contractor shall furnish only new Material of the type, size, and strength class with all accessories as specified, indicated, and/or necessary for a completed project.

6.3 Manufacturer of Material to be incorporated within the project shall be experienced in the design, manufacture, testing, and commercial supplying of the specified materials.

6.4 Materials and Equipment shall be so transported, stored, and installed as to insure the preservation of their quality and fitness for the Work. Said transporting, handling, and storage shall conform to the Manufacturer's recommendations unless otherwise required in the Contract Documents. Stored Materials and Equipment to be incorporated in the Work shall be located so as to facilitate prompt inspection.

6.5 Damaged Materials will be subject to rejection and cannot be incorporated within the project without written approval from the Engineer/Architect.

6.6 Manufactured articles, Materials, and Equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the Manufacturer unless otherwise specifically stated in the Contract Documents.

6.7 Contractor shall submit to the Engineer/Architect six (6) copies each of Manufacturer's design, Material specifications, quality control methods, recommended installation instructions, warranties, delivery dates, manufacturing location, and, if specifically requested, samples of Materials to be incorporated within the Project for approval. Purchase of Materials not approved by the Engineer/Architect will be done only at the Contractor's risk.

6.8 Materials, supplies and Equipment shall be in accordance with samples submitted by the Contractor and approved by the Engineer/Architect.

6.9 Materials, supplies, or Equipment to be incorporated into the Work shall not be purchased by the Contractor or the Subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

6.10 Contractor shall require, secure, and submit to the Engineer/Architect six (6) copies of all material certifications and test transcripts for all Materials incorporated within the Project. Material testing shall be performed by the Manufacturer's quality control personnel and/or approved independent testing laboratory, all in conformance with applicable and acceptable standards. Provisions shall be made that the Engineer/Architect and/or approved independent test laboratory personnel may witness such tests.

Failure of the Engineer/Architect to reject Materials will not be grounds for acceptance if defects are later found; however, all Materials rejected by the Engineer/Architect as unsuitable, nonconforming, and/or failing to meet minimum required test results shall not be used and shall be removed from the Project site by the Contractor.

7. INSPECTION AND TESTING.

7.1 All Materials and Equipment used in the construction of the Work shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the Contract Documents.

7.2 Tests and certifications are required to demonstrate that all products installed in the work comply with the specifications. Responsibility for testing shall be as indicated below:

a. The Unified Government is responsible for acceptance tests on installed products and on products delivered for installation; such as field or laboratory tests for slump, air and strength of concrete, temperature of asphalt mixes, reference and relative density of asphalt mixtures, reference and relative density of embankment and fill material, infiltration/exfiltration test and televising of sewer mains, thickness and surface straight edging, and the like; except for those tests listed in "c." below. Engineer/Architect shall determine the time, location, and frequency of field testing and sampling. Upon request the Unified Government will provide Contractor with one copy of test results.

If Contractor has reasonable objection to the testing laboratory employed by the Unified Government, Contractor shall submit a written protest using the procedure for claims based on procurement officer's actions or omissions.

b. Contractor shall reimburse the Unified Government for tests performed by the Unified Government when the results of those tests do not meet specified limits.

c. Contractor and his suppliers are responsible for process control tests normally conducted at the source of supply, such as certifications of manufactured products, concrete and asphalt mix designs, mixing plant quality monitoring tests, gradation tests of pipe bedding and imported fill material, fertilizer and seed certifications, and the like. Submittal of tests and certifications shall follow the procedures for shop drawings.

Contractor shall be responsible for the following field tests: tightness testing of manholes and sewer lines; mandrel testing of non-rigid sewer mains; start-up, demonstration, and adjustment of HVAC, mechanical,

electrical, or communication systems; and profilograph testing of concrete and asphalt pavements where required by the technical specifications, special conditions, or drawings. When profilograph testing is ordered by the Engineer because of poor subjective ride quality, compensation for the testing shall be based on General Condition 7.7.

d. Contractor shall employ an independent commercial laboratory, acceptable to the Engineer, to conduct source of supply tests. The laboratory shall have the staff, equipment, qualifications, and experience to perform the tests in accordance with the specified standards.

e. Contractor shall cooperate with Unified Government's field testing and sampling; interrupting, exposing, and repairing the work when necessary; and providing labor, sample material, and facilities to accommodate the testing and sampling.

7.3 If the Contract Documents, laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction require any Work to be specifically inspected, tested, or approved by someone other than the Contractor, the Contractor will give the Engineer/Architect timely notice of readiness. The Contractor will then furnish the Engineer/Architect the required certificates of inspection, testing, or approval.

7.4 Inspections, tests, or approvals by the Engineer/Architect or others shall not relieve the Contractor from his obligations to perform the Work in accordance with the requirements of the Contract Documents.

7.5 The Engineer/Architect and/or his representatives will at all times have access to the Work. In addition, authorized representatives and agents of any participating Federal, State, or local agency shall be permitted to inspect all Work, Materials, payrolls, records of personnel, invoices of Material, and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the Work and also for any inspection or testing thereof.

7.6 If any Work is covered contrary to the instructions of the Engineer/Architect or his project representative, or if Work is covered prior to inspection required by the Contract Documents, said Work must, if requested by the Engineer/Architect, be uncovered for inspection and replaced at the Contractor's expense

7.7 If after the Work is covered in accordance with the Engineer/Architect's instructions and the requirements of the Contract Documents the Engineer/Architect subsequently issues instructions to uncover the Work for inspection, the contractor shall uncover the Work in question. If it is found that such Work is defective, the Contractor will bear all the expenses of such uncovering, inspection and

reconstruction. If, however, such Work is not found to be defective, the Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, inspection, and reconstruction and an appropriate Change Order shall be issued

8. SUBSTITUTIONS.

8.1 Whenever Material or Equipment is identified on the Drawings or Specifications by reference to brand name or catalogue number, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and not to limit competition, and that other products of equal capacities, quality and function shall be considered. The Contractor may recommend the substitution of material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalogue number, and if, in the opinion of the Engineer/Architect, such material, article, or piece of equipment is of equal substance and function to that specified, the Engineer/Architect may approve its substitution and use by the Contractor. Any cost differential shall be deductible from the Contract Price and the Contract Documents shall be appropriately modified by Change Order. The contractor warrants that if substitutes are approved, no major changes in the function or general design of the Project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the Contract Price or Contract Time.

9. PATENTS.

9.1 The Contractor shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and save the Unified Government, Engineer/Architect, or Consultants harmless from loss on account thereof, except that the Unified Government shall be responsible for any such loss when a particular process, design, or the product of a particular Manufacturer or Manufacturers is specified. However, if the Contractor has reason to believe that the design, process, or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Engineer/Architect.

10. CONSTRUCTION STAKING.

10.1 The Contractor shall perform all construction staking; completed staking shall be reviewed by the Engineer/Architect before work commences

10.2 The Unified Government will furnish necessary boundary surveys and establish all baselines for locating the principal component parts of the Work, together with a suitable number of bench marks adjacent to the Work as shown in the Contract Documents.

10.3 The Contractor shall retain or provide a Land Surveyor, licensed to practice in the State of Kansas,

to develop and make any detailed surveys necessary for the construction of the Work.

10.4 The Contractor shall carefully preserve bench marks, reference points, and stakes and, in case of willful or careless destruction by his operations, or those of his Subcontractors or Material suppliers, he shall be charged with the resulting expense and shall be responsible for any mistakes that may be caused by their unnecessary loss or disturbance.

11. PROTECTION OF WORK, PROPERTY, AND PERSONS.

11.1 The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to all employees on the Work and other persons who may be affected thereby, all the Work and all Materials or Equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

11.2 The Contractor will comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction. He will erect and maintain, as required by the conditions and progress of the Work, all necessary safeguards for safety and protection. He will notify owners of adjacent utilities forty-eight (48) hours in advance when prosecution of the Work may affect them. The Contractor will remedy all damage, injury or loss to any property caused, directly or indirectly, in whole or in part, by the Contractor or any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, except damage or loss attributable to the fault of the Contract Documents or to the acts or omissions of the Unified Government or the Engineer/Architect or consultant or anyone employed by any of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

11.3 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer/Architect or Unified Government, shall act to prevent threatened damage, injury, or loss. He will give the Engineer/Architect prompt Written Notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR.

12.1 The Contractor will supervise, inspect, and direct the Work. He will be solely responsible for the

mean methods, techniques, procedures, and safety of construction. Except where limited by the Engineer/Architect's authority to adjust schedule to meet objectives listed in Condition 33.2, the Contractor shall be responsible for sequence of the work. The Contractor will employ and maintain on the Work a qualified superintendent who has full knowledge of and prior experience with the Materials and methods necessary to conform with the terms of and intent of these Contract Documents and who shall have been designated to the Engineer/Architect in writing by the Contractor as the Contractor's representative at the site. The superintendent shall have full authority to act on behalf of the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent shall be present on the site at all times.

12.2 The Contractor shall not change the superintendent without prior approval of the Engineer/Architect, except if the superintendent leaves the Contractor's employment before approval can be given.

13. CHANGES.

13.1 CHANGE ORDER - The Procurement Officer, at any time, and without notice to the sureties, in a signed writing designated or indicated to be a Change Order, may order:

- a. changes in the work within the scope of the Contract Documents; and
- b. changes in the time for performance of the Work that do not alter the scope of the Contract Documents.

13.2 ADJUSTMENTS OF PRICE OR TIME FOR PERFORMANCE - If any such Change Order increases or decreases the Contractor's cost of, or the time required for, performance of any part of the Work under these Contract Documents, whether or not changed by the order, an adjustment shall be made and the Contract Documents modified in writing accordingly. Any adjustment in Contract Price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause of these Contract Documents. (Section 14 of the General Conditions).

Failure of the parties to agree to an adjustment shall not excuse a Contractor from proceeding with the Work as changed, provided that the Unified Government promptly and duly makes such provisional adjustments in payments or time for performance as may be reasonable. By proceeding with the Work, the Contractor shall not be deemed to have prejudiced any claim for additional compensation, or an extension of time for completion.

13.3 WRITTEN CERTIFICATION - The Contractor shall not perform any Change Order in excess of \$500 unless it bears, or the Contractor has separately received, a written certification, signed by the Fiscal

Officer, that funds for the Change Order are available; and, if acting in good faith, the Contractor may rely upon the validity of such certification.

13.4 TIME PERIOD FOR CLAIM - Within 30 days after receipt of a written Change Order under Paragraph (1) of this clause, unless such period is extended by the Procurement Officer in writing, the Contractor shall file notice of intent to assert a claim for an adjustment. Later notification shall not bar the Contractor's claim unless the Unified Government is prejudiced by the delay in notification.

13.5 CLAIM BARRED AFTER FINAL PAYMENT - No claim by the Contractor for an adjustment hereunder shall be allowed if notice is not given prior to final payment under these Contractor Documents.

13.6 CLAIMS NOT BARRED - In the absence of such a Change Order, nothing in the Contract Documents shall restrict the Contractor's right to pursue a claim arising under the Contract Documents if pursued in accordance with the Clause entitled "Claims Based on a Procurement Officer's Actions or Omissions" (Section 22 of the General Conditions) or for breach of contract.

14. PRICE ADJUSTMENT.

14.1 PRICE ADJUSTMENT METHODS - Any adjustment in Contract Price pursuant to clauses in these Contract Documents shall be made in one or more of the following ways:

- a. by agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
- b. by unit prices specified in the Contract Documents or subsequently agreed upon;
- c. by the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as specified in the Contract Documents or subsequently agreed upon;
- d. in such other manner as the parties may mutually agree; or
- e. in the absence of agreement between the parties, by a unilateral determination by the Procurement Officer of cost attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as computed by the Procurement Officer in accordance with generally accepted accounting principles and applicable sections of Exhibit A, Unified Government Cost Principles, and subject to the provisions of Article IX (Legal and Contractual Remedies) of the Unified Government Procurement Code.

14.2 SUBMISSION OF COST OR PRICING DATA - The Contractor shall submit cost or pricing data for any price adjustments subject to the provisions of Section 29-200 (Cost or Pricing Data) of the

Procurement Code.

15. VARIATIONS IN ESTIMATED QUANTITIES.

15.1 VARIATIONS REQUIRING ADJUSTMENTS - Where the quantity of a pay item in these Contract Documents is an estimated quantity and where the actual quantity of such pay item varies more than 15% above or below the estimated quantity stated in these Contract Documents, an adjustment in the Contract Price shall be made upon demand of either party. The adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115% or below 85% of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Procurement Officer shall, upon receipt of a timely written request for an extension of time, prior to the date of final settlement, ascertain the facts and make such adjustment for extending the completion date as in the judgment of the Procurement Officer the findings justify.

15.2 ADJUSTMENTS OF PRICE - Any adjustment in Contract Price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause of this contract. (Section 14 of the General Conditions).

16. DIFFERING SITE CONDITIONS, PRICE ADJUSTMENTS.

16.1 NOTICE - The Contractor shall promptly, and before such conditions are disturbed, notify the Engineer/Architect of:

- a. subsurface or latent physical conditions at the site differing materially from those indicated in these Contract Documents; or
- b. unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in these Contract Documents.

16.2 ADJUSTMENTS OF PRICE OR TIME FOR PERFORMANCE - After receipt of such notice, the Engineer/Architect shall promptly investigate the site, and if it is found that such conditions do materially so differ and cause an increase in the Contractor's cost of, or the time required for, performance of any part of the Work under these Contract Documents, whether or not changed as a result of such conditions, an adjustment shall be made and the Contract Documents modified in writing accordingly. Any adjustment in Contract Price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause of this contract. (Section 14 of the General Conditions.)

16.3 TIMELINESS OF CLAIM - No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in this clause; provided, however, that the time prescribed therefore may be extended by the Procurement Officer in writing.

16.4 NO CLAIM AFTER FINAL PAYMENT - No claim by the Contractor for an adjustment thereunder shall be allowed if asserted after final payment under these Contract Documents.

16.5 KNOWLEDGE - Nothing contained in this section shall be grounds for an adjustment in compensation if the Contractor had actual knowledge of the existence of such conditions prior to the submission of bids.

17. TIME FOR COMPLETION.

17.1 The date beginning and the time for completion of the Work are essential conditions of the Contract Documents and the Contract Time shall commence on a date specified in the Notice to Proceed.

17.2 The Contractor will proceed with the Work at such rate of progress to insure full completion within the Contract Time. It is expressly understood and agreed, by and between the Contractor and the Unified Government, that the Contract Time for the completion of the Work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the Work.

18. TERMINATION FOR DEFAULT FOR NON-PERFORMANCE OR DELAY - DAMAGES FOR DELAY - TIME EXTENSIONS.

18.1 DEFAULT - If the Contractor refuses or fails to prosecute the Work, or any separable part thereof, with such diligence as will assure its completion within the time specified in these Contract Documents, or any extension thereof, fails to complete said Work within such time, or commits any other substantial breach of these Contract Documents, and further fails within 14 days after receipt of written notice from the Procurement Officer to commence and continue correction of such refusal or failure with diligence and promptness, the Procurement Officer may, by written notice to the Contractor, declare the Contractor in breach and terminate the Contractor's right to proceed with the Work or such part of the Work as to which there has been delay. In such event the Unified Government may take over the Work and prosecute the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the Work, such Materials, appliances, and plant as may be on the site of the Work and necessary for the Work. Whether or not the Contractor's right to proceed with the work is terminated, the Contractor and the Contractor's sureties shall be liable for any damage to the Unified Government resulting from the Contractor's refusal or failure to complete the work within the specified time.

18.2 LIQUIDATED DAMAGES UPON TERMINATION - If fixed and agreed liquidated damages are provided in these Contract Documents, and if the Unified Government so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages for such reasonable

time as may be required for final completion of the Work.

18.3 LIQUIDATED DAMAGES IN ABSENCE OF TERMINATION - If fixed and agreed liquidated damages are provided in the Contract Documents, and if the Unified Government does not terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the Work is completed or accepted.

18.4 TIME EXTENSION - The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if:

a. the delay in the completion of the Work arises from causes such as: acts of God; acts of the public enemy; acts of the Unified Government or any other governmental entity in either a sovereign or contractual capacity; acts of another Contractor in the performance of a contract with the Unified Government; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; unusually severe weather; delays of Subcontractors due to causes similar to those set forth above; or shortage of Materials; provided, however, that no extension of time will be granted for a delay caused by a shortage of Materials, unless the Contractor furnishes to the Engineer/Architect proof that the Contractor has diligently made every effort to obtain such Materials from all known sources within reasonable reach of the Work, and further proof that the inability to obtain such Materials when originally planned did in fact cause a delay in final completion of the entire Work which could not be compensated for by revising the sequence of the Contractor's operations; and

b. the Contractor, within ten days from the beginning of any such delay (unless the Procurement Officer grants a further period of time before the date of final payment under the Contract Documents), notifies the Engineer/Architect in writing of the causes of delay. The Procurement Officer shall ascertain the facts and the extent of the delay and extend the time for completing the Work when, in the judgment of the Procurement Officer, the findings of fact justify such an extension.

18.5 ERRONEOUS TERMINATION FOR DEFAULT - If, after notice of termination of the Contractor's right to proceed under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause. (Section 23 of the General Conditions.)

18.6 Where the Contractor's services have been so

terminated by the Unified Government, said termination shall not affect any right of the Unified Government against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the Unified Government will not release the Contractor from compliance with the Contract Documents.

18.7 ADDITIONAL RIGHTS AND REMEDIES - The rights and remedies of the Unified Government provided in this section are in addition to any other rights and remedies provided by law or under these Contract Documents.

19. SPECIFIC ACTS CONSTITUTING SUBSTANTIAL BREACH.

19.1 The following acts committed by the Contractor will constitute a substantial breach of the Contract Documents and may result in termination of the Work.

- a. If the Contractor is adjudged bankrupt or insolvent.
- b. If the Contractor makes a general assignment for the benefit of his creditors.
- c. If a trustee or receiver is appointed for the Contractor or any of his property.
- d. If the Contractor files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or applicable laws.
- e. If the Contractor repeatedly fails to supply sufficient skilled workmen or suitable Material or Equipment.
- f. If the Contractor repeatedly fails to make prompt payments to Subcontractors or for labor, Material, or Equipment.
- g. If the Contractor disregards ordinances, rules, regulations, or orders of any public body having jurisdiction of the Work.
- h. If the Contractor disregards the authority of the Purchasing Officer or consultant.

19.2 Acts other than those specified in 19.1 may constitute substantial breach.

19.3 The procedure for termination for substantial breach of the Contract Documents shall be in accordance with the clause entitled "Termination for Default for Non-performance or Delay - Damages for Delay - Time Extensions" (Section 18 of General Conditions).

20. CORRECTION OF WORK.

20.1 The Contractor shall promptly remove from the premises all Work rejected by the Engineer/Architect for failure to comply with the Contract Documents, whether incorporated in the construction or not, and the Contractor shall promptly replace and re-execute the Work in accordance with the Contract Documents and without expense to the Unified Government and

shall bear the expense of making good all Work of other Contractors or Subcontractors destroyed or damaged by such removal or replacement.

20.2 All removal and replacement Work shall be done at the Contractor's expense. If the Contractor does not take action to remove such rejected Work within ten (10) days after receipt of Written Notice, the Unified Government may remove such Work and store the Materials, at the expense of the Contractor.

21. SUSPENSION OF WORK.

21.1 SUSPENSION FOR CONVENIENCE - The Procurement Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as may be determined to be appropriate for the convenience of the Unified Government.

21.2 ADJUSTMENT OF COST - If the performance of all or any part of the Work is for an unreasonable period of time suspended, delayed, or interrupted by an act of the Procurement Officer in the administration of these Contract Documents, or by the failure of the Procurement Officer to act within the time specified in these Contract Documents (or if no time is specified, within reasonable time), an adjustment shall be made for any increase in the cost of performance of these Contract Documents necessarily caused by such unreasonable suspension, delay, or interruption and the Contract Documents modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent:

- a. that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor; or
- b. for which an adjustment is provided for or excluded under any other provision of these Contract Documents.

21.3 TIME RESTRICTION ON CLAIM - No claim under this clause shall be allowed:

- a. for any costs incurred more than 20 days before the Contractor shall have notified the Procurement Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and
- b. unless the claim is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the Contract Documents.

21.4 ADJUSTMENTS OF PRICE - Any adjustment in Contract Price made pursuant to this section shall be determined in accordance with the Price Adjustment Section of These Contract Documents. (Section 14 of the General Conditions.)

22. CLAIMS BASED ON A PROCUREMENT OFFICER'S ACTIONS OR OMISSIONS.

22.1 NOTICE OF CLAIM - If any action or omission on the part of the Procurement Officer requiring a performance change within the scope of the Contract Documents constitutes the basis for a claim by the Contractor for additional compensation, damages, or an extension of time for completion, the Contractor shall continue with performance of the Work in compliance with the directions or orders of such officials, but by so doing, the Contractor shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion, provided:

- a. The Contractor shall have given Written Notice to the Procurement Officer:
 - i. prior to the commencement of the Work involved, if at that time the Contractor knows of the occurrence of such action or omission;
 - ii. within 30 days after the Contractor knows of the occurrence of such action or omission, if the Contractor did not have such knowledge prior to the commencement of the Work; or
 - iii. within such further time as may be allowed by the Procurement Officer in writing.
- b. The notice required by Subparagraph (22.1.a.) of this paragraph described as clearly as practicable at the time the reasons why the Contractor believes that additional compensation, damages, or an extension of time may be remedies to which the Contractor is entitled; and
- c. The Contractor maintains, and upon request makes available to the Procurement Officer within a reasonable time, detailed records to the extent practicable, of the claimed additional costs or basis for an extension of time in connection with such changes.

22.2 LIMITATION - Nothing herein contained, however, shall excuse the Contractor from compliance with any rules of law precluding any Unified Government officers and any Contractors from acting in collusion or bad faith in issuing or performing Change Orders which are clearly not within the scope of the Contract Documents.

22.3 ADJUSTMENTS OF PRICE - Any adjustment in the Contract Price made pursuant to this section shall be determined in accordance with the Price Adjustment section of these Contract documents. (Section 14 of the General Conditions.)

23. TERMINATION FOR CONVENIENCE.

23.1 TERMINATION - The Unified Government may, when the interests of the Unified Government so

require, terminate the Unified Government's obligations under these Contract Documents, in whole or in part, for the convenience of the Unified Government. The Procurement Officer shall give written notice of the termination to the Contractor specifying the part of the contract terminated and when termination becomes effective.

23.2 CONTRACTOR'S OBLIGATIONS - The Contractor shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the Contractor will stop Work to the extent specified. The Contractor shall also terminate outstanding orders and subcontracts as they relate to the terminated obligations. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated obligations. The Procurement Officer may direct the Contractor to assign the Contractor's right, title, and interest under terminated orders or subcontracts to the Unified Government. The Contractor must still complete the obligation not terminated by the notice of termination and may incur obligations as necessary to do so.

23.3 RIGHT TO CONSTRUCTION AND SUPPLIES - The Procurement Officer may require the Contractor to transfer title and deliver to the Unified Government in the manner and to the extent directed by the Procurement Officer:

- a. any completed construction; and
- b. such partially completed construction, supplies, materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called 'Construction Material') as the Contractor has specifically produced or specially acquired for the performance of the terminated obligation(s).

The Contractor shall protect and preserve property in the possession of the Contractor in which the Unified Government has an interest. If the Procurement Officer does not exercise this right, the Contractor shall use best efforts to sell such construction, supplies, and Construction Materials in accordance with the standards of K.S.A. 84-2-706. This in no way implies that the Unified Government has breached the Contract Documents by exercise of the Termination for Convenience Clause.

23.4 COMPENSATION

- a. The Contractor shall submit a termination claim specifying the amounts due because of the termination for convenience, together with cost or pricing data, submitted to the extent required by Section 29-200 (Cost or Pricing Data) of the Procurement Code, bearing on such claim. If the Contractor fails to file a termination claim within one year from the effective date of termination, the Procurement Officer may pay the Contractor, if at all, an amount set in accordance with Subparagraph (c)

of this Paragraph.

b. The Procurement Officer and the Contractor may agree to a settlement provided the Contractor has filed a termination claim supported by cost or pricing data submitted as required by Section 29-200 (Cost or Pricing Data) of the Procurement Code and that the settlement does not exceed the total Contract Price plus settlement costs reduced by payments previously made by the Unified Government, the proceeds of any sales of construction, supplies, and Construction Materials under Paragraph 23.3 of these General Conditions, and the Contract Price of the Work not terminated.

c. Absent complete agreement under Subparagraph (b) of this Paragraph, the Procurement Officer shall pay the Contractor the following amounts, provided payments under Subparagraph (b) shall not duplicate payments under this Paragraph:

i. with respect to all contract Work performed prior to the effective date of the notice of termination, the total (without duplication of any items) of:

A. the cost of such Work plus a fair and reasonable profit on such portion of the Work (such profit shall not include anticipatory profit or consequential damages) less amounts paid or to be paid for completed portions of such Work; provided, however, that if it appears that the Contractor would have sustained a loss if the entire Work would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;

B. costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Paragraph 23.2 of these General Conditions. These costs must not include costs paid in accordance with Subparagraph (c.i.A) of this Paragraph;

C. the reasonable settlement costs of the Contractor including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated obligation(s) and for the termination and settlement of subcontracts there-under, together

with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated obligations.

ii. The total sum to be paid the Contractor under this Paragraph shall not exceed the total Contract Price plus the reasonable settlement costs of the Contractor reduced by the amount of any sales of construction, supplies, and Construction Materials under Paragraph 23.3 of these General Conditions, and the Contract Price of Work not terminated.

d. Cost claimed, agreed to, or established under Subparagraphs (b) and (c) of this Paragraph shall be in accordance with Exhibit A, Unified Government Cost Principles.

24. LIQUIDATED DAMAGES.

24.1 When the Contractor fails to complete the Work or any portion of the Work within the time or times fixed in the Contract Documents, the Contractor shall pay to the Unified Government the amount listed in the Agreement as Liquidated Damages for each calendar day of delay pursuant to the "Termination for Default for Non-performance or Delay - Damages for Delay - Time Extensions" section. (Section 18 of the General Conditions.)

25. PAYMENTS FOR WORK PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

25.1 At least twenty (20) days before each progress payment falls due, the Contractor may submit, but not more than once a month, to the Engineer/Architect a partial payment estimate on a form suitable to the Engineer/Architect, filled out and signed by the Contractor covering the work performed during the period covered by the partial payment estimate and supported by such data as the Engineer/Architect may reasonably require. The Engineer/Architect will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the Procurement Officer, or return the partial payment estimate to the Contractor indicating in writing his reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The Unified Government will, within thirty (30) days of presentation to the Procurement Officer of an approved partial payment estimate, pay the Contractor a progress payment on the basis of the approved partial payment estimate. The Unified Government will retain five (5) percent of the amount of each payment until final completion and acceptance of all work covered by the Contract Documents. The Procurement Officer at any time, however, after fifty (50) percent of the work has been completed, if s/he

finds that satisfactory progress is being made, may reduce retainage on the current and remaining estimates. When the work is substantially complete (operational or beneficial occupancy), the retained amount may be further reduced to only that amount necessary to assure completion.

25.2 Prior to Substantial Completion, the Unified Government, with the approval of the Engineer/Architect, may use any completed or substantially completed portions of the work. Such use shall not constitute an acceptance of such portions of the work.

25.3 Upon completion and acceptance of the work, the Engineer/Architect shall issue a certificate attached to the final payment request that the Work has been accepted by her/him under the conditions of the Contract Documents. The entire balance found to be due the Contractor, including the retained percentages, but except such sums as may be lawfully retained by the Unified Government, shall be paid to the Contractor within thirty (30) days of completion and acceptance of the work.

25.4 The Contractor will indemnify and save the Unified Government and the Engineer/Architect, and their agents and employees harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the work. Prior to final payment and prior to any progress payment when so requested by the Unified Government, the Contractor shall furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the Contractor fails to do so, the Unified Government may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Unified Government to either the Contractor, his surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Unified Government shall be considered as a payment made under the Contract Documents by the Unified Government to the Contractor and the Unified Government shall not be liable to the Contractor for any such payments made in good faith.

26. ACCEPTANCE OF FINAL PAYMENT AS RELEASE.

26.1 The acceptance by the Contractor of final payment shall be made and shall operate as a release to the Unified Government of all claims and all liability to the Contractor, other than claims in stated amounts

as may be specifically excepted by the Contractor, for all things done or furnished in connection with this Work and for every act and neglect of the Unified Government and others relating to or arising out of this Work. Any payment, however, final or otherwise, shall not release the Contractor or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

27. INSURANCE.

27.1 The Contractor shall purchase and maintain during the term of this contract such insurance as will protect him and the Unified Government of Wyandotte County/Kansas City, Kansas, from claims set forth below which may arise out of or result from the Contractor's execution of the Work, whether such execution be by himself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. The Unified Government of Wyandotte County/Kansas City, Kansas, shall be identified as an additional insured or provided with an owner's protective policy written on an occurrence basis on coverage set forth in Section 27.3 of this clause for:

- a. Claims under workman's compensation disability benefit and other similar employee benefits;
- b. Claims for damages because of bodily injury, occupational sickness or disease, or death of his employees;
- c. Claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees;
- d. Claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person; and
- e. Claims for damages because of injury to or destruction of tangible property, including loss of use resulting therefrom.

27.2 Certificates of insurance acceptable to the Unified Government shall be filed with the Unified Government within ten (10) days of the Notice of the Award. These Certificates shall contain a provision that states, "Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions." At the discretion of the Unified Government, the Contractor shall file copies of endorsed insurance policies with the Unified Government prior to commencement of the Work.

27.3 The Contractor shall procure and maintain Contractor's General Public Liability and Property Damage Insurance, including vehicle coverage issued to the Contractor and protecting him and the Unified Government of Wyandotte County/Kansas City,

Kansas, from all claims for personal injury, including death, and all claims for destruction of or damage to property, arising out of or in connection with any operations under the Contract Documents, whether such operations be by himself or by any Subcontractor under him. Insurance may be combined Bodily Injury and Property Damage Liability but in no event shall the limit of liability be less than \$500,000 for all damages arising out of bodily injury, including death, and all property damage sustained by any one person in any one accident, and \$500,000 aggregate for any such damage sustained by two or more persons in any one accident.

27.4 The Contractor shall acquire and maintain, if applicable, Fire and Extended Coverage Insurance upon the Project to the full insurable value thereof for the benefit of the Unified Government, the Contractor, and Subcontractors as their interest may appear. This provision shall in no way release the Contractor's surety from obligations under the Contract Documents to fully complete the Project.

27.5 The Contractor shall procure and maintain at his own expense, during the Contract Time, in accordance with the laws of the State of Kansas, Worker's Compensation Insurance, including occupational disease provisions, for all of its employees at the site of the Project, and in case any Work is sublet, the Contractor shall require such Subcontractor similarly to provide Worker's Compensation Insurance, including occupational disease provisions for all of the latter's employees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous Work under these Contract Documents at the site of the Project is not protected under Worker's Compensation statute, the Contractor shall provide, and shall cause each Subcontractor to provide adequate and suitable insurance for the protection of his employees not otherwise protected.

27.6 The Contractor shall secure, if applicable, "All Risk" type Builder's Risk Insurance for Work to be performed. Unless specifically authorized by the Unified Government, the amount of such insurance shall not be less than the Contract price totaled in the Bid. The policy shall cover not less than the losses due to fire, explosion, hail, lightning, vandalism, malicious mischief, wind, collapse, riot, aircraft, and smoke during the Contract Time, and until the Work is accepted by the Owner. The policy shall name as the insured the Contractor and the Unified Government of Wyandotte County/Kansas City, Kansas.

27.7 The Contractor, in addition to all other insurance requirements herein, shall procure and maintain insurance in the type and amount as may be required in any license, permit, or agreement obtained for the Project and which is necessary to complete the Work (i.e., Highway Permit, Railroad Crossing Agreement, Corps of Engineers Permit) regardless of who secured the license, permit, or agreement.

28. CONTRACT SECURITY.

28.1 Where the contract is in excess of \$50,000.00, the Contractor shall furnish the Unified Government with a Performance Bond in the amount of 100% of the Contract Price. Where the contract is in excess of \$50,000.00, the Contractor shall furnish the Unified Government with a Labor and Material Payment Bond in the amount of 100% of the Contract Price. Bonds shall be delivered within ten (10) days of receipt of Notice of Award. The Performance Bond shall be conditioned upon the performance by the Contractor of all undertakings, covenants, terms, conditions, and agreement of the contract documents. The Payment Bond shall be conditioned upon the prompt payment by the Contractor to all persons supplying labor and Materials in the prosecution of the Work provided by the Contract Documents and shall comply with the requirements of K.S.A. 60-1111 including, but not limited to the requirement that it be filed with the Clerk of the Wyandotte County District Court. All bonds shall contain all terms and conditions contained in the provided bond form in the Contract Documents and shall be executed by a surety company authorized to do business in the State of Kansas. Attorneys-in-fact who sign bonds must file with each bond a certified and effective dated copy of the power of attorney form.

28.2 The expense of these bonds shall be borne by the Contractor. If at any time a surety on any such Bond is declared bankrupt or loses its right to do business in the State of Kansas, the contractor shall within ten (10) days substitute an acceptable Bond (or Bonds) in such form and sum and signed by such other surety or sureties as may be satisfactory to the Unified Government. The premiums on such Bond shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished an acceptable bond to the Unified Government.

29. ASSIGNMENTS.

29.1 Neither the Contractor nor the Unified Government shall sell, transfer, assign, or otherwise dispose of any rights or obligation created by the Contract Documents or any portion thereof, or of his right, title, or interest therein, or his obligations thereunder, without written consent of the other party.

30. INDEMNIFICATION.

30.1 The Contractor will indemnify and hold harmless the Unified Government and the Engineer/Architect and their 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 claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the Contractor,

Subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.

30.2 In any and all claims against the Unified Government and the Engineer/Architect, or their agents and 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.

30.3 The obligation of the Contractor under this paragraph shall not extend to the liability of the Engineer/Architect, his agents or employees arising out of the preparation or approval of maps, Drawings, opinions, reports, surveys, Change Orders, designs or Specifications.

30.4 The Contractor will be held strictly to the intent of the Contract Documents in regard to the quality of Materials, workmanship, and execution of the Work. Inspections may be made at the factory or fabrication plant of the source of Material supply.

31. SEPARATE CONTRACTS AND RIGHT TO ENTER TO PERFORM WORK.

31.1 The Unified Government may perform additional Work related to the Project by itself, or it may execute other Contract Documents containing provisions similar to these. The Contractor shall afford the Unified Government and other Contractors reasonable opportunity for the introduction and storage of their Materials and the execution of their Work, and shall properly connect and coordinate its Work with theirs. If the proper execution or results of any part of the Contractor's Work depends upon the Work of the Unified Government or any other Contractor, the Contractor shall inspect and promptly report to the Engineer/Architect any defects in such Work that render it unsuitable for such proper execution and results.

31.2 The Unified Government's right to perform work and enter other contracts shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the Work, or the restoration of any damaged Work, except such as may be caused by agents or employees of the Unified Government or by other Contractors.

31.3 If the performance of additional Work by other Contractors or the Unified Government is not noted in the Contract Documents prior to the execution of the Contract Documents, written notice thereof shall be given to the Contractor prior to starting any such additional Work. If the Contractor believes that the performance of such additional Work by the Unified Government or other Contractors involves him in

additional expense or entitles him to an extension of the Contract Time, he may make a claim therefor as provided in the Section entitled "Changes" (Section 13 of the General Conditions).

32. SUBCONTRACTING.

32.1 The Contractor may utilize the services of specialty Subcontractors on those parts of the Work which, under normal contracting practices, are performed by specialty Subcontractors.

32.2 The Contractor shall not award subcontracts which total more than fifty (50) percent of the Contract Price, without prior written approval of the Unified Government.

32.3 Prior to the execution and delivery of the Contract Documents, the successful Bidder will submit to the Engineer/Architect for Unified Government's acceptance an updated list of the names of Subcontractors and Suppliers proposed for those portions of the Work and designating which Work each is to perform. For the purpose of reporting supplier participation, a reportable supplier is one who provides directly to the general contractor (first tier supplier). The general contractor is not required to report first tier supplier participation if the total purchases from the first tier supplier is less than \$2,500.00. The Affidavit of Intended Utilization has been provided to facilitate this requirement. Failure to submit this form may be interpreted as non-responsiveness and will be grounds for rejection of bids. Upon contract completion, any changes in the list of subcontractors or suppliers used or payment amount must be submitted to Purchasing before final payment will be made.

32.4 Twenty-five (25) days prior to initiation of Work by any Subcontractor and Suppliers the Contractor shall submit such Subcontractor's name to the Engineer/Architect for the Unified Government's approval. Ten (10) days prior to initiation of Work by such Subcontractor or Supplier, the Engineer/Architect shall notify the successful Bidder in writing if either the Unified Government or Engineer/Architect, after due investigation, has reasonable objection to any Subcontractor or Supplier on such list. The failure of the Unified Government or the Engineer/Architect to make objection to Subcontractor or Supplier shall constitute an acceptance of such Subcontractor or Supplier, but shall not constitute a waiver of any right of the Unified Government or the Engineer/Architect to reject defective Work, Material, or Equipment not in conformance with the requirements of the Contract Documents.

32.5 The Contractor will not make any substitution for any Subcontractor or Supplier who has been accepted by the Unified Government Engineer/Architect, unless the Engineer/Architect approves such a change in writing. The Contractor Utilization Plan may be used to facilitate this requirement. The failure of the Unified Government or the Engineer/Architect to make objection to

Subcontractors or Suppliers shall constitute an acceptance of such Subcontractor or Supplier, but shall not constitute a waiver of any right of the Unified Government or the Engineer/Architect to reject defective Work, Material, or Equipment not in conformance with the requirements of the Contract Documents.

32.6 The Contractor shall be fully responsible to the Unified Government for the acts and omissions of his Subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

32.7 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the Contractor by the terms of the Contract Documents insofar as applicable to the Work of Subcontractor and to give the Contractor the same power as regards terminating any subcontract that the Unified Government may exercise over the Contractor under any provisions of the Contract Documents.

32.8 Nothing contained in these Contract Documents shall create any contractual relationship between any Subcontractor and the Unified Government.

33. ENGINEER/ARCHITECT'S AUTHORITY.

33.1 The Engineer/Architect shall act as the Unified Government's representative during the construction period. S/he shall decide questions which may arise as to quality and acceptability of Materials furnished and Work performed. S/he shall interpret the intent of the Contract Documents in a fair and unbiased manner and shall not be held liable for the result of any interpretation or decision rendered in good faith.

33.2 The Engineer/Architect shall not and will not be responsible for the Contractor's construction means, controls, techniques, sequences, procedures, or safety. Except the Engineer/Architect may direct the sequencing, phasing, and date of performance of the work and may change the location and quantities of the work as necessary to meet the following objectives:

- a. To ensure the completion of priority elements of the project within the funds available;
- b. To ensure the least practicable inconvenience to the public;
- c. To ensure the compliance with weather and seasonal limitations;
- d. To ensure the timely completion of field quality control testing and visual inspections;
- e. To ensure the coordination of work of other contractors, utilities or Unified Government crews in the best interest of the Unified Government.

No additional payment shall be made for delays

arising from changes to sequence, phasing, or date of performance that could be reasonably anticipated from the nature, location, and time of year of the work.

33.3 The Engineer/Architect shall promptly make decisions relative to interpretation of the Contract Documents.

33.4 The Engineer/Architect may make visits to the site and determine if the Work is proceeding in accordance with the Contract Documents.

34. PROJECT REPRESENTATIVE.

The Engineer/Architect may provide one or more full time Project Representatives to assist the Engineer/Architect in carrying out his responsibilities at the site. The duties, responsibilities, and limitations of any such Project Representative shall be as follows:

34.1 Liaison

- a. Serve as the Engineer/Architect's liaison with the Contractor working principally through the Contractor's superintendent.
- b. Cooperate with the Contractor in its dealings with the various local agencies having jurisdiction over the Project in order to complete service connections to public utilities and facilities.
- c. Assist the Engineer/Architect in obtaining from the Unified Government additional details or information, when required at the job site for proper execution of the Work.

34.2 Review of Work

- a. Conduct on-site observations of the Work in progress for the Engineer/Architect as a basis for determining that the project is proceeding in accordance with the Contract Documents, and report to the Engineer/Architect whenever s/he believes that the Work should be stopped to insure that the completed Project will comply with the requirements of the Contract Documents.
- b. Verify that tests, including equipment and systems start up, which are required by the Contract Documents are conducted and that the Contractor maintains adequate records thereof; observe, record, and report to the Engineer/Architect appropriate details relative to the test procedures and start ups.
- c. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the outcome of these inspections, and report to the Engineer/Architect.

34.3 Interpretation of Contract Documents

- a. Transmit to the Contractor the Engineer/Architect's interpretations of the Contract Documents.

34.4 Records

- a. Maintain at the job site orderly files for correspondence, reports of job conferences, shop drawings and other submissions, reproductions of original Contract Documents including all Addenda, Change Orders, and additional Drawings issued subsequent to the award of the contract, the Engineer/Architect's interpretations of the Contract Documents, progress reports, and other project related documents.
- b. Keep a diary or log book, recording hours on the job site, weather conditions, list of visiting officials, daily activities, decisions, observations in general, and specific observations in more detail as in the cases of observing test procedures.
- c. Maintain a set of Drawings on which authorized changes are noted and deliver such Drawings to the Engineer/Architect at the completion of the project.

34.5 Guarantees, Certificates, Maintenance Operation Manuals

- a. During the course of the Work, assemble guarantees, certificates, maintenance operation manuals, and other required data furnished by the Contractor and upon acceptance of the Project, deliver these documents to the Engineer/Architect for her/his review and forwarding to the Unified Government.

34.6 Completion

- a. Prior to review for completion, submit to the Contractor a list of observed items requiring correction.
- b. Conduct final review in the company of the Engineer/Architect and the Unified Government and prepare a final list of items to be corrected.
- c. Verify that all items on final list have been corrected and make recommendations to the Engineer/Architect concerning acceptance.

34.7 Limitation of Authority - Except upon written instructions of the Engineer/Architect, the Project Representative:

- a. Shall not authorize any deviation from the Contract Documents.
- b. Shall not undertake any of the responsibilities of the Contractor, the Subcontractors, or the Contractor's Superintendent.
- c. Shall not expedite the Work for the Contractor.
- d. Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences, or procedures of

construction unless such is specifically called for in the Contract Documents.

- e. Shall not authorize the Unified Government to occupy the Project in whole or in part.

35. LAND AND RIGHTS-OF-WAY.

35.1 Prior to issuance of Notice to Proceed, the Unified Government will have obtained all land and rights-of-way necessary for carrying out and for the completion of the Work to be performed pursuant to the Contract Documents, unless otherwise set forth in the Special Conditions or by Change Order.

35.2 The Unified Government shall provide to the Contractor written information which delineates and describes the land owned and rights-of-way acquired and any special requirements contained therein. (Shown on the drawings and/or in the Special Conditions.)

35.3 The Contractor shall provide at his own expense and without liability to the Unified Government any additional land and access thereto that the Contractor may desire for temporary construction facilities, for storage of Materials or for additional working area.

36. PERMITS AND LICENSES.

36.1 Permits and licenses of a temporary nature necessary for the prosecution of the Work shall be secured and paid for by the Contractor unless otherwise stated in the Special Conditions. The Contractor shall comply with all requirements, furnish required bonds, carry required insurance, pay all inspection fees and comply otherwise with all requirements of all permits and licenses regardless of whom obtained same. Copies of permits and licenses obtained by others, if not included in the Contract Documents, are available at the Engineer/Architect's office during regular business hours. The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations bearing on the conduct of the Work as drawn and specified.

36.2 If the Contractor observes that the Contract Documents are at variance with other requirements, the Contractor shall promptly notify the Engineer/Architect in writing, and any necessary changes shall be adjusted in accordance with the Section entitled "Changes" (Section 13 of the General Conditions).

37. GUARANTY.

37.1 The Contractor shall guarantee all Materials and Equipment furnished and Work performed. Furthermore, commencing on the Date the Unified Government accepts all Work, the Contractor also warrants and guarantees for a minimum of one year or such longer period as may be established for specific products or installations by the technical provisions that the accepted Work is free from all defects due to faulty Materials, Equipment, or workmanship, and the

Contractor shall promptly make corrections as may be necessary by reason of such defects and the repairs of any damage to other parts of the Work, including damage to adjacent existing improvements, utilities, pavement, and so forth, resulting from such defects. All Materials, Equipment, or Work incorporated in correcting such defects shall also be warranted and guaranteed to conform with the Contract Documents for the applicable guarantee period in the Supplemental General Conditions.

37.2 The Unified Government will give Written Notice to the Contractor of observed defects with reasonable promptness. If for any reason the Contractor shall fail to make any such repairs or adjustments, including other Work that may be made necessary by such defects, within twenty (20) days after date such notice is served upon the Contractor, the Unified Government will have the right and authority to correct or cause the correction of the defects, including that which may be made necessary by said defects, and charge the Contractor for all costs thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

38. DISPUTES.

38.1 All controversies between the Unified Government and the Contractor which arise under, or are by virtue of these Contract Documents and which are not resolved by mutual agreement, shall be decided by the Procurement Officer in writing, within thirty (30) days after a written request by the Contractor for a final decision concerning the controversy; provided, however, that if the Procurement Officer does not issue a written decision within 30 days after written request for a final decision, or within such longer period as may be agreed upon by the parties, then the Contractor may proceed as if an adverse decision had been received.

38.2 The Procurement Officer shall immediately furnish a copy of the decision to the Contractor, by certified mail, return receipt requested, or by any other method that provides evidence of receipt.

38.3 Any such decision shall be final and conclusive, unless fraudulent, or the Contractor brings an action seeking judicial review of the decision in the Wyandotte County District Court.

38.4 The Contractor shall comply with any decision of the Procurement Officer and proceed diligently with performance of the Work pending final resolution by the Wyandotte County District Court of any controversy arising under, or by virtue of these Contract Documents, except where there has been a material breach of the Contract Documents by the Unified Government, provided, however, that in any event the Contractor shall proceed diligently with the performance of the Work where the Purchasing Director or head of a Purchasing Agency has made a written determination that continuation of Work under the Contract Documents is essential to the public health and safety.

39. TAXES.

39.1 Sales and compensating tax exemption certificate number will be provided by the Unified Government to the Contractor as set forth in K.S.A. 79-3606 (d) and (e), as may be amended.

39.2 If for any reason the exemption certificate number is not furnished the Contractor, the Unified Government will, upon Written Notice from the Contractor, execute a Change Order to compensate the Contractor for such sales and compensating taxes which would otherwise be legally exempted by said certificate number. (Section 13 of the General Conditions). Any adjustment in Contract Price made pursuant to this Section shall be determined in accordance with the Price Adjustment Section of these Contract Documents (Section 14 of the General Conditions).

40. PROCESS AGENT.

40.1 If the Contractor is an individual, partnership, or unincorporated association, and if said Contractor is not a resident of the State of Kansas, said Contractor shall appoint in writing as such Contractor's agent, a resident of the County of Wyandotte, Kansas, as required by K.S.A. 16-113, as amended. Process for the Contractor may be served on such agent in any civil action which arises out of the Contract Documents. The appointment of such agent shall be filed with the Clerk of the District Court of Wyandotte County, Kansas. Any Contractor required hereunder to appoint such an agent shall not receive public moneys pursuant to the Contract Documents until the appointment has been made and filed.

41. SATURDAY, SUNDAY, HOLIDAY. AND NIGHT WORK.

41.1 No Work shall be done on Saturday, Sunday, Unified Government designated holidays, or at night, without the written approval or permission of the Engineer/Architect in each case, except such Work as may be necessary for the proper care, maintenance, and protection of Work already done or of Equipment and public property covered by the Contract Documents. Approval of the Engineer/Architect shall be sought at least forty-eight (48) hours in advance of such Work whenever practicable.

42. PUBLIC CONVENIENCE AND SAFETY.

42.1 The Contractor shall at all times so conduct its Work as to insure the least practicable obstruction to traffic. The convenience of the general public and the residents along the Project, and the protection of persons and property are of prime importance and shall be provided for by the Contractor in an adequate and satisfactory manner. When it is necessary for residents living along the Project to use a portion of road in the Project area, the Contractor shall maintain within the limits of these specifications, that portion of the road in a suitable condition for pedestrian and vehicular travel.

42.2 The Contractor shall be responsible for all traffic control devices necessary at the Project site, including installation, maintenance, and removal of such devices. All traffic control devices supplied by the Contractor shall comply with the standards of the Manual on Uniform Traffic Control Devices, the most current edition, and the Traffic Control Devices Handbook and amendments thereto. The Contractor shall submit a written plan for traffic control during the Project to the Traffic Regulations Division of the Public Works Department for approval prior to the commencement of the Project.

42.3 The Contractor shall contact the Traffic Regulations Division of the Public Works Department prior to any street closure or traffic restriction. The Contractor shall be responsible for notification of the police and fire departments in emergency traffic restriction situations.

43. PRE-CONSTRUCTION CONFERENCE.

43.1 Following execution of the Agreement between the Unified Government and the Contractor, but prior to the date established in the Notice to Proceed for commencement of the Work, a pre-construction conference shall be held at a date, time, and place mutually acceptable to both parties to the Agreement unless otherwise waived by the Engineer/Architect. The conduct of the pre-construction conference is the responsibility of the Engineer/Architect and the prime purpose of the pre-construction conference will be to review the terms and conditions of the Contract Documents. Persons present at the pre-construction conference shall be determined by the Procurement Officer.

44. INTERRUPTION OF SERVICE.

44.1 When making preparations for making correction of the existing system or other work which will interrupt service to the utility users, the Contractor shall notify the affected users, stating the approximate time and duration of interruption of service. The Contractor shall notify the Unified Government authorities and the affected utility companies of any necessary interruption of service and shall limit such interruption to the duration mutually agreeable to all parties.

45. UTILITIES.

45.1 Location, size, material, and depth shown on the drawing for existing utilities are based on information furnished by the utility companies from their records. Actual field locations have not been established by the Unified Government or Engineer/Architect. The Contractor shall investigate and verify plan locations and elevation of underground utilities in the field before commencing Work. Should it become necessary to temporarily move, shift, or relocate utility lines for the construction of this Project, the Work shall be arranged and paid for by the Contractor. Should it become necessary to permanently relocate utility lines to allow room for construction of said lines

they shall be moved at no cost to the Contractor unless otherwise specified in the Special Conditions. The Contractor shall protect all railroad trackage, ties, ballast, utilities, and structures encountered on or adjacent to the line of Work; damage to these facilities caused by the Contractor's Work shall be made good to the owner thereof by the Contractor without incurring any liabilities to the Unified Government or Engineer/Architect.

46. ADDITIONAL COPIES OF PLANS AND SPECIFICATIONS.

46.1 The Unified Government will furnish the Contractor up to 4 sets of Plans and Specifications exclusive of those obtained for bidding. Additional sets will be furnished, upon request, at the cost of reproduction.

47. WORK ON RAILROAD AND HIGHWAY RIGHTS-OF-WAY.

47.1 Installation of casing pipe, pipelines, and appurtenances along or across railroad and highway rights-of-way, shall be made in strict accordance with the instructions and regulations of the respective railroad company, the Kansas Department of Transportation, and the Kansas Turnpike Authority. The cost of railroad, Kansas Department of Transportation, or Kansas Turnpike Authority inspectors and flagmen shall be borne by the Contractor. Performance Bonds and special insurance coverage required by the railroad, the Kansas Department of Transportation, and/or the Kansas Turnpike Authority shall be furnished by the Contractor at no additional cost to the Unified Government.

48. RECORDS.

48.1 The Contractor shall maintain one record copy of all Contract Documents at the site, in good order and annotated to show all changes made during the Work, including the location, size, and type of exposed improvements and the limits of incompressible soils (rock, shale, etc.). These records shall be available to the Engineer/Architect during progress of the Work and shall be delivered to the Engineer/Architect upon completion of the Project.

49. HISTORICAL OR ARCHAEOLOGICAL DEPOSITS.

49.1 If during the course of construction evidence of deposits of historical or archaeological interest is found, the Contractor shall cease operations affecting the find and shall notify the Unified Government who shall notify the Executive Director, Kansas Historical Society. No further disturbance of the deposits shall ensue until the Contractor has been notified by the Unified Government that he may proceed. The Unified Government will issue a Notice to Proceed only after the State official has surveyed the find and made a determination of value and effect and submitted such determination to the Unified

Government. Compensation to the Contractor, if any, for lost time or changes in construction to avoid the find shall be determined in accordance with the Price Adjustment Section. (Section 14 of General Conditions.)

50. FORTY (40) HOUR WEEK PROVISION.

50.1 Laborers, workmen or mechanics in the employ of the Contractor, Subcontractors or other persons doing or contracting to do the whole or a part of the work contemplated and described in these contract documents shall be paid wages at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty (40) hours in any workweek. The basic rate of pay shall not be less than the prevailing rate per hour, as provided elsewhere in these general conditions. A violation of this condition shall be a violation of that section of the Code Ordinances of the Unified Government of Wyandotte County/Kansas City, Kansas, that pertains to a forty (40) hour work week and shall be dealt with as provided for therein.

51. INTEREST PAYABLE ON CLAIMS.

51.1 Pursuant to Section 29-480 (Interest) of the Procurement Code, interest on amounts ultimately determined to be due to the Contractor shall be payable at the statutory rate applicable to judgments from the date the claim arose through the date of decisions or judgment, whichever is later.

52. MULTIPLE AWARDS.

52.1 The Unified Government reserves the right to make a multiple award when circumstances so require. Further, subsequent to award, the Unified Government reserves the right to take separate bids if particular quantity requirements arise which exceed its normal requirement or amount specified in the Contract Documents, or if the Procurement Officer determines that quantities available under the Contract Documents will not meet a nonrecurring special need of the Unified Government. The Unified Government also reserves the right to procure internally.

53. INACCURATE PRICING DATA.

53.1 These Contract Documents may require submission by the Contractor of current cost or pricing data in accordance with Section 29-200 of the Procurement Code. Such data will be required to be certified by the Contractor. Should the data certified by the Contractor subsequently found to have been inaccurate, incomplete, or noncurrent the Unified Government shall be entitled to an adjustment of the Contract Price, to exclude any significant sum by which the price was decreased because of the defective data. The price adjustment shall be done in accordance with Section 14 of these General Conditions.

54. PREVAILING WAGE RATE.

54.1 All construction projects in excess of \$15,000

shall be subject to the following provisions:

a. The Contractor and Subcontractors shall define the jobs of workmen, laborers, and craftsmen engaged in construction activities on this project by classifications listed in the United States Department of Labor General Wage Decision for Wyandotte County, Kansas. The Contractor and Subcontractors shall pay employees performing work on the job site at a rate not less than the current prevailing per diem wage rate applicable to each job classification, except as modified in 54.1 (b).

b. Apprentices and trainees registered in training programs approved by the Department of Labor, may be paid less, but not less than seventy percent (70%) of the applicable rate. Training certificate must accompany the weekly payroll reports.

c. Contractor shall submit weekly reports evidencing compliance. Each report shall be submitted no more than seven (7) days after the pay date which it documents; the reports shall be on a form approved by the Unified Government. No payments will be made unless weekly reports are current and approved by the Unified Government Construction Compliance Officer.

d. Unified Government Construction Compliance Officer will be contacting and interviewing all employees on the job site to assure compliance.

54.2 The prevailing per diem wage rate is the required wages and fringe benefits on federal and federally assisted construction projects as determined by the United State Department of Labor in the General Wage Decision for Wyandotte County, Kansas which is current and effective ten days prior to the bid date. Bidders may rely on the wage decision or modification distributed at the pre-bid conference.

55. REMOVAL OF EMPLOYEES.

55.1 All Work under these Contract Documents shall be performed in a skillful and workmanlike manner. The Engineer/Architect may, in writing, require Contractor to remove from the Work any employee or supervisory personnel the Engineer/Architect deems incompetent or otherwise objectionable.

56. NONDISCRIMINATION IN EMPLOYMENT. PROVISIONS MANDATED BY LOCAL, STATE AND FEDERAL GOVERNMENTS.

During the Performance of this contract, the Contractor agrees as follows:

56.1 The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, disability, sexual orientation, gender identity, national origin or ancestry. The Contractor will take affirmative action to ensure that applicants are employed, and that

employees are treated during employment, without regard to their race, religion, color, sex, age, disability, sexual orientation, gender identity, national origin or ancestry. Such action shall include, but not be limited, to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Unified Government setting forth the provisions of this non-discrimination clause.

56.2 The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex, age, disability, sexual orientation, gender identity, national origin or ancestry.

56.3 The Contractor will cause the foregoing provisions to be inserted in all subcontracts for any work covered by this Agreement so that such provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

56.4 The Contractor shall assure that it and all subcontractors will implement the certificate of compliance in connection with this Agreement.

56.5 It the Contractor shall fail, refuse, or neglect to comply with the terms of these contractual conditions, such failure shall be deemed a total breach of the Agreement and such Agreement may be terminated, canceled, or suspended, in whole or in part, and the Contractor may be declared ineligible for any further Unified Government contract for a period of up to one year. Provided that if an Agreement is terminated, canceled, or suspended for failure to comply with this section, the Contractor shall have no claims for damages against the Unified Government on account of such termination, cancellation, or suspension or declaration of ineligibility.

56.6 The Contractor shall assure that it is in compliance with and shall maintain sufficient records to document that, under all aspects of this Agreement, it has acted in a manner which is in full compliance with all applicable sections of the Equal Employment section of this contract and the following, as applicable: Title VI of the Civil Rights Act of 1964 (as amended) (42 USCS § 2000d et seq.); Title VII of the Civil Rights Act of 1964 (42 USCS §§ 2000e et seq.); Title VIII of the Civil Rights Act of 1968 (42 USCS § 3601 et seq.); the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101, and amendments thereto); the Kansas Acts Against Discrimination (KSA § 44-1001 et seq., and amendments thereto); Article XI of the Unified Government Procurement Code and Regulations, and amendments thereto; and Sections 18-137 through 18-139 of the Unified Government Code of Ordinances, and amendments thereto. Such

records shall at all times remain open to inspection by an individual designated by the Unified Government for such purpose.

56.7 The Contractor and the Unified Government, in carrying out this Agreement, shall also comply with all other applicable existing federal, state, and local laws relative to equal opportunity and nondiscrimination, all of which are incorporated by reference and made part of this Agreement.

56.8 The Contractor will be required to conform to Equal Employment Opportunity and Affirmative Action requirements prior to the execution of this Agreement.

57. REVISIONS TO STANDARD GENERAL CONDITIONS.

57.1 Modifications to these General Conditions, if any, are made in the Supplemental Conditions. The Supplemental Conditions may contain additional conditions that are not modifications of a General Condition.

GENERAL CONDITIONS INDEX

ACCESS FOR CITY AND OTHER CONTRACTORS, SEC 31.1, 12
ACCESS FOR INSPECTION, SEC 7.5, 5
ADDITIONAL EASEMENTS, CONTRACTOR'S RESPONSIBILITY, SEC 35.3, 14
ARCHAEOLOGICAL DEPOSITS, SEC 49.1, 15
AS-BUILTS, SEC 48.1, 15
ASSIGNMENT OR TRANSFER OF AGREEMENT, SEC 29.1, 12
BONDS, PERFORMANCE AND PAYMENT BONDS, SEC 28.1 & 28.2, 11
BUILDER'S RISK INSURANCE, SEC 27.7, 11
CHANGE ORDER DEFINED, SEC 1.6, 2
CHANGES IN THE WORK, SEC 13.1, 6
CITY TESTING RESPONSIBILITY, SEC 7.2.a, 4
CLAIMS BASED ON CITY'S ACTIONS, SEC 22.1, 9
CLAIMS FOR DIFFERING CONDITIONS, SEC 16.2 to 16.5, 7
CLAIMS BASED ON CHANGES IN THE WORK, SEC 13.2, 6
COMPLETE WORK, SEC 6.1, 4
CONFLICTS BETWEEN PARTS OF THE CONTRACT DOCUMENTS, SEC 4.3, 4
CONFLICTS WITH EXISTING UTILITIES, SEC 45.1, 15
CONSTRUCTION STAKING, SEC 10.1, 5
CONTRACT DOCUMENTS, ADDITIONAL COPIES, SEC 46.1, 15
CONTRACT FOR ENTIRE WORK, SEC 4.1, 3
CONTRACTOR TESTING RESPONSIBILITY, SEC 7.2.c, 5
CONTRACTOR'S SUPERVISION, SEC 12.1, 6
DIFFERING SITE CONDITIONS, SEC 16.1, 7
DISPUTE RESOLUTION, SEC 38.1, 14
DISPUTES, CONTRACTOR CONTINUES WORK DURING, SEC 38.4, 14
DISRUPTION OF SERVICE, SEC 44.1, 15
EEO REQUIREMENTS, SEC 56.1, 16
ENGINEER/ARCHITECT DEFINED, SEC 1.15, 2
ENGINEER/ARCHITECT MAY DIRECT SEQUENCE AND PHASING, SEC 33.2, 13
ENGINEER/ARCHITECT'S ADDITIONAL INSTRUCTIONS, SEC 2.1, 3
ENGINEER/ARCHITECT'S AUTHORITY, SEC 33.1, 13
EXPOSING COMPLETED WORK, SEC 7.6 & 7.7, 5
FINAL PAYMENT AS RELEASE, SEC 26.1, 11
FINAL PAYMENT, SEC 25.3, 10
FIRE INSURANCE, SEC 27.4, 11
FORTY HOUR WORK WEEK, SEC 50.1, 16
GENERAL LIABILITY INSURANCE, SEC 27.3, 11
GUARANTY PERIOD, SEC 37.1, 14
HIGHWAY RIGHT OF WAY, USE OF, SEC 47.1, 15
HOLIDAY AND WEEKEND WORK, SEC 41.1, 15
INDEMNIFICATION BY CONTRACTOR, SEC 30.1, 12
INDEMNIFICATION, NOT EXTENDING TO ENGINEER'S ACTIONS, SEC 30.3, 12
INSURANCE CERTIFICATES, SEC 27.2, 11
INSURANCE REQUIREMENTS, SEC 27.1, 11
INTEREST PAID ON CLAIMS, SEC 51.1, 16
INTERRUPTION OF SERVICE, SEC 44.1, 15
LABOR BOND, SEC 28.1, 11
LATENT CONDITIONS, PRICE ADJUSTMENT, SEC 16.1, 7
LICENSES, CONTRACTOR'S RESPONSIBILITY, SEC 36.1, 14
LIEN WAIVERS, SEC 25.4, 10
LIQUIDATED DAMAGES, SEC 24.1, 10
MATERIAL CERTIFICATIONS, SEC 6.10, 4
MATERIAL TRANSPORTATION AND INSTALLATION, SEC 6.4, 6.5 & 6.6, 4
MATERIALS, QUALITY OF, SEC 30.4, 12
MATERIALS, SERVICES AND FACILITIES, SEC 6.0, 4
MODIFICATIONS TO GENERAL CONDITIONS, SEC 57.1, 17
MULTIPLE AWARDS, SEC 52.1, 16
NONDISCRIMINATION IN EMPLOYMENT, SEC 56.1, 16
OR EQUAL SUBSTITUTIONS, SEC 8.1, 5
OVERTIME PAYMENT REQUIRED, SEC 50.1, 16
PAY ESTIMATES, SEC 25.1, 10
PAYMENT, FINAL, SEC 25.3, 10
PAYMENTS TO SUBCONTRACTORS, SEC 25.4, 10
PERFORMANCE BOND, SEC 28.1, 11
PERMITS, CONTRACTOR'S RESPONSIBILITY, SEC 36.1, 14
PRE-CONSTRUCTION CONFERENCE, SEC 43.1, 15
PREVAILING WAGE REQUIREMENTS, SEC 54.1, 16

PRICE ADJUSTMENTS, SEC 14.1, 6
PRICE DATA SUBMISSIONS, SEC 53.1, 16
PRICING DATA, SEC 14.2, 7
PROCESS AGENT FOR NON-RESIDENT CONTRACTORS, SEC 40.1, 15
PROGRESS SCHEDULES, SEC 3.2, 3
PROJECT REPRESENTATIVE, SEC 34.1 TO 34.7, 13
PROJECT TIME, SEC 17.1, 7
PROTECTION OF PROPERTY, SEC 11.1 & 11.2, 6
PUBLIC CONVENIENCE AND SAFETY, SEC 42.1, 15
RAILROAD RIGHT OF WAY, USE OF, SEC 47.1, 15
RECORD DRAWINGS, SEC 48.1, 15
REJECTED WORK, SEC 20.1, 8
REMOVAL AND CORRECTION OF REJECTED WORK, SEC 20.1, 8
REMOVAL OF EMPLOYEES, SEC 55.1, 16
RESPONSIBILITY FOR TESTING, SEC 7.2, 4
RIGHT OF WAY, CITY'S RESPONSIBILITY, SEC 35.1, 14
SCHEDULE OF VALUES, SEC 3.1, 3
SCHEDULING, ENGINEER/ARCHITECT'S RIGHT TO ADJUST, SEC 33.2, 13
SHOP DRAWINGS, SEC 5.0, 4
SITE SAFETY, SEC 11.1 & 11.2, 6
STREET CLOSURE NOTIFICATIONS, SEC 42.3, 15
SUBCONTRACTORS LIST REQUIRED, SEC 32.3 & 32.4, 12
SUBCONTRACTORS, CONTRACTORS RESPONSIBILITY FOR, SEC 32.6 & 32.7, 12
SUBCONTRACTORS, LIMIT ON AMOUNT OF WORK, SEC 32.2, 12
SUBCONTRACTORS, NO CITY CONTRACT WITH, SEC 32.8, 13
SUBSTANTIAL BREACH OF CONTRACT, SEC 19.1, 8
SUBSTANTIAL COMPLETION, USE OF FACILITY, SEC 25.2, 10
SUPERINTENDENT QUALIFICATIONS, SEC 12.1, 6
SUPERVISOR ACCEPTABLE TO CITY, SEC 55.1, 16
SUPPLEMENTAL GENERAL CONDITIONS, SEC 57.1, 17
SUSPENSION FOR CONVENIENCE, SEC 21.1, 8
TAX EXEMPTION CERTIFICATE, SEC 39.1, 14
TERMINATION FOR CONVENIENCE, SEC 23.1 to 23.4, 9
TERMINATION FOR DEFAULT, SEC 18.1 to 18.7, 7
TIME FOR COMPLETION, SEC 17.1, 7
TIME LIMIT FOR CLAIMS, SEC 13.4 & 13.5, 6
TIME LIMIT TO REMOVE REJECTED WORK, SEC 20.2, 8
TRAFFIC CONTROL, SEC 42.2, 15
UNCOVERING COMPLETED WORK, SEC 7.6 & 7.6, 5
USE OF FACILITY UPON SUBSTANTIAL COMPLETION, SEC 25.2, 10
UTILITY LOCATION CONFLICTS, SEC 45.1, 15
UTILITY LOCATION VERIFICATION, SEC 45.1, 15
UTILITY SERVICE INTERRUPTION, SEC 44.1, 15
VARIATIONS IN QUANTITIES, SEC 15.1, 7
WAGE RATES, SEC 54.1, 16
WARRANTEE PERIOD, SEC 37.1, 14
WARRANTEE, CITY'S RIGHTS, SEC 37.2, 14
WEEKEND AND HOLIDAY WORK, SEC 41.1, 15
WORKERS ACCEPTABLE TO CITY, SEC 55.1, 16
WORKER'S COMPENSATION INSURANCE, SEC 27.6, 11
WORKING DAY DEFINED, SEC 1.39, 3

EXHIBIT A – UNIFIED GOVERNMENT COST PRINCIPLES

Section 101.01 – Applicability of Cost Principles.

(1) Application.

- (a) The cost principles and procedures contained in this Exhibit shall be used to determine the allowability of incurred costs for the purpose of reimbursing costs under contract provisions which provide for the reimbursement of costs, provided that any deviation from these cost principles may be made as provided in Section 101.10, Authority to Deviate from Cost Principles, below.
- (b) The cost principles and procedures set forth in this Exhibit may be used as guidance in:
 - (i) the establishment of contract cost estimates and prices under contracts awarded on the basis on competitive sealed proposals where the award may not be based on adequate price competition; sole source procurement; competitive selection procedures; and architect, engineer, real estate appraisal, and land surveying services;
 - (ii) the establishment of price adjustments for contract changes including contracts that have been let on the basis of competitive sealed bidding or otherwise based on adequate price competition;
 - (iii) the pricing of termination for convenience settlements; and
 - (iv) any other situation in which cost analysis is used. Cost analysis is the evaluation of cost data for the purpose of arriving at costs actually incurred or estimates of costs to be incurred, prices to be paid, and costs to be reimbursed.

(2) Limitation. These cost principles regulations are not applicable to:

- (a) the establishment of prices under contracts awarded on the basis of competitive sealed bidding or otherwise based on adequate price competition rather than the analysis of individual, specified cost elements, except that this Exhibit does apply to the establishment of adjustments of price for changes made to such contracts;
- (b) prices which are fixed by law or regulation; and
- (c) prices which are based on established catalogue prices as defined in Section

29-1 of the Unified Government Procurement Code or established market prices.

Section 101.02 – Allowable Costs.

(1) General. Any contract cost proposed for estimating purposes or invoiced for cost-reimbursement purposes shall be allowable to the extent provided in the contract and, if inconsistent with these cost principles, approved as a deviation under Section 101.10, Authority to Deviate from Cost Principles, below. The contract shall provide that the total allowable cost of a contract is the sum of the allowable direct costs actually incurred in the performance of the contract in accordance with its terms, plus the properly allocable portion of the allowable indirect costs, less any applicable credits (such as discounts, rebates, refunds, and property disposal income).

(2) Accounting Consistency. All costs shall be accounted for in accordance with generally accepted accounting principles and in a manner that is consistent with the contractor's usual accounting practices in charging costs to its other activities. In pricing a proposal, a contractor shall estimate costs in a manner consistent with its cost accounting practices used in accumulating and reporting costs.

(3) When Allowable. The contract shall provide that costs shall be allowed to the extent they are:

- (a) reasonable, as defined in Section 101.03, Reasonable Costs, below;
- (b) allocable, as defined in Section 101.04, Allocable Costs, below;
- (c) lawful under any applicable law;
- (d) not unallowable under Section 101.05, Treatment of Specific Costs, or Section 101.06, Costs Requiring Prior Approval to Be Allowable as Direct Costs, below; and
- (e) in the case of costs invoiced for reimbursement, actually incurred or accrued and accounted for in accordance with generally accepted accounting principles.

Section 101.03 – Reasonable Costs.

Any cost is reasonable if, in its nature or amount, it does not exceed that which would be incurred by an ordinarily prudent person in the conduct of competitive business in that industry. In determining the reasonableness of a given cost, consideration shall be given to:

- (a) requirements, imposed by the contract terms and conditions;
- (b) whether the cost is of a type generally recognized as ordinary and necessary for the conduct of the contractor's business or the performance of the contract;

- (c) the restraints inherent in, and the requirements imposed by, such factors as generally accepted sound business practices, arms' length bargaining, and federal and State laws and regulations;
- (d) the action that a prudent business manager would take under the circumstances, including general public policy and considering responsibilities to the owners of the business, employees, customers, and the Unified Government;
- (e) significant deviations from the contractor's established practices which may unjustifiably increase the contract costs; and
- (f) any other relevant circumstances.

Section 101.04 – Allocable Costs.

(1) General. A cost is allocable if it is assignable or chargeable to one or more cost objectives in accordance with relative benefits received and if it:

- (a) is incurred specifically for the contract;
- (b) benefits both the contract and other work, and can be distributed to both in reasonable proportion to the benefits received; or
- (c) is necessary to the overall operation of the business, although a direct relationship to any particular cost objective may not be evident.

(2) Allocation Consistency. Costs are allocable as direct or indirect costs. Similar costs (those incurred for the same purpose, in like circumstances) shall be treated consistently either as direct costs or indirect costs except as provided by these regulations. When a cost is treated as a direct cost in respect to one cost objective, it and all similar costs shall be treated as a direct cost for all cost objectives. Further, all costs similar to those included in any indirect cost pool shall be treated as indirect costs. All distributions to cost objectives from a cost pool shall be on the same basis.

(3) Direct Costs. A direct cost is any cost which can be identified specifically with a particular final cost objective. A direct cost shall be allocated only to its specific cost objective. To be allowable, a direct cost must be incurred in accordance with the terms of the contract.

(4) Indirect Costs.

- (a) An indirect cost is one identified with no specific final cost objective or with more than one final cost objective. Indirect costs are those remaining to be allocated to the several final cost objectives after direct costs have been determined and charged directly to the contract or other work as appropriate.

Any direct costs of minor dollar amount may be treated as indirect costs, provided that such treatment produces substantially the same results as treating the cost as a direct cost.

- (b) Indirect costs shall be accumulated into logical cost groups (or pools), with consideration of the reasons for incurring the costs. Each group should be distributed to cost objectives benefiting from the costs in the group. Each indirect cost group shall be distributed to the cost objectives substantially in proportion to the benefits received by the cost objectives. The number and composition of the groups and the method of distribution should not unduly complicate indirect cost allocation where substantially the same results could be achieved through less precise methods.
- (c) The contractor's method of distribution may require examination when:
 - (i) any substantial difference exists between the cost patterns of the work performed under the contract and the contractor's other work;
 - (ii) any significant change occurs in the nature of the business, the extent of subcontracting, fixed asset improvement programs, inventories, the volume of sales and production, manufacturing processes, the contractor's products, or other relevant circumstances; or
 - (iii) indirect cost groups developed for a contractor's primary location are applied to off-site locations. Separate cost groups for costs allocable to off-site locations may be necessary to distribute the contractor's costs on the basis of the benefits accruing to the appropriate cost objectives.
- (d) The base period for indirect cost allocation is the one in which such costs are incurred and accumulated for distribution to work performed in that period. Normally, the base period is the contractor's fiscal year. A different base period may be appropriate under unusual circumstances. In such cases, an appropriate period should be agreed to in advance.

Section 101.05 – Treatment of Specific Costs.

(1) Advertising.

- (a) Advertising costs are those incurred in using any advertising media when the advertiser has control over the form and content of what will appear, the media in which it will appear, or when it will appear. Advertising media include

newspapers, magazines, radio, television, direct mail, trade papers, billboards, window displays, conventions, exhibits, free samples, and the like. All advertising costs except those set forth in Subsection (1)(b) of this Section are unallowable.

- (b) The only allowable advertising costs are those for:
 - (i) the recruitment of personnel;
 - (ii) the procurement of scarce items;
 - (iii) the disposal or scrap or surplus materials; and
 - (iv) the listing of a business's name and location in a classified directory.

COMMENTARY:

Advertising costs are unallowable because government sales are generated by soliciting specific offers for specific requirements - the Unified Government is not subject to impulse buying - and the advertising costs other than for those purposes set forth in Subsection (1)(b) are not allocable to Unified Government contracts.

(2) Bad Debts. Bad debts include losses arising from uncollectible accounts and other claims, such as dishonored checks, uncollected employee advances, and related collection and legal costs. All bad debt costs are unallowable.

COMMENTARY:

Bad debts are unallowable because these costs are not allocable to government contracts. When the nature of the work performed under a cost-reimbursement type contract requires the contractor to deal with third parties in a way which may generate bad debts, a deviation from this Subsection may be appropriate.

(3) Contingencies.

- (a) Contingency costs are contributions to a reserve account for unforeseen costs. Such contingency costs are unallowable except as provided in Subsection (3)(b) of this Section.
- (b) For the purpose of establishing a contract cost estimate or price in advance of performance of the contract, recognition of uncertainties within a reasonably anticipated range of costs may be required and is not prohibited by this Subsection. However, where contract clauses are present which serve to remove risks from the contractor, there shall not be included in the contract price a contingency factor for

such risks. Further, contributions to a reserve for self-insurance in lieu of, and not in excess of, commercially available liability insurance premiums are allowable as an indirect charge.

COMMENTARY:

Contingency costs are unallowable because they are speculative in nature and represent a mere risk rather than an actual incurred cost. Realistic risks are recognized properly in both the selection of the type of contract used and the amount of profit or fee paid, but are not considered to be a cost for the purpose of cost-reimbursement. In estimating future costs, reasonable amounts may be recognized as necessary to cover realistic foreseeable uncertainties, such as inflation and spoilage. However, unsupported general contingencies are not allowable.

(4) Depreciation and Use Allowances.

- (a) Depreciation and use allowances, that is, the allowance made for fully depreciated assets, are allowable to compensate contractors for the use of buildings, capital improvements, and equipment or for the provision of such facilities on a standby basis for subsequent use when such facilities are temporarily idle because of suspensions or delays not caused by the contractor, not reasonably foreseeable, and not otherwise avoidable when the contract was awarded. Depreciation is a method of allocating the acquisition cost of an asset to periods of its useful life. Useful life refers to the asset's period of economic usefulness in the particular contractor's operation as distinguished from its physical life. Use allowances provide compensation in lieu of depreciation or other equivalent costs. Consequently, these two methods may not be combined to compensate contractors for the use of any one type of property.
- (b) The computation of depreciation or use allowance shall be based on acquisition costs. When the acquisition costs are unknown, reasonable estimates may be used.
- (c) Depreciation shall be computed using any generally accepted method, provided that the method is consistently applied and results in equitable charges considering the use of the property. The straight-line method of depreciation is preferred unless the circumstances warrant some other method. However, the Unified Government will accept any method which is accepted by the Internal Revenue Service.
- (d) In order to compensate the contractor for use of depreciated, contractor-owned property which has been fully depreciated on the contractor's books and records and is being used in the performance of a contract, use allowances may be allowed as a cost of that contract. Use allowances are allowable, provided that they are computed in

accordance with an established industry or government schedule or other method mutually agreed upon by the parties. If a schedule is not used, factors to consider in establishing the allowance are the original cost, remaining estimated useful life, the reasonable fair market value, and the effect of any increased maintenance or decreased efficiency.

COMMENTARY:

When it is economical for contractors to continue using fully depreciated property and equipment, they should be encouraged to do so. Failure to allow contractors to charge Unified Government contracts with costs for the use of such property and equipment could serve to encourage wasteful scrapping and disposal and the incurrence of administrative and rental costs in excess of the otherwise allowable use allowance.

(5) Entertainment.

- (a) Entertainment costs include costs of amusements, social activities, and incidental costs relating thereto, such as meals, beverages, lodging, transportation, and gratuities. Entertainment costs are unallowable.
- (b) Nothing herein shall make unallowable a legitimate expense for employee morale, health, welfare, food service, or lodging costs; except that, where a net profit is generated by such services, it shall be treated as a credit as provided in Section 101.07, Applicable Credits, below. This Section shall not make unallowable costs incurred for meetings or conferences, including, but not limited to, costs of food, rental facilities, and transportation where the primary purpose of incurring such cost is the dissemination of technical information or the stimulation of production.

COMMENTARY:

Entertainment costs are not allocable to Unified Government contracts, and thus are unallowable because:

- (a) like advertising, they are not necessary to obtain Unified Government contracts;
- (b) like contributions and donations, entertainment costs would constitute an improper disposition of tax revenues;
- (c) acceptance of entertainment from a contractor by a Unified Government employee may be unethical and might constitute an apparent conflict of interest under Article XII of the Unified Government Procurement Code, Ethics in Public Contracting; and

(d) from a public policy point of view, it would be unacceptable to use Unified Government money to pay for a contractor's entertainment or gifts. Reasonable costs of business conferences and activities designed to maintain employee morale are not considered entertainment costs within the meaning of this Subsection.

(6) Fines and Penalties. Fines and penalties include all costs incurred as the result of violations of, or failure to comply with, federal, State, and local laws and regulations. Fines and penalties are unallowable costs unless incurred as a direct result of compliance with specific provisions of the contract or written instructions of the Procurement Officer. To the extent that worker's compensation is considered by State law to constitute a fine or penalty, it shall not be an unallowable cost under this Subsection.

COMMENTARY:

Fines and penalties are unallowable because incurrence of the costs is not a reasonably necessary cost of doing business. Furthermore, allowing these costs would be contrary to good public policy.

(7) Gifts, Contributions, and Donations. A gift is property transferred to another person without the other person providing return consideration of equivalent value. Reasonable costs for employee morale, health, welfare, food services, or lodging are not gifts and are allowable. Contributions and donations are property transferred to a nonprofit institution which are not transferred in exchange for supplies or services of equivalent fair market value rendered by a nonprofit institution. Gifts, contributions, and donations are unallowable.

COMMENTARY:

Contributions and donations are unallowable because allowing these costs would amount to an improper disposition of tax revenues by making a payment from the Unified Government treasury to an institution or activity selected by a single private taxpayer, without the consent of the taxpaying public or its elected representatives. Therefore, allowing these costs would be contrary to good public policy. An exception is provided for the bona fide purchase of supplies or services rendered by nonprofit, volunteer organizations.

(8) Interest Costs.

(a) Interest is generally an unallowable cost for purposes of determining the original contract price. Compensation for any interest expense incurred in connection with work originally contemplated under the contract will be deemed to be included in the fee or profit negotiated on the contract.

- (b) Imputed interest on a contractor's expenditures made to pay allowable costs which are allocable to the performance of work required by change orders, suspension of work, or other acts of the Unified Government requiring additional work over and above that required by the original contract (hereinafter called "Additional Work") shall be an allowable cost. Imputed interest is an allowable cost in relation to such Additional Work in a negotiated settlement, if one can be agreed upon or to the extent that it is determined administratively or judicially that the Unified Government is liable for such Additional Work. Such imputed interest shall be computed on expenditures from the date or dates on which the contractor made expenditures for the performance of such Additional Work until the date of payment therefor by the Unified Government. The rate of interest shall be the prevailing prime rate charged by banks in this Unified Government as determined by the Unified Government Auditor, at the time or times the contractor made such expenditures for Additional Work. Imputed interest on the costs of Additional Work shall not be allowable to the extent that it is otherwise recovered as profit, fee, or as interest on contractor claims pursuant to Section 29-480, Interest, of the Unified Government Procurement Code.

COMMENTARY:

(1) Interest cost is unallowable because dividends are unallowable. The payment of both interest and dividends is necessary to raise capital to finance contract performance (dividends for equity capital; interest for borrowed capital). Dividends are properly considered a distribution of profit and thus are not allowed as charges against contracts. To allow interest but not dividends would be an unfair bias in favor of borrowed capital over equity capital. Thus fairness dictates that interest not be allowed as costs charged against contracts. However, both interest and dividends are deemed to be included in the fee or profit negotiated on the contract.

(2) However, when the contractor is directed to perform additional work over and above that required by the original contract, and for which the Unified Government is liable, the costs of financing such additional work should be reimbursed. Thus Subsection (8)(b) provides for the recognition of imputed interest on expenditures for allowable costs allocable to the performance of such additional work. If provision for such expenditures is made in a settlement, imputed interest should be included. In addition, if the liability of the Unified Government for such work is established administratively or judicially, imputed interest on such expenditures is an allowable cost. Such an allowance recognizes the real cost of financing such additional work without differentiating unfairly between borrowed and equity capital. It should also be noted that by limiting the base to which imputed interest is applied to expenditures for allowable costs allocable to additional work,

the computation of such interest is not unduly complicated. In addition, imputed interest should not be recovered to the extent it is otherwise recovered as profit or fee.

(9) Losses Incurred Under Other Contracts. A loss is the excess of costs over income earned under a particular contract. Losses may include both direct and indirect costs. A loss incurred under one contract may not be charged to any other contract.

COMMENTARY:

Losses incurred on other contracts or jobs of any nature are unallowable because each contract is a separate agreement and the allowable costs must stand by themselves on their own merits as reasonable, necessary, and allocable to the performance of each contract.

(10) Material Costs.

- (a) Material costs are the costs of all supplies, including raw materials, parts, and components (whether acquired by purchase from an outside source or acquired by transfer from any division, subsidiary, or affiliate under the common control of the contractor), which are acquired in order to perform the contract. Material costs are allowable, subject to Subsection (10)(b) and Subsection (10)(c) of this Section. In determining material costs, consideration shall be given to reasonable spoilage, reasonable inventory losses, and reasonable overages.
- (b) Material costs shall include adjustments for all available discounts, refunds, rebates, and allowances which the contractor reasonably should take under the circumstances, and for credits for proceeds the contractor received or reasonably should receive from salvage and material returned to suppliers.
- (c) Allowance for all materials transferred from any division (including the division performing the contract), subsidiary, or affiliate under the common control of the contractor shall be made on the basis of costs incurred by the transferor (determined in accordance with this Exhibit), except the transfer may be made at the established price provided that the price of materials is not determined to be unreasonable by the Procurement Officer, the price is not higher than the transferor's current sales price to its most favored customer for a like quantity under similar payment and delivery conditions, and the price is established either:
 - (i) by the established catalogue price, as defined in as defined in Section 29-1 of the Unified Government Procurement Code; or
 - (ii) by the lowest price offer obtained as a result of competitive sealed bidding or

competitive sealed proposals conducted with other businesses that normally produce the item in similar quantities.

(11) Taxes.

- (a) Except as limited in Subsection (11)(b) of this Section, all allocable taxes which the contractor is required to pay and which are paid and accrued in accordance with generally accepted accounting principles are allowable.
- (b) The following costs are unallowable:
 - (i) federal and State income taxes and federal excess profit taxes;
 - (ii) all taxes from which the contractor could have obtained an exemption, but failed to do so, except where the administrative cost of obtaining the exemption would have exceeded the tax savings realized from the exemption;
 - (iii) any interest, fines, or penalties paid on delinquent taxes unless incurred at the written direction of the Procurement Officer; and
 - (iv) income tax accruals designed to account for the tax effects of differences between taxable income and pretax income as reflected by the contractor's books of account and financial statements.
- (c) Any refund of taxes which were allowed as a direct cost under the contract shall be credited to the contract. Any refund of taxes which were allowed as an indirect cost under a contract shall be credited to the indirect cost group applicable to any contracts being priced or costs being reimbursed during the period in which the refund is made.
- (d) Direct government charges for services, such as water, or capital improvements, such as sidewalks, are not considered taxes and are allowable costs.

COMMENTARY:

Income taxes are levied on taxable income, which is total income less costs. As such, income taxes are considered to be a distribution of profit and are not allowable as a cost. To allow income taxes as a cost would have the inequitable result of paying higher prices to highly profitable contractors and lower prices to contractors who make little or no profit - and higher prices to a single contractor in a highly profitable year and lower prices in an unprofitable year. Further, the higher prices paid by treating income taxes as an allowable cost would result in higher income and higher income taxes, which in turn would generate higher allowable costs and give rise to still higher prices, and so on to infinity; thus, treating income taxes as an allowable cost simply is impracticable.

Section 101.06 – Costs Requiring Prior Approval to be Allowable as Direct Costs.

(1) General. The costs described in Subsections (2) through (5) of this Section are allowable as direct costs to cost-reimbursement type contracts to the extent that they have been approved in advance by the Procurement Officer. In other situations, the allowability of these costs shall be determined in accordance with general standards set out in these cost principles.

COMMENTARY:

Some discretionary expenditures, incurred without the benefit of competitive pressure under cost-reimbursement type contracts, can give rise to very serious and difficult questions of reasonableness and allocability. Thus specific advance approval by the Procurement Officer is required in order for these costs to be allowed.

(2) Pre-Contract Costs. Pre-contract costs are those incurred in anticipation of and prior to, the effective date of the contract. Such costs are allowable to the extent that they would have been allowable if incurred after the date of the contract; provided that, in the case of a cost-reimbursement type contract a special provision must be inserted in the contract setting forth the period of time and maximum amount of cost which will be covered as allowable pre-contract costs.

COMMENTARY:

Normally, only costs incurred under a cost-reimbursement contract for actions taken within the contract period are allowable. Costs incurred for actions prior to or after the period covered by the contract may be considered to be legally not allocable to the contract. In order to extend the contract period to cover actions taken prior to the date of contract execution, a special provision setting forth the limits of this extension is required.

(3) Bid and Proposal Costs. Bid and proposal costs are the costs incurred in preparing, submitting, and supporting bids and proposals. Reasonable ordinary bid and proposal costs are allowable as indirect costs in accordance with these cost principles regulations. Bid and proposal costs are allowable as direct costs only to the extent that they are specifically permitted by a provision of the contract or solicitation document. Where bid and proposal costs are allowable as direct costs, to avoid double accounting, the same bid and proposal costs shall not be charged as indirect costs.

COMMENTARY:

When bids and proposals are used for market development purposes, the cost of preparing these bids and proposals are closely related to advertising costs.

(4) Insurance.

(a) Ordinary and necessary insurance costs are normally allowable as indirect costs.

Direct insurance costs are the cost of obtaining insurance in connection with performance of the contract or contributions to a reserve account for the purpose of self-insurance. Self-insurance contributions are allowable only to the extent of the cost to the contractor to obtain similar insurance.

- (b) Insurance costs may be approved as a direct cost only if the insurance is specifically required for the performance of the contract.
- (c) Actual losses which should reasonably have been covered by permissible insurance or were expressly covered by self-insurance are unallowable unless the parties expressly agree otherwise in the terms of the contract.

(5) Litigation Costs. Litigation costs include all filing fees, legal fees, expert witness fees, and all other costs involved in litigating claims in court or before an administrative board. Litigation costs incident to the contract are allowable as indirect costs in accordance with these cost principles regulations except that costs incurred in litigation by or against the Unified Government are unallowable.

COMMENTARY:

Costs of litigating claims generally are unallowable because they are properly allocable to the claim and not to the performance of the contract. Further, allowing costs incurred in the litigation of unsuccessful claims would encourage needless litigation, which is contrary to public policy. These costs may be awarded to successful claimants only at the discretion of the court or the administrative board which hears the claim. This does not preclude the allowance of reasonable indirect costs for legal counsel, incurred on a regular basis whether provided by employees or outside counsel.

Section 101.07 – Applicable Credits.

(1) Definitions and Examples. Applicable credits are receipts or price reductions which offset or reduce expenditures allocable to contracts as direct or indirect costs. Examples include purchase discounts, rebates, allowances, recoveries or indemnification for losses, sale of scrap and surplus equipment and materials, adjustments for overpayments or erroneous charges, and income from employee recreational or incidental services and food sales.

(2) Reducing Costs. Credits shall be applied to reduce related direct or indirect costs.

(3) Refund. The Unified Government shall be entitled to a cash refund if the related expenditures have been paid to the contractor under a cost-reimbursement type contract.

Section 101.08 – Advance Agreements.

(1) Purpose. Both the Unified Government and the contractor should seek to avoid disputes and

litigation arising from potential problems by providing in the terms of the solicitation and the contract the treatment to be accorded special or unusual costs which are expected to be incurred.

(2) Form Required. Advance agreements may be negotiated either before or after contract award, depending upon when the parties realize the cost may be incurred, but shall be negotiated before a significant portion of the cost covered by the agreement has been incurred. Advance agreements shall be in writing, executed by both contracting parties, and incorporated in the contract.

(3) Limitation on Costs Covered. An advance agreement shall not provide for any treatment of costs inconsistent with these cost principles regulations unless a determination has been made pursuant to Section 101.10, Authority to Deviate from Cost Principles, below.

Section 101.09 – Use of Federal Cost Principles.

(1) Cost Negotiations. In dealing with contractors operating according to federal costs principles, such as Defense Acquisition Regulations, Section 15, or Federal Procurement Regulations, Part 1-15, the Procurement Officer, after notifying the contractor, may use the federal cost principles as guidance in contract negotiations, subject to Subsection (2) of this Section.

(2) Incorporation of Federal Cost Principles; Conflicts Between Federal Principles and this Exhibit. All requirements set forth in federal assistance instruments applicable to contracts let by the Unified Government under a federal assistance program must be satisfied. Therefore, to the extent that the cost principles which are specified in the assistance instrument conflict with the cost principles herein contained, the former shall control.

Section 101.10 – Authority to Deviate from Cost Principles.

When the best interest of the Unified Government would be served by a deviation, the Procurement Officer may deviate from the cost principles set forth in these regulations; provided that a written determination shall be made by such officer specifying the reasons for the deviation. A copy of such determination shall be filed promptly with the Purchasing Director and such determination shall be effective only upon approval by the Purchasing Director and upon incorporation into the contract. However, all costs must be reasonable, lawful, allocable, and accounted for in accordance with generally accepted accounting principles to be reimbursed, and a deviation shall not contravene this principle.

OTHER FORMS

UNIFIED GOVERNMENT OF WYANDOTTE COUNTY/KANSAS CITY, KANSAS

B I D FORM

To: The Unified Government of Wyandotte County/Kansas City, Kansas

Proposal of _____
(hereinafter called "Bidder") organized and existing under the laws of the State of

_____, doing business as _____

1. In compliance with the Invitation for Bids, the undersigned Bidder hereby proposes to furnish all material, tools, labor, and equipment and to perform all Work necessary to construct and complete the Project known as:

**Project Name: Bid B41516, Kensington Park
Improvements Project ID: PRJ2077**

in strict accordance with the Contract Documents, within the time set forth herein, and at the prices stated herein.

2. By submission of this Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies, as to his own organization, that:
 - A. The price submitted is independently arrived at without collusion.
 - B. The bidder has not knowingly influenced and promises that it will not knowingly influence a Unified Government employee or former Unified Government employee to breach any of the ethical standards set forth in Article 12 (Ethics in Public Contracting) of the Unified Government's Procurement Code.
 - C. The Bidder has not violated, is not violating, and promises that it will not violate the prohibition against gratuities and kickbacks set forth in Section 29-635 of the Procurement Code.
 - D. The Bidder represents that it has not retained and will not retain a person to solicit or secure a Unified Government contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies for the purpose of securing business.
3. Bidder hereby agrees to complete all Work and to fully complete the Project within ninety (90) days from the date specified in the Notice to Proceed.

4. Bidder acknowledges receipt of the following Amendment(s):

5. Bidder agrees to furnish all materials, labor, tools, equipment and perform all the Work described in the Contract Documents for the following prices:

Base Bid: _____ \$ _____
Bid Alternate No. 1: _____ \$ _____

Respectfully submitted,

By _____
Signature

Date

SEAL

Title

Bidder's form of business is:

Attest _____
(Corporations only)

_____ An INDIVIDUAL,
residing in the State of _____

Business Address

_____ A PARTNERSHIP,
organized in the State of _____

License Number (if applicable)

_____ A CORPORATION,
incorporated in the State of _____

BID BOND

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS:

THAT WE, _____,
(Name of Contractor)

as Principal, and _____,
(Name of Surety Company)

a corporation duly organized under the laws of the State of _____, and authorized to do business in Kansas as Surety, are held and firmly bound unto the Unified Government of Wyandotte County/Kansas City, Kansas for the sum of _____

Dollars (\$_____), for the payment of which sum well and truly to be made, the said Principal and the said Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for:

**Project Name: Bid B41516, Kensington Park
Improvements Project ID: PRJ2077**

NOW, THEREFORE, if the Unified Government shall accept the bid of the Principal, and the Principal shall enter into a Contract with the Unified Government in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such contract and give such bond or bonds, if the Principal shall pay to the Unified Government the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Unified Government may in good faith contract with another party to perform work covered by said bid and such larger amount for which the Unified Government may in good faith contract with another party to perform work covered by said bid or an appropriate liquidated amount as specified in the Invitation for Bids then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this _ day of _____, 20____.

CONTRACTOR:

SURETY:

(Name of Contractor)

(Name of Surety)

(Seal)

(Seal)

By _____

By _____

(Name)

(Name)

(Title)

Attorney in Fact

(Witness)

(Witness)

Approved:

(Chief Counsel)

**LABOR AND MATERIAL
PAYMENT BOND**

*Note to Clerk of the District Court, Wyandotte County, Kansas:
Please enter date filed and furnish case number.*

Case No. _____

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS:

THAT WE,

(Name of Contractor)

as Principal, and

(Name of Surety Company)

a corporation duly organized under the laws of the State of _____, and authorized to do business in Kansas, as Surety, are held and firmly bound unto the State of Kansas, as Obligee hereinafter called State, for the use and benefit of claimants as hereinafter defined, in the amount of _____

Dollars (\$ _____), for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated _____, 20____, entered into a contract with Unified Government of Wyandotte County/Kansas City, Kansas, for

**Project Name: Bid B41516, Kensington Park
Improvements Project I.D.: PRJ2077**

in accordance with drawings and specifications prepared by **BBN Architects**, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, if the said Principal or the sub-contractor or sub-contractors of said Principal shall pay all indebtedness incurred for supplies, materials, or labor furnished, or equipment used or consumed in connection with or in or about the construction or making of the above-described improvements, this obligation shall be void; otherwise, it shall remain in full force and effect.

Signed and sealed this _____ day of _____, 20____.

CONTRACTOR:

SURETY:

(Name of Contractor)

(Name of Surety)

(Seal)

(Seal)

By _____

By _____

(Name)

(Name)

(Title)

Attorney in Fact

(Witness)

(Witness)

Approved:

(Assistant U.G. Attorney)

PERFORMANCE BOND

Filing of this bond with the Clerk of the District Court is not a contract requirement

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS:

THAT WE,

(Name of Contractor)

as Principal referred to herein as Contractor, and

(Name of Surety Company)

a corporation duly organized under the laws of the State of _____, and authorized to do business in Kansas, as Surety, are held and firmly bound unto the Unified Government of Wyandotte County/Kansas City, Kansas, as Obligee, in the amount of _____

Dollars (\$ _____), for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____, 20____, entered into a contract with the Unified Government of Wyandotte County/Kansas City, Kansas for

**Project Name: Bid B41516, Kensington Park
Improvements Project I.D.: PRJ2077**

in accordance with drawings and specifications prepared by **BBN Architects**, which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract then this obligation shall be null and void; otherwise it shall remain in full force and effect. The Surety hereby waives notice of any alteration or extension of time made by the Unified Government and its obligation is not affected by any such alteration or extension provided the same is within the scope of the Contract. Whenever Contractor shall be, and is declared by Unified Government to be in default under the Contract, the Unified Government having performed Unified Government's obligations thereunder, the Surety may promptly remedy the default or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions; or

- (2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the Unified Government and the Surety jointly of the lowest responsive, responsible bidder, arrange for a contract between such bidder and the Unified Government, and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completions arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean total amount payable by Unified Government to Contractor under the Contract and any amendments thereto, less the amount properly paid by Unified Government to Contractor. No right of action shall accrue on this bond to or for the use of any person or corporation other than the Unified Government or successors of the Unified Government.

Signed and sealed this _____ day of _____, 20__

CONTRACTOR:

SURETY:

(Name of Contractor)

(Name of Surety)

(Seal)

(Seal)

By _____

By _____

(Name)

(Name)

(Title)

Attorney in Fact

(Witness)

(Witness)

Approved:

(Assistant U.G. Attorney)

**UNIFIED GOVERNMENT OF WYANDOTTE COUNTY/KANSAS CITY, KANSAS
APPOINTMENT OF PROCESS AGENT FORM**

_____, as CONTRACTOR, having entered into written agreement, dated _____, 20____, for construction of certain public work described as

**Project Name: Bid B41516, Kensington Park
Improvements Project ID: PRJ2077**

does hereby appoint _____,

whose address is _____,

Kansas, as process agent, in compliance with the requisites of Section 16-113, General Statutes of Kansas as amended, 1980.

Duly executed this _____ day of _____, 20_____.

Contractor _____

By _____

Title _____

Processing instructions:

1. *A Contractor who is doing business as an individual, a partnership, or an unincorporated association and who is not a resident of the State of Kansas shall execute this document.*
2. *Contractor shall file one copy of this document with the Clerk of the District Court of Wyandotte County, and one copy with the City's contracting agency.*
3. *Pursuant to paragraph 15 of the Instructions to Bidders a contract will not be executed until this form is completed and filed.*

FOREIGN CORPORATION RESIDENT AGENT DESIGNATION

Contractor is a corporation, and is not incorporated in the State of Kansas. Contractor must be authorized to do business in the State of Kansas in accordance with K.S.A. 17-7302 *et seq.* Contractor designates below a resident agent in the State of Kansas as required by K.S.A. 17-7925 and 17-7302, and as specified elsewhere herein.

Resident Agent

Name and Address

Processing instructions:

1. *A Contractor who is a corporation and is not incorporated in the State of Kansas shall execute this document.*
2. *Contractor shall file one copy of this document with the City's contracting agency.*
3. *Pursuant to paragraph 15 of the Instructions to Bidders a contract will not be executed until this form is completed and filed.*

RELATIONS BETWEEN CONTRACTOR AND LABOR

The Contractor shall make a good faith effort to employ local labor within the Kansas City, Kansas Area insofar as it is available, for all work, except key positions. For purposes of this subparagraph, "local labor" is defined as resident of the Kansas City, Kansas Area for three (3) months next preceding the letting of this contract. "Key Position" is defined as superintendent, foreman, or timekeeper. If local labor is not available in sufficient quantities within the Kansas City, Kansas Area to prosecute and complete the work sufficiently, the Contractor may recruit labor from outside the area, only after he or she has satisfied the Engineer that a good faith attempt has been made to recruit local labor and only with the permission of the Engineer. It shall be understood that in the event of a reduction in labor force, preference will automatically be given to local residents of the Kansas City, Kansas Area.

COPELAND ANTI-KICKBACK ACT

The contractor and all subcontractors shall comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR, Part 3). This Act provides that each contractor or subgrantee shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled.

TECHNICAL PROVISIONS

TECHNICAL PROVISIONS

A separate volume titled "Technical Provisions and Standard Drawings for Roads and Sewers", prepared by the Engineering Division, Public Works Department, Kansas City, Kansas contains technical provisions applicable to this job and are hereby included by reference. The latest edition of the Technical Provisions can be found at the Wyandotte County Website -www.wycokck.org- under Departments pull down menu under Public Works. The revision posted at the time of the pre-bid conference shall apply.

**DRAWINGS
(SEPARATE)**

SECTION 00 01 00 – TABLE OF CONTENTS

GENERAL INFORMATION

SECTION 000100 TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 012300 ALTERNATES

FACILITY CONSTRUCTION SUBGROUP

DIVISION 05 – METALS

SECTION 055213 PIPE AND TUB RAILINGS

DIVISION 07- THERMAL AND MOISTURE PROTECTION

SECTION 079200 JOINT SEALANTS

SITE AND INFRASTRUCTURE SUBGROUP

DIVISION 31- EARTHWORK

SECTION 311000 SITE CLEARING

SECTION 312000 EARTH MOVING

DIVISION 32- EXTERIOR IMPROVEMENTS

SECTION 321313 CONCRETE PAVING

SECTION 323113 CHAIN LINK FENCES AND GATES

SECTION 328400 PLANTING IRRIGATION

SECTION 329113 SOIL PREPARATION

SECTION 329200 TURF AND GRASSES

SECTION 01 23 00 - ALTERNATES**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes administrative and procedural requirements for Alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Ensure that the Bid Form clearly states that costs listed for each alternate include costs of related coordination, revision, or adjustment.
- B. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- C. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- D. Execute accepted alternates under the same conditions as other work of the Contract.
- E. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.
- F. Submit bids on Bid Form, for each Alternate listed in this Section for their respective classification of Work. The amount of each Alternate shall be stated in the dollar amount to be

added or deducted from the Base Bid or no change in price, as the case may be in the event the Owner elects to accept the Alternate.

- G. Reference made to Project Manual Section numbers and Drawing sheet numbers in the Schedule of Alternates in this Section shall be used as a guide only. Bidder shall be responsible for determining the Work affected by individual Alternates.
- H. Coordination: Coordinate related Work and modify or adjust affected adjacent Work as necessary to completely integrate the Work of each accepted Alternate into Project.
 - 1. Include as part of each Alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of Alternate.
- I. Execute accepted Alternates under the same conditions as other Work of the Contract.
- J. Any bid alternates that are accepted will be done consecutively, starting with Bid Alternate #1, due to the inherent technical requirements of the bid alternates.

1.4 CHANGES TO CONTRACT SUM AND CONTRACT TIME

- A. Alternate prices shall not increase by change in material prices, wage rates, or other escalatory factors.
 - 1. Alternate prices are all inclusive, including labor, material, supervision, tools, equipment, taxes, overhead, profit, and other things necessary for the completion of the Work associated with the Alternate.
- B. Owner reserves the right to reject all Alternates or accept any Alternates in any order or combination and to determine the low bidder for each classification of Work on the basis of the sum of the Base Bid and the accepted Alternates.
- C. Accepted Alternates will be identified in the Owner-Contractor Agreement.
- D. Alternate prices shall be submitted under a condition of irrevocability for the entire Contract Time
- E. No increase in contract time will be accepted for any or all the Alternates.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1 - Provide and install the proposed concrete pad, fencing, gate, and associated grading for the electrical equipment by others as shown on Sheets L101 & L102

END OF SECTION 01 23 00

SECTION 055213 - PIPE AND TUBE RAILINGS**PART 1 - GENERAL**

1.1 SUMMARY

A. Section Includes:

1. Steel railings.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Non-shrink, nonmetallic grout.
2. Metal finishes.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

C. Samples: For each type of exposed finish.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For tests on railings performed by a qualified testing agency, in accordance with ASTM E894 and ASTM E935.

1.4 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
 - b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.

2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

2.3 STEEL RAILINGS

- A. Tubing: ASTM A500/A500M (cold formed).
- B. Pipe: ASTM A53/A53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
 - 1. Provide galvanized finish for exterior installations and where indicated.

2.4 MISCELLANEOUS MATERIALS

- A. Etching Cleaner for Galvanized Metal: Complying with MPI#25.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint, complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- C. Non-shrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout, complying with ASTM C1107/C1107M. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.5 FABRICATION

- A. Cut, drill, and punch metals cleanly and accurately.
 - 1. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated.
 - 2. Remove sharp or rough areas on exposed surfaces.
- B. Form work true to line and level with accurate angles and surfaces.
- C. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 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 flux immediately.
 - 4. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Finish #2 welds; good appearance, completely sanded joint, some undercutting and pinholes okay
- D. Close exposed ends of hollow railing members with prefabricated cap and end fittings of same metal and finish as railings.

-
- E. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.
 - F. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work.
 - 1. Fabricate anchorage devices capable of withstanding loads imposed by railings.
 - 2. Coordinate anchorage devices with supporting structure.
 - G. For railing posts set in concrete, provide stainless steel sleeves not less than 6 inches (150 mm) long with inside dimensions not less than 1/2 inch (13 mm) greater than outside dimensions of post, with metal plate forming bottom closure.

2.6 STEEL AND IRON FINISHES

- A. Galvanized Railings:
 - 1. Hot-dip galvanize steel railings, including hardware, after fabrication.
 - 2. Comply with ASTM A123/A123M for hot-dip galvanized railings.
 - 3. Comply with ASTM A153/A153M for hot-dip galvanized hardware.
- B. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Perform cutting, drilling, and fitting required for installing railings.
 - 1. Fit exposed connections together to form tight, hairline joints.
 - 2. Install railings level, plumb, square, true to line; without distortion, warp, or rack.
 - 3. Set railings accurately in location, alignment, and elevation; measured from established lines and levels.
 - 4. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 5. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
 - 6. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).
- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
 - 1. Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

3.2 ANCHORING POSTS

- A. Form or core-drill holes not less than 5 inches (125 mm) deep and 3/4 inch (20 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, nonmetallic grout, mixed and placed
- B. Anchor posts to metal surfaces with flanges, angle type, or floor type, as required by conditions, connected to posts and to metal supporting members as follows:
- C. Touchup Painting:
 - 1. Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

3.3 CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas, and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 055213

SECTION 07 92 00 - JOINT SEALANTS**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes:
 - 1. Silicone joint sealants.
 - 2. Urethane joint sealants.
 - 3. Latex joint sealants.

1.2 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples: For each kind and color of joint sealant required.
- C. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Preconstruction laboratory test reports.
- C. Preconstruction field-adhesion-test reports.
- D. Field-adhesion-test reports.
- E. Sample warranties.

1.4 PRECONSTRUCTION TESTING

- A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
 - 1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

-
2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
 3. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with stone masonry substrates.
- B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates. Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

1.5 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 NONSTAINING SILICONE JOINT SEALANTS

- A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.
- B. Silicone, Nonstaining, S, NS, 100/50, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Dow Corning Corporation; 756 SMS.
 - b. Pecora Corporation; 898NST.
 - c. Tremco Incorporated; Spectrem 2.

2.2 URETHANE JOINT SEALANTS

- A. Urethane, S, NS, 25, NT: Single-component, nonsag, nontraffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Construction Chemicals, LLC, Building Systems; Sonalastic TX1.
 - b. Pecora Corporation; Dynatrol I-XL.
 - c. Tremco Incorporated; Dymonic

2.3 MILDEW-RESISTANT JOINT SEALANTS

- A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.
- B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Dow Corning Corporation; 786.
 - b. GE Construction Sealants; Momentive Performance Materials Inc.; SCS1700 Sanitary.
 - 2. Tremco Incorporated; Tremsil 200.
- C. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Construction Chemicals, LLC, Building Systems; Sonolac.
 - b. Pecora Corporation; AC-20.
 - c. Tremco Incorporated; Tremflex 834.

2.4 JOINT-SEALANT BACKING

- A. Cylindrical Sealant Backings: ASTM C 1330, Type B (bicellular material with a surface skin)] and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.5 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION**3.1 PREPARATION**

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

-
1. Remove laitance and form-release agents from concrete.
 2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with ASTM C 1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
- C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
1. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.3 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.
1. Joint Locations:
 - a. Control and expansion joints in cast-in-place concrete.
 - b. Joints in stone masonry.
 - c. Joints in cast stone.
 - d. Other joints as indicated on Drawings.
 2. Joint Sealant: Silicone, non-staining, S, NS, 25, NT.
 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07 92 00

SECTION 31 10 00 - SITE CLEARING**PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting, capping, or sealing site utilities.
7. Temporary erosion and sedimentation control.

1.2 MATERIAL OWNERSHIP

- A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.3 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- C. Visit site to assess current conditions and extent of Owner-performed demolition. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."

PART 3 - EXECUTION**3.1 PREPARATION**

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

- A. Ensure perimeter construction fencing adequately protects the surrounding existing trees.

3.4 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 - 1. Arrange with utility companies to shut off indicated utilities.
- B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.

3.5 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil in a manner to prevent intermingling with underlying subsoil or other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

3.6 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 10 00

SECTION 31 20 00 - EARTH MOVING**PART 1 - GENERAL****1.1 SUMMARY****A. Section Includes:**

1. Excavating and filling for rough grading the Site.
2. Preparing subgrades for slabs-on-grade, walks, pavements, turf and plants.
3. Drainage course for playing fields.
4. Consolidation and compaction.

1.2 DEFINITIONS**A. Backfill: Soil material used to fill an excavation.**

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.**C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.****D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.****E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.****F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.**

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.**H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.**

-
- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
 - J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
 - K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Data:
 - 1. Manufacturer's specifications and technical data for the following:
 - a. Geotextile fabric.
 - 2. Include laboratory test reports for the following:
 - a. Granular fill.
 - b. Pavement base course.
- B. Contract Closeout Submittals: Submit in accordance with Division 1.
 - 1. Project Record Documents.
 - a. Accurately record location of underground utilities remaining, rerouted utilities, and new utilities by horizontal dimensions from above grade permanent fixtures, elevations or inverts, and slope gradients.

1.4 FIELD CONDITIONS

- A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.

1.5 QUALITY ASSURANCE

- A. Installer's Qualifications: Firm experienced in installation of systems similar in complexity to those required for this Project, plus the following:
 - 1. Not less than 3 years experience with systems.
 - 2. Successfully completed not less than 5 comparable scale projects using this system.
- B. Testing Agency: A qualified independent geotechnical engineering testing agency shall classify proposed on-Site and borrow soils to verify that soils comply with specified requirements and to perform specified field and laboratory testing.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General

-
1. If not enough sufficient satisfactory soil materials are available from excavations, Contractor shall notify Architect before borrowing any soil materials from off site.
 2. If an excess of soil materials are available from excavations, Contractor shall notify Architect before hauling any soil materials from off site.
 3. On-site disposal of suitable materials may only be permitted where shown on the drawings.
 4. Fill and backfill materials shall be subject to the approval of testing agency.
 5. Contractor shall provide and coordinate with testing agency.
- B. General Fill Materials
1. Definition: That material used to obtain finish subgrade levels at locations specified under this section.
 2. Acceptable material: Excavated on-site material which is free from debris, organics, decomposable, and corrodible materials, and containing the proper moisture content, liquid limit, and plasticity index to obtain specified compaction requirements.
- C. Granular Fill:
1. Definition: Free-draining granular base used beneath building slabs-on-grade and used around field drain pipes.
 2. Acceptable materials: Clean crushed stone or gravel, free of shale, clay, friable material, and debris, complying with ASTM C33 Size No. 57.
- D. Crushed Limestone Fill Material:
1. 1. Definition: That material used at trench backfill under pavements, at locations specified under this Section, and at locations indicated on Drawings.
 2. Acceptable materials: Comply with APWA Street Construction and Material Specifications, Division II.
- E. Bedding Materials: aggregate per KDOT Standard Specification for state road and bridge construction.
- F. Trench Backfill Materials:
1. Pavement areas: APWA Street Construction and Material Specification Division II Section 2602-3c.
 2. Other areas: General Fill Material or other materials specified under this Section at locations specified or indicated on Drawings.
- G. Backfill Material
1. Definition: Material requiring placement and compaction with manual procedures because of restricted spaces or new construction.
 2. Acceptable materials: Either general fill material, granular fill material, or other materials specified under this Section at locations specified or indicated on Drawings.
- H. Unsuitable material
1. Definition: That excavated material which does not meet the consistency requirements of any other defined materials in this Section, including muck, frozen material, organic material, top soil, rubbish, and rock within the limits defined for General Fill Material.
 2. Dispose of unsuitable material off-Site, at no increase in Contract Sum or extension of Contract Time.

PART 3 - EXECUTION**3.1 PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 GENEREAL EXCAVATION

- A. Use of explosives is not permitted.
- B. Excavation above subgrade as defined in this section is unclassified and includes excavation of any material encountered regardless of its character including rock, soil materials, debris, and other obstructions and shall be included in the base bid.
- C. Perform excavation to the lines and grades indicated on Drawings within a tolerance of 0.10 foot.
 - 1. Extend excavations a sufficient distance from structures for placing and removing concrete formwork, installing services and other construction, and for inspections.
- D. Perform Excavation Work in compliance with applicable requirements of authorities having jurisdiction, including United States Department of Labor, Occupational Safety and Health Administration (OSHA) "Construction Standards for Excavations, 29 CFR Part 1926".
- E. Perform Work in a manner and sequence that will provide drainage at all times and that will prevent surface water from draining into excavations.
- F. When excavating through roots, perform Work by hand cutting roots with sharp axe.
- G. Excavation cut shall not interfere with normal 45 degree bearing splay of foundations.
- H. Machine slope banks to comply with local codes, ordinances, and requirements of agencies having jurisdiction.
 - 1. Provide materials for shoring and bracing.
 - 2. Maintain shoring and bracing in excavations regardless of time period excavations will be open.
 - 3. Extend shoring and bracing as excavation progresses
 - 4. Control surface drainage down slopes.
 - 5. Cover slopes to prevent loss of moisture content of soil and to prevent raveling.
- I. Unacceptable material at subgrade:
 - 1. When materials encountered at subgrade are determined to be unacceptable for use by testing agency, remove such material to depths and limits determined by testing agency.

-
2. Backfill with material acceptable to testing agency and compact to density equal to the specified requirements for subsequent fill material.
 3. Where depressions result from, or have resulted from the removal of surface or subsurface obstructions, open depressions to equipment working width, and remove debris and soft material as directed by testing agency, at no increase in Contract Sum or extension of Contract time.
 4. Backfill with material acceptable to testing agency and compact to density equal to the specified requirements for subsequent fill material, at no increase in Contract Sum or extension of Contract Time.

3.3 EXCAVATION FOR UTILITY TRENCHES

- A. Trench excavation is unclassified and includes excavation to required exposed subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, debris, and other obstructions.
- B. Excavate trenches to gradients, lines, depths, and elevations indicated on Drawings, within a tolerance of 0.10 foot.
- C. Perform excavation Work in compliance with applicable requirements of authorities having jurisdiction, including United States Department of Labor, Occupational Safety and Health Administration (OSHA) "Construction Standards for Excavations, 29 CFR Part 1926".
- D. Do not perform trench excavation in areas to receive fill until fill operations are complete to an elevation of not less than 24 inches above the top of the proposed pipe or conduit for which the trench is to receive.
- E. Perform Work in a manner and sequence that will provide drainage at all times and that will prevent surface water from draining into trenches.
- F. Protect subgrades against freezing temperatures and frost and provide protective insulation materials as necessary.
- G. When excavating through roots, perform Work by hand cutting roots with a sharp axe.
- H. Excavation cut shall not interfere with normal 45 degree bearing splay of foundations.
- I. Excavate trenches to uniform width, sufficiently wide to enable installation of utilities and to allow safe inspection of installed utilities.
- J. Excavate trenches 6 inches deeper than bottom of pipe elevation to allow for bedding course
 1. Hand excavate for bell of pipe.
 2. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
 3. Comply with local codes, ordinances, and requirements of agencies having jurisdiction.
 4. Provide materials for shoring and bracing.
 - a. Maintain shoring and bracing in trenches regardless of time period trenches will be open.
 - b. Extend shoring and bracing as excavation progresses.
 5. Control surface drainage down slopes.

-
6. Cover slopes to prevent loss of moisture content of soil and to prevent raveling.
 7. Hand trim trenches and remove loose matter.
- K. When subgrade materials are encountered which testing agency determines to be unacceptable for use, remove such material to depths and limits determined by testing agency:
1. Backfill with material acceptable to testing agency and compact to density equal to the specified requirements for subsequent fill material.
 2. Trench subgrade should be compacted to a minimum of 95% of the maximum dry density in accordance with ASTM D 698 at moisture contents between -2% to +3% of the optimum moisture content.
 3. Removal and replacement of unacceptable material will be paid on basis of Unit Prices included in the Contract Documents.
- L. Where depressions result from, or have resulted from the removal of surface or subsurface obstructions, open depressions to equipment working width, and remove debris and soft material as directed by testing agency at no increase in Contract Sum or extension of Contract Time.
1. Backfill with material acceptable to testing agency and compact to density equal to the specified requirements for subsequent fill material, at no increase in Contract Sum or extension of Contract Time.
- M. Stockpile excavation material which testing agency has approved for reuse.
1. Stockpile soil materials without intermixing soil materials with different consistencies and gradations.
 2. Place, grade, and shape stockpiles to drain surface water.
 3. Do not stockpile within drip line of trees which are to remain.
 4. Cover stockpiles to prevent wind-blown dust.
 5. Remove unacceptable excavation material from site, at no increase in Contract Sum or extension of Contract Time.

3.4 SUBGRADE PREPARATION AT PAVEMENTS

- A. General:
1. Excavation for subgrade preparation is unclassified and includes excavation to required subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, debris, and other obstructions.
 2. Testing agency shall be present to observe proof-rolling of subgrades in pavement and sidewalk areas prior to placement of fill and shall be present during placement and compaction of fill materials in pavement and sidewalk areas. Testing agency shall also be present to observe proof-rolling of finished subgrades prior to installation of pavement and sidewalk sections.
 3. Fill material shall not be placed, spread, or rolled while the material is frozen or thawing, or during unfavorable weather conditions.
 4. Moisture condition or dry fill material as required to obtain specified moisture content limits.
 - a. Material which is too wet to allow proper compaction, as determined by testing agency, may be spread and permitted to dry assisted by disking, harrowing, or pulverizing.
 5. Place fill material using spreading equipment capable of obtaining uniform loose lift thickness.

-
6. Compact fill material using equipment appropriate to the material being compacted, as determined by testing agency.
 7. When Work is interrupted by rain, do not resume Work until testing agency indicates that moisture content and density of previously placed fill area is as specified.
 8. Where soil has been softened or eroded by flooding or placement during unfavorable weather conditions, remove damaged areas and recompact to required density.
 9. In excavations where testing agency determines that subgrade material is unacceptable, remove unacceptable material and backfill in accordance with procedures determined by testing agency.
 - a. Removal and replacement of unacceptable material will be paid on basis of Unit Prices included in the Contract Documents.
 10. Minimize construction traffic, including foot traffic, from pavement finished subgrades in order to prevent unnecessary disturbances of subgrade materials.
 - a. If testing agency determines that finished subgrades have been disturbed, remove disturbed areas and replace and recompact to required density as directed by testing agency.
 - b. If testing agency determines that rutting has occurred, excavate 6 inches, or other depth as directed by testing agency, of subgrade material and recompact as specified for affected area.
 - c. Testing agency shall be present during compaction of material.
- B. In cut areas below pavements requiring less than 12 inches of fill to obtain finish subgrade elevations, and a lateral distance of 5 feet outside pavement areas, excavate existing material to a depth of not less than 6 inches below bottom of pavement subbase course.
1. Proof-roll subgrade and repair as required in paragraph 3.8.E below, then scarify to a depth of 6 inches to result in a surface free from ruts, hummocks, and other uneven features which, in the opinion of the testing agency, would prevent uniform compaction by the equipment proposed for use.
 - a. Moisture condition subgrade to achieve moisture content specified in this Section.
 - b. Compact to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.
 - 1) Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - 2) When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
 2. After scarifying, moisture conditioning, and recompacting, backfill areas using approved materials placed in loose lifts not exceeding 8 inches.
 - a. Compact each lift to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.
 - 1) Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - 2) When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
 3. Protect excavations from excessive wetting and drying during construction.
 - a. Remove water entering excavation, and remove disturbed or softened soil.
 4. Maintain subgrade moisture content within specified range until pavements are installed.

-
- a. Rework non-complying area as required to achieve specified requirements as directed by testing agency.
 - b. Recompact and retest until required density and moisture content is obtained.
- C. In areas below pavements requiring 12 inches or more of fill to obtain finish subgrade elevations, and a lateral distance of 5 feet outside pavement areas, proof-roll existing subgrade in presence of testing agency using a fully loaded tandem axle dump truck or similar type of pneumatic tired equipment with a minimum gross weight of 25 tons.
1. Remove soft areas as directed by testing agency and recompact in loose 9 inch lifts to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.
 - a. Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - b. When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
 2. After proof-rolling operations are performed and observed soft areas repaired, place approved material in loose lifts not exceeding 8 inches.
 - a. Compact each lift to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.
 - 1) Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - 2) When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
 3. Fill operations shall continue in compacted layers until finish subgrade elevations have been obtained.
 - a. Compact each lift to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.
 - 1) Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - 2) When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
 4. Protect excavations from excessive wetting and drying during construction.
 - a. Remove water entering excavation, and remove disturbed or softened soil.
 5. Maintain subgrade moisture content within specified range until pavements are installed.
 - a. Rework non-complying area as required to achieve specified requirements as directed by testing agency.
 - b. Recompact and retest until required density and moisture content is obtained.
 6. Tolerances
 - a. Top surface of finish subgrade under paved areas: Plus or minus ¼ inch from required elevations.
 7. Immediately prior to placement of pavement subbase course and pavements, proof roll subgrade in presence of testing agency using a fully loaded tandem axle dump truck or similar type of pneumatic tired equipment with a minimum gross weight of 25 tons.

-
- a. Remove soft areas as directed by testing agency and recompact in loose 9 inch lifts to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.
 - b. Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - c. When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.

3.5 GENERAL SITE FILL

A. General:

1. Testing agency shall be present during placement and compaction of fill material.
2. Fill material shall not be placed, spread, or rolled while the material is frozen or thawing, or during unfavorable weather conditions.
3. Moisture condition or dry fill material as required to obtain specified moisture limits.
4. Material which is too wet to allow proper compaction, as determined by testing agency, may be spread and permitted to dry assisted by dishing, harrowing, or pulverizing.
5. Place fill material using spreading equipment capable of obtaining uniform loose lift thickness.
6. Compact fill material using equipment appropriate to the material being compacted, as determined by testing agency.
7. When Work is interrupted by rain, do not resume Work until testing agency indicates that moisture content and density of previously placed fill area is as specified.
8. Where soil has been softened or eroded by flooding or placement during unfavorable weather conditions, remove damaged areas and recompact to required density.

B. Perform grading to the contours and elevations indicated on Drawings:

1. Uniformly grade areas to a smooth surface, free from irregular surface changes.
2. Provide a smooth transition between existing adjacent grades and new grades.

C. Place general fill material in systematic and uniform horizontal lifts not exceeding the following loose-depth-measurements:

- a. For fill material to be compacted with heavy compaction equipment: 9 inches.
- b. For fill material to be compacted with hand operated tampers: 4 inches.

D. Under sidewalks and ramps compact each lift of material to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.

1. In other areas, compact each lift of material to a minimum of 90 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698
 - a. Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - b. When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework on-complying area as required to achieve specified requirements.

E. Bench existing slopes horizontal sections equal in width to equipment used.

-
- F. Where embankments, regardless of height, are placed against hillsides or existing embankments having a slope of steeper than 1 vertical to 5 horizontal, bench or step existing slope in approximately 24 inch rises:
1. Place fill in lifts not exceeding 9 inches in loose-depth-measurement
 2. Compact material bladed out, bottom area which was cut to form benches, and fill material being placed, to a minimum of 95 percent of the material's maximum Standard Proctor dry density with a moisture content between -2 and +3 percent above optimum moisture content in accordance with ASTM D698.
 - a. Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - b. When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
- G. Remove surplus materials from site, at no increase in Contract Sum or extension of Contract Time.
- H. Tolerances:
1. Top surface of finish subgrade under paved areas: Plus or minus $\frac{1}{4}$ inch from required elevations.
 2. Top surface of finish subgrade under unpaved surfaces: Plus or minus $\frac{1}{2}$ inch from required elevations.

3.6 INSTALLATION OF GRANULAR FILL

- A. Immediately prior to placement floor slab granular base, testing agency will evaluate subgrade to determine whether moisture content is within specified range, and whether subgrade has been disturbed.
1. In areas where testing agency determines subgrade is not within specified moisture content range, remove non-complying areas and replace and recompact to required density, within specified moisture content range, as directed by testing agency.
 - a. Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - b. When test indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
 2. If testing agency determines that rutting has occurred or other detrimental conditions exist, excavate 6 inches, or other depth as directed by testing agency, of subgrade material and recompact as specified for affected area.
 - a. Field density tests shall be taken after the compaction of each layer of fill by testing agency.
 - b. When tests indicate that any layer of fill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
- B. Place granular fill in equal continuous layers not exceeding 6 inches.
1. Compact granular fill using heavy vibrating equipment, in 3 passes, to achieve a total compacted thickness of 4 inches in presence of Owner's representative or testing agency.
 2. Compact granular fill in confined areas using a combination of manually operated vibratory plates and "wacker" compaction equipment.

-
- C. Tolerances:
1. Top surface of finish subgrade under slabs-on-grade: Plus or minus $\frac{1}{4}$ inch from required elevations.

3.7 INSTALLATION OF PAVEMENT SUBBASE COURSE

- A. Place pavement subbase course in equal continuous layers not exceeding 6 inches.
1. Compact granular fill for pavement and sidewalk subbase course to a minimum of 95 percent of the material's maximum standard proctor dry density in accordance with ASTM D698.
 2. Compact granular fill in confined areas using a combination of manually operated vibratory plates and "wacker" compaction equipment.
 3. Qualitative tests shall be taken after the compaction of each layer of fill by testing agency.
- B. Tolerances:
1. Top surface of finish subgrade under paved areas: Plus or minus $\frac{1}{4}$ inch from required elevations.

3.8 BEDDING

- A. Place and compact bedding course on trench bottoms and where indicated on Drawings.
1. Install materials in continuous layers not exceeding 6 inches compacted depth.
- B. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Install bedding to a depth of 6 inches below bottom of pipe bell or conduit, to an elevation of 6 inches above pipe or conduit.
- D. Compact bedding materials by slicing with a shovel and compacting with vibratory plates and "wacker" compaction equipment.
- E. Support pipe and conduit during placement and compaction of bedding fill.

3.9 INSTALLATION OF BACKFILL

- A. Backfill excavations promptly, but not before completion of the following:
1. Surveying location of underground utilities for Record Documents
 2. Testing, inspecting, and approval of underground utilities
 3. Removal of concrete forms
 4. Removal of lumber, rock, paper, and other debris from areas to be backfilled
 5. Removal of temporary shoring, bracing, and sheeting
- B. Backfill areas to contours and elevations indicated on Drawings, using unfrozen backfill material.
1. Do not backfill over porous, wet, frozen, thawing, or spongy surfaces
 2. Do not backfill during unfavorable weather conditions

-
3. Moisture condition or dry backfill material as required to obtain specified moisture content limits.
 - a. Material which is too wet to allow proper compaction, as determined by testing agency
 4. Place backfill material using equipment capable of obtaining uniform loose lift thickness
 5. Compact backfill material using equipment appropriate to the material being compacted, as determined by testing agency
 6. When Work is interrupted by rain, do not resume Work until testing agency indicates that moisture content and density of previously laced backfill areas is as specified
 7. Where soil has been softened or eroded by flooding or placement during unfavorable weather conditions, remove damaged areas and recompact to required density.
- C. Backfilling of curbs, slabs-on-grade, and other structures whose foundation is unprotected from water shall be accomplished as soon as forms are removed, to eliminate possibility of softening of subbase below structure
- D. Backfill foundation walls with granular material, not less than 24 inches in width, to an elevation of 2 feet below finish grade.
1. Backfill simultaneously on each side of unsupported foundation walls.
 2. Backfill upper 2 feet using general fill material.
- E. Backfill trenches to contours and elevations indicated on Drawings, using unfrozen backfill material.
1. Do not backfill over porous, wet, frozen, or spongy surfaces.
 2. Do not backfill during unfavorable weather conditions.
 3. Moisture condition or dry backfill material as required to obtain specified moisture content limits.
 - a. Material which is too wet to allow proper compaction, as determined by testing agency, may be spread and permitted to dry assisted by disking, harrowing, or pulverizing.
 4. Place backfill material using equipment capable of obtaining uniform loose lift thickness.
 - a. Employ a placement method of backfill operations which does not disturb or damage utilities in trenches.
- F. Backfill trenches that carry below or pass under footings and that are excavated within 18 inches of footings with concrete.
1. Place concrete to elevation equal to bottom of footings.
- G. Compaction of General Backfill
1. Maintain optimum moisture content of backfill materials to attain required compaction density.
 2. General fill materials used for backfill shall be placed in lifts not exceeding 9 inches in loose-depth-measure and compacted as specified for general site fill
 3. Granular fill materials used for backfill shall be placed in lifts not exceeding 6 inches in loose-depth-measure and compacted as specified for granular fill.
 4. Field density tests shall be taken after the compaction of each layer of backfill by testing agency.
 - a. When tests indicate that any layer of backfill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.

-
- H. Compaction of Trench Backfill
1. Compact backfill material using equipment appropriate to the material being compacted, as determined by testing agency.
 2. Maintain optimum moisture content of backfill materials to attain required compaction density.
 3. When work is interrupted by rain, do not resume work until testing agency indicates that moisture content and density of previously placed backfill area is as specified.
 4. Where soil has been softened or eroded by flooding or placement during unfavorable weather conditions, remove damaged areas and recompact to required density.
 5. General fill material used for backfill shall be placed in lifts not exceeding 4 inches in loose-depth-measure with each lift compacted as specified in this section.
 6. MODOT Standard Specification for State Road and Bridge Construction aggregate used for backfill shall be placed in lifts not exceeding 6 inches in loose-depth-measure and compacted to a minimum of 97 percent of the material's maximum Standard Proctor dry density with a moisture content near optimum in accordance with ASTM D698.
 7. Field density tests shall be taken after the completion of each layer of backfill by testing agency.
 - a. When tests indicate that any layer of backfill or portion thereof does not meet the required compaction density or moisture content, rework non-complying area as required to achieve specified requirements.
- I. Tolerances:
1. Top surface of finish subgrade under paved areas: Plus or minus $\frac{1}{4}$ inch from required Elevations.
 2. Top surface of finish subgrade under unpaved areas. Plus or minus $\frac{1}{2}$ inch from required elevations.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified geotechnical engineering testing agency to perform tests and inspections. All reports shall be shared with the Owner and Architect.
- B. Tests:
1. Coordinate Site Work Testing with Section 01 45 04.
 2. Field density shall be taken by testing agency as specified in this Section in accordance with ASTM D 698.
 3. Field density tests will be taken at a rate of not less than 1 test for every 50 lineal feet of footing subgrade for each layer of fill and backfill, but in no case fewer than 6 tests for each layer of fill and backfill.
 4. Field density tests will be taken at a rate of not less than 1 test for every 2,000 square feet of pavement area for each layer of fill and backfill, but in no case fewer than 3 tests for each layer of fill and backfill.
 5. Field density tests will be taken at a rate of not less than 1 test for every 4,000 square feet of general Site fill area for each layer of fill and backfill, but in no case fewer than 6 tests for each layer of fill and backfill.
 6. Moisture content tests shall be taken by testing agency as specified in this Section in accordance with ASTM D6938.
 7. Moisture content test will be taken for each field density test.
 8. Bearing capacity of undisturbed soil under footings will be evaluated by testing agency to verify an allowable bearing pressure of 3,000 pounds per square foot.

-
- a. Test methods will include field strength tests such as static or dynamic cone test.
 - C. When tests indicate that any layer of backfill or portion thereof does not meet the specified compaction density or moisture content, rework non-complying area as required to achieve specified requirements as directed by testing agency.
 - 1. Recompect and retest until required density and moisture content is obtained.

3.11 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.12 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 20 00

SECTION 32 13 13 - CONCRETE PAVING**PART 1 - GENERAL****1.1 SUMMARY**

- A. Section Includes Concrete Paving:
 - 1. Exterior Concrete Pavement
- B. All the requirements of the Kansas City Metropolitan Chapter of the American Public Works Association (APWA), Standard Specifications and Design Criteria apply as amended and supplemented by the City of Prairie Village.
- C. Amendments are specified under the Unified Government, Wyandotte County, Kansas City, Kansas, Technical Provisions, Section 2208, January 2022.

1.2 SUBMITTALS

- A. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Include description of method by which mix design was formulated and supporting backup data.
 - 2. Manufacturer: Submit plant name, address, and contact person.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified independent testing agency to perform preconstruction testing on concrete paving mixtures.

PART 2 - PRODUCTS**2.1 CONCRETE MIX**

- A. All concrete used in construction of walks and stairs shall be classified as KCMMB 4K having a minimum 28-day compressive strength of 4000 pounds per square inch.

PART 3 - EXECUTION**3.1 CONCRETE PAVING**

- A. Refer to the "SECTION 2208 PORTLAND CEMENT CONCRETE PAVEMENT" section of the UG Technical Provisions, January 2022.

3.2 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Repair concrete where core tests were taken.
- C. Remove and replace or install additional concrete where test results or measurements indicate that it does not comply with specified requirements.
- D. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

END OF SECTION 32 13 13

SECTION 323113 - CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Chain-link fences.
2. Swing gates.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For each type of fence and gate assembly.
 1. Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

- A. Product certificates.
- B. Product test reports.
- C. Sample warranty.

1.4 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.

Verify available warranties and warranty periods for units and components.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 POST AND RAILS

- A. ASTM F1043 for framework, including rails, braces, and line; terminal; and corner posts.

B. All posts AND shall be Schedule 40.

C. Minimum diameters:

1. Terminal and gate posts: 2-7/8"
2. Line posts: 1-7/8"
3. Top rail: 1-5/8"

2.2 CHAIN-LINK FENCE FABRIC

A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist according to "CLFMI Product Manual" and requirements indicated below:

1. Fabric Height: As indicated on Drawings.
2. Steel Wire for Fabric: 9-gauge
 - a. Mesh Size: 2 inches.
 - b. Polymer-Coated Fabric: ASTM F668, Class 2a over aluminum coated steel wire.
 - 1) Color: Black, according to ASTM F934.
3. Selvage: Twisted top and knuckled bottom.
4. Fence Height: As indicated on Drawings.

2.3 TENSION WIRE

A. Polymer-Coated Steel Wire: 0.177-inch- diameter, tension wire according to ASTM F1664, Class 2a over aluminum-coated steel wire.

1. Color: Match chain-link fabric, according to ASTM F934.

2.4 SWING GATES

A. General: ASTM F900 for gate posts and double swing gate types.

1. Gate Leaf Width: As indicated.
2. Framework Member Sizes and Strength: Based on gate fabric height of 72 inches or less.

B. Pipe and Tubing:

1. Zinc-Coated Steel: ASTM F1043 and ASTM F1083; protective coating and finish to match fence framework.

Revise "Gate Posts" and "Gate Frames and Bracing" subparagraphs below if size of members is critical.

2. Gate Posts: Round tubular steel.
3. Gate Frames and Bracing: Round tubular steel.

-
- C. Frame Corner Construction: Welded.
 - D. Hardware:
 - 1. Hinges: 360-degree inward and outward swing.
 - 2. Latch: Permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate.
 - 3. Retain "Padlock and Chain" Subparagraph below for padlocks and chains if not Owner furnished.

2.5 FITTINGS

- A. Provide fittings according to ASTM F626.
- B. Finish:
 - 1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz./sq. ft. (366 g/sq. m) of zinc.
 - a. Polymer coating over metallic coating.

2.6 GROUT AND ANCHORING CEMENT

- A. Non-shrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout, recommended in writing by manufacturer, for exterior applications.
- B. Anchoring Cement: Factory-packaged, non-shrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating, and that is recommended in writing by manufacturer for exterior applications.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

3.2 PREPARATION

- A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 CHAIN-LINK FENCE INSTALLATION

- A. Install chain-link fencing according to ASTM F567 and more stringent requirements specified.
- B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.
- C. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.
 - 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
 - 2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
 - a. Exposed Concrete: Extend 2 inches above grade; shape and smooth to shed water.
 - b. Concealed Concrete: Place top of concrete 2 inches (50 mm) below grade to allow covering with surface material.
 - c. Posts Set into Sleeves in Concrete: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with non-shrink, nonmetallic grout or anchoring cement, mixed and placed according to anchoring material manufacturer's written instructions. Finish anchorage joint to slope away from post to drain water.
- D. Terminal Posts: Install terminal end, corner, and gate posts according to ASTM F567 and terminal pull posts at changes in horizontal or vertical alignment of 30 degrees or more. For runs exceeding 500 feet (152 m), space pull posts an equal distance between corner or end posts.
- E. Line Posts: Space line posts uniformly at 10 feet o.c.
- F. Tension Wire: Install according to ASTM F567, maintaining plumb position and alignment of fence posts. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch- (3.05-mm-) diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches (610 mm) o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
 - 1. Extended along bottom of fence fabric.
- G. outside of enclosing framework. Leave 2-inch bottom clearance between finish grade or surface and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

3.4 ADJUSTING

- A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.
- B. Lubricate hardware and other moving parts.

END OF SECTION 323113

SECTION 32 84 00 - PLANTING IRRIGATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Design and installation of an automatic sprinkler system
2. Piping.
3. Manual valves.
4. Automatic control valves.
5. Sprinklers.
6. Quick couplers.
7. Controllers.
8. Boxes for automatic control valves.

1.2 DEFINITIONS

- A. Point of Connection: Location where Contractor shall tie into water supply to provide irrigation water to the Project.
- B. Mainline: Pressurized piping downstream of the Point of Connection to provide water to remote control valves and quick couplers. Normally under constant pressure.
- C. Lateral Pipe: The system of pipes that provide water from the valves to the sprinkler heads or emitters.

1.3 PERFORMANCE REQUIREMENTS

- A. Irrigation zone control shall be automatic operation with controller and automatic control valves.
- B. Delegated Design: Design of irrigation system shall include comprehensive engineering analysis by a qualified irrigation professional, using performance requirements and design criteria indicated.
- C. Minimum Working Pressures: The following are minimum pressure requirements for piping, valves, and specialties unless otherwise indicated:
 1. Irrigation System is to operate under the water pressure and flow rates prevailing at the project site.
 2. Irrigation Contractor shall be responsible for determining these parameters and reporting any deviations to the Landscape Architect between these existing conditions and the required parameters as stated on the Delegated-Design.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.5 DELEGATED-DESIGN SUBMITTAL

A. General

1. For irrigation systems indicated to comply with performance requirements and design criteria, including analysis data generated by the qualified irrigation professional responsible for their preparation.
2. The design intent is for the irrigation system to be water efficient, using equipment and methods to minimize the use of water.
3. Location of Sprinklers and Specialties: Limits of irrigation shown on Drawings is approximate.
4. Under no circumstances shall any turf areas be watered in combination with plant beds.
5. Spacing of all sprinkler equipment selected shall not exceed the manufacturer's recommendations as published.
6. "Head-to-head" 100 percent coverage is required in all turf areas.
7. Irrigation System is to operate under the water pressure and flow rates prevailing at the project site.
8. Irrigation Contractor shall be responsible for determining these parameters, and accounting for these conditions in the Delegated-Design.

B. Suggested Sprinkler Type Applications

1. Fixed spray sprinkler heads are preferred for spreading groundcovers and turf areas too small for rotors.
2. Rotors are preferred for turf and groundcover areas large enough for the minimum throw distance.

C. Test water conditions: Measure or analyze the existing or anticipated water pressure at the point of connection.

1. In the event water pressure is insufficient to operate the system per designed pressure and flow, provide a proposal to include specification of a booster pump capable of increasing the pressure and flow as required and incorporate pump in the Delegated-Design.
2. In the event the water pressure significantly exceeds an appropriate operating pressure, include a pressure regulator downstream from the backflow preventer in the Delegated-Design. Pressure regulation may be accomplished via a master valve with a pressure reducing dial or may be accomplished at the individual zone valve locations with a pressure reducing dial.

D. Delegated-Design Drawings shall include:

1. Layout and details illustrating field installed points of connection, weather sensors, controllers, mainline and lateral line locations, size, and assembly.
2. Include type and coverage of heads, type of valves, controllers, fittings, emitters, and accessories.

-
3. Identify sleeves under pavement to accommodate piping and/or wiring to allow for their installation without undoing, damaging, or otherwise compromising work that has already been installed.
 4. Include (1) quick coupler in location shown on Drawing.
 5. The drawing shall be scaled no smaller than 1" = 30'-0".
 6. Wiring Diagrams: For power, signal, and control wiring.
 7. Calculations
 - a. Provide hydraulic calculations showing available pressure at the last sprinkler on the worst-case lateral
 - b. Calculations should show available pressure, pressure loss in mainline, valves, and lateral piping.

1.6 INFORMATIONAL SUBMITTALS

- A. Zoning Chart: Show each irrigation zone and its control valve.
- B. Controller Timing Schedule: Indicate timing settings for each automatic controller zone.
- C. Field quality-control reports.

1.7 CLOSEOUT SUBMITTALS AND ADDITIONAL EQUIPMENT

- A. Operation and maintenance data.
 1. Submit instructions covering full operation, care, and maintenance of system (and controls) and manufacturer's parts catalog.
 2. Include year-to-year schedule showing length of time each valve is to be open to provide determined amount of water, cleanout features, etc.
 3. Instruct Owner's maintenance personnel on how to operate controller, adjust sprinkler heads and other equipment, and use special tools for adjustments.
- B. Additional Equipment
 1. Furnish two three-foot long valve keys to fit each type of manual valve assembly.
 2. Furnish two controller keys for each automatic controller.
- C. As-Built Drawings
 1. As-Built Drawings shall include locations of all valves (automatic and manual), as well as any deviations in location of piping and heads as represented by the irrigation design submittal.

1.8 SUBSTITUTIONS

- A. Any proprietary products listed in this Section shall be considered the "basis of design".

1.9 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Codes and Standards: Irrigation design and installation shall comply with all applicable federal, state and local governing agency requirements and to industry standards.

1.10 WARRANTY

- A. Warranty all Work for a period of one (1) year, starting on the Date of Substantial Completion, against defects in materials, equipment, workmanship, and any repairs required resulting from leaks or other defects of workmanship, material, or equipment.

PART 2 - PRODUCTS

2.1 PIPES AND FITTINGS

A. Pipes

1. Underground PVC Pipe Class By Size

- a. Three (3) Inches and Above: Class 200, SDR 26, unplasticized rigid polyvinylchloride (PVC) pipe with integral bell and rubber ring gasket unless otherwise specified.
- b. Two and one - half (2 1/2) to one and one - quarter (1 1/4) inch: Class 200, solvent weld PVC pipe.
- c. One (1) and three - quarters (3/4) inch shall be Class 200, solvent weld PVC pipe.
- d. One - half (1/2) inch pipe shall be Class 315 solvent weld PVC pipe.

- 2. All pipe that is exposed or not below grade shall be Schedule 80 PVC or HDPE.
- 3. No polyethylene pipe will be accepted.
- 4. All pipe shall be supplied in standard twenty (20) foot lengths

B. Fittings and Joints

1. Types by size

- a. All pipe fittings size four (4) inches and greater shall be ductile iron.
- b. 3" fittings shall be bell and rubber gasket.
- c. Fittings 2-1/2" and under shall be Schedule 40 solvent weld PVC.

- 2. Expansion joints shall be installed every three hundred (300) feet of solvent weld piping.

2.2 PIPING JOINING MATERIALS

- A. Pipe-Flange Gasket Materials: AWWA C110, rubber, flat face, 1/8 inch thick unless otherwise indicated; full-face or ring type unless otherwise indicated.
- B. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.
- C. Solvent Cements for Joining PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
- D. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer unless otherwise indicated.
- E. PVC Pipe Couplings Located Within Sleeves
 - 1. Solvent weld PVC pipe, if and when used in construction of this system, shall be rigid PVC pipe and shall be assembled using appropriate PVC pipe cleaner / primer and solvent cement in accordance with the manufacturer's recommendations.
 - 2. PVC pipe couplings four (4) inches and smaller shall be solvent weld.
 - 3. PVC pipe couplings six (6) inches and larger shall be mechanical joints.
 - 4. Upon exiting sleeves, pipe solvent weld or integral bell and rubber gasket.

2.3 ISOLATION VALVES

- A. Provide all gate valves for isolation purposes, allowing full diameter opening when in full open position.
- B. Manually operated valves shall be the same size as the line.
- C. Valves three (3) inches or smaller shall be brass construction, threaded, and rated for two hundred (200) psi WOG.
- D. Valves four (4) inches or larger shall be cast iron fitted with a rubber ring, slab - type gasket.

2.4 AUTOMATIC CONTROL VALVES

- A. Remote Control Zone and Master Valve model shall be manufactured by Hunter Industries

2.5 VALVE BOXES

- A. Control Valves and Quick Coupling Valves shall be manufactured by Hunter Industries.

2.6 SPRINKLERS

- A. Turf Rotor:I Series models manufactured by Hunter Industries

2.7 QUICK COUPLING VALVES

- A. Quick Coupling Valves (QCVs) will be used for manual access to the pressurized main line so that a hose can be attached and used for hand watering. QCVs shall be constructed of brass with a spring-loaded seal that will keep the valve in a closed position until the key is inserted into the valve.
- B. QCV's shall be installed on a triple elbow swing joint.

2.8 TRADITIONALLY WIRED AUTOMATIC CONTROLLER

- A. Irrigation Controller
 - 1. Manufacturer: Hunter Industries
 - 2. Model 12C-800-M or Approved Equal.
- B. Electric Wiring
 - 1. 120 Volt AC Wiring:
 - a. 120 volt service to controller shall consist of three wires: one black, one white, and one ground.
 - b. Coordinate the location of electrical service to be provided for controller.
 - 2. Splices in controller wiring shall be waterproof direct bury application.
 - 3. Provide junction box, flush-mounted and gasketed per code as required.
 - 4. Control Wiring shall be 24 volt solid wire Underwriter's Laboratory (UL) approved for direct burial in ground.
 - a. Minimum wire size shall be fourteen (14) gauge.

2.9 SURGE PROTECTION EQUIPMENT

- A. Provide General Electric Lightning Arrestor No. GL 15 CC B 007 for controllers not equipped with primary surge protection.
- B. Irrigation Contractor is responsible for determining whether the above mentioned surge protection equipment is provided in the controller as a "built - in" unit or if it must be supplied and installed separately.

2.10 METER

- A. Confirm existing meter is in satisfactory working condition.

2.11 BACKFLOW PREVENTER

- A. Replace the existing in-ground double check valve with a similar device that meets BPU's requirements.

2.12 SLEEVES FOR IRRIGATION PIPING AND WIRING

- A. Irrigation sleeves shall be Class 200 PVC Pipe Type 1120 or 1220, minimum twice the pipe size of proposed irrigation pressure pipe.

PART 3 - EXECUTION**3.1 JOB CONDITIONS**

- A. Prior to commencing any work, locate all utilities, so that proper precautions may be taken not to disturb or damage any subsurface improvements. Damage to subsurface conditions shall be promptly repaired by the contractor at no additional cost to the owner.
- B. Obtain all required permits and pay all required fees at no additional cost to the Owner. Any penalties imposed due to failure to obtain permits or pay fees are the responsibility of the Contractor.
- C. Irrigation Sleeves: Install and mark ends of all irrigation sleeves prior to pavement work.

3.2 TRENCHING AND BACKFILLING

- A. Trenching
 - 1. Excavating, trenching, and backfilling are specified in Section 312000 "Earth Moving."
 - 2. During the entire prosecution of the work, the Contractor will be responsible for all open excavations and as a means of protection, shall keep such protective devices buried at proper intervals along the excavation to protect the public from injury.
 - 3. All mainline to be installed in separate trenching process from lateral lines.
 - 4. Provide minimum cover over top of underground piping according to the following:
 - a. Mainline pipe: 24-inches to top of pipe.
 - b. Electrical conduit: 24-inches to top of pipe.
 - c. Control wire: 2-inches offset from bottom of mainline pipe unless otherwise indicated.
 - d. Lateral pipe to sprinklers and bubblers: 14-inches to top of pipe.
 - e. Sleeves: Provide sleeving at depth that permits encased pipe or wiring to remain at specified burial depth.
 - 5. Trenching and excavation in newly sodded areas: Prior to trenching and excavation remove sod, preserve, and replace after backfilling is completed.
 - 6. Trenching and excavation in established grass or newly seeded areas
 - a. After trenching, excavation and backfilling is completed, re-grade trenched area consistent with surrounding area and reseed with turf seed matching existing grass or seed.
 - b. Mulch seed after broadcasting.

-
7. Trenching and excavation through existing asphalt or concrete: Cutting, removal and replacement of asphalt or concrete is the responsibility of the Irrigation Contractor.
 8. Trenching and excavation near existing trees
 - a. Irrigation Contractor shall paint the proposed trenching or excavation which occurs within the “drip line” or within fifty (50) feet of the trunks of the existing trees, whichever is greater.
 - b. Irrigation Contractor must contact the Owner’s Representative for review of the proposed trenching and excavation lines prior to proceeding with the work. Owner’s Representative may adjust proposed trenching and excavation lines in order to avoid damage to tree root systems and other plants.
 - c. Such adjustments shall be made by the Irrigation Contractor at no additional cost to the Owner.

B. Backfilling

1. Install warning tape directly above pressure piping, 12 inches below finished grades.
2. Backfill material shall be free from rocks, large stones, and other unsuitable material which could damage pipe or create settling problems. Backfill in six (6) lifts and tamp after each lift to prevent excessive settling.
3. Backfill trenches with plastic pipe when pipe is cool to avoid excessive contraction in cold weather. Backfilling during summer season or on other warm days may be done in the early morning hours, or pipe may be water cooled prior to backfilling.
4. In backfilling trenches, the addition of water should be limited to achieving optimum moisture content for tamping procedures.
5. The contractor shall not crown the backfill on the trench area with the thought that it will eventually settle; this will not be accepted as a finished job.
6. All excess materials shall be removed from the site in a satisfactory manner.

3.3 PIPING INSTALLATION

A. Pipe joints: Follow Manufacturer's recommendations and use pipe and bell from the same manufacturer.

1. Pipes two and one - half (2 1/2) inches and smaller use solvent weld system.
2. Pipes three (3) inches and larger use approved compression type push on joints.

B. Solvent weld PVC Pipe, assemble according to Manufacturer's recommendations, using appropriate PVC pipe cleaner/primer and solvent cement.

C. Pipes and Fittings

1. Install according to Manufacturer's recommendations including snaking in of PVC pipe to prevent excessive strain when contracting in cold weather.
2. Solvent weld fittings shall conform to Schedule 40 or Schedule 80 PVC dimensions and specifications for solvent weld fittings.

D. Lateral Lines and Risers

1. Install according to Manufacturer's recommendations using standard techniques.

-
2. Install risers such that no excessive movement occurs while sprinkler head is in operation. Height of risers to be in accordance with planned and existing plant material. Height of all risers is subject to approval of Landscape Architect.
 3. Plug lines immediately upon installation to minimize infiltration of foreign matter.
 4. Flush lateral lines and risers prior to installation of sprinkler heads.
 5. Above ground risers shall match existing on site.

3.4 VALVE AND VALVE BOX INSTALLATION

- A. All valves are to be housed in valve boxes.
- B. Install according to Manufacturer's recommendations.
- C. Valve boxes to be installed flush with grade.

3.5 SPRINKLER INSTALLATION

- A. Backfill around sprinkler head assembly in such manner as to stabilize the sprinkler head so that no lateral motion occurs during operation.
- B. Sprinklers with a 1" and larger bottom inlet shall be installed on swing joints, minimum 3" off inside edge of curbs, drives and sidewalks.
- C. Sprinkler with a 3/4" and smaller inlet may be installed using flexible swing joints. Consistency in placement must be maintained throughout the project in all cases.
- D. Sprinkler heads on risers
 1. Utilize a schedule 80 T.O.E. nipple.
 2. If greater than 24" height is required, provide fitting in the ground with a solvent weld 90 degree elbow with the appropriate length of pipe glued to it and coming out of the ground to the desired height.
 3. Glue male adapter to the riser to allow for the connection of the sprinkler head. Stabilize riser by fastening it to rebar as required.
 4. Height of all heads in bed areas to be proposed by Irrigation Contractor as a function of plants specified on landscape plans.

3.6 AUTOMATIC IRRIGATION-CONTROL SYSTEM INSTALLATION

- A. All automatic valves and controllers shall be installed following the recommendations of the manufacturer of said equipment and in accordance with any detailed drawings which may accompany these specifications as part of the Contract Documents.
- B. Location of controller(s) shall be approved by the Owner's Representative and the Landscape Architect prior to installation.

3.7 ELECTRIC CONTROL WIRES

-
- A. Install control wires in orderly fashion, locate in main line trench. Bundle wires together and tape at ten (10) foot intervals. Position wires to the right of the water supply line in the direction of the water flow.
 - B. Provide looped slack at directional changes in supply line to allow for contraction of wires.
 - C. Keep wire splices to a minimum and provide ten (10) inch round valve box at each splice location.
 - D. Pass wires under existing or future paving, construction, etc., through PVC sleeves provided by General Contractor.
 - E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
 - F. Ground electric-powered controllers, valves, and devices.
 - 1. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.
 - G. Arrange for electric-power connections to controllers, control valves, and devices that require power. Electric power, wiring, and disconnect switches are specified in Division 16 Sections.

3.8 BALANCING AND ADJUSTMENT

- A. Balance and adjust the various components of the sprinkler system so that the overall operation of the system is most efficient.
- B. This includes synchronization of the controllers, adjustments to pressure regulators, part circle sprinkler heads, and individual station adjustments on the controllers.
- C. Prior to the final review, adjust sprinklers and devices, except those intended to be mounted aboveground, so they will be flush with finish grade, and avoid spraying sidewalks or other obstructions.

3.9 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Tests and Inspections:
 - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Operational Test: After electrical circuitry has been energized, operate controllers and automatic control valves to confirm proper system operation.
 - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

- C. Any irrigation product will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 32 84 00

SECTION 329113 - SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes planting soils specified by composition of the mixes.
- B. Related Requirements:
 - 1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Lawn Soil Test Report, performed by KSU Soil Testing Laboratory, 10/30/2024, included at the end of this Section.

1.2 DEFINITIONS

- A. Duff Layer: A surface layer of soil, typical of forested areas, that is composed of mostly decayed leaves, twigs, and detritus.
- B. Imported Soil: Soil that is transported to Project site for use.
- C. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- D. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- E. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- F. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- G. USCC: U.S. Composting Council.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Initial Fertilizer Schedule
 - 1. Type of fertilizer
 - 2. Application rate (volume per 1000 square feet)

PART 2 - PRODUCTS**2.1 PLANTING SOILS SPECIFIED BY COMPOSITION****A. Planting-Soil Type**

1. Existing, on-site surface soil, with the duff layer, if any, retained and stockpiled on-site.
2. Amend existing topsoil as recommended by the soil suitability analysis test.
3. Only fertile, friable, well-drained soil, of uniform quality, free of stones over 2 inch diameter, sticks, oils, chemicals, plaster, concrete and other excess materials.

B. Planting-Soil Type: Imported, naturally formed topsoil from off-site sources.

1. Sources: Take imported, unamended soil from sources that are naturally well-drained sites where topsoil occurs at least 4 inches deep, not from agricultural land, bogs, or marshes; and that do not contain undesirable organisms; disease-causing plant pathogens; or obnoxious weeds and invasive plants including, but not limited to, quackgrass, Johnsongrass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and brome grass.
2. Additional Properties of Imported Soil before Amending: Soil reaction of pH 6 to 7 and minimum of 5 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration.
3. Unacceptable Properties: Clean soil of the following:
 - a. Unacceptable Materials: Concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
 - b. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 8 percent by dry weight of the imported soil.
 - c. Large Materials: Stones, clods, roots, clay lumps, and pockets of coarse sand exceeding 2 inches in any dimension.
4. Amended Soil Composition: Blend imported, unamended soil and amendment soil as prescribed by soil suitability analysis test.

2.2 INORGANIC SOIL AMENDMENTS**A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:**

1. Class: T, with a minimum of 99 percent passing through a No. 8 sieve and a minimum of 75 percent passing through a No. 60 sieve.
2. Class: O, with a minimum of 95 percent passing through a No. 8 sieve and a minimum of 55 percent passing through a No. 60 sieve.
3. Form: Provide lime in form of ground dolomitic limestone.

-
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent elemental sulfur, with a minimum of 99 percent passing through a No. 6 sieve and a maximum of 10 percent passing through a No. 40 sieve.
 - C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
 - D. Perlite: Horticultural perlite, soil amendment grade.
 - E. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through a No. 50 sieve.
 - F. Sand: Clean, washed, natural or manufactured, free of toxic materials, and according to ASTM C 33/C 33M.

2.3 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter produced by composting feedstock, and bearing USCC's "Seal of Testing Assurance," and as follows:
 - 1. Feedstock: Agricultural, food, or industrial residuals; bio-solids; yard trimmings; or source-separated or compostable mixed solid waste.
 - 2. Reaction: pH of 5.5 to 7
 - 3. Soluble-Salt Concentration: Less than 4 dS/m.
 - 4. Moisture Content: 35 to 55 percent by weight.
 - 5. Organic-Matter Content: 50 to 60 percent of dry weight.
 - 6. Particle Size: Minimum of 98 percent passing through a 1-inch sieve.

2.4 FERTILIZERS

- A. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20-25 percent available phosphoric acid.
- B. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
 - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.
- C. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
 - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified testing agency.

PART 3 - EXECUTION**3.1 GENERAL**

- A. Place planting soil and fertilizers according to requirements in other Specification Sections.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

3.2 PREPARATION OF UNAMENDED, ON-SITE SOIL BEFORE AMENDING

- A. Excavation: Excavate existing topsoil from area(s) anticipated disturbed areas and stockpile until amended.
- B. Unacceptable Materials: Clean soil of concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials that are harmful to plant growth.
- C. Screening: Pass unamended soil through a 2-inch sieve to remove large materials.

3.3 PLACING AND MIXING PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply and mix unamended soil with amendments on-site to produce required planting soil. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.
- B. Subgrade Preparation: Till subgrade to a minimum depth of 6 inches. Remove stones larger than 2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- C. Mixing: Spread unamended soil to total depth of 4 inches, but not less than required to meet finish grades after mixing with amendments and natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
 - 1. Soil depths
 - a. Turf areas – 4 inches
 - 2. Amendments: Apply soil amendments, if required, evenly on surface, and thoroughly blend them with unamended soil to produce planting soil.
 - a. Mix fertilizer with planting following manufacturer's recommended time before planting.
 - 3. Lifts: Apply and mix unamended soil and amendments in lifts not exceeding 8 inches in loose depth for material compacted by compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- D. Compaction: Compact each blended lift of planting soil to 75 to 80 percent of maximum Standard Proctor density according to ASTM D 698 and tested in-place.

-
- E. Finish Grading
1. Grade surface to a smooth, uniform surface plane with loose, uniformly fine texture.
 2. Roll and rake, remove ridges, and fill depressions to meet finish grades.
 3. Provide all grades for natural runoff of water without low spots or pockets. Accurately set flow line grades at 2% minimum gradient unless otherwise noted in drawings.
 4. Tops and toes of all slopes shall be rounded to produce a gradual and natural appearing transition between relatively level areas and slopes unless specified otherwise.
 5. Tolerance
 - a. All planting areas, including lawn areas, shall be true to grade within 1 in. when tested in any direction within a 10 ft. straightedge.
 - b. Finish Grades of Lawn Areas: $\frac{3}{4}$ in. below top of adjacent pavement, curbs or headers. Playing fields shall be laser graded to a tolerance of +/- 0.02 feet (.025 inches) as measured with a 25 foot string. Demonstrate accuracy to Owner's Representative prior to seeding.
 6. Finish grades along wall caps: ensure finish grade falls at base of stone cap.

3.4 PROTECTION AND CLEANING

- A. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
1. Storage of construction materials, debris, or excavated material.
 2. Parking vehicles or equipment.
 3. Vehicle traffic.
 4. Foot traffic.
 5. Erection of sheds or structures.
 6. Impoundment of water.
 7. Excavation or other digging unless otherwise indicated.
- B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.
1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

K-STATE
 Research and Extension
 Johnson County

Lawn Soil Test Report
 Test performed by:
 KSU Soil Testing Laboratory

Grower:	Scott Bingham	Sample I.D.	Lawn
Date Received	10/15/2024	K-State Order No.	57487
Date mailed to grower	10/30/2024	Johnson County I.D. No.	884

Test Results: pH is in the optimum range.
 Phosphorus is at above optimum levels. Potassium is at very high levels.

pH – Your pH level: 6.8

Tall Fescue

Your Phosphorus(P) level:	67	ppm	Your Potassium (K) level:	467	ppm
Phosphorous level guidelines			Potassium (ppm) level guidelines		
0 – 10 ppm Low – applications necessary			0 – 176 ppm Low – applications necessary		
10 – 20 ppm Medium – applications necessary			176 – 250 ppm Medium – applications necessary		
20 ppm or more Optimum – applications not necessary			250 ppm or more Optimum – applications not necessary		

K-State pH recommendations: The pH of your soil is good for tall fescue. There is no need to adjust.

K-State Fertilization requirements: Your soil has above optimum levels of phosphorus and very high levels of potassium. You have adequate levels of these nutrients and do not need to add more.

New Lawn: Apply the fertilizer suggested under the "September Application." The fertilizer should be mixed 6 inches into the soil before planting. A rototiller works well for mixing but hand mixing with a garden fork is also possible.

Established Lawn: Tall fescue is normally fertilized two or three times each year. The most important fertilizations are done in September and again in November. For high quality turf, also fertilize in May. If nitrogen is only applied once per year, fertilize in September for best results.

September Application: Use a fertilizer that contains primarily nitrogen such as one of the following:

- 30-3-3, 25-4-4 or something similar at the rate of 3.5 pounds (7 cups) per 1000 square feet.
 - 16-0-0 (Nitrate of Soda) at 6 pounds (3 quarts) per 1000 square feet.
 - 21-0-0 (Ammonium Sulfate) at 5 pounds (10 cups) per 1000 square feet.
 - 34-0-0 (Ammonium Nitrate) at 3 pounds (6 cups) per 1000 square feet.
 - 46-0-0 (Urea) at 2 pounds (4 cups) per 1000 square feet.
- Other lawn fertilizers may be used. Follow directions on the label for the rate.

November Application: Use a high nitrogen fertilizer for the November application as well.

May Application: If you decide to use a May fertilization, apply a slow-release lawn fertilizer at the rate suggested on the bag.

Mowing Height Issues

Proper mowing height is important for a healthy turf. Mowing too low stresses the turf and greatly reduces the lawn's ability to cope with stress such as heat and drought. The recommended mowing height for bluegrass or tall fescue is 3 to 3 1/2 inches.

Soil Compaction

Soil compaction can sometimes result in sparse lawn growth. Remediations to this should also be considered in addition to soil nutrient amendments. These can include the practices of aeration, overseeding, and verticutting. They will additionally help remediate thatch issues.

The ideal time to overseed a cool season lawn, bluegrass or tall fescue is in early to mid-September. Conditions are ideal for germination and quick establishment. When seeding it is recommended to apply a starter type fertilizer with a ratio similar to 10-20-10 as this provides a boost of phosphorus for establishment. About four weeks after germination make a follow up application of a high nitrogen fertilizer such as 30-0-0 or 27-3-3 at labeled rates. If possible, make the last yearly application in mid-November with the same high nitrogen fertilizer. This combination of three fall applications when seeding should result in good growth to help establish the lawn.

While spring overseeding can be done, it will be less successful as new grass plants will quickly have to adapt to hot temperatures. This will likely result in the need for more overseeding.

Specified amendments in K-State recommendations should be followed over those in supplemental material.

Publications enclosed: Fertilizing Kansas Lawns**Additional Recommended Online Resources:**

+ [Turfgrass Cultivation](http://TurfgrassCultivation.com) | [Home & Garden Information Center \(clemson.edu\)](http://HomeGardenInformationCenter.clemson.edu)

Recommendation by: Markis Hill, Johnson County Extension Horticulture Agent
Johnson County K-State Research and Extension
11811 South Sunset Drive, Suite 1500
Olathe, KS 66061-7057
(913) 715-7000

Have a gardening question? Contact the Johnson County Extension Master Gardener Hotline (913) 715-7050

Kansas State University Agricultural Experiment Station and Cooperative Extension Service.

K-State Research and Extension is committed to making its services, activities, and programs accessible to all participants. If you have special requirements due to a physical, vision, or hearing disability, please contact Johnson County Extension at 913.715.7000. K-State Research and Extension is an equal opportunity provider and employer.

END OF SECTION 329113

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Turfgrass seed
2. Turfgrass sod
3. Big roll sod
4. Hydromulching

1.2 DESCRIPTION

- A. Related Requirements: Review the General Contract Conditions and Division One, General Requirements, which contain information and requirements that apply to this Section.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates

1. Each seed mixture for seeding, turfgrass sod and big roll sod.
2. Seed and seed labels shall conform to all current State and Federal regulations and will be subject to the testing provisions of the Association of Official Seed Analysis.
3. Seed varieties: Guaranteed statement of composition, mixture and percentage of purity and germination of each variety, stating botanical and common names.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

B. Certificates of Inspection

1. Submit as required by law for transportation of each shipment of seed along with invoice.
2. Submit copies of certificates after acceptance of material.
3. Inspection by Federal or State Governments at place of growth does not preclude rejection at project site.
4. Pesticide Applicator: State licensed, commercial.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" sections in Turfgrass Producers International's (TPI) "Guideline Specifications to Turfgrass Sodding." Deliver sod within 24 hours of harvesting and in time for planting promptly. Protect sod from breakage and drying.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species:
 - 1. Quality: State-certified seed of grass species as listed below.
 - 2. Quality: Seed of grass species with not less than 85 percent germination, not less than 95 percent pure live seed, and not more than 0.5 percent weed seed:
 - 3. Species and minimum percent of overall weight.
 - a. 90 percent Improved Variety Turf-type Tall Fescue" (Austin, Chieftan II, Jaguar III, Millenium, or Shenandoah)
 - b. 10 percent improved variety of Kentucky bluegrass: (Abbey, Bluestar, Glade, Moonlight, or Unique)

2.2 TURFGRASS SOD

- A. Certified, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.
- B. Species: Turf-type Tall Fescue Grass, Improved Varieties (Austin, Chieftan II, Jaguar III, Millenium, or Shenandoah).

2.3 BIG ROLL SOD

- A. Certified, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture that is strongly rooted and capable of vigorous growth and development when planted.
- B. Turfgrass Sod Species: Turf-type Tall Fescue Grass

-
- C. Minimum Size
 - 1. Width: 3'-6"
 - 2. Length: 84'-0"

2.4 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
 - 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

2.5 MULCHES

- A. Mulch for application to seed bed areas shall be wood cellulose fiber, or an approved equal.
 - 1. Wood cellulose fiber shall be prepared from virgin wood fibers containing no substance which might inhibit germination or growth of grass seed.
 - a. The fiber shall be dyed an appropriate color to allow visual metering of its application and shall contain a tacking agent either combined with the product or added in the tank when making the slurry.
 - b. Fibers shall have the property of becoming evenly dispersed and suspended when agitated in water.
 - c. When sprayed uniformly on the surface of the soil, the fibers shall form a blotter-like groundcover which readily absorbs water and allows infiltration to the underlying soil.
 - d. Weight specifications from suppliers, and for all applications, shall refer only to air dry weight of the fiber, at a standard equivalent of 10 percent nominal moisture content.
 - e. The mulch material shall be supplied in packages having a gross weight not in excess of 100 pounds and shall be marked by the manufacturer to show the air dry weight content.
 - f. Suppliers shall certify that laboratory and field testing of their product has been accomplished and that it meets all of the foregoing requirements pertaining to wood cellulose fiber mulch.

2.6 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as

required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.

PART 3 - EXECUTION

3.1 SEQUENCING AND SCHEDULING

- A. Notify Owner's Representative seven (7) days prior to start of seeding and sodding operations.
- B. Protect existing utilities, paving and other facilities from damage caused by seeding and sodding operation.
- C. Perform seeding and sodding work only after planting and other work affecting ground surface has been completed.
- D. The irrigation system, if applicable, will be installed prior to seeding and sodding. Locate, protect, and maintain the irrigation system during seeding and sodding operations. Repair irrigation system components damaged during seeding and sodding operations at the Contractor's expense.
- E. Proceed with, and complete landscape work as specified within the submitted planting schedule, working within seasonal limitations for each kind of landscape work required.

3.2 TURF AREA PREPARATION

- A. General: Prepare planting area for soil placement and mix planting soil according to Section 329113 "Soil Preparation."
- B. Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- D. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.3 SEEDING

- A. General
 - 1. Sow seed at the following rate: 10 to 15 pounds per 1000 sq. ft.
 - 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 - 3. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph.
 - 4. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

3.4 HYDROMULCHING

- A. Apply the hydromulch to the seeding areas immediately after the seeding and compaction.
- B. Apply the hydromulch by means of a standard hydraulic slurry seeding machine. Demonstrate, to the Architect's satisfaction, that the equipment and methods will result in a uniform application of the hydromulch.
- C. Mix the hydromulch at the rate of 50 pounds per 100 gallons of water. Apply the hydromulch at the rate of (dry) 1,800 pounds per acre of seeded and cultipacked slope, immediately after the seeding and cultipacking to maximize adhesion and minimize slumping.
- D. Obtain complete coverage from a consistent angle of approach while applying hydromulch. Achieve no more than 65% coverage from the primary angle of application, and 35% coverage from the secondary angle of coverage. Maintain secondary angles of coverage of between 175° and 185° from the primary angle.
- E. Mixing proportions, application methods and rates may be adjusted based on the manufacturer's recommendations.

3.5 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to soil or sod during installation. Tamp and roll lightly to ensure contact with soil, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
 - 1. Lay sod across slopes exceeding 1:3.
 - 2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than two anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.6 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

-
- B. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings.
 - C. Restrict traffic from lawn areas until grass is established. Erect signs and barriers as required.

3.7 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
 - 2. Satisfactory Sodded Turf: At end of maintenance period, a healthy, well-rooted, even-colored, viable turf has been established, free of weeds, open joints, bare areas, and surface irregularities.
- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

END OF SECTION 329200