
Specifications

**Century City Department of Public
Works
Official Notice #46
Redevelopment Project
Area A/Zone #1
Monument Sign Fabrication and
Installation Bid Package
3945 North 31st Street, Milwaukee, WI
Technical Specifications**

SECTION 00 01 17

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**SECTION 01 10 00
SUMMARY OF WORK**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents including General Specifications, General Requirements, Drawings and Attachments apply to the Work in this Section and are hereby made part of this Section.

1.02 DESCRIPTION OF WORK

- A. Supply material, labor and equipment and permits to fabricate and install a monument sign. The Work is to be completed in strict accordance with the Contract Documents and applicable regulations. The Work is summarized (though not completely) below:
 - 1. Fabrication, transportation to site and installation of sign.
 - 2. Fabrication and installation of sign support steel beam and posts (except for the two (2) HSS 8x8x3/8" posts)
 - 3. Installation of electrical for sign, including service meter, service meter pedestal and electrical panel.
- B. Work shown on the Drawings or included in the Specifications, except for Work specifically indicated as "not in contract" or "Work by Others"
- C. All temporary facilities and utilities required to execute the Work, including, but not limited to temporary power, temporary water and temporary sanitary facilities for Contractor's workers use.
- D. All necessary coordination and cooperation with utility companies, City agencies, regulatory agencies and other Owner's contractors working within the Project Limits or who are impacted by or will impact the Work within the Project Limits.
- E. Restoration to its original condition of any facilities or items, not included in the Work, that are damaged as a result of activities related to the Work.

1.03 WORK BY OTHERS

- A. Construction of the concrete sign support structure, including the two (2) HSS 8x8x3/8" posts and post base embeds will be performed by others. The Contractor will however be required to coordinate and cooperate with the sign contractor to minimize conflicts.
- B. All work noted as "by Others" in the Drawings or Specifications.

1.04 WORK NOT INCLUDED IN CONTRACT

- A. Work mentioned in the Drawings and Technical Specifications as not being a part of this contract.

1.05 WORK SEQUENCE

- A. Contractor shall construct the Work in a sequence that efficiently accommodates all of the Work requirements of the Contract Documents. The Contractor shall be wholly responsible for sequencing the work and shall submit a work sequence plan to the Owner for approval, prior to commencement of the Work.
- B. Contractor shall sequence the Work to coordinate with work being done by Others.

1.06 COORDINATION WITH OTHER OWNER’S CONTRACTORS ONSITE

- A. The Contractor shall coordinate, as provided in the Contract Documents and as directed by the Owner, with other Owner’s contractors operating on the project site.

1.07 CONTRACTOR’S USE OF THE PREMISES

- A. The Contractor shall submit, for Owner approval, documents indicating the proposed location of storage, staging, site office and other operations.
- B. The Contractor's use of the site, including the areas approved by the Owner for Contractor’s use, is limited by:
 - 1. The Owner's right to perform work, employ separate contractors to perform work, and to provide access to the Owner’s visitors at Owner’s convenience.
 - 2. Regulatory requirements for use of public thoroughfares adjoining the Work site.

1.08 SITE CLEANING

- A. Contractor shall keep the site clean of rubbish, in accordance with the General Conditions and applicable regulations, throughout the duration of the project.
- B. Maintain the site in a manner to comply with codes, ordinances, regulations, and anti-pollution laws.
 - 1. Provide approved on-site containers for the collection of waste materials, debris, and rubbish.
- C. Remove waste materials, debris, and rubbish from the site at the end of the Work and dispose in a legal manner away from the site.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

**SECTION 01 29 73
SCHEDULE OF VALUES**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including General Specifications and Drawings, apply to the work of this Section.
- B. This Section contains general information that applies to all work performed under the Contract and is inherently made a part of each specification section.

1.02 SCOPE OF WORK

- A. The work of this Section consists of the procedural requirements for the submission of the following documents and items:
 - 1. Schedule of Values allocated to the various portions of the Work.
 - 2. Schedules of Values shall be submitted to the City when requested.

1.03 COORDINATION

- A. The Contractor is to coordinate preparation of Schedule of Values with preparation of construction schedule.
- B. Line items in Schedule of Values shall be correlated with other required administrative schedule and forms, including the following:
 - 1. Contractor's construction schedule.
 - 2. Application for payment form.
 - 3. List of Subcontractors.
 - 4. Schedule of Allowances.
 - 5. List of products.
 - 6. List of principal suppliers and fabricators.
 - 7. Schedule of submittals.
 - 8. List of Approved Change Orders.

1.04 FORM, CONTENT AND APPROVAL

- A. Prepare Schedule of Values on AIA Document G702 and G703, latest editions, or as directed by City.
- B. Include the following Project identification on Schedule of Values.
 - 1. Project name and location.
 - 2. Name of City.
 - 3. City's Project number.
 - 4. Contractor's name and address
 - 5. Contractor's Project number.

6. Contract date.
 7. Date of submittal.
 8. Payment Application Number.
- C. List the unit price and total installed value of the component parts of the work in sufficient detail to serve as a basis for computing values for progress payments during construction.
1. The Schedule of Values shall conform to the following:
 - a. Include a directly proportional amount of the Contractor's overhead, profit, taxes, and other related costs in each item. Temporary facilities and other major cost items that are not direct cost of actual work-in-place shall be distributed as overhead expense.
 - b. For items on which progress payments will be requested for stored materials, break down value into the following and assign the value to the appropriate cost code:
 - 1) The cost of the materials, delivered and unloaded, with taxes paid.
 - 2) The total installed value, less the cost of materials.
 - c. The sum of all values listed in the schedule shall equal the total Contract Sum. Round all values to the nearest dollar.
 - d. For unit cost Allowances, show line item value of unit cost Allowance as the product of unit cost times measured quantity as estimated from best indication in Contract Documents.
 - e. Indicate the percentage complete, previous payment request, current payment request, and amount remaining for each item.
 - f. The City or its Agent and City reserve the right to request further breakdown of costs or to add additional categories for payment as the Work progresses.
 2. Update and resubmit Schedule of Values when Change Orders or Construction Change Directives result in a change in Contract Sum.
 3. Contractor shall revise the Schedule of Values as requested by the City or its Agent.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 31 19
PROJECT MEETINGS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents including the General Specifications and General Requirements apply to the work in this Section.

1.02 SCOPE OF WORK

- A. The City will conduct project meetings in which the Contractor is required to participate and make available the appropriate personnel. These meetings include, but are not limited to the following:
 - 1. Pre-construction Project Meeting.
 - 2. Project Progress Meetings.
 - 3. Other Project Meetings.

1.03 PRE-CONSTRUCTION PROJECT MEETINGS

- A. The City will schedule a pre-construction meeting within 5 days of issuance of the Notice to Proceed, to be attended by all project managers, Contractor's field superintendent other representatives of the Contractor and their major subcontractors. Prior to this time, Contractor shall make specified pre-construction submittals including the following:
 - 1. Typed list of Contractor's sub-contractors, consultants and personnel, with names, titles, addresses, email addresses, and telephone numbers. Indicate at least two personnel who shall be the emergency contacts for the Project. Provide landline and mobile telephone information for the emergency contacts.
 - 2. Contractor's site specific health and safety plan.
 - 3. Typed list of the submittals required for the work as indicated in the individual Specification Sections, including a schedule for the submittals.
 - 4. Certificates of insurance.
 - 5. Schedule of Values.
 - 6. Permits.
 - 7. Specified bonds.
 - 8. Erosion control implementation plan.
 - 9. Dust control plan
- B. The pre-construction meeting agenda shall include the following:
 - 1. Communication lines between all parties including written, electronic and verbal means.
 - 2. Processing applications for payment, including the format, schedule of values, frequency of applications, retainage, and other administrative

- requirements.
3. Processing and distribution of submittals.
 4. Maintenance of as-built and record documents.
 5. Procedure for field changes, change estimates, change orders, etc.
 6. Site security.
 7. Meeting schedule.

1.04. PROJECT PROGRESS MEETINGS

- A. The City will conduct progress meetings at the Project site at regularly scheduled intervals to address matters related to the Work including but not limited to, safety, schedule, cost, changes and issues. The Contractor shall at least have its project manager present at these meetings.

1.05. OTHER PROJECT MEETINGS

- A. The City will conduct other project meetings, at any time, as required, in its judgment, to achieve the project objectives. These meetings could include, but are not limited to: coordination meetings, issue meetings, project payment meetings and substantial completion and completion meetings.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00
SUBMITTALS AND REQUESTS FOR INFORMATION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including General Specifications, Specifications, Appendices, Attachments and Drawings.
 - 1. This Section contains general information that applies to all work performed under the Contract and is inherently made a part of each specification section.

1.02 SUMMARY OF WORK

- A. The Scope of Work in this section includes, but is not limited to, the following:
 - 1. Product Data and Samples.
 - 2. Project schedule.
 - 3. Work logistics and plans.
 - 4. Manufacturer's certificates.
 - 5. Construction photographs.
 - 6. Contractor's Request for Information (RFI).
 - 7. Any information needed to complete the Work.
 - 8. Worker certifications
 - 9. Contaminated/hazardous material disposal manifests
 - 10. Soil compaction test results
 - 11. Erosion Control Plan
 - 12. Dust Control Plan
 - 13. As-built drawings.

1.03 PRODUCT DATA AND SAMPLES

- A. Required Submittals: Submit shop drawings, product data, initial selection samples, verification samples, calculations, coordination drawings, schedules, and all other submittals as specified for each part of the work.
 - 1. Substitutions: Where a submittal proposes a material or product different than specified, clearly note substitution on the submittal for each item. Contractor's submittal and City's acceptance of submittals is not a valid request for, nor an approval of, a substitution, unless the Contractor presents this information when first submitted as a formal "Request for Substitution".
- B. Submittal Schedule: Within 10 days after award of contract and before first application for payment, prepare list of submittals in chronological sequence showing all submittals and proposed date first due at City or its Agent's office and proposed date due to be returned to Contractor. Use Submittal Reference Numbers on submittal schedule as indicated below. Allow proper time for reviewing each submission and time for

resubmission, if needed. Make first submission of a submittal no more than 7 days after notice of Award of Contract.

- C. Contractor's Preparation of Submittals: Modify and customize all submittals to show interface and coordination with adjacent work and actual field conditions. Identify each submittal with name of project, date of origination, Contractor's name, subcontractor's name, manufacturer's name, fabricator's name, submittal name and description, and individual Submittal Reference. Use the Submittal Reference Number exclusively in communications about submittals. Clearly note and fully describe all qualifications and all deviations from the requirements of the Contract Documents. Stamp, date, and sign each submittal to show the Contractor's review and approval of each submittal before delivery to City or its Agent's office. Unstamped, undated or unsigned submittals will be returned without action by the City or its Agent. Leave minimum 4" x 6" open space for City or its Agent's stamp and notations.

- D. Product Data: Provide manufacturer's printed literature including, without limitation, manufacturer's standard printed description of product, materials and construction, recommendations for application and use, certification of compliance with standards, instructions for installation, and special coordination requirements. Collect data into one submittal for each unit of work or system; clearly mark each copy with ink to show which choices and options are applicable to project.
 - 1. Product Data Submittal Quantities: Submit at least five copies. City or its Agent will return two copies to the Contractor if not rejected; if rejected, only one copy will be returned. Provide, reproduce, and distribute additional copies as needed.
 - 2. Installer Copy: Verify that the Installer has a current copy of the relevant product data, including installation instructions, before permitting installation to begin.

- E. Samples: Provide at least two sample units for each sample submission. Sample units shall be identical to final materials and products installed in the work and shall clearly show the complete and full range of finish, color, texture and appearance variations expected. Work in the field which falls outside the accepted range shown by the samples shall be rejected. Where indicated, prepare samples to match City or its Agent's sample. Label each sample with description, source, varietal name or manufacturer's name and model number. City or its Agent will review samples for confirmation of visual design intent, color, pattern, texture and type only; City or its Agent will not test samples for compliance with other Contract requirements that shall remain the exclusive responsibility of the Contractor.
 - 1. Initial Selection Samples Submittal Quantities: For initial selection purposes, submit one set of samples showing the complete range of colors and finishes available.
 - 2. Verification Samples Submittal Quantities: For verification of an initial selection, submit two sets of samples; one set will be returned to Contractor to be maintained at project site for quality control comparisons. Discard rejected samples; do not store at the site.
 - 3. Additional Samples: The City and City or its Agent reserve the right to require additional samples or samples not listed in the Contract Documents. Provide

these samples as indicated for specified samples.

4. If samples are rejected, Contractor shall provide, at no additional cost, additional samples until accepted by the City or its Agent.
- F. Timing of Submittals: Submit submittals in a timely fashion to allow at least 5 business days for the City or its Agent's review and handling. For submittals which have to be reviewed by the City or its Agent and his/ her project team sub-consultants add five more business days for each consultant.
1. Testing: Submit samples and materials for testing sufficiently in advance of need for use on Project. Allow adequate time for testing and, if necessary, re-testing.
 2. Allow sufficient time for review and acceptance of mock-ups/ sample panels before performing work.
- G. City or its Agent's Action on Submittals: City or its Agent will review submittals, stamp with "action stamp", mark action, and return to Contractor. City or its Agent will review submittals only for conformance with the design concept of the project. The Contractor is responsible for confirming compliance with other Contract requirements, including without limitation, performance requirements, field dimensions, fabrication methods, means, methods, techniques, sequences and procedures of construction, and coordination with other work. The City or its Agent's review and approval of submittals shall be held to the limitations stated in the General Conditions of the Contract for Construction. In no case shall approval or acceptance by the City or its Agent be interpreted as a release of Contractor of his responsibilities to fulfill all of the requirements of the Contract Documents. City or its Agent's action will be one of the following:
1. Reviewed: When so marked, City or its Agent and his/ her sub-consultants are indicating that they have reviewed the submittal but do not assume responsibility for the use of that submittal.
 2. Accepted: When so marked, the work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents. Acceptance of the work will be based on that compliance.
 3. Accepted Subject to Condition as Noted: When so marked, the work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents and the City or its Agent's notes and comments. Acceptance of the work shall be based on that compliance.
 4. Resubmission Required: Do not permit submittals with this action marking to be used at the project site or elsewhere where work is in progress.
 - a. Submit Additional Item as Noted: When so marked, resubmit the item[s] noted.
 - b. Revise Submission as Noted and Resubmit: When so marked, make corrections or changes to original submittal or prepare a new submittal and resubmit to City or its Agent for additional review.
 5. Disapproved: When so marked, prepare a new submittal and resubmit to City or its Agent for review. Do not permit submittals with this action marking to be used at the project site or elsewhere where work is in progress.

6. Incomplete, illegible, erroneous or other faulty submittals shall be returned to Contractor without any submittal designation. The Contractor shall correct the submittal and return it for additional review.
7. Distribution of submittals: When submittal is noted "accepted" or "accepted subject to conditions as noted", make prints or copies and distribute to City, Subcontractors involved, and to all other parties requiring information from the submittal for performance or coordination of related work within 10 calendar days after date of City or its Agent's action. Provide and pay for all copies of submittals as reasonably necessary for proper completion of the Work. Print shop drawings for distribution only from the final approved reproducible drawing. Maintain one complete set of submittals at the project site in a neat, organized file.

1.04 MANUFACTURER'S CERTIFICATES AND TEST RESULTS

- A. Submit manufacturer's certificates required by individual Sections.
- B. Indicate that the product complies with or exceeds specified requirements. Submit supporting reference data, affidavits and/or certifications as appropriate.
- C. Certificates that are not current must be acceptable to the City or its Agent.

1.05 WORKERS' CERTIFICATION

- A. Contractor is to submit to the City or its Agent, documentation that proves all workers involved in asbestos abatement or any hazardous material handling work have the required certifications.
- B. Contractor is to submit to the City or its Agent, documentation that proves all workers involved in soil remediation or any hazardous material handling work have the required 40-hour HAZWOPER training, and annual refresher training, if required.
- C. Contractor is to submit to the City or its Agent, documentation that proves that all workers are certified as to discipline or trade as required in permits issued to complete the work

1.06 REQUESTS FOR INFORMATION

- A. When the Contractor encounters any question concerning the Work or when he/ she requires additional information to perform the Work, the Contractor shall submit a written Request for Information (RFI), on a City approved form, to the City or its Agent. The RFI shall contain the project name, names and addresses of the Contractor, City and City or its Agent, RFI number, related drawings and specification numbers, nature of the question, space for a reply, and due date for the response.
- B. The Contractor shall number the RFI's sequentially and shall keep a record of all RFI s

and their responses.

C. Each RFI shall pertain to one topic only. Topics shall not be mixed on RFIs.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

- C. The work under this Section shall be performed in conformance with all of the applicable “Related Documents”.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

1.01 ASBESTOS ABATEMENT

- A. The Contractor shall immediately notify the City of any suspect asbestos containing materials discovered during the Work so arrangements can be made to properly assess and manage the materials.
 - 1. Additional suspect materials may include buried pipe insulation, other buried materials or materials not previously identified in the Contract Documents as suspect asbestos-containing materials.
- B. After completion of the asbestos abatement work, the ground surfaces shall be cleaned, using appropriate methods for asbestos abatement, to meet visual and clearance criteria.
- C. Liquid and/or solid debris generated during the final cleaning shall be properly characterized and disposed of in an approved manner and in accordance with all local, state, and federal regulations.
- D. The asbestos abatement activities shall be conducted by asbestos workers and supervisors currently certified by the Asbestos and Lead Section of the Wisconsin Department of Health Services.
- E. The Contractor shall not dispose of any asbestos-contaminated waste, debris, or refuse in any location or manner other than at a pre-established landfill, licensed by the Wisconsin Department of Natural Resources to accept asbestos containing material, using methods specified herein, and in accordance with Federal, State, and local regulations.
- F. Storage of ACM bags shall only be inside an approved and properly prepared container, which shall be locked at all times when it not being loaded by the Contractor.
- G. The Contractor shall transport asbestos-containing materials to the licensed landfill in labeled and covered containers in accordance with all Federal, State, and local regulations.
- H. At the end of the project the Contractor shall notify the City in writing that it has complied with all requirements stated herein and with those set forth by Federal, State, or local agencies as required herein. This notice shall be included in the final Project Log Book.

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including General Specifications, Specifications and Drawings.
- B. This Section contains general information that applies to all work performed under the Contract and is inherently made a part of each specification section.

1.02 SUMMARY OF WORK

- A. The Contractor shall implement procedures, including testing as required, to ensure that all Work complies with the quality requirements of the Contract Documents.
 - 1. The City may arrange for a qualified Testing Laboratory or other inspection or measurement services, to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-control services required by City or its Agent, or authorities having jurisdiction are not limited by provisions of this Section.
- B. See the respective sections of the Technical Specifications for specific test and inspection requirements.
- C. Contractor shall provide, quality-control services to verify conformance of the Work with the requirements of the Specifications.

1.03 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by City or its Agent.
- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

1.04 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Reports: When required by the Contract Documents or when requested by the City, prepare and submit certified written reports that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Ambient conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on retesting and re-inspecting.
- C. Permits, Licenses, and Certificates: For City's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer Qualifications. A firm experienced in manufacturing products or systems

similar to those indicated for this Project and with a record of successful in-service performance.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
- F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.

1.06 QUALITY CONTROL

- A. City Responsibilities: Where quality-control services are indicated as City's responsibility, City will engage a qualified testing agency to perform these services.
 - 1. City will furnish Contractor with names addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
 - 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services. Contractor shall not employ the same entity engaged by City, unless agreed to in writing by City.
 - 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that revised or replaced Work that failed to comply with

requirements established by the Contract Documents.

E. Testing Agency Responsibilities:

1. Cooperate with the City or its Agent, and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
2. Notify City or its Agent and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
3. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate of each test, inspection, and similar quality-control service through Contractor.
5. The testing agency shall not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
6. The testing agency shall not perform any duties of Contractor.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field-curing of test samples.
5. Preliminary design mix proposed for use for material mixes that require control by testing agency.

G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

1.01 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 01 57 00
ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Contractor, in executing Work, shall maintain Work areas on- and off-site free from environmental pollution that would be in violation of federal, state or local regulations.
- B. Payment:
 - 1. Work specified in this section is incidental to the Work and should be included as part of appropriate lump sum or unit prices specified in Bid Form.

1.02 RELATED SECTIONS

- A. All sections of these Specifications are related to this section.

1.03 REFERENCES

- A. City of Milwaukee Code of Ordinances Vol. 2, Chapter 290 – Erosion Control
- B. Wisconsin Department of Transportation Standard Specification for Highway and Structure Construction
- C. WPDES Permit.

1.04 PROTECTION OF SEWERS

- A. Prevent construction material, pavement, concrete, earth or other debris from entering existing culverts or sewer structures.

1.05 EROSION AND SEDIMENT CONTROL

- A. Comply with provisions of City of Milwaukee Code of Ordinances Vol. 2, Chapter 290 – Erosion Control
- B. Apply appropriate soil conservation measures to protect project area and adjacent lands. These measures may include, but not be limited to, mulching, rapid growth vegetation, fabric mat, hay bales, filter barriers, sediment traps, and basins.
- C. Select methods of erosion and sediment control for specific job site.
 - 1. Contractor shall develop an erosion control plan and shall submit the plan to the City for review and approval.
 - 2. Adjust sediment control measures in field to meet conditions encountered.

- D. Install erosion control measures before commencing work on project site.
 - 1. Maintain erosion control measure during course of construction.
 - 2. Remove erosion control measures upon establishment of permanent, surface stabilization.
- E. All products used must be listed on the Wisconsin Department of Transportation's erosion control acceptability list.
- F. All erosion control devices shall be installed as indicated in accordance with section 628 of the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, Current Edition.
- G. Maintenance of the erosion control devices shall be performed in accordance with all applicable standards and permits, including the Wisconsin Pollution Discharge Elimination System (WPDES) permit

1.06 DISPOSAL OF EXCESS EXCAVATED AND OTHER WASTE MATERIALS

- A. Excess excavated material not required or unsuitable for backfill, and other waste material shall be disposed of in accordance with state and local solid and hazardous waste regulatory requirements.
- B. Provide watertight conveyance for liquid, semi-liquid or saturated solids which tend to bleed during transport. Liquid loss from transported materials is not permitted, whether being delivered to construction site or hauled away for disposal. Fluid materials hauled for disposal must be specifically acceptable at selected disposal site.

1.07 PROTECTION OF AIR QUALITY

- A. Minimize air pollution by use of properly operating combustion emission control devices on construction vehicles and equipment and encourage shutdown of motorized equipment not in use.
- B. Do not burn trash on construction site.
- C. If temporary heating devices are necessary for protection of Work, they shall not cause air pollution.

1.08 THAWING OF FROZEN GROUND

- A. Obtain permit from appropriate local authority before building fire to thaw frozen ground, and comply with conditions of permit.

- B. Use fuel which does not create air pollution or inconvenience public.
- C. Engineer reserves right to prohibit fires for thawing whenever deemed undesirable.

1.09 USE OF CHEMICALS

- A. Chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall be approved by U.S. EPA or U.S. Department of Agriculture or any other applicable regulatory agency.
- B. Use and disposal of chemicals and residues shall comply with manufacturer's instructions.

1.10 NOISE CONTROL

- A. Conduct operations to cause least annoyance to residents in vicinity of Work, and comply with applicable local ordinances.
- B. Equip compressors, hoists, and other apparatus with mechanical devices necessary to minimize noise and dust. Equip compressors with silencers on intake lines.
- C. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.
- D. Line storage bins and hoppers with material that will deaden sounds.
- E. Conduct operation of dumping rock and of carrying rock away in trucks so as to cause minimum of noise and dust.
- F. Route vehicles carrying rock, concrete or other material over such streets as will cause least annoyance to public and do not operate on public streets between hours of 6:00 p.m. and 7:00 a.m., or on Saturdays, Sundays or legal holidays unless approved by City.

1.11 DUST CONTROL

- A. Contractor shall develop and implement a dust control plan that ensures conformance with the dust control standards of the Wisconsin DNR, the City of Milwaukee Code of Ordinances and other applicable federal, state and local standards, at all times during the Work.
- B. If dust emissions are problematic, the Contractor will identify the source of emissions and take corrective action, at no additional cost to the City.

- C. Contractor shall submit for review, to the City or its Agent, a dust control plan that outlines the methodology and materials that will be employed in the dust control during the Work.
- D. Any anti-freeze that is added to the water for dust control on the project site shall be approved by the Wisconsin Department of Natural Resources prior to its use on the site.

1.12 FUELS AND LUBRICANTS

- A. Project site is within well recharge area.
- B. Minimize use of potentially hazardous materials including fuels and lubricants.
- C. Keep motorized equipment in good working order with no fuel or lubricant leakage. Protect ground surface from leakage using tarps or other material methods.
- D. If grease, oil, solvent, or other residue from Contractor operations occurs, Contractor shall conduct remedial investigation and remediate as required by City.
- E. Do not change oil on equipment or store or dispose of fuels, solvents, lubricants, or other potentially hazardous materials on Site.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 70 00
CONTRACT CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including General Specifications and other requirements of the Specifications apply to the work of this Section and are hereby made a part of this Section.

1.02 SCOPE OF WORK

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection and acceptance procedures.
 - 2. Project Record Documents.
 - 3. As-Built Documents.
 - 4. Punch List.
 - 5. Operation and maintenance manuals.
 - 6. Warranties.
 - 7. Instruction of City's personnel.
 - 8. Final cleaning.
- B. See Technical Specifications for specific closeout and special cleaning requirements for products of those Sections.

1.03 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise City of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, waste disposal manifests (contaminated soil, sewer sediment, and asbestos), and similar documents.
 - 4. Obtain and submit releases permitting City unrestricted use of the Work and access to services and utilities.
 - 5. Prepare and submit Project Record and As-Built Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by City. Label with manufacturer's name and model number where applicable. Legally dispose of materials not returned or retained by the City.
 - 7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.

- 8 Advise City of changeover for all utilities.
 9. Submit changeover information related to City's occupancy, use, operation, and maintenance.
 10. Complete final cleaning requirements.
 11. Touch up and otherwise repair and restore pavements, fences and other features that were damaged by the Work.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, City or its Agent will either proceed with inspection or notify Contractor of unfulfilled requirements. City or its Agent will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by City or its Agent, that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections (the Punch List) as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.04 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to the General Conditions and the Specifications
 2. Submit certified copy of City or its Agent's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by City or its Agent. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Inspection: Submit a written request for final inspection for Final Acceptance. On receipt of request, City or its Agent will either proceed with inspection or notify Contractor of unfulfilled requirements. City or its Agent will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
- C. The City or its Agent shall establish the date of Final Acceptance and submit written notice of that date. The warranty and maintenance periods will not commence until the City or its Agent has made a Final Acceptance of the Project.

1.05 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of Punch List. Include name and identification of each

space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.06 PROJECT RECORD AND AS-BUILT DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for City or its Agent's reference during normal working hours.
- B. Maintain field record documents neatly and accurately, and carefully record information regularly as the work progresses. Include in record documents all field changes made to the original Contract Documents, all change order modifications, all construction change directives, all field directions and instructions from the City or its Agent, all relevant dimensions, and all relevant details of the work. Information and locations of work that is readily obvious does not need to be recorded in record documents. Keep record documents up to date at all times.
 - 1. Progress Payments: Maintaining record documents accurately and up to-date shall be a prerequisite for approval of Contractor's application for progress payments.
 - 2. Record Documents Required: The following record documents are required:
 - a. Record and As-Built drawings.
 - b. Record specifications.
 - c. Waste disposal manifests.
- C. Record progress "As Built" Drawings: During the course of the Work, Contractor shall have maintained one print of all of the Contract Drawings, commencing with the original Contract issue and including all revisions thereto, as the "working record" of the Drawings from which the Project is constructed.
 - 1. Contractor shall show on the copy of Contract Drawings by notation thereon, or red marked revisions thereto, any deviations between the work as originally shown for design and the work as actually installed. These noted deviations shall include changes that were required to be made because of field conditions or conflicts between the work of two or more trades.
 - 2. Comply also with requirements of specification sections of Division 1 through 16 for Record Documents of specific items or systems referenced therein.
- D. At the close of the Project, the Contractor shall prepare from the "working record", final "As-Built" Drawings showing all changes made to horizontal and vertical alignment of the site.
 - 1. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 - 2. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

- E. Record Submittals: Shop Drawings, Product Data, and other data shall be assembled in sequential order of the specification format and provided to the City.
- F. Record Specifications: Submit two copies of the Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment finished, including substitutions and product options selected.
 - 3. Note related Change Orders and Record Drawings, where applicable.
- G. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
 - 1. Provide written concise chart of all materials, systems and products used on the Project. Indicate name, model number, manufacturer, supplier and contact information.

1.07 MAINTENANCE

- A. Submittal Time: Submit written maintenance agreements on request of City or its Agent for designated portions of the Work where commencement of maintenance other than date of Final Completion is indicated.
- B. Refer to individual trade sections for specific maintenance requirements. Maintenance that is required under the Contract is in addition to and not in lieu of any remedy or warranty to which the City is entitled under law. Maintenance agreements shall not be interpreted as a waiver of any of the City's rights.
 - 1. Maintenance Effective Starting Date: All maintenance shall begin upon Substantial Completion of the project and shall run for the period indicated. If no specific maintenance period is indicated, the maintenance shall be for at least one year from Date of Substantial Completion of the Project.
 - 2. Contractor's Responsibilities for Maintenance: The Contractor shall implement and invoke all maintenance by subcontractors and material suppliers longer than one year duration when required under various sections of these specifications, and use his best efforts to facilitate and aid the City in any claims the City may have.

1.08 FINAL CLEANING

- A. General: Just prior to Final Acceptance provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

- B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
1. Clean Project site, yard, and grounds in areas disturbed by construction activities, including landscape development areas, of debris, rubbish, waste material, litter, and other foreign substances.
 2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 4. Remove tools, construction equipment, machinery, and surplus material from Project site.
 5. Leave Project site clean.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on City's property. Do not discharge volatile, harmful, or dangerous materials or any chemicals into drainage systems. Remove waste materials from Project site and dispose of lawfully.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

**SECTION 01 71 23
FIELD ENGINEERING**

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including General Specifications and Specifications, Appendices and Drawings, apply to the work of this Section and are hereby made a part of this Section.

1.02 SCOPE OF WORK

- A. This Section specifies administrative and procedural requirements for field engineering services, including, but not necessarily limited to, the following:
 - 1. Land Survey Work.
 - 2. Establishment and maintenance of layout and elevation control points.
 - 3. Horizontal and vertical layout of all site improvements for review by the City or its Agent prior to and during construction.

1.03 SUBMITTALS

- A. Project Record and As-Built Documents: Submit a record of work performed and record survey data as required under provisions of sections "Submittals" and "Contract Closeout".
- B. When requested by the City or its Agent, provide supplemental horizontal and vertical data to aid in the design or construction of the Work. Provide supplementary data at no additional cost to the Project.

1.04 QUALITY ASSURANCE

- A. Surveyor: The Contractor shall engage a Registered Land Surveyor, registered in the state of Wisconsin to perform land/building surveying services required.

1.05 EXAMINATION

- A. Verify layout information shown on the Drawings, in relation to the property survey and existing benchmarks before proceeding to lay out the work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.
 - 1. Establish existing control points in areas convenient to but outside of Work area, prior to the commencement of any Work. Confer with City's Agent prior to reestablishing control points.
 - 2. Do not change or relocate benchmarks or control points without prior written approval. Promptly report lost or destroyed reference points, or requirements to relocate reference points because of necessary changes in grades or locations. Base replacements on the original survey control points.

- B. Establish and maintain a minimum of two permanent benchmarks on the site, referenced to data established by survey control points. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
- C. Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction.
 - 1. Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer and water service piping.

1.06 PERFORMANCE

- A. Working from lines and levels established by the property survey, establish benchmarks and markers to set lines and levels at each area of work and elsewhere as needed to properly locate each element of the Project. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.
 - 1. Advise entities engaged in construction activities of marked lines and levels provided for their use.
 - 2. As construction proceeds, check every major element for line, level and plumb.
- B. Surveyor's Log: Maintain a surveyor's log of control points, benchmarks, and other survey work. Make this log available for reference.
- C. Record deviations from required lines and levels, and advise the City's Agent when deviations that exceed indicated or recognized tolerances are detected. On Project Record Drawings, record deviations that are accepted and not corrected.
- D. Site Improvements: Locate and lay out site improvements horizontally and vertically, including but not limited to, pavements, bases, foundations, steps, walls, wood elements, stakes for grading, fill and topsoil placement, utilities, utility slopes and invert elevations, benches, lights, and planting by instrumentation and similar appropriate means.
 - 1. The City or its Agent shall review and accept the horizontal and vertical layout before construction begins. No Work shall be installed without the City or its Agent's acceptance of the layout.
 - 2. Work with City or its Agent to set up string line or other layout aides necessary to review horizontal and vertical alignment of site improvements.
 - 3. Provide horizontal and vertical layout information prior to beginning construction and as construction proceeds. City or its Agent shall have the right to request confirmation of all vertical and horizontal layouts of site improvements before, during and after construction.
- E. Existing Utilities: If the Work impacts existing utilities that are to remain, furnish information necessary to adjust, move or relocate existing structures, utility poles, lines, services or other appurtenances located in, or affected by construction. Coordinate with local authorities and public/ private utilities having jurisdiction.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 05 12 00
STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Fabrication, transportation, delivery, and erection of structural steel.
 - 2. Structural steel, framing members, support members, and welds.
 - 3. Bearing plates and shear stud connectors.
- B. Related Sections:
 - 1. Applicable provisions of Division 01 – General Requirements shall govern all work under this Section.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM A108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished.
 - 2. ASTM A588 – Standard Specification for High-Strength Low Alloy Structural Steel, up to 50 ksi Minimum Yield Point, with Atmospheric Corrosion Resistance.
 - 3. ASTM A847 – Standard Specification for Cold-Formed Welded and Seamless High-Strength, Low-Alloy Structural Tubing with Improved Atmospheric Corrosion Resistance.
- B. American Welding Society (AWS):
 - 1. AWS A2.0 - Standard Welding Symbols.
 - 2. AWS D1.1 - Structural Welding Code.
- C. American Institute of Steel Construction, Inc (AISC):
 - 1. AISC – Steel Construction Manual, Current Edition.
 - 2. AISC - Code of Standard Practice for Steel Buildings and Bridges.
 - 3. AISC - Specification for Architectural Exposed Structural Steel.

1.3 SUBMITTALS

- A. Division 01 – General Requirements: Submittal Procedures.
- B. Shop and Erection Drawings:
 - 1. Indicate profiles, sizes, spacing, and locations of structural members, openings, attachments, and fasteners.
- C. Show all connections.
 - 1. Indicate welded connections with AWS A2.0 welding symbols. Indicate net weld lengths.
 - 2. Indicate cleaning specifications.
 - 3. Assume responsibility for dimensional errors.

4. Field verify bearing plate placement into top of wall and modify steel above plates to accommodate field conditions.
5. Fabricator shall check shop drawings before Submittal.

D. Shop drawings shall include the following:

1. Connection drawings, job standards, and any other items that are performance specified or designed by Contractor's engineer.
2. Provide holes for installation of other work.
3. Any omission from shop drawings of any materials required by Contract Documents shall not relieve Contractor of responsibility of furnishing and installing such materials, even though shop drawings may have been reviewed and approved.

E. Welders Certificates: Submit under provisions of Division 01 – General Requirements Manufacturer's Certificates, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.4 QUALITY ASSURANCE

- A. Fabricate structural steel members in accordance with AISC -Specifications and the AISC Code of Standard Practice for Steel Buildings and Bridges.
- B. Perform Work identified on Drawing as architecturally exposed in accordance with AISC Specification for Architectural Exposed Structural Steel.

1.5 QUALIFICATIONS

- A. Fabricator: Company specializing in performing the work of this Section with minimum ten years documented experience and AISC Certified.
- B. Erector: Company specializing in performing the work of this Section with minimum ten years documented experience.

1.6 FIELD MEASUREMENTS

- A. Verify that field measurements are as shown on Drawings and shop drawings.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Structural Steel W-Shape Members: ASTM A588, Corten Weathering Steel, $F_y = 50$ ksi.
- B. Structural Steel Angles, Plates, Channels and Other Rolled Members: ASTM A588, Corten Weathering Steel, $F_y = 36$ ksi.
- C. Rectangular or Square (HSS) Hollow Structural Sections: ASTM A847, Corten Weathering Steel, Grade B, $F_y = 46$ ksi.

- D. Shear Stud Connectors: ASTM A108 Grade 1015, Fu = 60 ksi Forged Steel, headed and uncoated.
- E. Welding Electrodes: E7018 or SG2 MIG wire and shall comply with AWS D1.1; type required for materials being welded.

2.2 FABRICATION

- A. Fabricate items of structural steel in accordance with AISC specifications, and as shown on approved shop drawings.
- B. Field connections are to be welded, unless other types of connections are indicated.
- C. Connections shall support a minimum of one-half the total uniform load capacity shown in the AISC ASD tables for allowable loads on beams for the given shape, span, and steel specified, unless otherwise noted.
- D. Welding shall comply with AISC and AWS Codes for procedures, appearance, quality of welds, and for methods used in correcting welding work.
- E. All welds shall be made by AWS pre-qualified welders, certified for welds made.
- F. Minimum size of fillet welds shall be as specified in TABLE J2.4 of AISC Manual of Steel Construction.
- G. Minimum Strength of Welded Connections: Unless noted otherwise on drawings, all shop and field welds shall develop full tensile strength of member of element joined.
- H. All members with moment connections, noted on drawings, shall be welded to develop full flexural capacity of member, unless noted otherwise on drawings.
- I. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates.
- J. Verify or supplement dimensions shown on Drawings by field measurements to assure fit of new work.
- K. Jointed members shall be sealed with continuous welds unless otherwise noted.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify that field conditions are acceptable and are ready to receive work in accordance with Drawings and shop drawings.
- B. Verify anchors and anchor rods have been preset into connection work in accordance with Drawings and shop drawings.

- C. Beginning of installation and erection means that existing conditions have been checked and found acceptable.
- D. Cost of corrections shall be borne by this Section if variances are not identified prior to start of installation.

3.2 ERECTION

- A. Erect structural steel in accordance with AISC Specifications.
- B. Store steel on site on substantial shores or blocking to keep free of ground and to prevent bending, buckling, or twisting.
- C. Prevent water collection on members.
- D. Provide for erection loads, wind, and dead loads, and provide sufficient temporary bracing to maintain structure in safe, plumb, and true alignment until completion of erection and installation of permanent bracing.
- E. Do no final welding until structure has been properly aligned and plumbed.
- F. Do not field cut or alter structural members without prior approval of Structural Engineer of Record.
- G. Field weld components indicated on Drawings and shop drawings. Welding shall be compatible with weathering steel so that no priming is required after welding is completed, and future corrosion of welds will be similar to weathering steel components.
- H. Contact surfaces of field connections shall be free from dust, oil, loose scale, burrs, pits, and other defects that prevent solid seating of parts.
- I. Reaming is not allowed if reaming weakens or makes it impossible to fill holes or adjust accurately after being reamed.

3.3 ERECTION TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch.
- B. Maximum Offset From True Alignment: 1/4 inch.

3.4 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Division 01 – General Requirements.

END OF SECTION