HIGHWAY WORK PROPOSAL

Proposal Number: 1 5

Wisconsin Department of Transportation
DT1502 10/2010 s.66.29(7) Wis. Stats.

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Kenosha	1030-31-72		NS Freeway, Rest Area 26 Safety Rest Area Improvements	Non-Highway

This proposal, submitted by the undersigned bidder to the Wisconsin Department of Transportation, is in accordance with the advertised request for proposals. The bidder is to furnish and deliver all materials, and to perform all work for the improvement of the designated project in the time specified, in accordance with the appended Proposal Requirements and Conditions.

Proposal Guaranty Required, $ 20,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: July 9, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time Thirty (30) Working Days	
Assigned Disadvantaged Business Enterprise Goal 0 %	This contract is exempt from federal oversight.

This certifies that the undersigned bidder, duly sworn, is an authorized representative of the firm named above; that the bidder has examined and carefully prepared the bid from the plans, Highway Work Proposal, and all addenda, and has checked the same in detail before submitting this proposal or bid; and that the bidder or agents, officer, or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal bid.

Do not sign, notarize, or submit this Highway Work Proposal when submitting an electronic bid on the Internet.

Subscribed and sworn to before me this date _____

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State Wisconsin)

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work Framing, plumbing, electrical, HVAC.	
Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder, signing and submitting this proposal, agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

If the bidder has a corporate relationship with the proposal design engineering company, the bidder declares that it did not obtain any facts, data, or other information related to this proposal from the design engineering company that was not available to all bidders.

The bidder declares that they have carefully examined the site of, and the proposal, plans, specifications and contract forms for the work contemplated, and it is assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. It is mutually agreed that submission of a proposal shall be considered conclusive evidence that the bidder has made such examination.

The bidder submits herewith a proposal guaranty in proper form and amount payable to the party as designated in the advertisement inviting proposals, to be retained by and become the property of the owner of the work in the event the undersigned shall fail to execute the contract and contract bond and return the same to the office of the engineer within fourteen (14) days after having been notified in writing to do so; otherwise to be returned.

The bidder declares that they understand that the estimate of quantities in the attached schedule is approximate only and that the attached quantities may be greater or less in accordance with the specifications.

The bidder agrees to perform the said work, for and in consideration of the payment of the amount becoming due on account of work performed, according to the unit prices bid in the following schedule, and to accept such amounts in full payment of said work.

The bidder declares that all of the said work will be performed at their own proper cost and expense, that they will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications and the approved plans for the work together with all standard and special designs that may be designed on such plans, and the special provisions in the contract of which this proposal will become a part, if and when accepted. The bidder further agrees that the applicable specifications and all plans and working drawings are made a part hereof, as fully and completely as if attached hereto.

The bidder, if awarded the contract, agrees to begin the work not later than ten (10) days after the date of written notification from the engineer to do so, unless otherwise stipulated in the special provisions.

The bidder declares that if they are awarded the contract, they will execute the contract agreement and begin and complete the work within the time named herein, and they will file a good and sufficient surety bond for the amount of the contract for performance and also for the full amount of the contract for payment.

The bidder, if awarded the contract, shall pay all claims as required by Section 779.14, Statutes of Wisconsin, and shall be subject to and discharge all liabilities for injuries pursuant to Chapter 102 of the Statutes of Wisconsin, and all acts amendatory thereto. They shall further be responsible for any damages to property or injury to persons occurring through their own negligence or that of their employees or agents, incident to the performance of work under this contract, pursuant to the Standard Specifications for Road and Bridge Construction applicable to this contract.

In connection with the performance of work under this contract, the contractor agrees to comply with all applicable state and federal statutes relating to non-discrimination in employment. No otherwise qualified person shall be excluded from employment or otherwise be subject to discrimination in employment in any manner on the basis of age, race, religion, color, gender, national origin or ancestry, disability, arrest or conviction record (in keeping with s.111.32), sexual orientation, marital status, membership in the military reserve, honesty testing, genetic testing, and outside use of lawful products. This provision 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 further agrees to ensure equal opportunity in employment to all applicants and employees and to take affirmative action to attain a representative workforce.

The contractor agrees to post notices and posters setting forth the provisions of the nondiscrimination clause, in a conspicuous and easily accessible place, available for employees and applicants for employment.

If a state public official (section 19.42, Stats.) or an organization in which a state public official holds at least a 10% interest is a party to this agreement, this contract is voidable by the state unless appropriate disclosure is made to the State of Wisconsin Ethics Board.

Effective with August 2007 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

(1) Obtain bidding proposals as specified in section 102 of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:

1. Electronic bid on the internet.
2. Electronic bid on a printout with accompanying diskette or CD ROM.
3. Paper bid under a waiver of the electronic submittal requirements.

(2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.

(3) The department will provide bidding information through the department's web site at http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm. The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at http://www.bidx.com/ after 5:00 P.M. local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.

(4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the www.bidx.com web site or by contacting:

Info Tech Inc.
5700 SW 34th Street, Suite 1235
Gainesville, FL 32608-5371
email: mailto:customer.support@bidx.com

(5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.

(6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

1. Have a properly executed annual bid bond on file with the department.
2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.

(2) In lieu of preparing, delivering, and submitting the proposal as specified in 102.6 and 102.9 of the standard specifications, submit the proposal on the internet as follows:

1. Download the latest schedule of items reflecting all addenda from the Bid Express™ web site.
2. Use Expedite™ software to enter a unit price for every item in the schedule of items.
3. Submit the bid according to the requirements of Expedite™ software and the Bid Express™ web site. Do not submit a bid on a printout with accompanying diskette or CD ROM or a paper bid. If the bidder does submit a bid on a printout with accompanying diskette or a paper bid in addition to the internet submittal, the department will disregard the internet bid.
4. Submit the bid before the hour and date the Notice to Contractors designates.
5. Do not sign, notarize, and return the bidding proposal described in 102.2 of the standard specifications.

(3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

B.2 On a Printout with Accompanying Diskette or CD ROM

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at **http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm**. Use Expedite ™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

(2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

(3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.

(4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

(5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

3. The diskette or CD ROM is not submitted at the time and place the department designates.

C Waiver of Electronic Submittal

(1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.

(2) Submit a schedule of items on paper conforming to section 102 of the standard specifications. The department charges the bidder a $75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."

(3) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
2. The bidder fails to pay the $75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the $75.
3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.

(4) In addition to the reasons specified in section 102 of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

Proposal Number	Project Number	Letting Date
Name of Principal		
Name of Surety	State in Which Surety is Organized	

We, the above-named Principal and the above-named Surety, are held and firmly bound unto the State of Wisconsin in the sum equal to the Proposal Guaranty for the total bid submitted for the payment to be made; we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. The condition of this obligation is that the Principal has submitted a bid proposal to the State of Wisconsin acting through the Department of Transportation for the improvement designated by the Proposal Number and Letting Date indicated above.

If the Principal is awarded the contract and, within the time and manner required by law after the prescribed forms are presented for signature, enters into a written contract in accordance with the bid, and files the bond with the Department of Transportation to guarantee faithful performance and payment for labor and materials, as required by law, or if the Department of Transportation shall reject all bids for the work described, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. In the event of failure of the Principal to enter into the contract or give the specified bond, the Principal shall pay to the Department of Transportation **within 10 business days of demand** a total equal to the Proposal Guaranty as liquidated damages; the liability of the Surety continues for the full amount of the obligation as stated until the obligation is paid in full.

The Surety, for value received, agrees that the obligations of it and its bond shall not be impaired or affected by any extension of time within which the Department of Transportation may accept the bid; and the Surety does waive notice of any such extension.

IN WITNESS, the Principal and Surety have agreed and have signed by their proper officers and have caused their corporate seals to be affixed this date: **(DATE MUST BE ENTERED)**

PRINCIPAL

(Company Name) **(Affix Corporate Seal)**

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Name of Surety) **(Affix Seal)**

(Signature of Attorney-in-Fact)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

IMPORTANT: A certified copy of Power of Attorney of the signatory agent must be attached to the bid bond.

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

Time Period Valid (From/To)
Name of Surety
Name of Contractor
Certificate Holder Wisconsin Department of Transportation

This is to certify that an annual bid bond issued by the above-named Surety is currently on file with the Wisconsin Department of Transportation.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the annual bid bond.

Cancellation: Should the above policy be cancelled before the expiration date, the issuing surety will give thirty (30) days written notice to the certificate holder indicated above.

(Signature of Authorized Contractor Representative) (Date)

FEBRUARY 1999

LIST OF SUBCONTRACTORS

Section 66.29(7), Wisconsin Statutes, provides that a bidder, as a part of his proposal, shall submit a list of the subcontractors he proposes to contract with and the class of work to be performed by each, provided that to qualify for such listing each subcontractor must first submit his bid in writing to the general contractor at least 48 hours prior to the time of bid closing. It further provides that a proposal of a bidder shall not be invalid if any subcontractor, and the class of work to be performed by such subcontractor, has been omitted from a proposal.

No subcontract, whether listed herein or later proposed, may be entered into without the written consent of the Engineer as provided in Subsection 108.1 of the Standard Specifications.

Name of Subcontractor	Class of Work	Estimated Value
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DECEMBER 2000

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.

4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.

7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

(1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

Special Provisions

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SPECIAL PROVISIONS

1. General.

Perform the work under this construction contract for Project 1030-31-72, NS Freeway, Rest Area 26, Safety Rest Area Improvements, Family Assisted Restroom Upgrade, Kenosha County,, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2013 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.
100-005 (20120615)

2. Scope of Work.

The work under this contract shall consist of a new family assisted restroom within the existing foot print of the main building at Rest Areas 26, adding new Automatic Flush Valves to the existing urinals and water closets, installing decorative LED luminaires and exterior painting, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.
104-005 (20090901)

3. Prequalification of Bidders.

Prequalification is not required. Standard spec 102.1 does not apply.

4. Prosecution and Progress.

Begin work within ten calendar days after the engineer issues a written notice to do so.

The Rest Area shall remain open to public access during the summer travel season. Work may not begin until Wednesday, September 4, 2013. The rest area shall be open to public access during all work. Maintain access to all public areas. Perform work in and neat and orderly fashion, cleaning up periodically as the work progresses. Clean up and secure the work areas at the end of each day.

Use measures to protect the public from hazards including but not limited too; flying debris, falling objects, tripping, slipping, construction dust, chemicals, solvents and attractive nuisances such as unattended power tools, wet cement, paint and adhesives.

5. Traffic.

The project is not anticipated to significantly impact traffic or use of the facility. Locate construction vehicles, trailers, dumpsters, stockpiles and equipment in a manner that minimizes obstruction to the general public's use of the facility.

6. Utilities.

This contract does not come under the provision of Administrative Rule Trans 220.
107-065 (20080501)

The project is not anticipated to impact utilities. Use caution to ensure the integrity of any overhead and underground utility.

7. Coordination With Other Contracts.

This special provision describes coordination with other contractors who will be working in the project area during the contract period.

Family Assisted Rest Rooms – ID 1030-31-72 (This Contract)
Work under this contract consists of constructing new family assisted restrooms within the existing foot print of the main building at Rest Area 26. Coordinate the work operations, materials storage and worker access to the site to allow unrestricted site access to all contractors working at the site.

Roof Replacement – ID 1030-31-71
Work under this contract consists of removing the old shingle roofing system and replacing them with new roofing systems at the main buildings at Rest Area 26. Coordinate the work operations, materials storage and worker access to the site to allow unrestricted site access to all contractors working at the site.

8. Install Conduit Into Existing Item, Item 652.0700.S.

A Description
This special provision describes installing proposed conduit into an existing manhole, pull box, junction box, communication vault, or other structure.

B Materials
Use conduit rigid non-metallic schedule 40, 1 inch, as provided and paid for under other items in this contract. Furnish backfill material, topsoil, fertilizer, seed, and mulch conforming to the requirements of pertinent provisions of the standard specifications.

C Construction
Expose the outside of the existing structure without disturbing existing conduits or cabling. Drill the appropriate sized hole for the entering conduit(s) at a location within the structure without disturbing the existing cabling and without hindering the installation

of new cabling within the installed conduit. Fill void area between the drilled hole and conduit with an engineer-approved filling material to protect against conduit movement and entry of fill material into the structure. Tamp backfill into place.

D Measurement
The department will measure Install Conduit Into Existing System by the unit, acceptably installed. Up to five conduits entering a structure per entry point into the existing structure will be considered a single unit. Conduits in excess of five, or conduits entering at significantly different entry points into the existing pull box, manhole, or junction box will constitute multiple units of payment.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
652.0700.S	Install Conduit Into Existing Item	Each

Payment is full compensation for excavating, drilling holes; furnishing and installing all materials, including bricks, coarse aggregate, sand, bedding, and backfill; for excavating and backfilling; and for furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; and for making inspections.
652-070 (20100709)

9. Automatic Flush Valves, Urinal, Item SPV.0060.01.

A Description
This special provision describes furnishing and installing automatic flush valves described in Part 1 of Section 224000 in accordance with the General Requirements for Building Construction and Technical Specifications.

B Materials
Furnish automatic flush valves that are according to the pertinent requirements of Part 2 of Section 224000.

C Construction
The contractor shall install automatic flush valves in accordance with manufacturer's recommendations and according to the pertinent requirements of Part 3 of Section 224000.

D Measurement
The department will measure Automatic Flush Valves, Urinal per each individual valve installed, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Automatic Flush Valves, Urinal	Each

Payment is full compensation for removal of the existing flush valve, piping and fittings, electrical wiring, electrical boxes, electrical connections, transformers, conduit, automatic flush valves, motion detectors, cleanup, all labor, materials, equipment and incidental items needed to complete the work.

10. Automatic Flush Valves, Water Closet, Item SPV.0060.02.

A Description
This special provision describes furnishing and installing automatic flush valves described in Part 1 of Section 224000 in accordance to the General Requirements for Building Construction and Technical Specifications.

B Materials
Furnish automatic flush valves that are according to the pertinent requirements of Part 2 of Section 224000.

C Construction
The contractor shall install automatic flush valves in accordance with manufacturer's recommendations and according to the pertinent requirements of Part 3 of Section 224000.

D Measurement
The department will measure Automatic Flush Valves, Water Closet per each individual valve installed, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Automatic Flush Valves, Water Closet	Each

Payment is full compensation for removal of the existing flush valve, piping and fittings, electrical wiring, electrical boxes, electrical connections, transformers, conduit, automatic flush valves, motion detectors, cleanup, all labor, materials, equipment and incidental items needed to complete the work.

11. Luminaires Decorative LED, Item SPV.0060.03.

A Description
This special provision describes furnishing and installing LED luminaires at the locations shown in the plan.

B Materials

B.1 Material Qualifications

Furnish the engineer a complete list of documentation in accordance with standard spec 651.2. Furnish specific documentation detailing the following characteristics of the LED luminaire to be furnished:

- Fixture IES files (.ies format) for illumination modeling.
- Lighting design calculations using the proposed luminaire. Illumination design must meet ANSI / IESNA RP-8-00.
- Cut sheets, warranty information and parts list for all equipment.
- Luminaire heat dissipation.
- Dimming features.
- Color spectrum with HID lamp comparison.
- Optical design features.
- Two references from municipalities currently using the same luminaires.

Do not order materials until the engineer approves the materials submission.

Furnish one sample luminaire that has been approved for use on the project. Sample luminaire shall be available at least two weeks prior to installation of the luminaires for the project.

Engineer reserves the right to order removal and replacement of any and all lighting or electrical equipment installed by the contractor that does not match the approved materials list.

B.2 Luminaire

Furnish LED luminaires that provides multiple height options, uniform shadow-free illumination for building entries and walkways and blend flawlessly with any architectural style.

B.2.1 Electronic Components

Each luminaire shall accommodate varied lighting output from high brightness, 4300K (+/-500k per full unit), minimum 75 CRI, long life LED sources. Drivers shall operate across 110V, 50/60 Hertz as standard. LED drivers shall have a power factor greater than 90% and THD less than 20% of full load. LED drive current shall not exceed 525mA. All luminaires shall come equipped with an integral 9kV surge suppression protection standard and a quick disconnect harness suitable for mate and break under load provided on power feed to driver for ease of maintenance.

Drivers shall be capable of using factory preset dimming programs and be modified as necessary by manually downloading updated dimming programs using a serial port connection to a computer device. Dimming shall be controlled by internal programming and photocell data collection.

B.2.2 Optical / Illumination Performance

Luminaire shall illuminate the walkway as shown in the plan using the proposed lighting layout on the subject project to the following preset criteria:

- Luminaire tested and certified by an independent test laboratory to meet the photometric performance criteria established by IESNA LM-79.
- Luminaire shall be IESNA Type III optics.
- Luminaire shall deliver a minimum of 4,000 lumens and be rated to consume no more than 120 watts (+/- 10%) while operating at 525mA up to 79,000 hours of operation.
- The resulting illumination of the walkway under the proposed lighting layout shall meet an average illumination of 1.4 foot-candles and an average-minimum illumination ratio of 3.0:1; all within a tolerance of +/-10%.

B.2.3 Ratings / Certifications

Luminaires shall be rated and/or certified as follows:

- U.L. listed for wet locations.
- RoHS compliant for lead and mercury standards.
- IP-66 weather fastness rating.

B.3 Pedestal Base Standard

Furnish pedestal base standard, together with hardware and fittings as shown on Standard Detail Drawing "Walkway Lighting Unit and Concrete Base, Type II."

C Construction

Install LED Luminaire in accordance with the pertinent provisions of section 659 of the standard specifications and as the manufacturer directs.

D Measurement

The department will measure Luminaires Decorative LED as each individual luminaire unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.03	Luminaires Decorative LED	Each

Payment is full compensation for furnishing and installing all materials; installing a complete luminaire; for installing a pedestal base standard; for furnishing all documentation, labor, tools, equipment, and incidentals necessary to complete the contract work.

12. Rest Area 26 Family Assisted Restrooms, Item SPV.0105.01.

A Description
This section includes the work for constructing the addition of new family assisted restrooms within the existing foot print of the main building at Rest Areas 26, and all incidental items necessary to complete the work in accordance with the plans and General Requirements for Building Construction and Technical Specifications. The new restrooms will be located in the lobby area of the existing building.

B (Vacant)

C (Vacant)

D Measurement
The department will measure Rest Area 26 Family Assisted Restrooms as a single lump sum unit of work, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Rest Area 26 Family Assisted Restrooms	LS

Payment for Rest Area 26 Family Assisted Restrooms is full compensation for providing removal, disposal, transporting, furnishing and installing all materials and equipment, activating and testing, and for supplying all labor, tools, equipment, and incidentals necessary to complete the work.

13. Exterior Painting, Item SPV.0105.02.

A Description
This special provision describes exterior painting of the rest area building as described in Part 1 of Section 099100 in accordance to the General Requirements for Building Construction and Technical Specifications.

B Materials
Furnish paint and stain that is according to the pertinent requirements of Part 2 of Section 099100.

C Construction
The contractor shall paint the building in accordance with manufacturer's recommendations and according to the pertinent requirements of Part 3 of Section 099100.

D Measurement

The department will measure the exterior painting as a lump sum unit of work for exterior painting, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	Exterior Painting	LS

Payment is full compensation for surface preparation, cleaning, priming painting, cleanup, furnishing all labor, materials, equipment and incidental items needed to complete the work.

14. General Requirements for Building Construction and Technical Specifications.

Article 12

General Requirements for Building Construction and Technical Specifications

Kenosha County Rest Area 26
Rest Room Improvements

INDEX OF GENERAL REQUIREMENTS FOR BUILDING CONSTRUCTION AND TECHNICAL SPECIFICATIONS

DIVISION 26 – ELECTRICAL

260500	Common Work Results for Electrical
260519	Low-Voltage Electrical Power Conductors and Cables
260526	Grounding and Bonding for Electrical Systems
260529	Hangars and Supports for Electrical Systems
260533	Raceways and Boxes for Electrical Systems
260923	Lighting Control Devices
262416	Panelboards
262726	Wiring Devices
265100	Lighting

APPENDIX A - REFERENCE DRAWINGS

DIVISION 1 - GENERAL REQUIREMENTS

010000 – Summary of Work

PART 1 GENERAL

1.01 Summary

A. Work Included in this package includes the following as further described in the Special Provisions and the attached drawings and specifications:

1. Replace existing urinal flush valves with automatic flush valves.
2. Replace existing water closet flush valves with automatic flush valves.
3. Provide new LED luminaires in locations indicated.
4. Construct 2 new family assisted restrooms.

B. Work Not Included in this package:

    1. Reroofing and skylight replacement work covered in other work-orders/packages.

1.02. General Requirements

A. Terms and Conditions of the Form of Agreement with Wisconsin Department of Transportation apply to the work.

B. Any file data or drawings of the existing facilities provided are for general reference only. Accuracy or completeness of file data/drawings is not guaranteed.

C. Contractor shall visit existing site/facility and review all documents provided to verify and take into account actual field conditions as may be pertinent to the work prior to submitting a proposal. Coordinate all site visits with the WIDOT representative.

D. The Contractor shall field-check all pertinent dimensions and will be responsible for the correct fit of all components.

E. Any conflicts or discrepancies in the contract documents shall be brought to the Architect/Engineer’s attention for his assessment and determination which shall be final.

F. Work includes all labor, materials, equipment, services, fees, and any and all incidental work necessary to properly and completely perform the work and provide (furnish & install) complete systems, ready for use, meeting the given parameters.

G. Contractor shall perform all layout necessary from appropriate reference points.

H. Coordinate sequencing of all work with the Owner and the work of other contractors who may be working concurrently on site. Coordinate each trade to receive and accommodate the work of other trades.

I. Coordinate work in or near existing facilities with the Owner and perform portions of the work after facility operating hours as necessary to allow continued use of the facility by the public and the Owner, with a minimum of interruptions.

J. Comply with Owner requirements and protocols to maintain security of facilities and safety of the Owner's employees and the public.

K. Provide all barriers necessary for public safety and for security of the Contractor's work and the Owner's property throughout the work.

L. Provide temporary controls and barriers to protect adjacent spaces and occupants from dust, odors, welding flash, and noise.

M. Provide temporary measures as necessary to effectively control dust, debris, pollution and erosion and comply with applicable requirements of governing agencies.

N. Provide temporary services of lights, electrical power and water if/as needed to complete the work. Extend from existing building utilities or arrange for temporary service as needed. Do not exceed ratings of existing systems. Any temporary service installation/removal costs shall be paid by the Contractor. Any energy cost for heating temporary enclosures shall be paid by the Contractor. Energy costs for non-heat related power and lighting will be paid by the Owner.

O. Rest Area sanitary facilities are available for use by Contractor personnel.

P. Provide temporary heat and/or cooling if/as needed to properly construct the work, using methods and equipment that will not adversely affect the finished installation. Provide temporary heat and/or cooling if/as necessary to maintain temperature of occupied spaces of existing buildings during temporary shutdowns of building HVAC equipment.

Q. Provide temporary portable fire extinguishers suitable for all possible classes and types of fire, in number and locations appropriate to the work, including in the immediate vicinity of welding operations.

R. Do not bring materials to site until needed for progress of the work. Coordinate location and limits of temporary staging areas with Owner. Owner assumes no responsibility for materials stored on or off site.

S. Contractors shall obtain all permits necessary for construction of their work and shall pay all related fees.

T. Completely restore or replace any existing materials or finishes damaged while performing the work to match adjacent materials and finishes, to the Owner's satisfaction.

U. All joints and penetrations in building construction shall be sealed weather-tight and insect-proof with approved materials. All joints and penetrations in fire-rated construction shall be fire-safed to the appropriate rating with approved systems.

V. All products and materials shall be used, applied and installed in strict accordance with manufacturer's recommendations and installed with top quality workmanship by properly trained experienced tradesmen. All work shall meet pertinent industry codes and standards.

W. Contractor is responsible to employ whatever quality control/quality assurance measures may be necessary to ensure compliance with the contract documents, whether called for or not. Contractor shall hire a qualified independent testing agency to perform and provide test results for any specific field testing required by the contract documents.

X. Provide approved products and materials as specified. Submit confirming data for review and records as noted here and in other sections. Do not submit unapproved substitutions. Provide minimum of 4 sets/copies unless otherwise directed. Review will only be for information and general conformance with the design concept and Contract Documents. Contractor shall remain fully responsible for compliance of products and materials, correctness of quantities and dimensions, fit-up, installation requirements and coordination needed to meet all detailed requirements of the contract. Any and all proposed deviations from the contract requirements shall be fully highlighted and detailed in a written notice accompanying the actual submittal. All such proposed deviations will be subject to Architect’s/Engineer’s approval.

Y. Proposed substitutions for specified or “basis-of-design” products will only be considered in advance of formal submittals, at Architect’s/Engineer’s sole discretion, and only if accompanied by a sufficiently detailed feature and performance comparison to the specified product for complete evaluation.

Z. Where not specifically pre-selected, Architect/Engineer will select color, pattern and texture of each product from manufacturer’s full range of options, including both standard and premium items.

AA. Inspect all substrates prior to proceeding with subsequent work. Proceeding with work will imply contractor’s acceptance of conditions.

BB. Alert Owner to the presence of potentially hazardous materials or contaminants.

CC. Remove and replace all work that is defective or does not meet specified requirements.

DD. Clean up work debris daily. Provide temporary waste containers appropriate for all construction debris, in location approved by Owner. Provide tarps to capture and contain nails and debris and to exclude debris from lawns and landscaping. Perform thorough magnetic nail sweeps immediately after removal of existing materials as applicable to the work.

EE. Dispose of all removed and unused material and debris off-site in compliance with governing rules and agencies.

FF. At completion of project, thoroughly clean, sweep, wash, polish, and vacuum all work as necessary to remove foreign matter, splatter, spots and soil and put all work and equipment in a complete and finished condition ready for use.

GG. Keep a current set of project record documents at the jobsite marked with as-built conditions that vary from the original documents, and showing locations and vertical positions (eg: inverts) of underground and other concealed work and utilities with dimensions from permanent reference points. Submit record documents at project completion.

HH. Start up, clean, test, adjust, train Owner personnel, and provide the Owner with test results; use, care, operating and maintenance data; spare materials/parts lists; wiring diagrams and warranties for all systems provided. Provide minimum 3 bound copies of written data. Deliver spare parts and extra materials as specified.

II. All materials and workmanship shall be guaranteed for a period of not less than one (1) year from the date of acceptance of the entire project by the Owner. Provide other warranties as noted in specifications.

DIVISION 31 – EARTHWORK

312100 Structural Excavating, Backfilling and Compacting

PART 1 GENERAL

1.01 Summary

A. Provide excavating, backfilling, and compacting as necessary for construction indicated.

B. Protect existing improvements, utilities, trees and shrubs, and reference marks.

PART 2 PRODUCTS

2.01 Materials, General

A. Soil materials shall be free of organic matter, debris, frozen soils, ice, and other objectionable materials. Rock particles larger than 3” shall be removed.

B. Existing material excavated from site may be used if it meets requirements specified. If necessary, furnish additional approved material from suitable off-site sources.

2.02 'Granular Fill'

A. Select soils complying with ASTM D2487 soil classification groups GW (well-graded gravel), GP (poorly-graded gravel), SW (well-graded sand), or SP (poorly-graded sand). Aggregate shall pass a 1-1/2" sieve and not more than 35% shall be retained on a #10 sieve. Maximum 5% by weight shall pass a #200 sieve.

2.03 'Backfill'

A. Previously excavated soils, free of aggregate larger than 3", and suitable for intended purpose.

PART 3 EXECUTION

3.01 Stability of Excavations

A. Maintain sides and slopes of excavation in a safe condition. Comply with applicable codes and ordinances.

3.02 Cold Weather Protection

A. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 deg. F. by covering with dry insulating materials of sufficient depth to prevent frost penetration.

3.03 Subgrade

A. Inspect subgrade prior to placement of fill. Do not place fill on frozen subgrade.

3.04 Fill, General

A. Place fill or backfill in approximately horizontal layers; with maximum lift thickness as specified in Part 4 Schedules before compaction.

3.05 'Granular Fill' or 'Engineered Fill', 'Structural Fill'

A. Use 'Granular Fill' below concrete slabs, sidewalks and foundations to bring subgrade to designated elevation.

3.06 Backfill

A. Use 'Backfill' material to bring excavations to natural or designated grade outside of the building perimeter and beyond sidewalks unless 'Granular Fill' is indicated.

3.07 Compaction

A. Compact each layer of soil material to not less than the percentage of maximum density specified in Part 4 Schedules.

B. Provide compaction equipment required to obtain specified compaction. Small vibratory compactors are required wherever fill is placed adjacent to foundation walls, footings and piers. Pipe bedding and initial backfill shall be hand or mechanically tamped.

3.18 Field Testing

A. Provided whatever quality control measures, tests or procedures are necessary to perform, complete, maintain and verify the work to be in conformance with the specifications.

3.20 Disposal of Excess & Waste Materials

A. Remove excess excavated material, trash, debris, and waste materials and dispose of it off Owner's property.

PART 4 SCHEDULES

4.01 Compaction Schedule

Material Type	Usage	Loose Lift Thickness (1)	Compaction (2)
Granular Fill	Below concrete slabs Below concrete sidewalks, paving Below footings	6"	95%
	Along foundation walls (inside building)	6"	95%
	Along foundation walls (outside building)	8"	92%

(1) Place manually compacted materials in maximum 4" layers.

(2) Percent of maximum density determined in accordance with ASTM D1557 (Modified Proctor test).

DIVISION 3 - CONCRETE

030300 Quality Control - Concrete

PART 1 GENERAL

1.01 Summary
A. Provide quality control of concrete work. Comply with applicable provisions of General Requirements.

1.02 Submittals
A. Submit copy of field and laboratory reports to A/E.

1.03 Mix Designs
A. Provide concrete mix designs in accordance with Section 033000

1.04 Testing
A. Contractor shall arrange and pay for services of a qualified testing agency acceptable to Owner and independent of Contractor.

B. Testing agency shall test concrete to measure slump, entrained-air content, and compressive strength to determine compliance with Section 033000. Furnish test apparatus and cylinders, perform on-site sampling and testing, submit samples and perform laboratory tests. Comply with applicable provisions of ACI SP-2, Manual of Concrete Inspection.

1.05 Special Tests
A. In addition to strength, slump and air tests specified, Owner may authorize special tests performed including tests for cement content, chloride presence, or strength of cured concrete. Cost of these special tests shall be borne by Owner if tests show compliance with specifications and by Contractor if tests fail to comply with specifications.

PART 2 PRODUCTS

2.01 Test Cylinders
A. 6" dia. by 12" high cylinder, ASTM C31.

2.02 Slump Cone
A. 12" high standard mold, ASTM C143.

PART 3 EXECUTION

3.01 Compressive Strength Tests

A. During progress of work, prepare 3 test cylinders per 150 cu. yards or fraction thereof for each class of concrete placed each day. Comply with ACI 318, Section 4.3 (samples secured - ASTM C172, cylinders prepared and cured - ASTM C31, and tested - ASTM C39) except as otherwise directed. Identify samples, moist cure at 70 deg. F. for five days, and ship samples to testing laboratory for one 7-day test and two 28-day tests.

3.02 Slump & Air Content Tests

A. Perform tests on concrete from same batch as sampled for strength tests and whenever there is a change in consistency of concrete. Test for slump in accordance with ASTM C143. Test for air content in accordance with ASTM C231.

3.03 Compliance

A. If measured slump or air content falls outside specified limits, immediately check another portion of same batch. In event of a second failure, concrete shall be rejected.

B. Average of any three consecutive strength tests for each class of concrete shall be equal to or greater than specified strength and no individual test shall fall more than 500 psi below specified strength. When test results indicate deficiencies, A/E may require additional tests in accordance with ACI 318, Section 4.3, and may order remedial work. Specimens of cured concrete shall be tested in accordance with ASTM C42.

032000 Concrete Reinforcement

PART 1 GENERAL

1.01 Summary

A. Provide concrete reinforcement including bars, welded wire fabric, ties, and supports as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Codes & Standards

A. Comply with provisions of following codes and standards, except as otherwise designated:

ACI 315 Details and Detailing of Concrete Reinforcement.
ACI 318 Building Code Requirements for Reinforced Concrete.
AWS D1.4 Structural Welding Code - Reinforcing Steel.
CRSI Manual of Standard Practice.

PART 2 PRODUCTS

2.01 Reinforcing Bars
A. ASTM A615, Grade 60, deformed, new billet steel.

2.02 Welded Wire Fabric (WWF)
A. ASTM A185, welded steel wire fabric, flat sheet stock

2.03 Supports for Reinforcement
A. Furnish bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place. Use wire bar type supports complying with CRSI specifications, unless otherwise indicated. Do not use wood, brick, or other unacceptable materials.

PART 3 EXECUTION

3.01 Placing Reinforcement
A. Comply with specified codes and standards, and CRSI recommendations.

3.02 Placing Fabric
A. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh, but not less than 6" on side joints and 12" on end joints; lace splices with 16 gage annealed iron wire.

3.03 Splices & Terminations
A. Comply with requirements of ACI 318, CRSI, and as shown.

B. Splices and laps shall be 30 bar diameters minimum and 12” minimum, unless otherwise noted.

C. Horizontal reinforcement in footings, foundations and walls at corners and intersections shall be made continuous using corner bars or "L" dowels of same diameter; lap 30 bar diameters.

3.04 Concrete Cover
A. Provide the minimum concrete cover over steel reinforcement per ACI recommendation or as noted on the drawings.

032500 Concrete Accessories

PART 1 GENERAL

1.01 Summary
A. Provide accessories for concrete work as shown and as specified. Comply with applicable provisions of General Requirements.

PART 2 PRODUCTS

2.01 Vapor Barrier

A. Vapor barrier materials of width to minimize edge laps and resistant to decay in accordance with ASTM E154. Provide water resistant barrier paper consisting of heavy kraft papers laminated together with glass fiber reinforcement and overcoated with black polyethylene on each side or similar underslab vapor barrier product; Fortifiber "Moistop", Glas-Kraft "Ply-Bar Plus", Raven Industries "Rufco", Reef Industries "Griffolyn T-85", or equal.

2.02 Bond Breaker

A. 15-pound asphalt-impregnated felts.

2.03 Asphalt Expansion Joint Filler (Asphalt PJF)

A. Preformed bituminous strips, ASTM D994, 1/2" thick, of depth shown; Meadows Sealtite Asphalt, or equal.

2.04 Fiber Expansion Joint Filler (Fiber PJF)

A. Resilient bituminous type, nonextruding, ASTM D1751, 1/2" thick, of depth shown; Meadows Sealtite Fiber, Horn Fiber, Celotex Flexcell, Phillip Carey Elastite, or equal.

2.05 Moisture-Retaining Cover

A. Waterproof paper, polyethylene film, or polyethylene-coated burlap complying with ASTM C171.

PART 3 EXECUTION

3.01 Installation

A. Comply with manufacturer's instructions.

3.02 Vapor Barrier

A. Provide vapor barrier over prepared subgrade under interior floor slabs. Use widest practical seamless widths. Lap joints 6”. Seal joints and edges at foundations with manufacturer’s recommended mastic or pressure-sensitive tape. Carefully cut around projections. Seal penetrations and punctures with pressure-sensitive tape.

3.03 Joints

A. Place bond breaker at junctions of interior slabs-on-grade with vertical walls, and where shown. Place expansion joint fillers to isolate exterior slabs-on-grade from walls and other vertical building surfaces, and where shown.

B. Provide asphalt PJF or fiber PJF for exterior and concealed interior expansion joints, except use fiber PJF for pavement joints, unless otherwise shown. Seal fiber PJF with rubber-asphalt sealant.

3.04 Curing/Sealing

A. Provide a full 7-day wet cure to concrete floors, equipment pads, and slabs.

B. Apply moisture-retaining cover to wet cure all surfaces.

033000 Cast-in-Place Concrete

PART 1 GENERAL

1.01 Summary

A. Provide cast-in-place concrete work, including finishing and curing, as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Codes & Standards

A. Comply with provisions of following codes and standards, except as otherwise designated:

ACI 301 Specifications for Structural Concrete for Buildings.
ACI 304 Guide for Measuring, Mixing, Transporting, and Placing Concrete.
ACI SP-2 Manual of Concrete Inspection.
ACI 318 Building Code Requirements for Reinforced Concrete.
Wis. Adm. Code.

1.03 Submittals

A. Submit proposed mix designs to A/E 10 days prior to beginning concrete work. Do not begin concrete production until mixes have been reviewed.

B. Copies of all field and lab test reports.

1.04 Quality Assurance

A. Employ and pay for a qualified testing laboratory, acceptable to Owner, to perform material tests and to design concrete mixes.

B. Comply with Section 030300.

PART 2 PRODUCTS

2.01 Portland Cement

A. ASTM C150, Type I.

2.02 Aggregates

A. Conform to ASTM C33. Do not use aggregates containing soluble salts or other substances which can cause stains on exposed concrete surfaces.

B. Fine Aggregate: Clean, sharp, natural sand, free of loam, clay, lumps and foreign material.

C. Coarse Aggregate: Clean, uncoated, processed aggregate free from clay, mud, loam, and other foreign matter. Aggregate may be crushed natural rock, crushed stone, or washed natural or crushed gravel. Use of pit or bank run gravel is not permitted.

2.03 Water

A. Clean, potable, and free from oil, acid, alkalines, and organics.

2.04 Admixtures

A. Air-entraining admixture shall conform to ASTM C260 and be compatible with water reducing and any other admixture; W.R. Grace Darex AEA, Master Builders MB-VR, W.R. Meadows Sealtight AEA, or equal.

B. Water reducing admixture shall conform to ASTM C494 and shall be an aqueous hydroxylated polymer solution containing blends of ligno-sulfonates, polymeric carbohydrates, organic accelerators and a normal setting formula; Master Builders Pozzolith Normal or equal.

C. Accelerating admixture shall conform to ASTM C494 and shall be an aqueous solution of sodium-thiocyanate and alkanolamines, free of calcium chloride; Master Builders Pozzutec 20, or equal.

2.05 Concrete Mixtures

A. Conform to minimum standards in Part 4 Schedules.

B. Prepare design mixes for each type of concrete on the basis of compressive strength by methods recommended in ACI 318. Use an independent materials laboratory for preparing and reporting proposed mix designs.

C. Proportion mixes by either laboratory trial batch or field experience methods, using materials to be employed on project for each class of concrete required. When laboratory trial batches are used to select concrete proportions, prepare test specimens in accordance with ASTM C192 and conduct strength tests in accordance with ASTM C39 as specified in ACI 301.

D. Provide water-reducing admixture for all concrete work. Provide air entraining admixture at exterior flatwork and curbs and as otherwise scheduled. At Contractor's option, accelerating admixture may be used to reduce exposure of fresh concrete to adverse weather. Calcium chloride as an admixture or contained in an admixture is prohibited. No other admixtures will be permitted, unless approved in writing by A/E. Use admixtures in compliance with manufacturer's printed directions.

2.09 Penetrating Sealer

A. Penetrating silane sealer recommended by manufacturer for sealing concrete floors not receiving other finishes.

B. Master Builders “Master Seal Surface Guard” on Hydrozo “Enviroseal Surface Guard.”

PART 3 EXECUTION

3.01 Mixing & Delivery

A. Concrete shall be ready-mixed and delivered in accordance with ASTM C94. Place concrete within 1 hour after water is added to batch.

B. No water shall be added on job unless authorized by A/E. If added, record amount of water on all copies of delivery tickets. If water is added to mixed concrete at job, provide twenty revolutions of additional mixing.

C. Concrete shall arrive at site of work having a temperature not less than 60 deg. F. (50 deg. F. for heavy sections) nor greater than 90 deg. F.

3.02 Concrete Placement

A. Before placing concrete, inspect and complete formwork installation, reinforcing steel, vapor barriers, and items to be embedded. Notify other crafts involved in ample time to permit installation of their work; cooperate with other trades in setting such work.

B. Place concrete as specified and in accordance with ACI 304.

C. Screed concrete to proper level to avoid excessive skimming or grouting.

D. Do not use concrete which becomes non-plastic and unworkable, or does not meet required quality control limits, or which has been contaminated by foreign materials. Do not use retempered concrete. Remove rejected concrete from project site.

E. Consolidate concrete in forms by mechanical vibrating equipment and supplement by hand-spading, rodding or tamping.

3.05 Placing Concrete Slabs

A. Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until panel or section is complete.

B. Consolidate concrete during placing operations using mechanical vibrating equipment. Limit time of vibrating consolidation to prevent bringing an excess of fine aggregate to surface.

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

D. Depress slabs on grade to accommodate recessed floor grates, mats and floor finishes, and provide for final finish floor elevations. Maintain indicated slab thickness as a minimum.

E. Slope slabs to provide for final floor slopes of floor finish systems.

3.06 Cold Weather Placing

A. Protect concrete work from physical damage or reduced strength caused by frost, freezing actions, or low temperatures, in compliance with ACI 306.

3.07 Hot Weather Placing

A. When hot weather conditions exist that would seriously impair quality and strength of concrete, place concrete in compliance with ACI 305 and as specified below.

3.08 Construction Joints

A. Locate and install construction joints as shown and as otherwise approved.

3.09 Isolation & Expansion Joints

A. Provide bond breaker at junctions of interior slabs-on-grade with vertical surfaces, such as column pedestals, foundation walls, and grade beams, and where shown.

B. Provide expansion joint filler to isolate exterior slabs-on-grade from walls and other vertical building surfaces, and where shown. See Section 032500 for acceptable filler materials.

3.10 Contraction Joints

A. Provide contraction (control) joints in slabs-on-ground to form panels of patterns as indicated. Use saw cuts 1/8" x 1/4 slab depth unless otherwise indicated.

B. If joint pattern is not shown, provide joints not exceeding 15 ft. in either direction.

C. Fill joints with polymer-based control joint filler. Shave filler smooth and flush with adjacent floor surface.

D. Fill cracks, if any, with an approved epoxy mortar which will match floor finish in density and performance. Grind filler smooth and even with adjacent floor surface, free of bumps or depressions at crack.

3.11 Standard Smooth Form Finish

A. Provide standard smooth finish for formed surfaces exposed-to-view or to receive a covering applied directly or bonded to concrete, such as waterproofing, dampproofing, or paint. Standard smooth finish shall be the as-cast concrete surface obtained with form facing material, with defective areas repaired and patched and fins and other projections on surface completely removed and smoothed.

3.12 Slab - Float Finish

A. Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as specified, and slab surfaces to be covered with membrane or elastic waterproofing, roofing, and as shown.

3.13 Slab - Trowel Finish

A. Apply trowel finish to monolithic slab surfaces exposed to view, unless otherwise shown, and slab surfaces to be covered with resilient flooring, carpeting, paint, or other thin-set tile or thin-film finish coating system, and other locations noted.

3.14 Slab - Non-Slip Broom Finish

A. Apply non-slip broom finish to exterior concrete sidewalks, steps, and ramps, and elsewhere as designated. Immediately after trowel finishing, slightly roughen concrete surface by brooming perpendicular to main traffic direction. Match texture and appearance of adjacent existing surfaces.

3.15 Equipment Pads

A. Unless specifically noted otherwise, furnish and install concrete pads for equipment as shown or necessary, using concrete of same type as specified for floor slabs. Provide smooth trowel finish.

3.16 Concrete Curing & Protection

A. Protect freshly placed concrete from premature drying, excessive cold or hot temperatures, and mechanical injury. Maintain concrete with minimal moisture loss at a relatively constant temperature for period necessary for hydration and proper hardening.

B. Start initial curing as soon as free water has disappeared from concrete surface. Keep continuously moist for not less than 72 hrs. Thereafter, continue wet cure and protect concrete for 7 days at temperatures above 50 deg. F. Avoid rapid drying at end of final curing period.

C. Do not apply membrane-forming curing compounds in lieu of wet cure.

3.17 Penetrating Sealer

A. Apply penetrating sealer to interior concrete floor surfaces not scheduled to receive other finishes or systems as scheduled on the room finish schedule.

B. Install after concrete has cured and dried sufficiently in accordance with manufacturer.

PART 4 SCHEDULES

4.01 Concrete Mix

Min. Comp. Strength @ 28 days, p.s.i.	Max. Slump	Max. Agg. Size	Min. Cement, Bags/ C.Y.	Max. Water, Gal/ C.Y.	Max. Water-Cement Ratio	Air Content, % By Volume
3500	3-1/2"	3/4"	5-3/4	33	0.48	1-3%*

* For exterior concrete, air-entrainment shall be 4-6%.

DIVISION 6 – WOOD, PLASTICS & COMPOSITES

061000 Rough Carpentry

PART 1 GENERAL

1.01 Summary
A. Provide rough carpentry work as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Abbreviations
ALSC - American Lumber Standards Committee.
APA - The Engineered Wood Association.
AWPA - American Wood Preservers Association.
SPIB - Southern Pine Inspection Bureau.
WCLIB - West Coast Lumber Inspection Bureau.
WWPA - Western Wood Products Association.

1.03 Quality Assurance
A. Wood products shall be factory-marked to identify type, grade, inspection agency, producing mill and other qualities as specified.

1.04 Coordination
A. Obtain measurements and verify dimensions shown and shop drawing details before proceeding with carpentry work, wherever possible. Correlate location of furring, nailers, blocking, grounds and similar supports so that attached work will comply with design requirements. Fit carpentry work to other work. Scribe and cope as required for accurate fit.

B. Materials and installation requirements for other work, commonly assigned to carpentry trade, may be specified in other sections of these specifications. Contractor is responsible for assignment of such other work to proper trade.

1.05 Delivery, Storage & Handling
A. Keep carpentry materials dry during delivery. Store lumber and plywood in stacks with provisions for air circulation within stacks. Protect bottom of stacks against contact with damp or wet surfaces. Protect exposed materials against weather. Do not store dressed or treated lumber or plywood outdoors. Replace damaged materials.

PART 2 PRODUCTS

2.01 Lumber
A. Lumber shall comply with U.S. Product Standard PS-20 for American Softwood Lumber, U. S. Dept. of Commerce, and with rules of applicable manufacturer's association or authorized inspection bureau under which each species of lumber is produced.

B. Nominal sizes shown and specified refer to undressed lumber dimensions. Dress lumber four sides (S4S), unless otherwise shown or specified, and work to shapes and patterns shown. Detailed dimensions show actual sizes required.

C. Load bearing members: Unless otherwise indicated, provide No. 2 or better Douglas Fir, Western Larch, Western Hemlock (WWPA or WCLIB), or Southern Pine (SPIB) meeting the following design values (in psi):

1. Joists, rafters, and headers: not less than 1200 Fb.

D. Non-load bearing members: "No. 2" grade Douglas Fir, Western Larch, Western Hemlock (WWPA or WCLIB), or Southern Pine (SPIB).

E. Wood for support or attachment of other work such as cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members: "Standard" grade light framing or "No. 2 Common" grade boards of any WWPA, WCLIB, or SPIB species.

F. Maintain 19% maximum moisture content for all pieces of construction lumber. Mark lumber "DRY."

2.02 Plywood

A. Plywood shall comply with U. S. Product Standard PS-1 for Construction and Industrial Plywood, U.S. Dept. of Commerce, except as otherwise specified.

B. Plywood for interior exposure shall be interior-type plywood, APA Grade A-D or better. MDO where noted.

C. Plywood sheathing on exterior of building shall comply with U.S. Product Standard PS-2, and shall be Exterior-type plywood, APA Rated Grade C-C plugged sheathing in thickness as follows:

1. Roof sheathing: 5/8”, 40/20 span rating
2. Building walls: ½”, 24/16 span rating.

D. Plywood decking on interior elevated floors, framed ceilings: 3/4" T&G Sturdi-Floor

2.03 Wood Preservative Treatment

A. Lumber and plywood designated as "Treated" shall comply with the applicable requirements of AWPA C2 (lumber) and C9 (plywood) and shall bear quality mark of an inspection agency approved by ALSC's Board of Review.

B. Pressure treat the following items with waterborne preservatives for above ground use to a minimum retention of 0.25 lb./cu. ft.

1. Wood cants, nailers, blocking, stripping, and members in connection with roofing, flashing, concrete, masonry, vapor barriers, and waterproofing.

C. If wood is cut after treatment, coat cut surfaces with heavy brush coat of same preservative used for treatment in accordance with AWPA M4.

2.04 Rough Hardware

A. Provide nails, fasteners, anchors, etc., as designated and as required for proper assembly and erection. Rough hardware shall be of size to rigidly secure members in place.

B. Where rough carpentry wood is exposed to weather, in ground contact, or in areas of high humidity, provide hot-dip galvanized hardware (ASTM A153).

C. Provide stainless steel fasteners and hardware where in contract with preservative-treated wood.

2.05 Framing Connectors and Anchors

A. Provide anchors as described on Drawings complete with manufacturer's fasteners.

2.06 Building Felt

A. 15 lb. asphalt saturated roofing felt.

PART 3 EXECUTION

3.01 Workmanship

A. Carpentry work shall be performed by skilled carpenters. Framing lumber shall be installed level, true and plumb. Notches, cuts, holes, and other fabrication shall be made clean, even and true. Carpenter shall inspect framing lumber before installation; lumber with defects that impair quality or safety shall be rejected.

3.02 Installation, General

A. Use sound, thoroughly seasoned, well-manufactured materials of longest practical lengths and sizes to minimize jointing.

B. Use materials free from warp which cannot be easily corrected by anchoring and attachment. Discard warped material and material with defects which impair the quality of the work.

C. Securely attach carpentry work to substrates by anchoring and fastening as shown or scheduled on drawings. If not indicated provide minimum fasteners required by Building Code and applicable industry standards. Provide washers under bolt heads and nuts in contact with wood. Nail plywood to comply with the recommendations of APA. Countersink nail heads on exposed carpentry work and fill holes. Use stainless steel connectors and fasteners where in contact with preservative treated wood, and elsewhere if noted.

D. Set carpentry work accurately to required levels and lines with members plumb and true and accurately cut and fitted. Shim with metal or slate for full-bearing on concrete or masonry substrates.

E. Furnish and erect blocking and nailers for installation of other equipment that may be required to properly complete the work. Provide framing around items recessed into walls. Cooperate and coordinate with others of their needs for blocking, nailers, and furring.

F. Install framing connectors in strict conformance to manufacturer's instructions, using fasteners specified or provided by manufacturer. Provide uplift connectors at both ends of all roof members.

G. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AFPA Wood Frame Construction Manual.

H. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

I. Frame openings with two or more studs at each jamb; support headers on cripple studs.

3.03 Installation of Sheathing

A. Roof Sheathing: Secure panels perpendicular to framing members, with ends staggered and sheet ends over firm bearing.

1. Two-span condition, minimum, with long/strength axis perpendicular to supports.
2. Provide solid edge blocking between panels.
3. Provide solid edge blocking at perimeter edges
4. Nail panels to framing; staples are not permitted.
    a. Nail sheathing as follows with 10d common nails:
        1) 4 in. on center at panel edges, diaphragm edges, and blocking.
        2) 12 in. on center at intermediate supports/field of panel.
5. Provide 1/8" spacing between panels at edge and end joints.

3.04 Tolerances

A. Framing Members: 1/4 inch from true position, maximum.

B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.05 Cleaning

A. Waste Disposal:
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

072100 Thermal Insulation

PART 1 GENERAL

1.01 Summary
A. Provide building insulation work as shown and as specified. Comply with applicable provisions of Div. 1.

PART 2 PRODUCTS

2.01 Extruded Polystyrene Board Insulation
A. Extruded closed-cell polystyrene with integral high-density skin complying with ASTM C578, Type X, min. 25 psi compressive strength, 0.3% max. water absorption, thermal resistance (R-value at 40 deg. F.) of 5.0 per 1" thickness.

2.02 Fiberglass Batt Insulation
A. Glass fiber blankets with separate vapor barrier as specified below, complying with ASTM C665, type I unfaced thermal performance of R-13 per 3-1/2" thickness. Unfaced blanket shall be non-combustible as determined by ASTM E136.

2.03 Mineral Fiber Loose Fill Insulation
A. Inorganic fibers processed to form a loose resilient wool mass (for blowing) or granular nodules (for pouring), complying with ASTM C764; 1.0-lb. minimum in-place density; k-value of 0.30 where thickness is indicated, or thickness as required to provide "R" values as indicated; Class B (or Class A); provide type (blowing or pouring) as appropriate for configuration of space to be insulated, Contractor's option where either is appropriate, unless otherwise indicated.

2.04 Vapor Barrier
A. 6 mil sheet polyethylene, clear, for exterior wall and roof surfaces.

PART 3 EXECUTION

3.01 Installation
A. Extend insulation full thickness as shown over entire surface. Cut and fit tightly around obstructions, and fill joints and voids with insulation and mastic.

B. Comply with manufacturer's recommendations for particular conditions of installation.

C. Apply a single layer of insulation of required thickness, unless otherwise shown or as required to make up total thickness.

D. Mastics used with polystyrene insulations shall be approved for use by insulation manufacturer.

E. In exterior masonry cavity walls, provide two continuous layers of 1" thick extruded polystyrene board, with all joints staggered and joints on outside layer sealed with an approved mastic.

3.02 Vapor Barrier Installation

A. Install polyethylene vapor barrier on warm side of exterior wall and ceiling insulation. Vapor barrier shall be continuous and complete. Tape all projections thru barrier to form a seal. Lap all joints 6". Tape joints and edges at ceiling and at floor.

3.03 Miscellaneous Insulation

A. Insulate miscellaneous voids and cavity spaces as designated. Apply vapor barrier where necessary to prevent infiltration of outside air.

079200 Joint Sealants

PART 1 GENERAL

1.01 Summary

A. Provide joint sealer work as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Submittals

A. Submit manufacturer's product data, recommendations and installation instructions for each type of sealant, caulking compound and associated materials in accordance with Division 1. Include manufacturer's published data, letter of certification or certified test laboratory report that each material complies with requirements and is intended for applications shown.

B. Furnish color charts and actual material color samples; color will be selected from manufacturer's colors.

1.03 Quality Assurance

A. Employ only skilled, experienced tradesmen for sealant application.

PART 2 PRODUCTS

2.01 General Building Sealants

A. Interior: Acrylic terpolymer, solvent-based, one part, thermo-plastic sealant compound, solids not less than 95% acrylic; complying with ASTM C920, Type S, Grade NS; recommended by manufacturer for general use as an exposed building construction sealant. Furnish Tremco Mono, Pecora 60 Unicrylic, DAP Acrylic, or equal.

B. Control joints in horizontal tile floors shall be sealed with an urethane sealant complying with ASTM C920, type S or M, Grade P, Class 25, use T with a Shore A hardness of 35 or greater. Control joints in vertical surfaces shall be the same as above except grade NS and use NT.

C. Exterior: Urethane, one-part, air curing, elastomeric sealant, complying with ASTM C920, Type S, Grade NS, Class 25; Tremco Dymonic, Pecora Dynatrol I, Sika Sikaflex 1a, Sonoborn Sonolastic NP1, or equal. Colors to be selected from manufacturer's standard colors for various substrates, as approved by A/E.

2.02 Washroom & Toilet Room Sealant

A. For plumbing fixtures provide silicone rubber, mildew-resistant; GE SCS 1702, Dow Corning 786, or equal, in colors to match adjacent surfaces subject to Architect's/Engineer's approval.

2.03 Joint Cleaner

A. Provide type of joint cleaner recommended by sealant manufacturer for the particular joint sealant.

2.04 Joint Primer/Sealer

A. Provide type of joint primer/sealer recommended by sealant manufacturer for the particular joint sealants and substrates.

2.05 Bond Breaker Tape

A. Polyethylene tape or other plastic tape, as recommended by sealant manufacturer, to be applied to sealant contact surfaces where bond to substrate or joint filler must be avoided for performance of sealant. Provide self-adhesive tape where applicable.

2.06 Sealant Backer Rod

A. Compressible closed-cell rod stock of polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent durable non-absorptive material recommended by sealant manufacturer. Provide size and shape of rod which will control joint depth for sealant placement, break bond of sealant and form optimum shape of sealant bead on back side, and provide a highly compressible backer to minimize sealant extrusion when joint is compressed.

PART 3 EXECUTION

3.01 Installation, General

A. Provide sealing and caulking to produce weathertight conditions throughout. Caulk around all exterior and interior masonry openings; seal construction joints as shown, and caulk elsewhere as noted or required to exclude water from between adjacent materials and provide finished appearance. Joints shall be caulked before painting adjacent work.

B. Examine joint surfaces, backing and anchorage of units forming sealant rabbet, and conditions under which sealant work is to be performed; notify of conditions detrimental to proper and timely completion of work and performance of sealants. Do not proceed until unsatisfactory conditions are corrected.

3.02 Weather and Site Conditions

A. Do not proceed with installation of sealants when wind-borne dirt or adverse weather conditions are anticipated, nor when temperatures are outside manufacturer's recommended limitations. Proceed only when conditions are favorable for proper cure and development of bond strength. Wherever joint width is affected by ambient temperature variations, install elastomeric sealants only when temperatures are in the lower third of manufacturer's recommended installation temperature range, so that sealant will not be subjected to excessive elongation and bond stress at subsequent low temperatures.

3.03 Joint Surface Preparation

A. Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant or caulking compound.

B. Masonry and wood shall be sound and dry. Cure concrete a minimum of 28 days. Etch concrete and masonry joint surfaces to remove excess alkalinity, unless sealant manufacturer's printed instructions indicate that alkalinity does not interfere with sealant bond and performance. Etch with 5% solution of muriatic acid; neutralize with dilute ammonia solution, rinse thoroughly with water and allow to dry before sealant installation.

3.04 Installation

A. Comply with sealant manufacturer's instructions except where more stringent requirements are shown or specified. Prime or seal joint surfaces as recommended by sealant manufacturer. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.

B. Install sealant backer rod for liquid elastomeric sealants, except where shown to be omitted or as recommended by sealant manufacturer.

C. Employ only proven installation techniques, which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of the joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Horizontal joints between a horizontal surface and a vertical surface shall be filled to form a slight cove, so that joint will not trap moisture and dirt.

D. Install sealants to depths as shown, or if not shown, as recommended by sealant manufacturer but within the following general limitations, measured at the center (thin) section of bead.

1. For normal moving joints sealed with elastomeric sealants, but not subject to traffic, fill joints to a depth equal to 50% of joint width, but neither more than 1/2" deep nor less than 1/4" deep.
2. For joints sealed with non-elastomeric sealants and caulking compounds, fill joints to a depth in the range of 75% to 125% of joint width.
3. For sidewalks, pavements, floor expansion joints and similar joints sealed with elastomeric sealants and subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 5/6" deep nor less than 3/8" deep.

E. Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces including rough textures such as exposed aggregate panels. Use masking tape or other devices to prevent staining of adjoining surfaces, by either the primer/sealer or the sealant/caulking compound.

F. Remove excess and spillage of compounds promptly as the work progresses. Clean the adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage, without damage to the adjoining surfaces or finishes.

3.05 Curing

A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations to obtain high early bond strength, internal cohesive strength and surface durability.

B. Protect sealants and caulking compounds during curing and throughout construction period to prevent dirt pick-up, deterioration or damage (other than normal wear and weathering).

3.06 Post Construction Inspection

A. Coordinate with the owner to return to the project within 12 months after substantial completion of this work to inspect for and replace any failed or failing joint sealants. Provide report of inspection results and repairs made.

DIVISION 8 - DOORS AND WINDOWS

081113 Hollow Metal Doors and Frames

PART 1 GENERAL

1.01 Summary

A. Provide steel doors and frames as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Submittals

A. Submit shop drawings in accordance with Division 1 indicating location, elevation of door, frame type (wall thickness and corners), materials, methods of assembling, requirements for hardware, joints, and connections.

1.03 Quality Assurance

A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications for Standard Steel Doors and Frames" ANSI/SDI-100 and as herein specified.

B. Comply with BHMA requirements and HMMA guide specifications.

C. Wherever fire-resistance classification (hour rating or classification) is shown or scheduled, provide fire-rated steel doors and frames that are tested, listed, and labeled by Underwriters Laboratories, Inc. (UL). Identify each fire door and frame with UL labels indicating applicable fire rating of both door and frame.

PART 2 PRODUCTS

2.01 Doors

A. Interior steel doors shall be 1-3/4" thick, constructed of commercial quality cold rolled full pickled, sheet steel face panels of thickness as scheduled on drawings (min. 16 ga.) or as otherwise required for fire rating, spot welded to 20 ga. internal stiffeners. Fill inner core with manufacturer's standard core material. Top and bottom of doors shall have continuous steel channel welded to face plates. Provide min. 14 ga. steel reinforcement for locks and surface applied hardware, and 3/16" thick reinforcement for mortise hinges, with factory drilling and tapping for hardware per BHMA and HMMA. Joints and seams shall be continuously welded and ground smooth. Provide rigid vinyl top cap. Latch/lock edge shall be beveled.

B. Exterior doors shall be similar to interior doors with full thickness polystyrene insulated core, and integral seal, inverted channel or suitable shapes welded to face sheets at top and bottom edges to completely seal doors from weather, with door tops closed flush.

C. Clearance for doors, except fire doors, shall be 1/8" at jambs and heads, 1/4" at meeting stiles of doors, 3/4" between bottom of doors and finished floor and 3/8" between bottom of door and top of threshold unless indicated otherwise. Verify clearance requirements for floor coverings. Provide clearance for fire doors as required by Underwriters' Laboratories.

D. Provide 1 ¾” by 12 gauge overlapping full height astragal welded on active leaf at pairs of exterior doors.

2.02 Welded Steel Frames

A. Provide welded steel frames for doors conforming to size and shape as shown.

B. Fabricate frames of prime quality cold rolled steel, thickness as scheduled on drawings, (14 ga. minimum) or as otherwise required of for fire rating. Provide standard configuration and profiles for scheduled face widths and depths unless noted otherwise.

C. Frame joints shall be mitered or butted and continuously arc-welded for full depth and width of frame, with welds on exposed surfaces dressed smooth and flush.

D. Frames shall be provided with removable spreaders securely fastened to bottom of jambs, 3/16" thick steel reinforcement for mortise hardware, and 12 ga. steel reinforcement prepared at factory for surface-applied hardware. Frame shall be punched for silencers and for hardware from templates furnished by hardware supplier. Cut-outs shall be protected with dust covers and mortar boxes.

E. Provide closed or tubular mullions, butt welded to head frames.

F. Reinforce joints between members with concealed clip angles of same thickness as frame.

G. Each jamb shall be provided with 14 ga. steel angle floor clips punched with 5/16" holes. Frames in masonry walls shall be provided with three jamb anchors per jamb up to 84” high, four per jamb over 84” high of type suitable for conditions. In masonry walls where masonry can be built up around frame, utilize adjustable type corrugated strap anchors; otherwise, provide bolt-thru anchorage consisting of prepunched countersunk bolt holes in face of stop, frame sleeve and backplate and 5/16" expansion bolts with flat Philips head. Provide hot-dipped galvanized anchors at masonry.

H. Custom fit special application frames if/as shown on drawings.

2.03 Stops

A. Doors and frames receiving fixed glass, or air transfer grilles, shall be equipped with plain rectangular steel stops and trim as required. Screws shall be countersunk, flat Philips head type.

B. Unless specifically shown otherwise, frames shall be designed with loose stops on interior or room side of frame.

2.04 Door Louvers

A. Provide door louvers (grilles) of size as indicated; see architectural and mechanical drawings and schedules.

B. Louvers shall be 60 deg. chevron sight-tight cold rolled steel, 20 ga. frame and blades in prime finish, flush face frame both sides of door and adjustable with a nominal 1-1/8" louver depth.

2.05 Fabrication

A. Manufacturer shall provide cut-outs as required, closed with channel or plate, and reinforced as required. Confirm hardware requirements before fabrication and make adjustments required to accommodate hardware specified.

B. Frames shall be mortised and reinforced for hardware. Mortised hardware reinforcements shall be factory-drilled and tapped. Surface applied hardware may be field drilled. Reinforce all frames and doors on both sides so door closers or holders can be applied to either side.

2.06 Finish

A. Clean steel doors and frames of rust, dirt, grease, oil and foreign substances. Apply and bake-on 1 coat of rust inhibitive primer. Fill irregularities and apply an additional coat of manufacturer's standard primer, baked on. Apply finish paint in accordance with Section 099100.

PART 3 EXECUTION

3.01 Installation, General

A. Install frames and doors in accordance with shop drawings, manufacturer's recommendations, U.L. label requirements and as specified herein. Hardware shall be installed under Section 087100.

3.02 Frames

A. Erect hollow metal frames in a straight, plumb, true and secure manner. Provide bracing to hold frames in proper place until built into structure or partition where shown. No less than 3 anchors shall be installed at each jamb of each frame for securing frame to wall construction.

B. Coordinate special application frame requirements with other trades for proper fit-up, custom-fit joints and field connections. Special field joints shall be carefully prepared and installed for a tight fit.

C. Where frame width exceeds 6'-6" in width, provide secure anchorage at mid-point of head.

D. Type of anchorage items shall be determined by wall and head construction and as recommended by frame manufacturer. Anchor each jamb and mullion to floor through standard or special attached clip angles, using 1/4" expansion bolt or 1/4" power driven stud. Do not remove angle spreaders until entire installation is complete.

E. Fully grout all frames installed in masonry wall construction.

3.03 Doors

A. Install doors with equal width spaces on each side, to fit snugly without binding. After doors are fitted, remove them to allow painter to finish tops and bottoms as well as faces and edges. Rehang doors in proper manner.

3.04 Adjust and Clean

A. Touch-up prime coats immediately after erection.

B. Remove protective films, from prefinished doors just prior to final inspection.

C. Check and readjust operation.

D. Clean premises of litter, dirt and debris created by the work of this section.

083113 Access Doors and Frames

PART 1 GENERAL

1.01 Summary

A. Provide access doors as shown and as specified. Comply with applicable provisions of Div. 1.

1.02 Submittals

A. Submit shop drawings in accordance with Division 1. Indicate size, finish, type, style, and method of anchoring. Indicate location for each access door.

1.03 Coordination

A. Coordinate access door locations with work of mechanical and electrical trades.

PART 2 PRODUCTS

2.01 Access Doors - Gypsum Board Ceilings

A. Access panels or doors indicated in gypsum ceilings shall be specifically manufactured for taping and finishing with gypsum board. Flanges shall be concealed in taping operations. Each door shall be provided with cylinder key lock. Doors shall be prime coated baked enamel.

B. Provide access doors by one of the following, or approved equal:

StyleDW:Milcor.
StyleWB:J.L.Industries.
StyleKDW:KARPAssociates.
StyleG:MMSystemsCorp.
StyleSR-1:Cesco-AdvancedAir.
Style APW: Specialty Sales Service, Inc.

PART 3 EXECUTION

3.01 Installation

A. Install access doors in accordance with shop drawings and manufacturer's recommendations. Locate doors where shown or where directed by A/E for best access to space being served.

084113 Aluminum Entrances, Windows and Glazing

PART 1 GENERAL

1.01 Summary

A. Relocate, rework, modify and/or provide new aluminum entrances and windows as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Submittals

A. Shop Drawings & Product Data: Submit shop drawings for fabrication and installation of new aluminum doors, frames, windows, glass, operators, hardware, and appurtenances. Include wall elevations at 1/2" scale, and half-size detail sections of every typical composite member. Show anchors, joint system, expansion provisions, and other components not included in manufacturer's standard data. Include product data on hardware and glazing details.

B. Samples: Submit sample of specified color of finish coating. Submit samples of each glass type and color alternates as specified.

C. Test Reports: Submit certified laboratory test results for quality assurance requirements below.

D. Delegated Design Submittals: Analysis data signed and sealed by the qualified professional engineer for framing system and for glass to confirm compliance with performance requirements.

E. Qualification Data: For manufacturing of insulating glass and tinted transom glass units.

F. Product certifications: From glass manufacturer.

G. Warranty: Submit two copies of written warranties as specified herein.

H. Make submittals in accordance with Division 1.

1.03 Quality Assurance - Entrances

A. Comply with the requirements and recommendations in applicable specifications and standards by NAAMM, AAMA and AA, including terminology definitions, and specifically including the "Entrance Manual" by NAAMM, except to extent more stringent requirements are indicated.

B. Fabricate exterior door and frame units, including weatherstripping and thresholds (if any), to prevent uncontrolled penetration of air and water under normal severe weather conditions.

C. Uncontrolled penetration of water is defined as interior accumulation in any one hour of more than 0.01 gal. of water per lin. ft. of operable door perimeter, during heavy rain (1 gal/s.f./hr.) with wind velocity of 25 mph.

D. Uncontrolled penetration of air is defined as infiltration of air at a rate in excess of 0.5 cu. ft. of air per minute per lin. ft. of operable door perimeter, during direct exposure to wind velocity of 25 mph.

1.04 Quality Assurance - Windows

A. All windows must meet or exceed the minimum requirements of performance class HC for the design load specified below in accordance with ANSI/AAMA 101.

B. Design load shall be 40 psf. Air infiltration shall not exceed 0.37 cfm/ft. for ventilators. Water resistance shall be tested at a static air pressure difference of 10 psf. Uniform load deflection test shall be conducted at a static air pressure difference of 40+ psf. Uniform load structural test shall be conducted at a static air pressure difference of 60+ psf. Condensation resistance factor (CRF) shall not be less than 56. Conductive thermal transmittance (U-value) shall not be more than 0.56.

1.05 Quality Assurance - Glass

A. Use a qualified insulating-glass manufacturer approved by coated glass manufacturer.

B. Use a qualified glass laminator approved by the tinted interlayer manufacturer.

C. Obtain products from a single source and manufacturer.

D. Comply with GANA publications for laminated glass and IGMA publication for insulating glass.

E. Permanently mark safety glazing and insulating glass units with appropriate certification labels.

1.06 Manufacturer's Warranty

A. Provide written warranty signed by Manufacturer, agreeing to replace aluminum doors, frames, and windows which are defective in materials or workmanship within 3 years of date of Substantial Completion. Defective materials or workmanship shall include (but not be limited to) failures in operation of doors and hardware, excessive leakage or air infiltration, excessive deflections, delamination of panels, deterioration of finish or metal in excess of normal use, and defects in accessories and components.

B. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 10 years from date of Substantial Completion.

C. Manufacturer's Special Warranty on Laminated Glass: Manufacturer's standard form in which laminated-glass manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: 10 years from date of Substantial Completion.

D. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 Curtain Wall Systems

A. Thermally-broken aluminum entrance, curtain wall, and window framing systems from a single manufacturer.

Subject to compliance with requirements and intent to match existing aluminum frame systems, provide Kawneer Trifab VG45IT, center pane, 2" sightline, 4 ½" depth, thermal break framing system and 360 series, medium stile Insul-clad thermal entrances, or approved comparable products by Tubelite, United States Aluminum or Vistawall Architectural Products.

B. Design aluminum-framed systems, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated, including structural design criteria indicated on drawings.

C. General Performance: Systems shall withstand the effects of the following without exceeding performance criteria and without failing due to defective design, manufacture, fabrication, installation or other defect in construction:

1. Building moment, including story drift, deflection from live/snow/wind loads, and thermal stress.
2. Dimensional tolerances of building frame and adjacent construction.

2.02 Aluminum Entrances

A. Provide proprietary aluminum door, frame, and hardware system in quantity and locations shown. Refer to drawings and details for sizes and general configuration. Provide medium wide stile unless otherwise necessary to match existing.

B. Provide thermal-break framing system at exterior framing. Provide heavy gage extruded aluminum sill and trim as scheduled or detailed.

C. New hardware shall be manufacturer's standard door hardware as follow unless noted otherwise:

Continuous, full-height gear-type fully concealed hinge
Deadlatch Mortise, BHMA Grade 1, Doggable, interior lever (Basis of design: Adams Rite 4510 W-4565 lever, or equal)

Cylinder: See Section 087100
Closer: See Section 087100
Door stop: See Section 087100
Push and pull hardware: 1" round offset pull w/8-10" centers; 1" round bent type pushbar, unless otherwise necessary to match existing.
Threshold: No higher than 1/2", thermally broken aluminum.
Weatherstripping: Manufacturer's standard system.
Power operator: See Section 087100

D. Hardware finish shall match finish on door and frame. Cylinders per Section 087100.

E. Provide glazing system as shown for doors and entrance systems and as designated. Glazing shall be clear or tinted as indicated on drawings.

2.03 Aluminum Windows

A. Subject to compliance with requirements and intent to match existing aluminum frame systems, extrusions shall be 6063-T5 alloy and temper (ASTM B221 alloy G.S. 10A-T5). Fasteners, where exposed, shall be 300 series stainless steel. Perimeter anchors shall be aluminum or steel, providing the steel is properly insulated from the aluminum.

B. Glazing shall be of materials compatible with aluminum and those sealants and sealing materials used in composite structure which have direct contact with gasket. Standard exterior glazing gasket shall be a dry glazed closed cell elastomer in accordance with ASTM C509. Optional exterior glazing materials shall be glazing tapes in accordance with AAMA 806-1 or silicone sealant with a compatible backup. Interior glazing shall be with aluminum glazing beads of the snap-in type and compression wedge of dense elastomer per ASTM C864.

C. All glass pockets shall be weeped to provide positive drainage. Water shall be weeped to the exterior via frame weep slots protected by snap-in weep covers or integral drips.

D. Weatherstripping shall be a high quality material capable of meeting environmental exposure and performance requirements.

E. Subject to compliance with requirements and intent to match existing aluminum frame systems, window framing members shall be 2-1/4" in depth and of one part construction incorporating a 3/8" thermal barrier, consisting of a two-part, chemically curing, high density polyurethane. Frame extrusions shall be minimum 0.125" typical).

F. Provide extruded aluminum sill members, heat receptors, and cover plate trim as shown or otherwise necessary for conditions.

2.04 Finish

A. All aluminum work shall receive an adonized finish. Color shall match existing.

2.05 Glass

A. Performance requirements:

1. Installed glazing systems shall withstand normal thermal movement, and design wind loads without failure, including loss or glass breakage attributable to defective manufacture, fabrication or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

2. Delegated design: Design glass, including comprehensive engineering analysis according to ASTM E1300 and the governing building code, by a qualified professional engineer using design criteria established on the structural drawings and determining design processes applicable to the project according to ASCE/SEI 7.

3. For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1-inch, whichever is less.

4. Design glass to resist thermal stresses induced by differential shading within individual glass lites.

5. Allow for thermal movements from 120°F ambient and 180°F surface temperature changes.

B. Materials

1. Where glass thickness is indicated, it is a minimum. Provide glass in thicknesses needed to comply with performance requirements.

2. Float glass: ASTM C1036, Type I, Quality-Q3, class I (clear); annealed, Kind HS heat-treated float-glass, or Kind FT heat-treated float glass as needed to comply with performance requirements.

3. Heat-strengthened float glass: ASTM C1048; type I; Quality -Q3, Class I; Kind HS heat-treated float-glass or Kind FT heat treated float-glass as needed to comply with performance requirements.

4. Fully-tempered glass: ASTM C1048; Kind FT heat-treated float glass.

5. Laminated glass: ASTM C1172, with polyvinyl butyral inter layer.

6. Insulating glass: ASTM E 2190, factory-assembled units of sealed lites of glass separated by dehydrated argon-filled interspace; with primary and secondary sealing system, stainless steel spaces and Low-E coating.

2.06 Glass Schedule

A. Exterior glazed doors and windows:

1. Sealed, insulated units, double pane, stainless steel edge.
2. Total unit thickness: 1 inch.
3. Outer pane: laminated glass pane with clear interlayer, ¼" minimum, overall thickness.
4. Space: Argon
5. Inner pane: laminated glass pane with clear interlayer between heat-strengthened clear glass layers, ¼" minimum overall thickness, with Low-E coating on #3 surface.
6. Provide clear and tinted glass in locations noted on drawings. .

B. Interior glazed doors and windows:

1. Single pane: laminated glass pane with clear interlayer, ½" minimum overall thickness.

2. Provide tinted glass in locations noted on drawings.

C. Tinted Glass: Reflective, low-transmittance insulating glass consisting of glass exterior pane, sealed air space and glass interior pane.

1. Basis of Design: Pilkington – Sun Management Glass System
2. Outer pane: Pilkington Grey Eclipse Reflective Glass (Basis of Design) or approved equivalent.
   Glass Type: Fully tempered, Pyrolytic float glass, ASTM C1036, Type 1, Class 2, Quality q3.
   Glass Color: 26 Grey
   Glass Thickness: ¼" minimum
3. Air Space: ½" wide, hermetically sealed, argon-filled
4. Inner pane: Pilkington Energy Advantage Low-E (Basis of Design) or approved equivalent.
   Glass Type: Laminated Low-Emmisivity Pyrolytic float glass, ASTM C1036, Type 1, Class 1, Quality q3.
   Glass Color: Clear
   Glass Thickness: 3/8" minimum.

5. Minimum Performance Characteristics:
   Visible Light Transmittance: 18 percent
   Visble Light Reflectance: 16 percent
   Total Solar Energy Transmittance: 19 percent
   Total Solar Energy Reflectance: 14 percent
   UV Transmittance: 5 percent
   Summer U-value: 0.34
   Winter U-value: 0.30
   Solar Heat Gain Coefficient: 0.30
   Shading Coefficient: 0.34
6. Unit edge seals: Aluminum spacers with mitered corners and primary and secondary sealing system, meeting ASTM E 773.

PART 3 EXECUTION

3.01 Installation

A. Field verify all dimensions and conditions before ordering or fabricating window units.

B. Coordinate preparation and installation of frames to accommodate concealed wiring or devices.

C. Install doors, frames, windows, and hardware in accordance with shop drawings and manufacturer's recommendations.

D. Set units plumb, level and true to line, without warp or rack of frames, doors or panels. Anchor securely in place. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with dissimilar metals.

E. Set sill, threshold, and other members in a bed of sealant compound or with joint fillers or gaskets.

F. Clean aluminum surfaces promptly after installation of frames and doors, exercising care to avoid damage of protective coating (if any). Remove excess glazing and sealant compounds, dirt and other substances.

G. Where protective coating has been damaged, remove coating completely as soon as completion of construction activities no longer requires its retention.

3.02 Protection

A. Protect doors, frames, and windows from damage or deterioration (other than normal weathering) until Substantial Completion.

087100 Door Hardware

PART 1 GENERAL

1.01 Summary

A. Provide finish hardware work as shown and as specified. Comply with applicable provisions of General Requirements.

B. The extent of finish hardware is shown on drawings and specified herein. Finish hardware is defined to include all items known commercially as builders' hardware which is required for doors, except special types of hardware specified in same section as door and frame. Examine drawings and other sections of specifications for related work.

C. Relocated Existing Entrance Doors: Replace existing hardware with equal quality new hardware. Verify fit and match finishes. Re-prep existing doors and frames as necessary. Provide new power assist operators as indicated.

1.02 Submittals

A. Submit 3 copies of manufacturer's product data for each item of finish hardware. Include information to show compliance with specified requirements.

B. Submit 4 copies of final hardware schedule. Final hardware schedule shall be based on finish hardware requirements as indicated. Coordinate hardware with doors, frames, and related work to ensure proper size, thickness, swing, function, and finish of hardware. Organize hardware schedule into "hardware sets", indicating complete designation of every item required for each door or opening. Submit schedule at earliest possible date, in order to facilitate fabrication of other work (such as hollow metal frames).

C. Submit 4 copies of separate key schedule showing how Owner's instructions on keying of locks has been fulfilled.

D. Furnish hardware templates to each fabricator of doors, frames and other work to be factory-prepared for installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper installation of hardware.

E. Prepare hardware schedules for coordination of the work. Review and acceptance by A/E or Owner does not relieve Contractor of its exclusive responsibility to fulfill requirements as shown and as specified.

1.03 Fire Rated Openings (if any)

A. Provide hardware for fire-rated openings in compliance with NFPA 80. Provide only hardware which has been tested and listed by UL for types and sizes of doors required, and complies with requirements of door and door frame labels.

B. Where emergency exit devices are required on fire-rated doors (with supplementary marking on door UL label indicating "Fire Door to be Equipped with Fire Exit Hardware"), provide UL label on exit devices indicating "Fire Exit Hardware".

1.04 Product Handling

A. Tag each item or package separately, with identification related to final hardware schedule, and include basic installation instructions in package. Deliver individually packaged hardware items at proper times and locations (shop or field) for installation.

B. Provide secure lockup for hardware delivered to project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of work will not be delayed by hardware losses.

1.05 Guarantee

A. Closers, overhead holders, and locksets shall be guaranteed for a period of 2 years from date of substantial completion. Other items shall have standard 1 year guarantee.

PART 2 PRODUCTS

2.01 Acceptable Manufacturers

A. Products identified in this Section by reference to a specific manufacturer and product name/number are identified for the purpose of establishing a standard of quality, type, and function. Unless otherwise indicated, products of the following manufacturers, or equal, may be substituted for those listed, provided the substitution is equal in quality, type, and function and meets the specified requirements:

Butts and Hinges: Stanley, Hager, McKinney.

Closers: Corbin Russwin, LCN, Norton, Sargent.

Locksets, Dead Locks: Corbin Russwin, Schlage, Sargent.

Push Plates and Pulls: Hiawatha, Quality, Ives, Burns, Rockwood.

Thresholds and Weatherstripping: Zero, Reese, Pemko, National Guard.

Exit Devices: Corbin Russwin, Von Duprin, Sargent, Precision, Monarch.

Kickplates, Armor Plates: Hiawatha, Quality, Ives, Burns, Rockwood.

Door Operator: LCN, Stanley, DORMA, Sargent, Besam

2.02 Base Metals

A. Produce hardware units of basic metal indicated, using manufacturer's standard metal alloy, composition, temper and hardness.

2.03 Forming

A. Form base metal into required shapes and sizes by manufacturer's standard production method for class or quality of hardware units required.

2.04 Fasteners

A. Manufacture hardware to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.

B. Furnish screws for installation with each hardware item. Provide Phillips flathead screws, except as otherwise indicated. Finish exposed screws to match hardware finish.

C. Provide concealed fasteners for hardware units which are exposed when door is closed. Do not use through bolts for installation where bolt head or nut on opposite face is exposed under any condition.

D. Provide fasteners which are compatible with both unit fastened and substrate, and which will not cause corrosion or deterioration of hardware, base material or fastener.

2.05 Finishes

A. Match finish of hardware units at each door or opening to greatest extent possible. In general, match finish of latch and lockset (or push-pull units if no latch-lock sets) for color and texture.

B. Designations used in schedules and elsewhere to indicate hardware finishes are those of ANSI/BHMA A156.18 "Materials & Finishes" and traditional U.S. finishes used by certain manufacturers.

2.06 Keying

A. Hardware supplier shall meet with Owner to develop a keying schedule. Key locks in accordance with Owner's instructions. Provide 2 keys with each lock and furnish 6 master keys.

2.07 Standards

A. Hardware shall meet appropriate BHMA Grade 1 standards for heavy commercial applications.

B. All hardware shall comply with ADA ANSI A117.1, and the building code.

PART 3 EXECUTION

3.01 Hardware Mounting Heights

A. Mount hardware units at heights recommended in "Recommended Locations for Builders Hardware" by the Door and Hardware Institute, except as otherwise specifically indicated or required to comply with governing regulations.

B. Mount door closers on interior side of exterior doors and on non-public side of interior doors. Provide arm style accordingly.

3.02 Installation

A. Install hardware items in compliance with manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished, install each item completely and then remove and store in a secure place. After completion of finishes, reinstall each item.

B. Provide solid wood blocking behind wall stops, magnetic holders, and other hardware items mounted on adjacent studwall partitions.

C. Adjust and check each operating item of hardware and each door to ensure proper operation or function, initially, and after one week of normal operation frequency. Lubricate moving parts with type of lubrication recommended by manufacturer; use graphite-type if no other type is recommended. Replace units which cannot be adjusted and lubricated to operate freely and smoothly.

D. Instruct Owner's personnel in proper operation and maintenance of hardware and hardware finishes during final adjustment of hardware.

PART 4 SCHEDULES

4.01 Door Hardware Sets

SET 1 – Exterior Aluminum Entrance (manual leaf)

A. 2 pivot hinges (existing to remain).

B. One mortise aux deadlatch, doggable, interior lever (See section 084113).

C. Exterior cylinder, BHMA A-156-5, grade 1, 6-pin

D. One strike (see section 084113)

E. One pull, offset (see section 084113)

F. One push bar, (see section 084113)

G. One closer, BHMA A156.4, grade 1, adjustable back check and closing power.

H. One weatherstrip set, (see section 084113).

I. One weather sweep (see section 084113)

J. One threshold, see section 084113, thermally broken aluminum

K. One door stop, overhead, concealed, BHMA A156.8 type 4.

SET 2 – Exterior Aluminum Entrance (power assisted leaf)

A. All items listed for set 1, except closer

B. One low-energy power-assist door operator: BHMA A156.19
   a. Electromechanical, power-open/spring-close
   b. RF–receiver
   c. Interior, battery powered, RF actuator with 4 ½" round engraved stainless steel plate with accessibility symbol.
   d. Exterior, battery powered RF actuator with 4 ½" round engraved stainless steel plate with accessibility symbol.
   e. Flush and surface mount boxes as applicable
   f. Related parts and components as necessary
   g. Adjustable: opening and closing speed and force; back check, hold-open time, time-delay, acceleration.
   h. Finish and color to match door and frame.
   i. Safety interlocks to prevent activation of operator if door is latched or bolted.

SET 3 – Interior Aluminum Entrance (manual leaf)

A. 2 pivot hinges, (see section 084113)

B. One pull, offset (see section 084113)

C. One push bar, (see section 084113)

D. One closer: BHMA A156.4, Grade 1

E. One weatherstrip set, (see section 084113)

F. One door stop, overhead, concealed, BHMA A156.8, type 4

SET 4 – Interior Aluminum Entrance (power assisted leaf)

A. All items listed for Set 3, except closer

B. One low-energy power-assist door operator as listed for Set 2

SET 7 – Family Assisted Restroom

A. Three ball bearing full mortise, stainless steel butt hinges, US32D
   Provide reverse spring to auto open (Basis of design: Hager 1257)

B. One passage latchset, ANSI F75, bored, US32D
   Basis of design: Schlage, ND-Series; Athens design lever trim

C. One latchset strike, US32D

D. One auxiliary deadlock with “occupied” indicator, mortise, exterior cylinder, US32D

SET 16 – Existing Double Door in Front Window Wall

A. One commercial threshold stop seal, full width of double door, interior face. Pemco 184AT (mill finish aluminum). Mount to existing aluminum threshold.

B. One self-adjusting magnetic astragal set (2 piece), full height, inside face. Reese 195D-195D (Dark Bronze).

4.01 Hardware Schedule

Note: Repetition of BHMA references, manufacturer names and finish designation may have been omitted for convenience. Identical items of hardware shall be furnished by one manufacturer.

DIVISION 9 - FINISHES

092900 Gypsum Board Systems

PART 1 GENERAL

1.01 Summary
A. Provide gypsum board systems as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Submittals
A. Submit product data on joint treatment materials, gypsum board primer, and texture finish products.

B. Submit min. 6" x 6" gypsum board sample with each type of spray texture required.

1.03 Fire-Resistant Ratings
A. Comply with fire-resistance ratings as shown and as required by governing authorities and codes. Provide materials, accessories, and application procedures which have been listed by UL or tested according to ASTM E119 for type of construction shown.

1.04 Delivery, Storage, and Handling
A. Schedule delivery to minimize storage periods at project site. Deliver materials in accordance with manufacturer's instructions; ship unopened containers or packages, fully identified with manufacturer's name, brand, type and grade. Store boards flat with uniform support. Protect from weather and damage as recommended by manufacturer.

PART 2 PRODUCTS

2.01 Acceptable Manufacturers - Gypsum Board
A. Products identified in this Section by reference to a specific manufacturer and product name/number are identified for the purpose of establishing a standard of quality, type, and function. Unless otherwise indicated, gypsum board products and accessories of the following manufacturers or equal may be substituted for those listed, provided the substitution is equal in quality, type, and function and meets the specified requirements:

Georgia-Pacific (G-P).
National Gypsum/Gold Bond Building Products Div.
U. S. Gypsum (USG).

2.02 Gypsum Board
A. Standard: 5/8" thick gypsum wallboard unless otherwise indicated or necessary to match adjacent existing thickness, complying with ASTM C36, with paper face surface suitable to receive decorated finish and long edges tapered to receive standard joint treatment, in lengths as required for minimum number of joints. Use where other types are not scheduled or specified or required for conditions.

B. Impact-Resistant: High-impact abuse-resistant rated product complying with ASTM C36, manufactured to produce greater resistance to surface indentation and through-penetration than standard gypsum panels, with core type indicated, 5/8” thick unless noted otherwise or necessary to match adjacent existing thickness, with long edges tapered. Use in all public areas (Lobby, Entryways, and similar applications and as noted).

1. Acceptable products include:
   a. National Gypsum Company: Gold Bond Hi-Abuse Wallboard
   b. United States Gypsum Co.: Sheetrock Brand Abuse-Resistant Gypsum Panels
   c. Approved Equal

2.03 Gypsum Board - Mold and Mildew Resistant (GBMR)

A. 5/8” gypsum wallboard with moisture and mold resistant core and surfaces, long edges tapered to receive standard joint treatment. Use in ceilings of toilet rooms and plumbing chases and elsewhere as noted.

2.04 Cement Board (GBC)

A. 5/8” cementitious backer units complying with ANSI A118.9 or ASTMC 1325, in maximum lengths to minimize end-to-end butt joints. Use at framed walls of toilet rooms to receive tile.

2.05 Gypsum Board - Fire Rated (GBX)

A. Gypsum wallboard, ASTM C36, Type "X", 5/8" thick, unless otherwise indicated, with paper face surface suitable to receive decorated finish and long edges tapered to receive manufacturer's standard joint treatment, unless otherwise shown. Use at fire-rated walls and ceilings.

2.06 Gypsum Board Fasteners

A. Provide type and size recommended by manufacturer for applications shown. Review fire-rated assembly requirements for fastener spacing. In general, fasten gypsum board with self-drilling screws designed for gypsum board, ASTM C1002.

B. Screws shall be self-tapping when used with metal framing up to 12 gage. Heads shall be designed for covering with finishing compound if exposed in face layers.

2.07 Gypsum Board Metal Trim Accessories

A. Provide trim accessories of sizes required for applications shown, fabricated of galvanized steel, complying with ASTM C1047 as follows:

B. External Corners: Metal corner bead with smooth rigid nose and perforated and knurled metal flanges.

C. Control Joints: Where shown and as required in Part 3 Execution, one-piece joint assembly of non-corrosive metal or extruded vinyl with continuous unperforated V-slot for insertion into joint and perforated flanges for attachment to face of gypsum board with slot opening covered with removable strip.

D. Where face panels abut dissimilar materials, at reveals, and where designated: Shaped metal trim designed to be concealed by taping operations; USG No. 200-B metal trim, Fry Reglet FDM-625, or approved equal.

E. Exposed panel edges and where designated: J-shape casing beads designed to be concealed by taping.

2.08 Joint Treatment Materials

A. Joint Tape: Plain or perforated paper, ASTM C475.

B. Joint Compound: Factory-prepackaged vinyl based products, ASTM C475. Provide in dry powder form for mixing with water at jobsite or factory pre-mixed, for single or two-compound treatment.

1. Taping compound shall be formulated for embedding tape and first coat over fasteners and flanges of corner beads and edge trim.
2. Topping compounds shall be formulated for fill (second) and finish (third) coats.
3. All purpose compounds shall be formulated for use as both taping and topping compounds.

2.09 Gypsum Board Primer

A. USG "Sheetrock First Coat", Gold Bond "Drywall Primer", or equal. Paint primers, as specified in Section 09900 Painting, will not be accepted as equal to this product.

2.10 Interior Texture Finish

A. Exposed surfaces shall receive a smooth, aggregated, fine texture finish unless noted otherwise, or required to match adjacent surface textures.

2.11 Metal Studs

A. Cold formed galvanized steel.
1. Screw type with knurled flanges
2. Sizes as indicated. Minimum 20 gauge for cement board applications, minimum 25 gauge elsewhere.
3. Provide top and bottom tracks, bridging, bracing as required and recommended by manufacturer.

PART 3 EXECUTION

3.01 Installation of Steel Framing, General

A. Install steel framing as shown and to comply with ASTM C754 and with ASTM C840 requirements that apply to framing installation.

B. Install supplementary framing, blocking and bracing at terminations in the work and for support of fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, and similar construction to comply with details indicated and with recommendations of gypsum board manufacturer. Coordinate with Section 06100.

C. Isolate non-load bearing steel framing from building structure to prevent transfer of loading imposed by structural movement.

1. Where partition and wall framing abuts overhead structure.
2. Where edges of suspended ceilings abut building structure horizontally at ceiling perimeters or penetration of structural elements.

D. Do not bridge building expansion and control joints with steel framing or furring members; independently frame both sides of joints with framing or furring members or as indicated.

E. Install gypsum board ceiling suspension system per ASTM C636, CISCA, manufacturer’s recommendations and associated ICBO evaluation reports.

3.02 Installation of Gypsum Board

A. Comply with ASTM C840, unless otherwise recommended by gypsum board manufacturer.

B. Examine substrates and conditions; notify of detrimental conditions. Do not proceed until unsatisfactory conditions are corrected.

C. Do not exceed 1/8" in 8'-0" variation from plumb or level in line or surface; except at joints between units, do not exceed 1/16" variation between planes of abutting edges or ends. Shim as required to comply with specified tolerances.

D. Provide additional framing and blocking as required to support gypsum board at openings and cutouts, and to support built-in anchorage and attachment devices for other work.

E. Form control joints in gypsum board construction where indicated below. Allow 1/2" continuous opening between edges of adjacent drywall boards to allow for insertion of control joint trim accessory.

F. Finish exposed surfaces with joints, corners and exposed edges reinforced and trimmed, with all joints, fastener heads, trim accessories, flanges and surface defects filled with joint compound for a smooth flush surface.

G. Provide metal casing bead “J” trim around openings and terminations. Provide corner bead at all outside corners.

H. Partition/Walls: For heights of 8'-1" or less, apply gypsum board vertically or horizontally at contractor's option. For heights greater than 8'-1" or for areas less than 4' wide, apply vertically. Use floor-to-ceiling length boards for vertical applications and locate edge joints over supports, but offset at least one stud on opposite faces of partition/walls. Use maximum practical length boards for horizontal applications and locate end joints over supports and stagger in alternate courses of board.

I. Ceilings: Apply gypsum board with long dimension at right angles to supports with end butt joints located over supports. Use maximum practical length boards to minimize end butt joints. Stagger end joints in alternate courses of boards and locate as far away from center of ceiling as possible.

J. Multiple layers: follow requirements of rated assemblies.

3.04 Control Joints

A. Gypsum panel surfaces shall be isolated with control joints where:

1. Partition, furring, or column fireproofing abuts a structural element (excepts floor) or dissimilar wall or ceiling.
2. Ceiling abuts a structural element, dissimilar wall or partition, or other vertical penetration.
3. Construction changes within plane of partition or ceiling.
4. Partition or furring run exceeds 30 ft.
5. Ceiling dimensions exceed 50 ft. in either direction with perimeter relief, 30 ft. without relief.
6. Exterior soffits exceed 30 ft. in either direction.
7. Wings of "L", "U" and "T"-shaped ceiling areas are joined.
8. Expansion or control joints occur in base exterior wall.
9. Junctions between suspended gypsum board ceilings and gypsum board ceilings mounted directly to building framing.
10. Elsewhere as noted.

B. Ceiling height door frames may be used as control joints. Less-than-ceiling height frames shall have control joints extending to ceiling from both corners unless otherwise approved by A/E.

3.05 Gypsum Board Finishing

A. Do not install joint treatment compounds unless conditions comply with minimum temperature and ventilation requirements recommended by manufacturer. Finish exposed gypsum board surfaces with joints, corners, and exposed edges reinforced or trimmed as specified, and with joints, fasteners, accessory flanges, and surface defects filled with joint compound in accordance with manufacturer's recommendations for a smooth, flush surface. Gypsum board finishing work will not be considered acceptable if corners or edges do not form true, level, or plumb lines, or if joints, fastener heads, flanges of accessories, or defects are visible after application.

3.06 Gypsum Board Primer

A. Apply full coverage coat of gypsum board primer to all painted walls and ceilings in accordance with manufacturer's instructions. For both smooth surface finished and textured walls and ceilings, gypsum board primer shall be applied to equalize porosity and surface texture differences between finished joint compound and gypsum board face paper. Apply primer evenly, free of runs, sags and other blemishes.

B. This contractor shall be responsible for providing additional sanding as required after gypsum board primer has dried. This additional sanding is required to eliminate any surface texture differences that may have been caused by oversanding joint compound areas and raising nap on gypsum board paper facings. This contractor shall be solely responsible to provide a uniform texture surface on all gypsum surfaces ready for application of paint primer by painting contractor.

3.07 Texture Application

A. Apply texture according to manufacturer's instructions and in accordance with approved sample. Apply material to blend uniformly without starved spots or detectable application pattern.

B. Protect surrounding surfaces from splattering or overspray.

3.08 Protection

A. Comply with proper procedures for protection of completed gypsum board work from damage or deterioration until acceptance of work.

093001 Ceramic Wall Tiling

PART 1 GENERAL

1.01 Summary

A. Provide ceramic wall tile as shown and as specified. Comply with applicable provisions of General Requirements.

1.02 Related Sections

A. Ceramic Floor Tiling -093002

B. Joint Sealants - 079200

1.03 Submittals

A. Submit product data and installation instructions. Include certifications and other data to show compliance with these specifications.

B. Submit full size sample of each type, class, and color of tile and trim. Samples will be reviewed for color, pattern and texture only; compliance with all other requirements is Contractor's responsibility.

C. Submit color samples of grout.

1.04 Quality Assurance

A. Provide tile certified by Tile Council of America (TCA) to meet or exceed ANSI A137.1, "Standard Grade". Comply with TCA specifications for installation of ceramic tile system.

B. Provide materials obtained from one source and same production run for each type and color of materials.

C. Build mockups to verify selections, demonstrate aesthetics and set quality for materials and execution.

D. Conduct pre-installation conference with all related trades at project site prior to commencement of their work on site to coordinate jointing of substrates and other requirements.

1.05 Delivery & Storage

A. Deliver materials and store on site in original containers with seals and labels intact until used.

B. Store tile and cementitious materials elevated, under cover and dry. Keep liquids from freezing.

1.06 Extra Materials

A. Supply an extra 3% of total quantity of each tile and trim from same production run as installed tile. Place in clean marked cartons for Owner's use.

PART 2 PRODUCTS

2.01 Ceramic Wall Tile

A. Tile shall match wall tile in existing toilet rooms.

B. Tile shall be ¼" thick porcelain tile with a glazed finish laid to match existing wall tile. Provide tile with an impervious body with less than 0.5% water absorption and a waffle type backing. Furnish trim in size and color to match tile, and as follows:

1. Inside corners - square.
2. Outside corners - bullnose.
3. Jambs-bullnose where tile projects from jamb.

2.02 Setting Materials

A. Wall setting latex/polymer modified Portland cement mortar: Comply with ANSI A108.5, TCA method W202-07.

2.03 Grouting Materials

A. Commercial, unsanded, latex/polymer modified Portland cement grout, wet or dry-cure formulation as appropriate, color to match existing. Comply with ANSI A118.7.

2.04 Sealants

A. For control joints in walls, use a urethane sealant per Section 079200.

2.05 Protective Materials

A. Grout Release: Proprietary liquid coating formulated to protect face of tile against grout staining, as recommended by tile manufacturer.

B. Neutral cleaner such as American Olean General Purpose Cleaner, Hillyard Super Shine-All or equal, subject to tile manufacturer's approval.

C. Heavy duty non-staining breathable construction paper with compatible masking tape.

PART 3 EXECUTION

3.01 Examination of Surfaces

A. Inspect substrates for condition and maximum variations shown below:

	Walls
Dry-Set Mortar	1/8" in 8'

B. Report unacceptable surfaces. Surfaces to be tiled shall be free from coatings, curing membranes, oil, grease, wax, and dust. Do not proceed until unsatisfactory conditions are corrected.

3.02 Layout

A. Determine location of movement joints. Lay out tile work to minimize cuts less than one-half tile in size. Locate cuts to be least conspicuous. Extend tile wainscots to next full tile beyond dimensions shown.

B. Align wall joints to give straight uniform grout lines, plumb and level. Make joints between tile sheets same width as joints within sheets so extent of each sheet is not apparent in finished work.

3.03 Tile Installation, General

A. Use products in strict accordance with manufacturer recommendations. Proportion mixes in accordance with applicable ANSI 108-series standards.

B. Extend tile work into recesses and under equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges, and corners without disruption of pattern or joint alignments.

C. Smooth exposed cut edges; clean cut edges before installing tiles. Fit tile carefully against trim and around pipes, electric boxes, and other built-in fixtures so that escutcheons, plates, and collars will completely overlap cut edges.

D. When using glazed tile sheets, minimize tearing sheets apart by drilling pipe holes as much as possible.

3.04 Setting Methods

A. Provide setting beds as shown or, when not indicated, use applicable TCA installation specifications for setting and grouting materials specified.

3.05 Grouting

A. Apply grout release if/as recommended by tile manufacturer to prevent grout stains on tile face.

B. Grout in accordance with manufacturer's recommendations.

C. Follow manufacturer’s recommendations for grout curing.

3.06 Cleaning

A. Clean tile surfaces thoroughly after grouting. Remove grout film and any grout release agents, observing tile manufacturer's recommendations for chemical cleaners. Rinse tile work thoroughly with clean water before and after using chemical cleaners. Polish surface of tile work with soft cloth.

3.07 Protection

A. Protect tile work with heavy duty construction paper or other material to prevent damage. Prohibit construction traffic from using newly tiled areas.

B. Upon Substantial Completion, tile work shall be complete and free from defects. Repair damaged work to match adjacent surfaces.

093002 Ceramic Floor Tiling

PART 1 GENERAL

1.01 Summary
A. Provide ceramic floor tile as indicated and as specified. Comply with applicable provisions of General Requirements.

1.02 Related Sections
A. Ceramic wall tile - 093001.
B. Joint sealants - 079200

1.03 Submittals
A. Submit product data and installation instructions in accordance with General Requirements. Include certifications and other data to show compliance with these specifications.

B. Submit full size sample of each type, class, and color of tile and trim in accordance with Division 1. Samples will be reviewed for color, pattern and texture only; compliance with all other requirements is Contractor's responsibility.

C. Submit color samples of grout for selection.

1.04 Quality Assurance
A. Provide tile certified by Tile Council of America (TCA) to meet or exceed ANSI A137.1 “Standard Grade". Comply with TCA specifications for installation of ceramic tile system.

B. Provide materials obtained from one source and same production run for each type and color of materials.

C. Build mockups to verify selections, demonstrate aesthetics and set quality standards for materials and execution.

D. Conduct pre-installation conference with all related trades at project site prior to commencement of their work on site to coordinate jointing layouts and other substrate requirements.

1.05 Delivery & Storage
A. Deliver materials and store on site in original containers with seals and labels intact until used.

B. Store tile and cementitious materials elevated, under cover and dry. Keep liquids from freezing.

1.06 Extra Materials

A. Supply an extra 3% of total quantity of each tile and trim from same production run as installed tile. Place in clean marked cartons for Owner's use.

PART 2 PRODUCTS

2.01 General

A. Provide materials complying with ANSI A108.02, ANSI standards referenced by TCA installation methods specified, and other requirements specified.

2.02 Tile

A. Unglazed, untextured, unpolished, color-body porcelain ceramic tile, complying with ANSI A137.1 standard grade requirements.

1. Coefficient of friction: minimum 0.6 wet/0.7 dry (ASTM C1028)
2. Moisture absorption: < 0.5% (ASTM C373)
3. Breaking strength: > 400 lbs.
4. Surface hardiness / durability rating: 8.5 MOH
5. Thickness: ¼”
6. Sizes: 6”x 6” and 12” x 12” as scheduled on drawings.
7. Colors: As scheduled on drawings.

B. Acceptable products:

1. Basis of Design: DAL-TILE; colors as selected by owner.

C. Trim shapes as required for complete installation of tile, of same material, size, color and finish as floor tile. Use base cove throughout, square on radius top as required by conditions.

D. Factory blend tiles exhibiting color variations to provide same range in colors in each package.

2.03 Setting/Bonding Materials

A. TCA Method: “F111-07 Cement Mortar, Cleavage Membrane” Meet ANSI A108.18 for tile set on cured mortar bed wit latex/polymer modified Portland cement bond coat.

B. Cleavage membrane: Asphalt felt. ASTM D226, Type 1 (No. 15); or polyethylene sheeting, ASTM D4397, 10.0 mils thick.

C. Reinforcing wire fabric: A galvanized weld wire fabric, 2 by 2 inches by 0.062 inch diameter; comply with ASTM A185 and ASTMA82 except for minimum wire size.

D. Mortar bed:
   1. Portland cement: ASTM C150, type 1.
   2. Hydrated lime: ASTM C206 or C207, type S
   3. Sand: ASTM C144
   4. Water: Clean, drinkable

E. Bond coat: Latex/polymer modified Portland cement mortar, as recommended by manufacturer for porcelain tile.

2.04 Grouting Materials

A. Latex/polymer modified Portland Cement Grout, ANSI A118.7

B. Color as selected by Owner.

2.05 Elastomeric Joint Sealant

A. Use sealants per Section 079200.

B. Provide primers, backer rods and other sealant accessories recommended by the sealant manufacturer.

C. Provide colors to match colors of grout in adjacent tile.

2.06 Miscellaneous Materials

A. Expansion joints: angle on L-shape, height to match tile and setting bed thickness, designed specifically for tile flooring applications; stainless steel ASTM A666, 300 series exposed edge material.

B. Grout release: Proprietary liquid coating, specifically formulated and recommended by manufacturer for providing temporary protection of tile face against grout staining during grouting.

C. Tile cleaner: Neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for the installed products by their manufacturers.

D. Grout sealer: High-quality penetrating / impregnating silicon-free sealer recommended by grout manufacturer to prevent moisture penetration and minimize staining of cementitious grout material, that does not change appearance or color grout.

PART 3 EXECUTION

3.01 Examination of Surfaces

A. Inspect substrates for condition and maximum variations shown below:

1. Maximum ¼" in 10' from the required plane.
2. Slope provided in subfloor.
3. Steel trowel finish.

B. Report unacceptable surfaces. Surfaces to be tiled shall be free from coatings, curing membranes, oil, grease, wax, and dust. Do not proceed until unsatisfactory conditions are corrected.

3.02 Layout

A. Joint width: 3/16"

B. Determine location of movement joints in accordance with TCA recommendations, subject to approval by Architect/Engineer.. Lay out tile work to minimize cuts less than one-half tile in size. Locate cuts in floors to be least conspicuous.

C. Floor joints shall form straight uniform grout lines, parallel with walls.

D. Provide metal edge strips at both edges of joints.

3.03 Tile Installation, General

A. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved samples. If not factory blended, either return to manufacturer or blend tile at project site before installing.

B. Use products in strict accordance with manufacturer recommendations. Proportion mixes in accordance with applicable ANSI 108-series standards.

C. Pre-seal tile surfaces with a grout-release agent to prevent staining by grout and to ease grout cleanup, in accordance with tile manufacturer's recommendations. Test small area first. Take care not to coat edges of tile.

D. Extend tile work into recesses and under equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges, and corners without disruption of pattern or joint alignments.

E. Smooth exposed cut edges; clean cut edges before installing tiles. Fit tile carefully against trim and around pipes, electric boxes, and other built-in fixtures so that escutcheons, plates, and collars will completely overlap cut edges. Extend tile under metal door thresholds and frames.

3.04 Setting Methods

A. Install setting beds and related materials in accordance with applicable TCA installation method specifications for setting and grouting materials specified.

B. Follow TCA recommendations for bonding large format tile to ensure proper coverage of bonding surface and full support of edges and corners. Periodically remove and check a tile to assure proper coverage is being attained.

3.05 Grouting

A. Grout in accordance with manufacturer's recommendations.

B. Dampen grout joints daily with clean water by clean sponge or mop for first 7 days to facilitate grout core and color lock.

3.06 Expansion Joint Installation

A. Prepare substrate in accordance with TCA Handbook.

B. Align expansion joints on floors and/or walls where indicated.

C. Press joints into setting material and trowel over perforated flanges.

D. Set tile over flange making sure top of joint is flush with tile.

E. Install joint sealants in accordance with section 079200 and manufacturer’s instructions.

3.07 Cleaning

A. Clean tile surfaces thoroughly after grouting. Remove grout film and grout release agent, observing tile manufacturer's recommendations for chemical cleaners and methods. Rinse tile work thoroughly with clean water before and after using chemical cleaners. Polish surface of tile work with soft cloth.

3.08 Post Cure Sealers

A. Apply grout sealer after curing period as recommended by manufacturer.

B. Do not seal tile surfaces.

3.09 Protection

A. Protect tile work with non-staining breathable, heavy duty construction paper to prevent damage immediately after tile has been properly installed and grouted. Do not use plastic or non-absorbent coverings. Maintain protection until floor is opened for intended use.

B. Prohibit construction traffic from using newly tiled areas.

C. Upon Substantial Completion, tile work shall be complete and free from defects. Repair damaged work to match adjacent surfaces.

099100 Painting

PART 1 GENERAL

1.01 Summary

A. Provide painting as shown and as specified. Comply with applicable provisions of General Requirements and Standard Specifications.

1.02 Work Included

A. Work includes painting and finishing items and surfaces of new construction; existing surfaces disturbed or exposed to accomplish the work; existing surfaces adjacent to new construction as needed to provide uniform appearance (texture, color, sheen); and other surfaces throughout the project as designated on Drawings, in Schedules, and in Specifications.

B. Paint all surfaces exposed to view whether or not colors are designated in "schedules", except where natural finish is obviously intended or specifically noted. Where items or surfaces are not specifically mentioned, finish to match adjacent similar materials or areas.

C. Work includes field painting of bare and covered pipes and ducts (including color coding and labeling when scheduled), hangers, exposed ferrous metal work, and primed and prefinished metal surfaces of equipment installed under mechanical and electrical work in finished areas only, except as otherwise specified.

D. Examine work of other trades and become thoroughly familiar with provisions regarding painting of their work. Paint or finish all exposed surfaces and equipment left unfinished by other provisions of these specifications.

1.03 Work Not Included

A. Shop Priming: Unless otherwise specified, shop primer coats are included under various sections for structural steel, miscellaneous metal, architectural woodwork, steel doors and frames, and shop-fabricated or factory-built mechanical and electrical equipment, accessories, and similar items.

B. Prefinished Items: Unless otherwise indicated, do not paint factory-finished or prefinished items, such as (but not limited to) metal toilet enclosures, acoustic materials, architectural woodwork and casework, light fixtures, and non-public utility area mechanical and electrical equipment.

C. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces in concealed inaccessible areas such as foundation spaces, furred areas, utility tunnels, pipe spaces, duct shafts, and elevator shafts. Exception: field paint steel lintels in exterior walls and framing in exterior eaves before enclosing.

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

E. Operating Parts: Do not paint moving parts of operating units, sliding and bearing surfaces, and mechanical and electrical parts, such as valve and damper operators, linkages, sensing devices, and motor and fan shafts, unless otherwise indicated.

F. Labels: Do not paint over code-required labels, such as Underwriter's Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

1.04 Definitions

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

B. SSPC - Steel Structures Painting Council.
ASTM - American Society for Testing & Materials.

1.05 Submittals

A. Product Data: Submit manufacturer's product data, including label analysis and application instructions for each material specified.

B. Color Charts: Furnish color charts of proposed products for selection/verification.

C. Samples: Upon request, submit samples for review of color, gloss and texture. Compliance with all other requirements is the exclusive responsibility of Contractor. Provide a listing of material and intended application for each sample.

1. On 12" x 12" hardboard, provide two samples of each color and material, with texture to simulate actual conditions. Resubmit each sample as requested until required sheen, color and texture is achieved.
2. On actual wood surfaces, provide two 4" x 8" samples of each natural and stained wood finish as required. Label and identify each as to location and application.
3. On concrete masonry, provide two 4" square samples of masonry for each type of finish and color, defining filler, prime and finish coats.

D. Submit samples and certifications to the engineer. Do not apply paint systems until approved for use on the project.

1.06 Delivery, Storage & Protection

A. Deliver materials in original, unopened packages and containers bearing labels as follows:

Name or title of material.
Fed. Spec. number, if applicable.
Manufacturer's stock number.
Manufacturer's name.
Contents by volume, for major pigment and vehicle constituents.
Thinning instructions.
Application instructions.

PART 2 PRODUCTS

2.01 Paint & Coatings

A. Subject to compliance with the specified requirements, provide products by one of the following, or equal:

Pratt and Lambert Paints (P & L).
Sherwin-Williams Paints.
Glidden Paints.
Benjamin Moore Paints.
PPG Industries, Inc. (Pittsburg Paints).

B. Contractor shall submit a specific list of products it wishes to use if manufactured by a company other than that noted in Painting Schedules.

C. Refer to Drawings and Painting Schedules for finishes and coating systems to be applied to various surfaces throughout project.

D. Contractor shall bear responsibility for compatibility of shop primers and field-applied finish coatings and for compatibility of primer recoat-window time with timing of field finishes. When shop primer and finish coats are products of different manufacturers, manufacturer of finish coats shall certify in writing to the compatibility of products, or shall recommend a suitable barrier or intermediate tie coat to be applied prior to finish coats. Otherwise, provide recommended undercoat paint produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and within recommended limits.

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

PART 3 EXECUTION

3.01 Substrate Examination

A. Examine substrates and surfaces and conditions under which work is to be performed. Notify in writing of any conditions detrimental to performance of this work. Do not proceed with this work until unsatisfactory conditions have been corrected; starting of painting work will be construed as acceptance of surface and conditions within any particular area.

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

3.02 Surface Preparation

A. Perform preparation procedures for each substrate in strict accordance with paint manufacturer's instructions and as specified.

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

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

D. Prepare cementitious surfaces of concrete, concrete block, cement plaster, and mineral-fiber-reinforced cement board to be painted by removing all efflorescence, chalk, dust, dirt, grease, oils and by roughening as required to remove glaze.

E. Clean wood surfaces to be painted of all dirt, oil, or other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other approved sealer, before application of priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried. Wipe off adhering dust.

F. Clean nongalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of SSPC, unless blast cleaning is indicated elsewhere.

G. Clean galvanized surfaces with nonpetroleum-based solvents so that the surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

3.03 Material Preparation

A. Prepare painting materials in accordance with manufacturer's directions. Mix materials before application to produce uniform density. Stir as required during application of materials. Do not stir surface film into material; remove film and, if necessary, strain material before using.

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

3.04 Application

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

B. Apply additional coats when undercoats, stains or other conditions show through final coat of paint; paint film shall be of uniform finish, color and appearance.

C. Paint surfaces behind movable equipment and furniture to match exposed surfaces. Paint surfaces behind permanently-fixed equipment or furniture with prime coat only. Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.

D. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.

E. Finish exterior doors on tops, bottoms and side edges the same as exterior faces, unless otherwise shown.

F. Sand lightly between each succeeding enamel or varnish coat.

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

3.05 Protection

A. Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damages by cleaning, repairing or replacing, and repainting.

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

3.06 Clean-Up

A. During progress of work, dispose of discarded paint materials, rubbish, cans and rags. Upon completion of painting work, clean all paint-spattered surfaces by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.

PART 4 SCHEDULES

4.01 Painting Schedules, General

A. Provide the following coating systems for the various substrates indicated. Named products are specified to establish a standard of type and quality. See article "Paint & Coatings" for acceptable manufacturers. Provide coating systems for surfaces not listed here as recommended by manufacturer for substrates and exposure, subject to Engineer approval.

B. Contractor shall include in its bid the painting of different colors for adjacent surfaces such as doors, frames and walls. Colors shall be as noted on drawings and schedules, or as otherwise directed by engineer.

4.02 Exterior Painting Schedule

Ferrous Metal - Primed & Prefinished, including miscellaneous metal fabrications, steel doors and frames, exposed structural lintels:

Basis of design:
Touch up bare metal with Sherwin Williams Pro-Cryl Universal Acrylic Primer.
2 coats Sherwin Williams Pro Industrial Zero VOC
(For lintels: interior color to match adjacent wall; exterior color to match door frame).

4.03 Interior Painting Schedule

Block Masonry, where scheduled:

Basis of design:
1 coat P & L Primafil 200.
2 coats P & L Cellu-Tone (alkyd-enamel, satin).

Gypsum Board, ceilings and walls:

Basis of design:
1 coat P & L Wall Primer.
2 coats P & L Vitra Shield (stippled-alkyd, Eggshell).

Ferrous Metal - Adjacent or Near to Painted Surfaces, including factory-primed and baked-enamel-prefinished fire extinguisher cabinets, grilles, louvers, ductwork, conduit, piping, electrical panel covers, baseboard radiation, convector cabinets, access covers, equipment enclosures, raceways and similar appurtenances:

Paint to match adjacent or near surfaces, except as designated below.

Ferrous Metal - Primed & Prefinished, including steel doors, steel frames, miscellaneous steel fabrications, tube columns, steel tube trusses:

Basis of design:
Touch up primer.
1 coat P & L Vitralite Undercoating (tinted).
1 coat P & L Vitralite Enamel (alkyd, eggshell).

Insulation Coverings:

Basis of design:
1 coat P & L Vapex Wall Primer.
Finish coats to match adjacent or near surfaces.

Hardwood - Stained, including unfinished hardwood trim:

Basis of design:
1 coat P & L Tonetic Wood Stain.
1 coat P & L Sanding Sealer.
2 coats P & L 38 Clear Finish (alkyd-natural/stain, satin).

Plywood - Painted, including exposed deck above ceilings, shelving and equipment backing:

Basis of design:
1 coat P & L Interior Trim Primer.
2 coats P & L Cellu-Tone (alkyd-enamel, satin).

Wood – Painted

Basis of design:
1 coat P & L Interior Trim Primer.
2 coats P & L Aqua-Satin (latex-enamel, satin).

DIVISION 10 - SPECIALTIES

101400 Interior Signs

PART 1 GENERAL

1.01 Summary

A. Provide interior sign work as shown and as specified. Comply with applicable provisions of Division 1.

B. Supply and install, complete in place, all signage as indicated on the drawings and specified herein.

1. Provide handicap accessible signage at entry to new toilet rooms.
2. Provide handicap accessible signage on both sides of all power assisted doors.
3. Provide MEN and WOMEN signage at entry to new toilet rooms.

C. Submit proposed sign configurations to ENGINEER for selection and approval.

D. Provide temporary signage as directed by owner for temporary changes in MEN and WOMEN toilet rooms and for way-finding at entrances to accommodate phasing of the work.

1.02 Submittals

A. Shop Drawings: Submit shop drawings, product data sheets, and schedules. Indicate type of sign, materials, dimensions, colors, graphics, and method of attachment.

B. Color Charts: Submit chart of color combinations for selection by Engineer.

C. Samples: Showing color, materials, graphics, sizes, and mounting hardware.

1.03 Regulatory Requirements

A. Signs shall comply with the Americans with Disabilities Act (ADA) of 1990.

B. Signs shall comply with state, local, and ANSI handicapped accessibility requirements.

C. Use personnel thoroughly skilled and familiar with the manufacturer's recommended installation method.

1.04 Delivery, Storage & Handling

A. Ship sign materials including attachment devices carefully packaged to prevent surface damage. Include shop drawings to ensure correct installation and arrangement of all materials.

B. Remove all damaged and unsuitable materials from the jobsite immediately.

C. Store adhesives at ambient room temperature.

PART 2 PRODUCTS

2.01 Manufacturers

A. Signage shall be Adapt as manufactured by Takeform Architectural Graphics, Vista Signage Systems, 2/90 Sign Systems, asi Sign Systems or approved equal.

2.02 Signs

A. Architectural Signage System

1. The signage system shall utilize decorative laminate face with frame and applied graphics including all tactile requirements in adherence to ADA specifications.

B. Materials

1. Sign face shall be made of .035 standard-grade, high pressure surface laminate.
2. The sign core/backer shall be thermo set composite polyester based resin, color impregnated of .25 thickness.
3. Tactile lettering shall be precision machined 1/32" thick, matte polycarbonate and subsurface colored for scratch resistance.

C. Typography

1. Type style: Helvetica medium of height indicated on drawing details. Copy shall be a true, clean, accurate reproduction of helvetica medium. Upper and lower case or all caps as indicated in Sign Type drawings. Letter spacing to be normal and interline spacing shall be set by manufacturer.
2. Arrows, symbols and logo art: to be provided in style, sizes, colors and spacing as shown in drawings.
3. Braille: Grade II perfectly round, clear Braille beads.

D. Colors and Finishes

1. Typography to be selected by A/E.
2. Message Background to be selected by A/E.
3. Finishes are to meet current Federal ADA and any state requirements.

E. Construction

1. Signage system shall utilize a plastic sphere for Grade II Braille inserted directly into a scratch-resistant, high pressure laminate sign face. Braille dots are to be pressure fit in low tolerance milled holes. Braille dots shall be half hemispherical domed and protruding a minimum .025".
2. Sign face shall be permanently bonded to a composite core and precision machined together to a 90-degree angle. Edges shall be smooth, void chips, burrs, sharp edges, marks and polished to a satin luster.
3. All plaque signs shall have radiused corners of .25".

2.03 Attachment Devices

A. Provide vandal resistant concealed fasteners for all signs using manufacturer's standard designed for surface indicated.

PART 3 EXECUTION

3.01 Inspection

A. Examine all subsurfaces to receive the work. Report in writing to general contractor with copy to A/E any detrimental conditions. Failure to observe this injunction constitutes a waiver to any subsequent claims to the contract and hold signage contractor responsible for any corrections A/E may require. Commencement of the work will be construed as acceptance of all subsurfaces.

B. Coordinate required surface corrections with contractor responsible for installation.

C. Installer shall examine signs with General Contractor for defects, damage and compliance with specifications. Installation shall not proceed until unsatisfactory conditions are corrected.

3.02 Installation

A. Install all items in accordance with approved shop drawings and manufacturer's written instructions.

B. General: Installation locations shall be in accordance with ADA specifications. Locate signs where indicated on contract drawings, using mounting methods in compliance with manufacturer's instructions.

1. Signs shall be level, plumb, and at heights indicated, with sign surfaces free from defects.
2. Interior Wall Signs: Unless otherwise indicated, signs shall be installed on walls adjacent to latch side of door. Where not possible, signs shall be installed on nearest adjacent wall. Locate to allow approach within 3 inches (75mm) of sign without encountering protruding objects or standing within swing of door.

C. Units shall be installed rigid, straight, plumb, and level.

D. Provide a secure, vandal-resistant, permanent installation.

3.03 Delivery, Storage, Protection

A. Package to prevent damage or deterioration during shipment, handling, storage and installation. Products should remain in original packaging until removal is necessary.

3.04 Adjust and Clean

A. Clean all signage. Use cleaning agent recommended by manufacturer.

B. Clean premises of all litter, dirt, and debris created by work of this section.

3.05 Manufacturer's Warranty

A. Provide manufacturer's five year warranty against defect in materials or workmanship including but not limited to delamination, color change, adhesive loosening, or fading.

102800 Toilet and Bath Accessories

PART 1 GENERAL

1.01 Summary

A. Provide toilet and bath accessories as shown and as specified. Comply with applicable provisions of General Requirements.

B. Provide all of the following accessories for each new toilet room/stall. For accessories specified herein which are not specifically shown on the drawings, coordinate the location with the engineer.

1.02 Related Sections

Plumbing fixtures - Division 22.

1.03 Submittals

A. Submit shop drawings, product data, installation instructions, and maintenance recommendations for each toilet accessory. Provide setting drawings, templates, location of recesses and reinforcement, and instructions for installation of anchorage devices.

PART 2 PRODUCTS

2.01 Acceptable Manufacturers

A. Provide products of same manufacturer for each type of accessory unit and for units exposed in same areas, unless otherwise approved.

B. Stamped names or labels will not be permitted on exposed faces of units.

C. Products identified in this Section by reference to a specific manufacturer and product name/number are identified for the purpose of establishing a standard of quality, type, and function. Unless otherwise indicated, products of the following manufacturers or equal may be substituted for those listed, provided the substitution is equal in quality, type, and function and meets the specified requirements:

Accessory Specialties.
American Specialties.
Bobrick Washroom Equipment.
Bradley/Washroom Accessories Div.
General Accessory Mfg.
McKinney/Parker.
Tubular Specialties.

2.02 Mirrors (MR1)

A. 1/4" thick, No. 1 (mirror glazing) quality, and clean polished plate/float mirror glass electrolytically copper plated, guaranteed against silver spoilage for 15 years. Sizes as noted.

B. Backing shall be resilient, non-absorbent filler material, with not less than 22 ga. galvanized steel backing plate attached to frame with concealed screws, one-piece construction, full height and width of mirror frame. Corrugated cardboard or other moisture absorbent filler material is not acceptable.

C. Construct metal backing with hanger slots for concealed "tamper-proof" mounting. Provide manufacturer's standard hanger to engage with backing for concealed installation.

D. Use one piece roll formed frames, not less than 22 ga., satin finish, type 304 stainless steel, with square corners heli-arc welded and ground smooth.

2.03 Paper Towel Dispenser and Waste Disposal (PTD1)

A. Recessed combination touchless roll-paper-towel dispenser and waste receptacle; with removable/convertible dispenser and receptacle; ADA compliant; 4” recess.

B. All-welded heavy gauge satin-finish stainless steel construction; cabinet with tumbler lock; one-piece 22 gauge beveled flange; 20 gauge one-piece door with full length piano hinge and tumbler lock.

C. Dispenser of high-impact resin materials; to accept standard core non-perforated rolls up to 8” wide and 8” diameter; dispensing 12” length of towel per roll.

D. 18 gallon receptacle of 22 gauge satin-finished stainless steel with hemmed top edges; secured with tumbler lock.

E. Basis of design: Bobrick B-39617.

2.04 Paper Towel Receptacle (PTR)

A. 22 ga., satin finish, type 304 stainless steel for recess into a 4" wall, of one-piece frame construction, 18 gallon receptacle capacity and tumbler lock.

2.05 Foam Soap Dispenser - Sink Mounted (SD1)

A. Touch-free counter-mount foam soap dispenser, with curved chrome spout to compliment lavatory faucet; sanitary-sealed cartridge refill system; 1500 dispensers per refill; low voltage power supply; 3 year warranty.

B. Coordinate location with lavatory supplier to ensure adequate clearance for proper installation.

C. Basis of design: Gojo CXi Touch free counter mount dispenser.

2.06 Sanitary Napkin Disposal (SND)

A. Partition-mounted feminine napkin disposal unit; fabricated of 22 ga., satin finish, type 304 stainless steel.

B. Provide surface-mounted disposal unit with locking door.

C. Basis of design: Bobrick B-254

2.07 Grab Bars (GB-1, GB-2, GB-3)

A. Satin finish, type 304 stainless steel, 1-1/4" dia. x 18 ga. wall thickness, length as shown on Drawings, inserted into stainless steel flange and continuously heli-arc welded. When mounted, space between bar and wall shall be 1-1/2".

B. Provide grab bars with concealed mountings; Bobrick, Tubular Specialties, Saferail, or approved equal.

2.08 Toilet Paper Holder (TPS/TPD)

A. Surface mounted single roll holders with controlled delivery and theft resistant spindle.

1. Basis of design: Bobrick B273 with 283-604 spindle.

B. At handicap accessible water closets and Family Assisted Toilet Rooms, surface mounted single roll holders without controlled delivery and theft resistant spindle.

1. Basis of design: Bobrick B2730 with 283-604 spindle.

C. Where double roll holders are indicated provide surface mounted double roll dispenser equivalent to specified single roll toilet paper holders.

D. Satin finish stainless steel.

2.09 Electric Hand Dryer (EHD)

A. Heavy duty, rib reinforced cast iron cover with enamel finish. Color to be selected by A/E. Provide no touch operation with electronic sensor to automatically turn on and off dryer when drying hands. Nozzle to be fixed downward. Units shall be rated at 2300 watts, 110/120 volt, and 20 amp. 10-15 second dry time; surface mounted.

B. Basis of design: Sloan XLerator or equal.

2.10 Robe Hub (RH)

A. See section 102113.

B. Provide same or similar style at locations other than toilet partitions as indicated.

2.11 Sharps Receptacle (SR)

A. Stainless steel, surface mounted, receptacle for safe secured one-way disposal of used hypodermic needles with tumbler lock.

2.12 Baby Changing Station (BCS)

A. Horizontal, wall-mounted, fold-open polyethylene with concealed stainless steel hinges, contoured bed, instruction graphics, 250 pound capacity, ADA compliant. Blank-out liner dispenser.

B. Basis of design: Bobrick/Koala KB100-00, cream color.

2.13 Inserts & Anchorages

A. Furnish inserts and anchoring devices for installation of toilet accessories.

PART 3 EXECUTION

3.01 Inspection

A. Examine conditions under which toilet and bath accessories are to be installed. Notify of detrimental conditions. Do not proceed until unsatisfactory conditions have been corrected.

B. Conduct pre-installation meeting with owner to confirm locations noted and resolve potential interferences.

3.02 Installation

A. Use concealed fastenings wherever possible, and as designated. Provide anchors, bolts and other necessary fasteners, and attach accessories securely to walls and partitions in locations as shown and in accordance with manufacturer's instructions.

B. Install concealed mounting devices and fasteners fabricated of same material as accessories or of galvanized steel.

C. Install exposed mounting devices and fasteners finished to match accessories.

D. Provide theft-resistant fasteners for all accessory mountings.

DIVISION 12 - FURNISHINGS

124813 Recessed Floor Grates

PART 1 GENERAL

1.01 Summary
A. Provide recessed floor grate as shown and as specified. Comply with applicable provisions of Div. 1.

1.02 Design Criteria
A. Grid and framing sections, when installed, shall be designed to support a minimum 200 lbs. per square foot uniform load.

1.03 Submittals
A. Submit shop drawings and color sample.

PART 2 PRODUCTS

2.01 General
A. Provide recessed heavy-duty foot grilles in sizes and quantities as indicated on drawings, as manufactured by J.L. Industries, Construction Specialties, Inc./Pedigrid, Reese, Pawling, or equal.

2.02 Grid
A. Grids shall have carpet tread insert. (Color to be selected by owner from manufacturer's standard options). Aluminum tread rails shall be fabricated of 6063-T52 alloy, structurally joined to aluminum key lock bars, alloy 6061-T6, spaced 6" (153mm) o.c. maximum. (Welding or bolting shall not be permitted.) Finish to be standard mill. Provide continuous vinyl cushioning on ledge frame and supports. Grid shall have a maximum deflection of 1/16" at a 1150 pound load.

2.03 Framing
A. Framing members shall have ledge frame, drain pan application. Members shall be fabricated of 6063-T52 aluminum alloy, neatly coped at corners and assembled with #14 stainless steel screws to provide for rigid frame connections. Surfaces in contact with masonry shall receive one shop coat of zinc chromate primer. All other aluminum surfaces shall have a mill finish.

PART 3 EXECUTION

3.01 Installation
A. Install in accordance with approved shop drawings and manufacturer's recommendations. Recess frame to receive adjacent flooring materials. Screed a recessed cement base inside frame using edge of frame as a guide and slope to floor drain.

B. In order to ensure proper performance of the entire assembly, it is absolutely necessary that framing members be installed in a level and accurate plane. Contractor shall follow manufacturer's installation instructions provided with each shipment.

127550 Interior Benches

PART 1 GENERAL

1.01 Summary
A. Remove, salvage and relocate interior benches in lobby as shown and as specified. Comply with applicable provisions of Division 1.

PART 2 PRODUCTS

2.02 Manufacturer and Product
A. Existing backless benches on steel pedestals with mounting plates anchored to base slab below ceramic floor tile.

PART 3 EXECUTION

3.01 Installation
A. Re-install as originally installed, with base plate fasteners fully concealed below floor tile.

DIVISON 22 - PLUMBING

224000 – Plumbing Specialties

PART 1 GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including Standard Specification, apply to this section.

1.02 Summary

A. This section includes the following conventional plumbing fixtures and related components:

1. Flushometers.
2. Water closets.
3. Lavatories

1.03 Submittals

A. Shop Drawings: For each type of plumbing fixture indicated. Include selected fixture and trim, fittings, accessories, appliances, appurtenances, equipment, and supports. Indicate materials and finishes, dimensions, construction details, and flow-control rates.

B. Operation and Maintenance Data: For plumbing fixtures to include in operation and maintenance manuals.

C. Manufacturer's Warranty: Special warranty specified in this Section.

1.04 Quality Assurance

A. Source Limitations: Obtain plumbing fixtures, faucets, and other components of each category through one source from a single manufacturer.

1. Exception: If fixtures, faucets, or other components are not available from a single manufacturer, obtain similar products from other manufacturers specified for that category.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities"; Public Law 90-480, "Architectural Barriers Act" ; and Public Law 101-336, "Americans with Disabilities Act" ; for plumbing fixtures for people with disabilities.

D. Regulatory Requirements: Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.

E. NSF Standard: Comply with NSF 61, "Drinking Water System Components—Health Effects," for fixture materials that will be in contact with potable water.

F. Select combinations of fixtures and trim, faucets, fittings, and other components that are compatible.

1.05 Manufacturer's Warranty

A. Manufacturer's Warranty Period for Commercial Applications of Electronic Controls: Five years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 Flushometers

A. Flushometers, Urinal: (for replacement of existing)

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Sloan Valve Company (Model 195-1.0 ES-SM).
   b. Zurn Plumbing Products Group.

2. Description: Flushometer for urinal-type fixture. Include brass body with corrosion-resistant tubing, and polished chrome-plated finish on exposed parts.
   a. Internal Design: Diaphragm or piston operation.
   b. Style: Concealed.
   c. Inlet Size: NPS 3/4.
   d. Trip Mechanism: Hard-wired, electric-sensor actuator.
   e. Consumption: 1.0 gal./flush.
   f. Tailpiece Size: NPS 3/4 and standard length to top of bowl.
   g. Operations: Infrared Sensor with indicator light with push button override.

B. Flushometers, Water Closet: (for replacement of existing)

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Sloan Valve Company (Model 152 ES-SM).
   b. Zurn Plumbing Products Group.

2. Description: Flushometer for water-closet-type fixture. Include brass body with corrosion-resistant internal components, control stop with check valve, vacuum breaker, copper or brass tubing, and polished chrome-plated finish on exposed parts.

a. Internal Design: Diaphragm or piston operation.
b. Style: Concealed.
c. Inlet Size: NPS 1.
d. Trip Mechanism: Hard-wired, electric-sensor actuator w/ manual pushbutton.
e. Consumption: 3.5 gal./flush.
f. Tailpiece Size: NPS 1-1/2 and standard length to top of bowl.
g. Operations: Infrared Sensor with indicator light with push button override.

2.02 Water Closets for new Family Assisted Rest Rooms

A. Water Closets

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a Kohler, American Standard, Crane, Sloan

2. Description: As scheduled on Drawing P-001.

3. Basis of Design: As scheduled on Drawing P-001.

B. Seats

1. Manufacurers: Subject to compliance with requirements, provide products by one of the following:

a. Kohler, American Standard, Crane, Bemis, Beneke

2. Description: As scheduled on Drawing P-001.

3. Basis of Design: As scheduled on Drawing P-001.

C. Flushometer

1. Manufacurers: Subject to compliance with requirements, provide products by one of the following:

a. Kohler, American Standard, Delany, Sloan

2. Description: As scheduled on Drawing P-001.

3. Basis of Design: As scheduled on Drawing P-001.

2.03 Lavatories for new Family Assisted Rest Rooms

A. Lavatory

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Kohler, American Standard, Crane

2. Description: As scheduled on Drawing P-001.

3. Basis of Design: As scheduled on Drawing P-001.

B. Faucet

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Moen Commercial, Kohler, Chicago Faucet

2. Description: Maximum 2 gpm flow/ .25 gallons per cycle (based on inlet pressure of 60 psi), battery powered sensor activated, 4" deck plate. As scheduled on Drawing P-001.

3. Basis of Design: As scheduled on Drawing P-001.

C. Other components

1. Drain: Kohler K-13885 perforated strainer and 1-1/4" offset tailpiece, or equivalent by Chicago Faucet Co., Engineered Brass Co., Kohler, Watts, Wade, Jr. Smith, Josam.

2. Trap: 1-1/4" X 1-1/2" 17 ga. cast brass trap and tubular wall bend, with C.O. plug. Acceptable manufacturers: Kohler, McGuire, Dearborn, Engineered Brass Co.

3. Supplies and stops: Chicago Faucet No. 1006CP or equivalent by T&S Brass, McGuire.

4. Carriers and supports: Smith floor mounted concealed arm adjustable, or equivalent by Josam, Smith, Wade, Watts Drainage American Standard, Kohler, Crane. Mount fixture at ADA height.

5. Mixing valve: As scheduled on Drawing P-001 under lavatory faucet description.

PART 3 EXECUTION

3.01 Examination

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before plumbing fixture installation.

B. Examine cabinets, counters, floors, and walls for suitable conditions where fixtures will be installed.

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

3.02 Installation

A Assemble plumbing fixtures, trim, fittings, and other components according to manufacturers' written instructions. Set level and plumb. Secure in place to counters, floors and walls providing solid bearing and secure mounting. Bolt fixture carriers to floor and wall. Secure rough-in fixture piping to prevent movement of exposed piping.

B. Install each fixture with trap easily removable for servicing and cleaning. Install fixture stops in readily accessible location for servicing.

C. Install flushometer valves for accessible water closets and urinals with push button mounted on wide side of compartment. Install other actuators in locations that are easy for people with disabilities to reach.

D. Install barrier free fixtures in compliance with IBC 1108 and 3408, Comm 52, 69 and Federal ADA Accessibility Guidelines. Install barrier free lavatory traps parallel and adjacent to wall and supplies and stops elevated to 27" above floor to avoid contact by wheelchair users.

E. Provide a stop valve for each fixture, heavy duty type with brass stems and screwed or sweat inlet connections. Compression type inlets are not acceptable.

F. Cover pipe penetration with escutcheons. Exposed traps, stops, piping and escutcheons to be chrome plated brass, same items in concealed locations may be of rough brass finish.

G. Set floor mounted water closets, counter mounted lavs and sinks, lav and sink faucets and drains with full setting bed of flexible non-staining plumber's putty. Cover exposed water closet bolts with bolt covers.

H. Seal openings between walls, floors and fixtures with mildew-resistant silicone sealant same color as fixture.

3.02 Connections

A. Drawings indicate general arrangement of piping, fittings, and specialties. Contractor shall verify pipe sizes and connections prior to ordering flushometer valves.

B. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.

C. Ground equipment according to NFPA standards

D. Connect wiring according to NFPA standards

3.03 Field Quality Control

A. Verify that installed plumbing fixtures are categories and types specified for locations where installed.

B. Check that plumbing fixtures are complete with trim, faucets, fittings, and other specified components.

C. Inspect installed plumbing fixtures for damage. Replace damaged fixtures and components.

D. Test installed fixtures after water systems are pressurized for proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.

E. Install fresh batteries in sensor-operated mechanisms.

3.04 Adjusting

A. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.

B. Operate and adjust controls. Replace damaged and malfunctioning units and controls.

C. Adjust water pressure at flushometer valves to produce proper flow and stream.

3.05 Cleaning

A. Clean fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials. Do the following:

1. Remove faucet spouts and strainers, remove sediment and debris, and reinstall strainers and spouts.

2. Remove sediment and debris from drains.

B. After completing installation of exposed, factory-finished fixtures, faucets, and fittings, inspect exposed finishes and repair damaged finishes.

3.06 Protection

A. Provide protective covering for installed fixtures and fittings.

B. Do not allow use of plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 224000

DIVISION 26 - ELECTRICAL

260500 Common Work Results for Electrical

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary

A. Section Includes:

1. Electrical equipment coordination and installation.
2. Sleeves for raceways and cables.
3. Sleeve seals.
4. Common electrical installation requirements.

1.03 Definitions

A. EPDM: Ethylene-propylene-diene terpolymer rubber.

B. NBR: Acrylonitrile-butadiene rubber.

1.04 Submittals

A. No Submittal Required.

1.05 Coordination

A. Coordinate arrangement, mounting, and support of electrical equipment:

1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
3. To allow right of way for piping and conduit installed at required slope.
4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.

B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.

C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed.

D. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 07

PART 2 - PRODUCTS

2.01 Sleeves for Raceways and Cable

A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.

B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

2.02 Sleeve Seals

A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.

1. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
2. Pressure Plates: Stainless steel. Include two for each sealing element.
3. Connecting Bolts and Nuts: Stainless steel] of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.03 Grout

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

PART 3 - EXECUTION

3.01 Common Requirements For Electrical Installation

A. Comply with NECA 1.

B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.

C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.

E. Right of Way: Give to piping systems installed at a required slope.

3.02 Sleeve Installation For Electrical Penetrations

A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.

B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.

C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.

D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.

E. Cut sleeves to length for mounting flush with both surfaces of walls.

F. Extend sleeves installed in floors 2 inches (50 mm) above finished floor level.

G. Size pipe sleeves to provide 1/4-inch (6.4-mm) annular clear space between sleeve and raceway or cable, unless indicated otherwise.

H. Seal space outside of sleeves with grout for penetrations of concrete and masonry

1. Promptly pack grout solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect grout while curing.

I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint.

J. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials.

K. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.

L. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.

3.03 Sleeve-Seal Installation

A. Install to seal exterior wall penetrations.

B. Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.04 Firestopping

A. Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly.

3.05 Field Quality Control

A. Inspect installed sleeve and sleeve-seal installations and associated firestopping for damage and faulty work. Replace sleeve and sleeve-seals that are damaged or faulty.

260519 - Low-Voltage Electrical Power Conductors And Cables

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary

A. This Section includes the following:
   1. Building wires and cables rated 600 V and less.
   2. Connectors, splices, and terminations rated 600 V and less.

1.03 Submittals

A. No Submittal Required.

1.04 Quality Assurance

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 Conductors And Cables

A. Copper Conductors: Comply with NEMA WC 70.

B. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN.

C. All conductors shall be rated 600 volts.

D. Branch circuit wire sizes not shown on the drawings shall be #12 AWG minimum.

E. Control circuit wire sizes not shown on the drawings shall be #14 AWG minimum.

2.02 Connectors And Splices

A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

1. Split Bolt Connectors: Not acceptable.
2. Solderless Pressure Connectors: High copper alloy terminal. May be used only for cable termination to equipment pads or terminals. Not approved for splicing.
3. Spring Wire Connectors: Solderless spring type pressure connector with insulating covers for copper wire splices and taps. Use for conductor sizes 10 AWG and smaller.
4. All wire connectors used in underground or exterior pull boxes shall be gel filled twist connectors or a connector designed for damp and wet locations.
5. Mechanical Connectors: Bolted type tin-plated; high conductivity copper alloy; spacer between conductors; beveled cable entrances.
6. Compression (crimp) Connectors: Long barrel; seamless, tin-plated electrolytic copper tubing; internally beveled barrel ends. Connector shall be clearly marked with the wire size and type and proper number and location of crimps.

PART 3 - EXECUTION

3.01 Conductor Material Applications

A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

3.02 Conductor Insulation and Wiring Methods

A. Service Entrance: Type THHN-THWN, single conductors in raceway.

B. Exposed Feeders: Type THHN-THWN, single conductors in raceway.

C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Type THHN-THWN, single conductors in raceway.

D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.

E. Feeders Installed below Raised Flooring: Type THHN-THWN, single conductors in raceway.

F. Exposed Branch Circuits, Including in Crawlspaces: Type THHN-THWN, single conductors in raceway.

G. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-THWN, single conductors in raceway.

H. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THHN-THWN, single conductors in raceway.

3.03 Installation Of Conductors And Cables

A. Wire and cable routing is shown diagrammatically on the drawings and is approximate unless dimensioned. Route wire and cable as required to meet project conditions.

B. All power, control and instrument wiring shall be installed in conduit unless specifically indicated otherwise.

C. Conceal cables in finished walls, ceilings, and floors, unless otherwise indicated.

D. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

E. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

F. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

G. Support cables according to Division 26.

H. Identify and color-code conductors and cables according to Division 26.

3.04 Connections

A. 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.

B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

D. All conductors terminated with crimp type devices must be stranded.

E. Stranded conductors may only be terminated with UL or ETL Listed type terminations or methods: e.g. stranded conductors may not be wrapped around a terminal screw but must be terminated with a crimp type device.

3.05 Firestopping
A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

260526 - Grounding And Bonding For Electrical Systems

PART 1 - GENERAL

1.01 Related Documents
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary
A. This Section includes methods and materials for grounding systems and equipment.

1.03 Submittals
A. None required.

1.04 Quality Assurance
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.01 Conductors
A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

B. Bare Copper Conductors:

1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
4. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
5. Bonding Jumper: Copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.

C. Grounding Bus: Rectangular bars of annealed copper, 1/4 by 2 inches (6 by 50 mm) in cross section, unless otherwise indicated; with insulators.

2.02 Connectors

A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.

B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.

1. Pipe Connectors: Clamp type, sized for pipe.

PART 3 - EXECUTION

3.01 Applications

A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.

B. Conductor Terminations and Connections:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.

3.02 Equipment Grounding

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Signal and Communication Equipment: For telephone, alarm, voice and data, and other communication equipment, provide No. 4 AWG minimum insulated grounding conductor in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location.

1. Service and Central Equipment Locations and Wiring Closets: Terminate grounding conductor on a 1/4-by-2-by-12-inch (6-by-50-by-300-mm) grounding bus.

3.03 Installation

A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.

1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to rigidly mounted equipment.
3. Use exothermic-welded connectors for outdoor locations, but if a disconnect-type connection is required, use a bolted clamp.

C. Grounding and Bonding for Piping:

1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes, using a bolted clamp connector or by bolting a lug-type connector to a pipe flange, using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.
2. Water Meter Piping: Use braided-type bonding jumpers to electrically bypass water meters. Connect to pipe with a bolted connector.
3. Bond each aboveground portion of gas piping system downstream from equipment shutoff valve.

260529 - Hangers And Supports For Electrical Systems

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary

A. This Section includes the following:

1. Hangers and supports for electrical equipment and systems.
2. Construction requirements for concrete bases.

1.03 Definitions

A. EMT: Electrical metallic tubing.

B. IMC: Intermediate metal conduit.

C. RMC: Rigid metal conduit.

D. MFMA-4: Metal Framing Manufacturers Association.

E. MSS: Manufacturers Standardization Society of the Pipe, Valve, and Fitting Industry.

1.04 Performance Requirements

A. Provide supports for multiple raceways capable of supporting combined weight of supported systems and its contents.

1.05 Submittals

A. No Submittal Required.

1.06 Quality Assurance

A. Comply with NFPA 70.

1.07 Coordination

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases.

B. Coordinate installation of roof curbs, equipment supports, and roof penetrations.

PART 2 - PRODUCTS

2.01 Support, Anchorage, And Attachment Components

A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

1. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
2. Channel Dimensions: Selected for applicable load criteria.

B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.

C. Conduit and Cable Support Devices: Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.

D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.

E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used. Plastic type expansion anchors are unacceptable.
2. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
3. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.
4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A325.
5. Toggle Bolts: All-steel springhead type.
6. Hanger Rods: Threaded steel.

2.02 Fabricated Metal Equipment Support Assemblies

A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.01 Application

A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.

B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6mm) in diameter.

C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with single-bolt conduit clamps.

D. All supports installed outside, exposed to the weather, or inside in wet or damp areas shall utilize corrosion resistant supports, fittings, hardware, conduit clamps and all accessories.

3.02 Support Installation

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.

B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.

C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).

D. All electrical fixtures, devices, and equipment shall be securely mounted to building structure and shall not depend upon ceiling or wall surfaces for their support. They shall be incapable of being rotated or displaced.

E. Do not fasten supports to piping, ductwork, mechanical equipment, cable tray, conduit, or any other surface not a part of the building structure or other structural surface.

F. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To Wood: Fasten with lag screws or through bolts.
2. To New Concrete: Bolt to concrete inserts.
3. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
4. To Existing Concrete: Expansion anchor fasteners.
5. To Steel: Beam clamps (MSS Type 19, 21, 23, 25, or 27) complying with MSS SP-69.
6. To Light Steel: Sheet metal screws.
7. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate.

G. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

H. Do not drill or weld structural steel members unless approved by Engineer.

3.03 Installation of Fabricated Metal Supports

A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

3.04 Painting

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).

B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

260533 - Raceway And Boxes For Electrical Systems

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary

A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.03 Definitions

A. EMT: Electrical metallic tubing.

B. ENT: Electrical nonmetallic tubing.

C. EPDM: Ethylene-propylene-diene terpolymer rubber.

D. FMC: Flexible metal conduit.

E. IMC: Intermediate metal conduit.

F. LFMC: Liquidtight flexible metal conduit.

G. LFNC: Liquidtight flexible nonmetallic conduit.

H. NBR: Acrylonitrile-butadiene rubber.

I. RNC: Rigid nonmetallic conduit.

1.04 Submittals

A. No Submittal Required.

1.05 Quality Assurance

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

1.06 Coordination

A. Coordinate layout and installation of raceways, boxes, enclosures, cabinets, and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.01 Metal Conduit And Tubing

A. Rigid Steel Conduit: ANSI C80.1.

B. IMC: ANSI C80.6.

C. EMT: ANSI C80.3.

D. FMC: Zinc-coated steel.

E. LFMC: Flexible steel conduit with PVC jacket.

F. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.

1. Fittings for EMT: Steel or die-cast, compression type.

G. Expansion Fittings: Type XJ with copper bonding jumpers.

2.02 Nonmetallic Conduit And Tubing

A. ENT: NEMA TC 13.

B. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.

C. LFNC: UL 1660.

D. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.

E. Fittings for LFNC: UL 514B.

2.03 Surface Raceways

A. Surface Metal Raceways: Galvanized steel with snap-on covers. Manufacturer's standard finish.

B. Types, sizes, and channels as indicated and required for each application, with fittings that match and mate with raceways.

2.04 Boxes, Enclosures, And Cabinets

A. Sheet Metal Outlet and Device Boxes: NEMA OS 1.

B. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.

C. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

D. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, galvanized, cast iron with gasketed cover.

E. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous-hinge cover with flush latch, unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

F. Cabinets:

1. NEMA 250, Type 1 unless stated otherwise on drawings, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
2. Hinged door in front cover with flush latch and concealed hinge.
3. Key latch to match panelboards.
4. Metal barriers to separate wiring of different systems and voltage.

PART 3 - EXECUTION

3.01 Raceway Application

A. Outdoors: Apply raceway products as specified below, unless otherwise indicated:

1. Exposed Conduit: Rigid steel conduit.
2. Concealed Conduit, Aboveground: Rigid steel conduit.
3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
4. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Comply with the following indoor applications, unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Concealed in Ceilings and Interior Walls and Partitions: EMT.
3. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
4. Damp or Wet Locations: EMT.
5. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 3R, powder coated steel in damp or wet locations.

C. Minimum Raceway Size: 3/4-inch (21-mm) trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
2. Rigid Nonmetallic Conduit: Use PVC fittings, unless otherwise indicated.

3.02 Installation

A. Comply with NECA 1 for installation requirements applicable to products specified in Part 2 except where requirements on Drawings or in this Article are stricter.

B. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.

C. Complete raceway installation before starting conductor installation.

D. Support raceways as specified in Division 26.

E. Install temporary closures to prevent foreign matter from entering raceways.

F. Unused openings in boxes and fittings shall be plugged with suitable devices rated for the proper environment.

G. Make bends and offsets so ID is not reduced. Keep legs of bends in the same plane and keep straight legs of offsets parallel, unless otherwise indicated.

H. Arrange stub-ups so curved portions of bends are not visible above the finished slab.

I. Conceal conduit and EMT within finished walls, and ceilings, unless otherwise indicated.

J. Install exposed raceways parallel or at right angles to nearby surfaces or structural members and follow surface contours as much as possible.

1. Run parallel or banked raceways together on common supports.
2. Make parallel bends in parallel or banked runs. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.

K. Install concealed raceways with a minimum of bends in the shortest practical distance, considering type of building construction and obstructions, unless otherwise indicated.

L. Conduit shall not be routed under floor slab unless specifically noted on drawings.

M. All conduit installed outside exposed to the weather and in wet locations shall utilize sealing locknuts and bushings.

N. Provide polished stainless steel escutcheon plates to provide smooth cleanable surfaces at wall penetrations. Affix plate securely to surface and caulk around plate.

O. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

P. Join raceways with fittings designed and approved for that purpose and make joints tight.

Q. Terminations:

1. When raceways are terminated with locknuts and bushings, align raceways to enter squarely and install locknuts with dished part against box. Use two locknuts, one inside and one outside box.
2. Where raceways are terminated with threaded hubs, screw raceways or fittings tightly into hub so end bears against wire protection shoulder. Where chase nipples are used, align raceways so coupling is square to box; tighten chase nipple so no threads are exposed.

R. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire.

S. Install raceway sealing fittings at suitable, approved, and accessible locations and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
2. Where otherwise required by NFPA 70.

T. Expansion fittings shall be installed across expansion joints in structures and concrete construction where such joints are shown on the architectural and structural drawings.

U. Flexible Conduit Connections: Use maximum of 72 inches (1830 mm) of flexible conduit for recessed and semirecessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC in damp or wet locations subject to severe physical damage.
2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.

V. Locate and install boxes to allow access to them. Where installation is inaccessible, coordinate locations and provide 18 inch by 24 inch access doors.

W. No back to back outlet boxes shall be installed.

X. Electrical box locations shown on drawings are approximate unless dimensioned. Verify location of floor boxes and outlets in offices and work areas prior to rough-in.

Y. No outlet shall be located where it will be obstructed by other equipment, piping, lockers, benches, counters, etc.

Z. It shall be the Contractor's responsibility to study drawings pertaining to other trades, to discuss location of outlets with workmen installing other piping and equipment and to fit all electrical outlets to job conditions.

AA. The proper location of each outlet is considered a part of this contract and no additional compensation will be paid to the Contractor for moving outlets which were improperly located.

BB. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.

CC. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.

DD. Set metal floor boxes level and flush with finished floor surface.

EE. Install hinged-cover enclosures and cabinets plumb. Support at each corner.

3.03 Firestopping
A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 07.

3.04 Protection
A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

260923 - Lighting Control Devices

PART 1 - GENERAL

1.01 Related Documents
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary
A. This Section includes the following lighting control devices:

1. Outdoor and indoor photoelectric switches.
2. Indoor occupancy sensors.
3. Lighting contactors.

1.03 Definitions
A. LED: Light-emitting diode.

B. PIR: Passive infrared.

1.04 Submittals
A. Product Data: For each type of product indicated.

B. Operation and Maintenance Data: For each type of product to include in emergency, operation, and maintenance manuals.

1.05 Quality Assurance
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked.

1.06 Coordination

A. Coordinate layout and installation of ceiling-mounted devices with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, smoke detectors, fire-suppression system, and partition assemblies.

PART 2 - PRODUCTS

2.01 Outdoor Photoelectric Switches

A. Description: Solid state, with SPST dry contacts rated for 1800-VA tungsten or 1000-VA inductive, to operate connected relay, contactor coils, or microprocessor input; complying with UL 773A.

1. Light-Level Monitoring Range: 1.5 to 10 fc (16.14 to 108 lx), with an adjustment for turn-on and turn-off levels within that range, and a directional lens in front of photocell to prevent fixed light sources from causing turn-off.
2. Time Delay: 15-second minimum, to prevent false operation.
3. Mounting: Fixed base for conduit mounting and capable of being wall mounted.
4. Shall fail in ON position.

2.02 Indoor Photoelectric Switches

A. Ceiling-Mounted Photoelectric Switch: Solid-state, light-level sensor unit, with separate relay unit, to detect changes in lighting levels that are perceived by the eye. Cadmium sulfide photoresistors are not acceptable.

1. Lens or angled entrance to photocell to prevent false shutoff.
2. Sensor Output: Contacts rated to operate the associated relay, complying with UL 773A. Sensor shall be powered from the relay unit.
3. Relay Unit: Dry contacts rated for 20-A ballast load at 120V ac.
4. Light-Level Monitoring Range: 10 to 200 fc (108 to 2152 lx), with a digital footcandle adjustment for turn-on and turn-off levels throughout that range.
5. Time Delay: Adjustable up to minimum 20 minutes to prevent cycling, with deadband adjustment.
6. Indicator: LED(s) to indicate the beginning of on-off cycles.
7. Shall fail in ON position.

2.03 Indoor Occupancy Sensors

A. General Description: Ceiling-mounting, solid-state units with a separate relay unit.

1. Operation: Unless otherwise indicated, turn lights on when covered area is occupied and off when unoccupied; with a time delay for turning lights off, adjustable over a minimum range of 1 to 15 minutes.
2. Sensor Output: Contacts rated to operate the connected relay, complying with UL 773A. Sensor shall be powered from the relay unit.

3. Relay Unit: Dry contacts rated for 20-A ballast load at 120V ac.
4. Mounting:
    a. Sensor: Suitable for mounting in any position on a standard outlet box.
    b. Relay: Externally mounted through a 1/2-inch (13-mm) knockout in a standard electrical enclosure.
    c. Time-Delay and Sensitivity Adjustments: Recessed and concealed.
5. Indicator: LED, to show when motion is being detected during testing and normal operation of the sensor.
6. Bypass Switch: Override the on function in case of sensor failure.

B. PIR Type: Ceiling mounting; detect occupancy by sensing a combination of heat and movement in area of coverage.

1. Detector Sensitivity: Detect occurrences of 6-inch- (150-mm-) minimum movement of any portion of a human body that presents a target of not less than 36 sq. in. (232 sq. cm).
2. Detection Coverage (Room): Detect occupancy anywhere in a circular area of 1000 sq. ft. (93 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.
3. Detection Coverage (Corridor): Detect occupancy within 90 feet (27.4 m) when mounted on a 10-foot- (3-m-) high ceiling.

C. Ultrasonic Type: Ceiling mounting; detect occupancy by sensing a change in pattern of reflected ultrasonic energy in area of coverage.

1. Detector Sensitivity: Detect a person of average size and weight moving not less than 12 inches (305 mm) in either a horizontal or a vertical manner at an approximate speed of 12 inches/s (305 mm/s).
2. Detection Coverage (Small Room): Detect occupancy anywhere within a circular area of 600 sq. ft. (56 sq. m) when mounted on a 96-inch- (2440-mm-) high ceiling.
3. Detection Coverage (Corridor): Detect occupancy anywhere within 90 feet (27.4 m) when mounted on a 10-foot- (3-m-) high ceiling in a corridor not wider than 14 feet (4.3 m).

2.04 Lighting Contactors

A. Description: Electrically operated and mechanically held, complying with NEMA ICS 2 and UL 508.

1. Current Rating for Switching: Listing or rating consistent with type of load served, including tungsten filament, inductive, and high-inrush ballast (ballast with 15 percent or less total harmonic distortion of normal load current).
2. Fault Current Withstand Rating: Equal to or exceeding the available fault current at the point of installation.

3. Enclosure: Comply with NEMA 250.
4. Control-Coil Voltage: Match control power source.

PART 3 - EXECUTION

3.01 Sensor Installation

A. Install and aim sensors in locations to achieve not less than 90 percent coverage of areas indicated. Do not exceed coverage limits specified in manufacturer's written instructions.

B. All lighting control units shall be installed in an appropriate enclosure for the type of environment encountered. No exposed wiring shall be permitted inside of the building or pedestal mounted enclosure in which this equipment is installed.

C. Photoelectric switches shall be oriented to the north or east with only eye visible from the exterior of the enclosure.

3.02 Wiring Installation

A. Wiring Method: Comply with Division 26.

B. Wiring within Enclosures: Comply with NECA 1. Separate power-limited and nonpower-limited conductors according to conductor manufacturer's written instructions.

C. Size conductors according to lighting control device manufacturer's written instructions, unless otherwise indicated.

D. Splices, Taps, and Terminations: Make connections only on numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures.

3.03 Identification

A. Identify components and power and control wiring according to Division 26.

1. Identify controlled circuits in lighting contactors.

B. Label time switches and contactors with a unique designation.

3.04 Field Quality Control

A. Perform the following field tests and inspections:

1. After installing time switches and sensors, and after electrical circuitry has been energized, adjust and test for compliance with requirements.
2. Operational Test: Verify operation of each lighting control device, including operation of photo eyes at sunset or sunrise, and adjust time delays.

B. Lighting control devices that fail tests and inspections are defective work.

C. Remove and replace lighting control devices where test results indicate that they do not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.05 Training

A. Spend at least (2) hours training (2) owner-specified personnel in operation and maintenance of lighting control devices using O&M manuals.

262416 - Panelboards

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary

A. Section Includes:

1. Distribution panelboards.
2. Lighting and appliance branch-circuit panelboards.

1.03 Definitions

1.04 Submittals

A. Product Data: For each type of panelboard, switching and overcurrent protective device, transient voltage suppression device, accessory, and component indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types.
3. Detail bus configuration, current, and voltage ratings.
4. Short-circuit current rating of panelboards and overcurrent protective devices.
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
6. Component list.

7. Cable terminal sizes.
8. Breaker layout drawing with dimensions indicated and nameplate designation.

1.05 Quality Assurance

A. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA70, by a qualified testing agency, and marked for intended location and application.

C. Comply with NEMA PB 1.

D. Comply with NFPA 70.

1.06 Delivery, Storage, And Handling

A. Remove loose packing and flammable materials from inside panelboards; install temporary electric heating (250 W per panelboard) to prevent condensation.

B. Handle and prepare panelboards for installation according to NEMA PB 1.

1.07 Project Conditions

A. Environmental Limitations:

1. Do not deliver or install panelboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:
   a. Ambient Temperature: Not exceeding 23 deg F (minus 5 deg C) to plus 104 deg F (plus 40 deg C).

B. Service Conditions: NEMA PB 1, usual service conditions, as follows:

1. Ambient temperatures within limits specified.

1.08 Coordination

A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

1.09 Extra Materials

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Keys: Six spares for each type of panelboard cabinet lock.

PART 2 - PRODUCTS

2.01 General Requirements For Panelboards

A. Enclosures: Surface-mounted cabinets.

1. Rated for environmental conditions at installed location. Provide the following minimum requirements, unless noted otherwise on the drawings.
   a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
2. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
3. Finishes:
   a. Panels and Trim: Steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
   b. Back Boxes: Same finish as panels and trim.
4. Directory Card: Inside panelboard door, mounted in metal frame with transparent protective cover.

B. Phase, Neutral, and Ground Buses:

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

C. Conductor Connectors: Suitable for use with conductor material and sizes.

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Main and Neutral Lugs: Mechanical type.
3. Ground Lugs and Bus-Configured Terminators: Compression type.
4. Feed-Through Lugs: Mechanical type, suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device.

D. Service Equipment Label: NRTL labeled for use as service equipment for panelboards.

E. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.

F. Panelboard Short-Circuit Current Rating: Rated for series-connected system with integral or remote upstream overcurrent protective devices and labeled by an NRTL. Include size and type of allowable upstream and branch devices, listed and labeled for series-connected short-circuit rating by an NRTL.

G. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals.

2.02 Distribution Panelboards

A. Panelboards: NEMA PB 1, power and feeder distribution type.

B. Doors: Secured with vault-type latch with tumbler lock; keyed alike.

1. For doors more than 36 inches (914 mm) high, provide two latches, keyed alike.

C. Mains: Thermal-Magnetic circuit breaker or lugs only, as shown on drawings.

D. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Thermal-Magnetic Bolt-on circuit breakers.

E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Thermal-Magnetic Bolt-on circuit breakers.

2.03 Lighting And Appliance Branch-Circuit Panelboards

A. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.

B. Mains: Circuit breaker or lugs only, as shown on drawings.

C. Branch Overcurrent Protective Devices: Thermal-Magnetic Bolt-on circuit breakers, replaceable without disturbing adjacent units.

D. Doors: Hinged; secured with flush latch with tumbler lock; keyed alike.

2.04 Disconnecting And Overcurrent Protective Devices

A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with series-connected rating and interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
2. Molded-Case Circuit-Breaker (MCCB) Features and Accessories:
   a. Standard frame sizes, trip ratings, and number of poles.
   b. Lugs: Compression or Mechanical style, suitable for number, size, trip ratings, and conductor materials.

c. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding high-intensity discharge (HID) lighting circuits.
d. Multipole units enclosed in a single housing or factory assembled to operate as a single unit.
e. Handle Padlocking Device: Fixed attachment, for locking circuit-breaker handle in on or off position.

2.05 Accessory Components And Features

A. Accessory Set: Include tools and miscellaneous items required for overcurrent protective device test, inspection, maintenance, and operation.

PART 3 - EXECUTION

3.01 Examination

A. Receive, inspect, handle, and store panelboards according to NECA 407.

B. Examine panelboards before installation. Reject panelboards that are damaged or rusted or have been subjected to water saturation.

C. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.

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

3.02 Installation

A. Install panelboards and accessories according to NECA 407.

B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from panelboards.

C. Mount top of trim 90 inches (2286 mm) above finished floor unless otherwise indicated.

D. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.

E. Install overcurrent protective devices and controllers not already factory installed.

F. Install filler plates in unused spaces.

G. Arrange conductors in gutters into groups and bundle and wrap with wire ties .

H. Comply with NECA 1.

3.03 Identification

A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with Division 26.

B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Use a computer or typewriter to create directory; handwritten directories are not acceptable.

C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Division 26.

D. Device Nameplates: Label each branch circuit device in distribution panelboards with a nameplate complying with requirements for identification specified in Division 26 Section "Identification for Electrical Systems."

3.04 Field Quality Control

A. Acceptance Testing Preparation:

1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

B. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
3. Perform the following infrared scan tests and inspections and prepare reports:
    a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each panelboard. Remove front panels so joints and connections are accessible to portable scanner.
    b. Instruments and Equipment:
        1) Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.

C. Panelboards will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

3.05 Adjusting

A. Adjust moving parts and operable component to function smoothly, and lubricate as recommended by manufacturer.

3.06 Protection

A. Temporary Heating: Apply temporary heat to maintain temperature according to manufacturer's written instructions.

262726 - Wiring Devices

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary

A. This Section includes the following:

1. Receptacles.
2. Snap switches and wall-box dimmers.
3. Wall plates.

1.03 Definitions

A. EMI: Electromagnetic interference.

B. GFCI: Ground-fault circuit interrupter.

C. Pigtail: Short lead used to connect a device to a branch-circuit conductor.

D. RFI: Radio-frequency interference.

E. TVSS: Transient voltage surge suppressor.

F. UTP: Unshielded twisted pair.

1.04 Submittals

A. Product Data: For each type of product indicated.

B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.

1.05 Quality Assurance

A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 Straight Blade Receptacles

A. Convenience Receptacles, Heavy-Duty grade, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.

2.02 GFCI Receptacles

A. General Description: Straight blade, Heavy-duty grade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, configuration5-20R, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.

B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:

2.03 Snap Switches

A. Comply with NEMA WD 1 and UL 20.

B. Switches, Heavy-duty grade, 120/277 V, 20 A:

C. Key-Operated Switches, 120/277 V, 20 A:

1. Description: Single pole, with factory-supplied key in lieu of switch handle. Provide two spare keys for every switch.

2.04 Communications Outlets

A. Telephone Outlet:

1. Description: Single RJ-45 jack for terminating 100-ohm, balanced, four-pair UTP; TIA/EIA-568-B.1; complying with Category 5e. Comply with UL 1863.

2.05 Wall Plates

A. Single and combination types to match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: Smooth, high-impact thermoplastic.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Damp Locations: Thermoplastic with spring-loaded lift cover, and listed and labeled for use in "wet locations."

B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant thermoplastic with lockable cover.

2.06 Finishes

A. Color:

1. Wiring Devices Connected to Normal Power System: Match existing, unless otherwise indicated or required by NFPA 70 or device listing.

PART 3 - EXECUTION

3.01 Installation

A. Coordination with Other Trades:

1. Take steps to ensure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

B. Conductors:

1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA70, Article 300, without pigtails.
4. Existing Conductors:
   a. Cut back and pigtail, or replace all damaged conductors.
   b. Straighten conductors that remain and remove corrosion and foreign matter.
   c. Pigtailing existing conductors is permitted provided the outlet box is large enough.

C. Device Installation:

1. Install devices and assemblies level, plumb, and square with building lines.
2. Connection to receptacles and switches shall utilize screw terminals. Plug-in connections are not acceptable.
3. Remove wall plates and protect devices and assemblies during painting.
4. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
5. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
6. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
7. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
8. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
9. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
10. Tighten unused terminal screws on the device.
11. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.
12. Receptacles shall have a bonding conductor from grounding terminal to the ground system. Self-grounding receptacles using mounting screws as bonding means are not acceptable.
13. GFCI receptacles shall be installed in a non-feed through configuration, with a GFCI receptacle in each location indicated on drawings, unless otherwise indicated.

D. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

E. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

3.02 Identification

A. Comply with Division 26.

3.03 Field Quality Control

A. Perform tests and inspections.

1. After installing wiring devices and after electrical circuitry has been energized, test for proper polarity, ground continuity, and compliance with requirements.
2. Test GFCI operation with both local and remote fault simulations according to manufacturer's written instructions.

B. Remove malfunctioning units, replace with new units, and retest as specified above.

265100 - Lighting

PART 1 - GENERAL

1.01 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 Summary

A. This Section includes the following:

1. Interior lighting fixtures, lamps, and ballasts.
2. Lighting fixture supports.

1.03 Definitions

A. BF: Ballast factor.
B. CRI: Color-rendering index.
C. CU: Coefficient of utilization.
D. FMG: Factory Mutual Group
E. LER: Luminaire efficacy rating.
F. Luminaire: Complete lighting fixture, including ballast housing if provided.
G. RCR: Room cavity ratio.

1.04 Submittals

A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, finishes, and the following:

1. Physical description of lighting fixture including dimensions.
2. Ballast.
3. Energy-efficiency data.
4. Life, output, and energy-efficiency data for lamps.

5. Photometric data, in IESNA format, based on laboratory tests of each lighting fixture type, outfitted with lamps, ballasts, and accessories identical to those indicated for the lighting fixture as applied in this Project.
    a. Photometric data shall be certified by a manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program (NVLAP) for Energy Efficient Lighting Products.

B. Operation and Maintenance Data: For lighting equipment and fixtures to include in emergency, operation, and maintenance manuals.

C. Warranties: Special warranties specified in this Section.

1.05 Quality Assurance

A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with NFPA 70.

D. All lamps shall be new and delivered to the job in sealed cartons protected from dirt and dust during storage on the project. Lamps shall be taken directly from the cartons and installed in the fixture with special care so that they do not become dusty and are not soiled in the operation.

1.06 Coordination

A. Coordinate layout and installation of lighting fixtures and suspension system with other construction that penetrates ceilings or is supported by them, including HVAC equipment, fire-suppression system, and partition assemblies.

1.07 Extra Materials

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Lamps: Furnish one of each type.
2. Plastic Diffusers and Lenses: Furnish at least two of each type.
3. Ballasts: Furnish one of each type of ballasts installed.

PART 2 - PRODUCTS

2.01 Lighting Fixtures And Components, General Requirements

A. Provide fixtures as indicated on drawings.

B. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.

C. Fluorescent Fixtures: Comply with UL 1598. Where LER is specified, test according to NEMA LE 5 and NEMA LE 5A as applicable.

D. Metal Parts: Free of burrs and sharp corners and edges.

E. Sheet Metal Components: Steel, unless otherwise indicated. Form and support to prevent warping and sagging.

F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position.

G. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:

1. White Surfaces: 85 percent.
2. Specular Surfaces: 83 percent.
3. Diffusing Specular Surfaces: 75 percent.
4. Laminated Silver Metallized Film: 90 percent.

H. Plastic Diffusers, Covers, and Globes:

1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
   a. Lens Thickness: At least 0.125 inch (3.175 mm) minimum unless different thickness is indicated.
   b. UV stabilized.
2. Glass: Annealed crystal glass, unless otherwise indicated.

2.02 Ballasts For Linear Fluorescent Lamps

A. Electronic Ballasts: Comply with ANSI C82.11; rapid programmed-start type, unless otherwise indicated, and designed for type and quantity of lamps served. Ballasts shall be designed for full light output unless dimmer or bi-level control is indicated.

1. Sound Rating: A.
2. Total Harmonic Distortion Rating: Less than 10 percent.
3. Transient Voltage Protection: IEEE C62.41, Category A or better.
4. Operating Frequency: 42 kHz or higher.
5. Lamp Current Crest Factor: 1.7 or less.
6. BF: See plans.
7. Power Factor: 0.95 or higher.
8. Parallel Lamp Circuits: Multiple lamp ballasts shall comply with ANSI C 82.11 and shall be connected to maintain full light output on surviving lamps if one or more lamps fail.
9. Interference: Comply with 47 CFR, Chapter 1, Part 18, Subpart C, for limitations on electromagnetic and radio-frequency interference for nonconsumer equipment.

B. Single Ballasts for Multiple Lighting Fixtures: Factory-wired with ballast arrangements and bundled extension wiring to suit final installation conditions without modification or rewiring in the field.

2.03 Fluorescent Lamps

A. Low-Mercury Lamps: Comply with EPA's toxicity characteristic leaching procedure test; shall yield less than 0.2 mg of mercury per liter when tested according to NEMA LL 1.

B. T8 rapid-start low-mercury lamps, rated 32 W maximum, nominal length of 48 inches (1220 mm), CRI 80 (minimum), color temperature 4100 K, and average rated life 20,000 hours, unless otherwise indicated. See plans for further details.

C. T8 rapid-start low-mercury lamps, rated 17 W maximum, nominal length of 24 inches (610 mm), CRI 80 (minimum), color temperature 4100 K, and average rated life of 20,000 hours, unless otherwise indicated. See plans for further details.

2.06 Lighting Fixture Support Components

A. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated steel, 12 gage (2.68 mm).

PART 3 - EXECUTION

3.01 Installation

A. Lighting fixtures: Set level, plumb, and square with ceilings and walls. Install lamps in each fixture.

1. The contractor shall install fixture supports as required to support all lighting fixtures adequately, providing extra steel work for the support of the fixtures if required. Any components necessary for mounting fixtures shall be provided by the contractor.

B. Adjust aimable lighting fixtures to provide required light intensities.

C. Connect wiring according to Division 26.

D. Bond fixtures and metal accessories to branch circuit equipment grounding conductor.

E. All fixtures shall be checked and cleaned if necessary prior to installing lamps in fixtures.

F. Contractor shall re-lamp any fixtures that have failed until substantial completion of the project at no additional cost to the owner.

APPENDIX A – REFERENCE DRAWINGS

1.01 Reference Drawings

A. The attached file drawings from original construction of the building are provided for general reference purposes only, to provide an overview of the building arrangement relative to the scope of the work.

B. These drawings may or may not fully reflect actual existing conditions.

1. Contractor shall visit site to field verify any and all dimensions, quantities and conditions as may be pertinent to the work scope prior to submitting a proposal.
2. Contractor shall confirm existing conditions as appropriate prior to ordering or fabricating materials.
3. No consideration will be given for additional work due to the Contractor's reliance on this data in lieu of his own field investigations.

C. A full set of the file drawings is available on request.

ADDITIONAL SPECIAL PROVISION 4

Payment to First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting the reasons for withholding payment.

The prime contractor may also withhold retainage from payments due subcontractors. Reduce the total amount retained from all first-tier subcontractors to no more than the department retains within 10 calendar days of the department releasing retainage.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment and release of retainage rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the 2013 edition of the standard specifications:

104.4 Requests for Information

Replace paragraph one with the following effective with the July 2013 letting:

(1) Either the department or the contractor may request information that the other party must provide in order for the requesting party to fulfill its contract obligations. The requesting party shall submit requests for information (RFI) on department form DT2502 either in hard copy or via email. RFI must conform to the following:

- Be of reasonable scope.
- Explain why a response is necessary to fulfill contract obligations.
- Provide a requested response time, which must be reasonable in relation to its scope.

106.1 General

Replace the entire text with the following effective with the July 2013 letting:

106.1.1 Materials

(1) Provide materials conforming to the contract. Use new products and materials for items permanently incorporated into the work unless the contract specifies or allows otherwise. Use materials the contract specifies unless the engineer authorizes substitutes under 108.8. Monitor construction operations to identify potential nonconforming materials and prevent their incorporation into the work.

(2) All materials are subject to the engineer's approval before incorporation into the work. The engineer may inspect or test all materials at any time during their preparation, storage, and use. Notify the engineer of the proposed source of materials before delivering those materials to the project site. If the engineer requests, provide samples of material and access to facilities that the engineer needs to assess the acceptability of all materials. The department will, on request, share with the contractor available information on a source or material. The department will maintain a web-based list of approved aggregate sources. Aggregate producers must provide test results as required in the department policy for aggregate source approval to have their source approved and to keep that approval over time.

(3) For fabricated components, the materials and the fabricator are subject to the department's approval before delivery of those components to the project site. The engineer may require the contractor to obtain components from another department-approved source if the department determines a fabricator's product does not conform to the contract.

(4) Do not incorporate materials into the work until the engineer approves those materials. However, the contractor may request permission to incorporate materials not already approved. The engineer will grant this permission only if the contractor can provide convincing evidence that the engineer will subsequently find those materials conforming. Incorporation of materials before approval is at the contractor's risk and permission to do so does not imply that the department will subsequently approve those materials.

(5) Except as required under the contract, ensure that products incorporated into the work, either temporarily or permanently, do not display advertising or messages not directly related to the manufacturer, properties, or function of those products; or advertising or messages in violation of state statutes

106.1.2 Designated Materials Person

(1) Designate one person, either a member of the contractor's own organization or acting as an agent for the contractor responsible for the following:

- Communicating contract sampling and testing requirements to subcontractors at all tiers.
- Reporting out-of-specification test results to the department as soon as the information is available.

- Providing certified reports of test or analysis and manufacturers' certificates of compliance from subcontractors at all tiers and maintaining certification records as specified in 106.3.3.2.

(2) Ensure that the contractor-designated materials person submits materials information required under the contract to a person the engineer designates. Ensure that the contractor-designated materials person communicates with their department counterpart weekly.

106.3.4.3.1 General

Replace paragraph two with the following effective with the November 2012 letting:

(2) Required sampling and testing methodologies and documentation are specified in CMM chapter 8.

(3) If disputed, approval of materials and components, as well as acceptance of the work incorporating those materials or components, is subject to review under the QMP dispute resolution process.

107.17.3 Railroad Insurance Requirements

Replace the entire text with the following effective with the August 2012 letting:

(1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the department has accepted the work as specified in 105.11.2.4.

(2) Provide railroad protective liability insurance coverage written as specified in 23 CFR part 646 subpart A. Provide a separate policy for each railroad owning tracks on the project. Ensure that the railroad protective liability insurance policies provide the following minimum limits of coverage:

1. Coverage A, bodily injury liability and property damage liability; $2 million per occurrence.
2. Coverage B, physical damage to property liability; $2 million per occurrence.
3. An annual aggregate amount of $6 million that shall apply separately to each policy renewal or extension.

(3) Obtain coverage from insurance companies licensed to do business in Wisconsin that have an A.M. Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

(4) Submit the following to each railroad owning tracks on the project as evidence of that railroad's respective coverage:

1. A certificate of insurance for the types and limits of insurance specified in 107.26.
2. The railroad protective liability insurance policy or other acceptable documentation to the railroad company.

(5) Submit the following to the region as evidence of the required coverage:

1. A copy of the letter to the railroad company transmitting the submittal documents specified in 107.17.3(4).
2. A certificate of insurance for the required railroad protective liability coverages.

(6) Do not begin work on the right of way or premises of the railroad company until the region receives the submittals specified in 107.17.3(5) and notification from the railroad company that the contractor has provided sufficient insurance information to begin work.

(7) Notify the railroad and the region immediately upon cancellation or initiating cancellation, whichever is earlier, or any material change in coverage. Cease operations within 50 feet of the railroad right of way immediately if insurance is cancelled or reduced. Do not resume operations until the required coverage is in force.

460.2.8.3.1.4 Department Verification Testing Requirements

Replace paragraph four with the following effective with the December 2012 letting:

(4) The department will randomly test each design mixture at the following minimum frequency:

FOR TONNAGES TOTALING:	
Less than 501 tons	no tests required
From 501 to 5,000 tons	one test
More than 5,000 tons	add one test for each additional 5,000-ton increment

501.2.1 Portland Cement

Replace paragraph one with the following effective with the March 2013 letting:

(1) Use cement conforming to ASTM specifications as follows:

- Type I portland cement; ASTM C150.
- Type II portland cement; ASTM C150.
- Type III portland cement; ASTM C150, for high early strength.
- Type IP portland-pozzolan cement; ASTM C595, except maximum loss on ignition is 2.0 percent.
- Type IS portland blast-furnace slag cement; ASTM C595.
- Type IL portland-limestone cement; ASTM C595, except maximum nominal limestone content is 10 percent with no individual test result exceeding 12.0 percent.

501.2.5.5 Sampling and Testing

Replace the entire text with the following effective with the January 2013 letting:

(1) Sample and test aggregates for concrete according to the following:

Sampling aggregates	AASHTO T2
Lightweight pieces in aggregate	AASHTO T113
Material finer than No. 200 sieve	AASHTO T11
Unit weight of aggregate	AASHTO T19
Organic impurities in sands	AASHTO T21
Sieve analysis of aggregates	AASHTO T27
Effect of organic impurities in fine aggregate	AASHTO T71
Los Angeles abrasion of coarse aggregate	AASHTO T96
Freeze-thaw soundness of coarse aggregate	AASHTO T103
Sodium sulfate soundness of aggregates	AASHTO T104
Specific gravity and absorption of fine aggregate	AASHTO T84
Specific gravity and absorption of coarse aggregate	AASHTO T85
Flat & elongated pieces based on a 3:1 ratio	ASTM D4791[1]
Sampling fresh concrete	AASHTO R60
Making and curing concrete compressive strength test specimens	AASHTO T23
Compressive strength of molded concrete cylinders	AASHTO T22

[1] As modified in CMM 8-60.

501.2.6 Fly Ash

Replace paragraph three with the following effective with the March 2013 letting:

(3) Test fly ash using a recognized laboratory, as defined in 501.2.2(1), starting at least 30 days before its proposed use, and continuing at ASTM-required frequencies as the work progresses. The manufacturer shall test the chemical and physical properties listed in tables 1 and 2 of ASTM C618 at the frequencies and by the test methods prescribed in ASTM C311.

501.3.1.1.1 Air-Entrained Concrete

Replace paragraph one with the following effective with the March 2013 letting:

(1) Prepare air-entrained concrete with type I, IL, II, IS, or IP cement and sufficient air-entraining admixture to produce concrete with the air content specified in 501.3.2.4.

501.3.1.3.2 Special Restrictions

Replace paragraph one with the following effective with the July 2013 letting:

(1) If using coarse aggregate composed primarily of igneous or metamorphic materials, provide concrete for concrete pavement, approach slabs, barrier, surface drains, driveways, alleys, sidewalks, curb, gutter, and curb & gutter as follows:

Grade A, A-FA, A-S, and A-T :	If using type II portland cement, or if using Type IL blended cement where the base portland cement meets Type II chemical requirements.
Grade A-IS and A-IP :	If using type I/II blended portland cement.
Grade A-S2 :	If placing by a slip-formed process and using type II portland cement.
Grade C, C-FA, C-S, C-IS, and C-IP :	If using types I or III portland cement.

503.2.2 Concrete

Replace paragraph five with the following effective with the March 2013 letting:

(5) Furnish prestressed concrete members cast from air-entrained concrete, except I-type girders may use non-air-entrained concrete. Use type I, IL, IS, , IP, II, or III cement. The contractor may replace up to 30 percent of type I, IL, II, or III cement with an equal weight of fly ash, slag, or a combination of fly ash and slag, except for prestressed box girders and slabs, the contractor shall replace 20-30 percent of the cement with fly ash, slag, or a combination of fly ash and slag. Ensure that fly ash conforms to 501.2.6 and slag conforms to 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air-entraining admixture conforming to 501.2.2 for air-entrained concrete. Use only size No. 1 coarse aggregate conforming to 501.2.5.4.

506.3.22 Shop Inspection

Replace paragraph one with the following effective with the July 2010 letting:

(1) The engineer or an independent inspection agency under department contract may inspect all structural steel and miscellaneous metals furnished. The department will provide the contractor with monthly consultant inspection invoices and identify any quality deficiencies at the fabrication facility.

506.5 Payment

Add paragraph nine as follows effective with the June 2010 letting:

(9) The department will limit costs for inspections conducted under 506.3.2 to $0.05 per pound of material and deduct costs in excess of that amount from payment due the contractor. The department will determine costs for in-house inspections based on hourly rates for department staff plus overhead and use invoiced costs for contracted-out inspections. The department will administer deductions for the contractor's share of the total inspection cost under the Excess Costs For Fabrication Shop Inspection administrative item.

507.2.2.1 General

Replace paragraph four with the following effective with the December 2012 letting:

(4) Ensure that there are no unsound knots or knot holes. Also ensure that there are no tight knots of a diameter exceeding one-quarter of the greater dimension at the point where they occur. Measure a knot by taking its diameter at right angles to the length of the timber. Ensure that the sum of sizes of all

knots in any one-foot length does not exceed 2 times the size of the largest allowed single knot. The engineer will treat cluster knots as if they were a single knot. A cluster knot is 2 or more knots grouped together, with the fibers of the wood deflected around the entire unit.

512.3.1 Driving and Cutting Off

Replace the entire text with the following effective with the December 2012 letting:

512.3.1.1 General

(1) Coordinate driving operations to prevent damage or displacement of concrete in substructure units or damage to adjacent facilities due to vibrations.

(2) Drive sheeting with a variation of 1/4 inch or less per foot from the vertical or from the batter the plans show. Ensure that the sheetpiles are within 6 inches of the plan position after driving. Do not damage sheetpiles attempting to correct for misalignment.

(3) Remove and replace, or otherwise correct, sheetpiles the engineer deems unacceptable under 105.3. Submit details of planned corrections to the engineer for review and approval before initiating any corrective actions.

(4) Drive sheetpiles to or beyond the required tip elevation the plans show.

512.3.1.2 Driving System

(1) Furnish a sheetpile driving system capable of driving the sheetpiles to the required minimum tip elevation the plans show.

(2) The engineer may order the contractor to remove a pile driving system component from service if it causes insufficient energy transfer or damages the sheetpiles. Do not return a component to service until the engineer determines that it has been satisfactorily repaired or adjusted.

(3) Drive sheetpiles with diesel, air, steam, gravity, hydraulic, or vibratory hammers.

512.3.1.3 Cut-Offs

(1) Cut off sheetpiles at the elevations the plans show or as the engineer directs. Pile cut-offs become the property of the contractor. Dispose of cut-offs not incorporated into the work.

518.2.1 General

Replace paragraph one with the following effective with the March 2013 letting:

(1) Furnish portland cement and water as specified in 501.2. Unless the engineer allows an alternate, use either type I, IL, IS, or IP cement.

526.3.3 Temporary Structures

Replace paragraphs two through four with the following effective with the January 2013 letting:

(2) Inspect temporary structures conforming to the National Bridge Inspection Standards (NBIS) and the department's structure inspection manual before opening to traffic. Perform additional inspections, as the department's structure inspection manual requires, based on structure type and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the department's bureau of structures maintenance section. Ensure that a department-certified active team leader, listed online in the department's highway structures information system (HSIS), performs the inspections.

(3) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in 203.3.4. Contractor-furnished materials remain the contractor's property upon removal.

614.2.5 Wood Posts and Offset Blocks

Retitle and replace the entire text with the following effective with the July 2012 letting:

614.2.5 Posts and Offset Blocks

614.2.5.1 Wood Posts and Offset Blocks

(1) Furnish sawed posts and offset blocks of one of the following species:

Douglas fir	Southern pine	Ponderosa pine	Jack pine	White pine
Red pine	Western hemlock	Western larch	Hem-fir	Oak

(2) Ensure that posts are the size the plans show and conform to the nominal and minimum dimensions tabulated in 507.2.2.3. The contractor does not have to surface the posts. Provide posts of the net length the plans show after setting and cut off.

(3) Use stress graded posts rated at 1200 psi f_b or higher. Determine the stress grade rating for douglas fir, western larch, and southern pine as specified in 507.2.2.4.

(4) For hem-fir, hemlock, red pine, white pine, jack pine, ponderosa pine, and oak conform to the following:

TABLE 614-1 PROPERTIES FOR WOOD POSTS AND BLOCKS

SPECIES			WESTERN HEMLOCK, HEM-FIR, RED PINE, WHITE PINE, JACK PINE, PONDEROSA PINE		OAK	
MAXIMUM SLOPE OF GRAIN			1 in 15		1 in 12	
NOMINAL WIDTH OF FACE			6"	8"	6"	8"
SHAKES, CHECKS, AND SPLITS		GREEN	1"	1 3/8"	2 3/8"	3 1/8"
		SEASONED	1 1/2"	2"	2 5/8"	3 1/2"
MAXIMUM WANE			1"	1 3/8"	1 1/8"	1 5/8"
MAXIMUM ALLOWABLE KNOTS	NARROW FACE	MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"	2 1/8"	2 3/8"
		END[1]	2 3/4"	3 1/4"	4 1/4"	4 3/4"
		SUM IN MIDDLE 1/2 OF LENGTH[2]	11"	13"	17"	19
	WIDE FACE	EDGE KNOT N MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"		
		EDGE KNOT AT END[1]	2 3/4" 7	3 1/4"		
		CENTERLINE	1 3/8"	1 7/8"	2 1/4"	2 7/8"
		SUM IN MIDDLE 1/2 OF LENGTH	5 1/2"	7 1/2"	9"	11 1/2"

[1] But do not exceed the maximum allowable knot on the centerline of the wide face of the same piece.

[2] But do not exceed 4 times the maximum allowable knot on the centerline of the wide face of the same piece.

(5) Pressure treat posts and offset blocks as specified in 507.2.2.6. Use one of the oil-soluble preservatives or chromated copper arsenate conforming to 507.2.3. Use the same material for offset blocks and posts and treat material used in each continuous installation with the same type of preservative.

614.2.5.2 Steel Posts

(1) Furnish steel posts conforming to AASHTO M270 Grade 36 and galvanized according to AASTHO M111.

614.2.5.3 Plastic Offset Blocks

(1) Furnish plastic offset blocks from the department's approved products list.

614.3.1 General

Replace the entire text with the following effective with the July 2012 letting:

(1) Paint the ends of cut-off galvanized posts, rail, bolts, cut or drilled surfaces of galvanized components, and areas of damaged zinc coating with 2 coats of zinc dust/zinc oxide paint. Clean the damaged and adjacent areas thoroughly before applying paint.

(2) Apply 2 coats of wood preservative to cut surfaces of wood components. Use the same preservative originally used to treat that component or use a 2-percent solution of copper naphthenate conforming to AWPA Standard P8 or P36.

614.3.2.1 Installing Posts

Replace paragraph four with the following effective with the July 2012 letting:

(4) Cut post tops to the finished elevation the plans show.

628.2.13 Rock Bags

Replace paragraph one with the following effective with the November 2012 letting:

(1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

639.2.1 General

Replace paragraph two with the following effective with the March 2013 letting:

(2) For grout use fine aggregate conforming to 501.2.5.3 and type I, IL, IS, or IP cement.

649.3.1 General

Replace paragraphs three and four with the following effective with the March 2013 letting:

(3) For pavements open to all traffic, apply centerline and no-passing barrier line markings as follows:

- On intermediate pavement layers, including milled surfaces, on the same day the pavement is placed or milled.
- On the upper layer of pavement, on the same day the pavement is placed unless the contractor applies permanent marking on the same day the pavement is placed.

If weather conditions preclude same-day application, apply as soon as weather allows. Do not resume next-day construction operations until these markings are completed unless the engineer allows otherwise.

(4) If required to apply no passing zone temporary pavement marking, reference the beginning and end of all existing no-passing barrier lines. Apply temporary no-passing barrier lines at those existing locations. If the contract contains the Locating No-Passing Zones bid item, relocate permanent no-passing zones as specified in section 648.

701.4.2 Verification Testing

Replace paragraph two with the following effective with the December 2012 letting:

(2) The department will sample randomly at locations independent of the contractor's QC tests and use separate equipment and laboratories. The department will conduct a minimum of one verification test for each 5 contractor QC tests unless specific QMP provisions specify otherwise.

715.2.3.1 Pavements

Replace paragraph two with the following effective with the March 2013 letting:

(2) Provide a minimum cement content of 565 pounds per cubic yard, except if using type I, IL, or III cement in a mix where the geologic composition of the coarse aggregate is primarily igneous or metamorphic materials, provide a minimum cement content of 660 pounds per cubic yard.

715.3.1.3 Department Verification Testing

Replace paragraph one with the following effective with the December 2012 letting:

(1) The department will perform verification testing as specified in 701.4.2 except as follows:

- Air content, slump, and temperature: a minimum of 1 verification test per lot.
- Compressive strength: a minimum of 1 verification test per lot.

Errata

Make the following corrections to the 2013 edition of the standard specifications:

102.12 Public Opening of Proposals

Correct 102.12(1) errata by changing htm to shtm in the web link.

(1) The department will publicly open proposals at the time and place indicated in the notice to contractors. The department will post the total bid for each proposal on the Bid Express web site beginning at 9:30 AM except as specified in 102.8. If a proposal has no total bid shown, the department will not post the bid. After verification for accuracy under 103.1, the department will post bid totals on the department's HCCI web site.

http://roadwaystandards.dot.wi.gov/hcci/bid-letting/index.shtm

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107.22 Contractor's Responsibility for Utility Facilities, Property, and Services

Correct errata by eliminating references to the department. Costs are determined by statute.

(3) If the contractor damages or interrupts service, the contractor shall notify the utility promptly. Coordinate and cooperate with the utility in the repair of the facility. Determine who is responsible for repair costs according to Wisconsin statutes 66.0831 and 182.0175(2).

204.3.2.2 Removing Items

Correct errata by changing the reference from 490.3.2 to 490.3.

(5) Under the Removing Asphaltic Surface Milling bid item, remove and dispose of existing asphaltic pavement or surfacing by milling at the location and to the depth the plans show. Mill the asphaltic pavement or surfacing as specified for milling salvaged asphaltic pavement in 490.3.

501.2.9 Concrete Curing Materials

Correct errata by changing AASHTO M171 to ASTM C171.

(4) Furnish polyethylene-coated burlap conforming to ASTM C171 for white burlap-polyethylene sheets.

506.2.6.5.2 Pad Construction

Correct errata by changing ASTM A570 to ASTM A1011.

(4) For the internal steel plates use rolled mild steel conforming to ASTM A36, or ASTM A1011 grade

512.3.3 Painting

Correct errata by changing 511.3.5 to 550.3.11.3.

(1) Paint permanent steel sheet piling as specified for painting steel piling in 550.3.11.3.

513.2.2.8 Toggle Bolts

Correct errata by changing ASTM A570 to ASTM A1011.

(1) Use toggle bolts made of steel, conforming to the plans. Make the assembly from the material specified below:

Toggle bolt and pin	Cold finished steel heat-treated Brinell 311-363 ASTM A354.
Toggle washer	Hot rolled steel ASTM A1011. Manufacturer's standard washer.
Spacer nut	Grade 1213, ASTM A108. Cold finished steel heat-treated ASTM A325.

614.2.1 General

Correct errata by changing the discontinued AASHTO M298 to ASTM B695.

(4) Furnish steel nuts conforming to ASTM A563, washers conforming to ASTM F436, grade 1, and bolts conforming to ASTM A307. Ensure that the nuts, washers, and bolts are either hot-dip coated according to AASHTO M232 class C or mechanically coated according to ASTM B695 class 50.

643.3.1 General

Correct errata by eliminating the word "continuously".

(6) Review all traffic signs and control devices furnished and erected for location, position, visibility, adequacy, and manner of use under specific job conditions immediately after each setup and at least once every 24 hours and more frequently as necessary, to ensure all the signs and control devices are in compliance with this section. Review the signs and devices from the same direction that approaching traffic views them.

660.2.1 General

Correct errata by changing section 511 to 550.

(1) Furnish materials conforming to the following:

Concrete	section 501
Concrete bridges	section 502
Luminaires	section 659

Steel piling ..... section 550
Steel reinforcement..... section 505

660.3.2.3 Pile Type Foundations

Correct errata by changing section 511 to 550.

(1) Drive piles as specified in for steel piling in section 550.

701.3 Contractor Testing

Correct errata by updating AASHTO T141 to AASHTO R60 and changing AASHTO T309 to ASTM C1064.

(1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

TABLE 701-2 TESTING STANDARDS

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11[1]
Sieve analysis of fine and coarse aggregate	AASHTO T27[1]
Aggregate moisture	AASHTO T255[1]
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152[2]
Concrete slump	AASHTO T119[2]
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

[1] As modified in CMM 8-60.

[2] As modified in CMM 8-70.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.

B. Costs for conforming to this special provision are incidental to the contract.

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/crc-basic-info.pdf

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
KENOSHA COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on May 1, 2013

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.58	19.20	54.78
Carpenter	32.93	19.81	52.74
Future Increase(s): Add $.75/hr on 6/3/2013. Add $1.25/hr on 6/2/2014. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Cement Finisher	28.50	19.72	48.22
Future Increase(s): Add $1.87 on 6/1/13; Add $1.87 on 6/1/14; Add $1.87 on 6/1/15; Add $1.75 on 6/1/16. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	31.54	21.14	52.68
Fence Erector	28.00	4.50	32.50
Ironworker	31.31	21.99	53.30
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	29.22	16.69	45.91
Pavement Marking Operator	30.10	16.09	46.19
Piledriver	26.78	25.14	51.92
Roofer or Waterproofer	29.40	15.05	44.45
Teledata Technician or Installer	24.65	15.67	40.32
Tuckpointer, Caulker or Cleaner	34.35	14.96	49.31
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.35	14.91	48.26
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	29.64	16.39	46.03
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.90	33.65
TRUCK DRIVERS			
Single Axle or Two Axle	33.22	18.90	52.12
Three or More Axle	23.31	17.13	40.44
Future Increase(s): Add $1.85/hr on 6/1/2013. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	27.77	19.90	47.67
Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Pavement Marking Vehicle	23.84	14.92	38.76
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	22.50	16.19	38.69
LABORERS			
General Laborer	23.70	19.15	42.85
Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014. Premium Pay: Add $.10/hr for topman; Add $.15/hr for air tool operator, joint sawer and filler (pavement), vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.26/hr for bottomman; Add $.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement), strike off man; Add $.32/hr for and line and grade specialist; Add $.65/hr for blaster and powderman; Add $.75/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	18.00	0.00	18.00
Landscaper	23.70	19.15	42.85
Future Increase(s): Add $1.70/hr on 6/1/13; Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	24.70	13.90	38.60
Future Increase(s): Add $1.70/hr on 6/1/2013; Add $1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.24	15.03	32.27
Railroad Track Laborer	15.00	5.49	20.49

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	35.22	19.90	55.12
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.	34.72	19.90	54.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.	34.22	19.90	54.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine.	33.96	19.90	53.86
Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.	33.67	19.90	53.57
Future Increase(s): Add $2/hr on 6/1/13; Add $1.75/hr on 6/1/14.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor- wages- eeo/ index. shtm.			
Fiber Optic Cable Equipment.	20.00	7.88	27.88
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	37.45	19.45	56.90
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	37.45	19.45	56.90
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	27.75	19.15	46.90
Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.	27.75	19.15	46.90

State of Wisconsin Department of Workforce Development Equal Rights Division	**DEPARTMENTAL ORDER**

ISSUE DATE: 5/16/2013

PROJECT:

NS FREEWAY, REST AREA 26, FAMILY ASSISTED RESTROOM
PLEASANT PRAIRIE TOWN, KENOSHA COUNTY, WI
Determination No. 201301457 [Owner Project No. 1030-31-72]

PROJECT OWNER:	REQUESTER:
ROBERT SPOERL, ROADSIDE FACILITIES ENGINEER WI DEPT OF TRANSPORTATION PO BOX 7986 4802 SHEBOYGAN AVE, RM 501 MADISON, WI 53707	KEITH KOSBAU, PROJECT MANAGER MEAD & HUNT INC 6501 WATTS RD MADISON, WI 53719
ADDITIONAL CONTACT:	
ROBERT SPOERL, ROADSIDE FACILITIES ENGINEER WI DEPT OF TRANSPORTATION PO BOX 7986 4802 SHEBOYGAN AVE, RM 501 MADISON, WI 53707	**NOTE:** The Requester must provide a copy of this Project Determination and enclosures to the Project Owner and Additional Contact.

The department received an application for prevailing wage rate determination for the above-captioned project. The department conducted a survey to determine the prevailing wage rate for the trade(s) or occupation(s) needed to complete the project. The survey's findings appear in the attached project determination.

If you believe that the wage rate for any trade or occupation does not accurately reflect the prevailing wage rate in the city, village or town where the project is located, you may ask the department to conduct an administrative review of such wage rate. You must submit this request in writing within 30 days from the date indicated above. Additionally, your request must include wage rate information from at least three similar projects in the city, village or town where the proposed project is located and on which some work has been performed by the contested trade(s) during the current survey period and was previously considered by the department in issuing the attached determination. See DWD 290.10 of the Wisconsin Administrative Code and either s. 66.0903(3)(br), s. 66.0904(4)(e), or s. 103.49(3)(c), Stats., for a complete explanation of the administrative review process.

Enclosures

It is hereby ordered that the prevailing wage rates set forth in the attached project determination shall only be applicable to the above referenced project. This order is a **FINAL ORDER** of the department unless a timely request for an administrative review is filed with the department.

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Equal Rights Division
Labor Standards Bureau
Construction Wage Standards Section
PO Box 8928 Madison, WI 53708-8928
(608)266-6861

Web Site: http://dwd.wisconsin.gov/er/

PREVAILING WAGE RATE DETERMINATION
Issued by the State of Wisconsin Department of
Workforce Development Pursuant to s. 103.49,
Wis. Stats.
Issued On: 5/16/2013

DETERMINATION NUMBER: 201301457

EXPIRATION DATE: Prime Contracts MUST Be Awarded or Negotiated On Or Before 12/31/2013. If NOT, You MUST Reapply.

PROJECT NAME: NS FREEWAY, REST AREA 26, FAMILY ASSISTED RESTROOM

PROJECT NO: 1030-31-72

PROJECT LOCATION: PLEASANT PRAIRIE TOWN, KENOSHA COUNTY, WI

CONTRACTING AGENCY: WI DEPT OF TRANSPORTATION

CLASSIFICATION: Contractors are responsible for correctly classifying their workers. Either call the Department of Workforce Development (DWD) with trade or classification questions or consult DWD's Dictionary of Occupational Classifications & Work Descriptions on the DWD website at: dwd.wisconsin.gov/er/prevailing_wage_rate/Dictionary/dictionary_main.htm.

OVERTIME: Time and one-half must be paid for all hours worked:

- over 10 hours per day on prevailing wage projects
- over 40 hours per calendar week
- Saturday and Sunday
- on all of the following holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25;
- The day before if January 1, July 4 or December 25 falls on a Saturday;
- The day following if January 1, July 4 or December 25 falls on a Sunday.

Apply the time and one-half overtime calculation to whichever is higher between the Hourly Basic Rate listed on this project determination or the employee's regular hourly rate of pay. Add any applicable Premium or DOT Premium to the Hourly Basic Rate before calculating overtime.

A DOT Premium (discussed below) may supersede this time and one-half requirement.

FUTURE INCREASE: When a specific trade or occupation requires a future increase, you MUST add the full hourly increase to the "TOTAL" on the effective date(s) indicated for the specific trade or occupation.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whevenever such pay is applicable.

DOT PREMIUM: This premium only applies to highway and bridge projects owned by the Wisconsin Department of Transportation and to the project type heading "Airport Pavement or State Highway Construction." DO NOT apply the premium calculation under any other project type on this determination.

APPRENTICES: Pay apprentices a percentage of the applicable journeyperson's hourly basic rate of pay and hourly fringe benefit contributions specified in this determination. Obtain the appropriate percentage from each apprentice's contract or indenture.

SUBJOURNEY: Subjourney wage rates may be available for some of the trades or occupations indicated below with the exception of laborers, truck drivers and heavy equipment operators. Any employer interested in using a subjourney classification on this project MUST complete Form ERD-10880 and request the applicable wage rate from the Department of Workforce Development PRIOR to using the subjourney worker on this project.

This document **MUST BE POSTED** by the **CONTRACTING AGENCY** in at least one conspicuous and easily accessible place **on the site of the project** . A local governmental unit may post this document at the place normally used to post public notices if there is no common site on the project. This document **MUST** remain posted during the entire time any worker is employed on the project and **MUST** be physically incorporated into the specifications and all contracts and subcontracts. If you have any questions, please write to the Equal Rights Division, Labor Standards Bureau, P.O. Box 8928, Madison, Wisconsin 53708 or call (608) 266-6861.

The following statutory provisions apply to state agency projects of public works and are set forth below pursuant to the requirements of s. 103.49(3)(a), Stats.

s. 103.49 (1) (c) "PREVAILING HOURS OF LABOR" for any trade or occupation in any area means 10 hours per day and 40 hours per week and may not include any hours worked on a Saturday or Sunday or on any of the following holidays:

1. January 1.
2. The last Monday in May.
3. July 4.
4. The first Monday in September.
5. The 4th Thursday in November.
6. December 25.
7. The day before if January 1, July 4 or December 25 falls on a Saturday.
8. The day following if January 1, July 4 or December 25 falls on a Sunday.

s. 103.49 (2) PREVAILING WAGE RATES AND HOURS OF LABOR.

Any contract made for the erection, construction, remodeling, repairing, or demolition of any project of public works to which the state or any state agency is a party shall contain a stipulation that no person performing the work described in sub. (2m) may be permitted to work a greater number of hours per day or per week than the prevailing hours of labor, except that any such person may be permitted or required to work more than such prevailing hours of labor per day and per week if he or she is paid for all hours worked in excess of the prevailing hours of labor at a rate of at least 1.5 times his or her hourly basic rate of pay; nor may he or she be paid less than the prevailing wage rate determined under sub. (3) in the same or most similar trade or occupation in the area in which the project of public works is situated. A reference to the prevailing wage rates determined under sub. (3) and the prevailing hours of labor shall be published in the notice issued for the purpose of securing bids for the project. If any contract or subcontract for a project of public works that is subject to this section is entered into, the prevailing wage rates determined under sub. (3) and the prevailing hours of labor shall be physically incorporated into and made a part of the contract or subcontract, except that for a minor subcontract, as determined by the department, the department shall prescribe by rule the method of notifying the minor subcontractor of the prevailing wage rates and prevailing hours of labor applicable to the minor subcontract. The prevailing wage rates and prevailing hours of labor applicable to a contract or subcontract may not be changed during the time that the contract or subcontract is in force.

s. 103.49 (6M) LIABILITY AND PENALTIES.

(ag) 1. Any contractor, subcontractor, or contractor's or subcontractor's agent who fails to pay the prevailing wage rate determined by the department under sub. (3) or who pays less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor is liable to any affected employee in the amount of his or her unpaid wages or his or her unpaid overtime compensation and in an additional amount as liquidated damages as provided in subd. 2., 3., whichever is applicable.

2. If the department determines upon inspection under sub. (5) (b) or (c) that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the department shall order the contractor to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages within a period specified by the department in the order.

3. In addition to or in lieu of recovering the liability specified in subd. 1. as provided in subd. 2., any employee for and in behalf of that employee and other employees similarly situated may commence an action to recover that liability in any court of competent jurisdiction. If the court finds that a contractor, subcontractor, or contractor's or subcontractor's agent has failed to pay the prevailing wage rate determined by the department under sub. (3) or has paid less than 1.5 times the hourly basic rate of pay for all hours worked in excess of the prevailing hours of labor, the court shall order the contractor, subcontractor, or agent to pay to any affected employee the amount of his or her unpaid wages or his or her unpaid overtime compensation and an additional amount equal to 100 percent of the amount of those unpaid wages or that unpaid overtime compensation as liquidated damages.

5. No employee may be a party plaintiff to an action under subd. 3. unless the employee consents in writing to become a party and the consent is filed in the court in which the action is brought. Notwithstanding s. 814.04 (1), the court shall, in addition to any judgment awarded to the plaintiff, allow reasonable attorney fees and costs to be paid by the defendant.
(am) Except as provided in pars. (b), (d) and (f), any contractor, subcontractor or contractor's or subcontractor's agent who violates this section may be fined not more than $200 or imprisoned for not more than 6 months or both. Each day that a violation continues is a separate offense.
(b) Whoever induces any person who seeks to be or is employed on any project of public works that is subject to this section to give up, waive, or return any part of the wages to which the person is entitled under the contract governing the project, or who reduces the hourly basic rate of pay normally paid to a person for work on a project that is not subject to this section during a week in which the person works both on a project of public works that is subject to this section and on a project that is not subject to this section, by threat not to employ, by threat of dismissal from employment, or by any other means is guilty of an offense under s. 946.15 (1).
(c) Any person employed on a project of public works that is subject to this section who knowingly permits a contractor, subcontractor, or contractor's or subcontractor's agent to pay him or her less than the prevailing wage rate set forth in the contract governing the project, who gives up, waives, or returns any part of the compensation to which he or she is entitled under the contract, or who gives up, waives, or returns any part of the compensation to which he or she is normally entitled for work on a project that is not subject to this section during a week in which the person works both on a project of public works that is subject to this section and on a project that is not subject to this section, is guilty of an offense under s. 946.15 (2).
(d) Whoever induces any person who seeks to be or is employed on any project of public works that is subject to this section to permit any part of the wages to which the person is entitled under the contract governing the project to be deducted from the person's pay is guilty of an offense under s. 946.15 (3), unless the deduction would be permitted under 29 CFR 3.5 or 3.6 from a person who is working on a project that is subject to 40 USC 3142.
(e) Any person employed on a project of public works that is subject to this section who knowingly permits any part of the wages to which he or she is entitled under the contract governing the project to be deducted from his or her pay is guilty of an offense under s. 946.15 (4), unless the deduction would be permitted under 29 CFR 3.5 or 3.6 from a person who is working on a project that is subject to 40 USC 3142.

BUILDING OR HEAVY CONSTRUCTION

Includes sheltered enclosures with walk-in access for the purpose of housing persons, employees, machinery, equipment or supplies and non-sheltered work such as canals, dams, dikes, reservoirs, storage tanks, etc. A sheltered enclosure need not be "habitable" in order to be considered a building. The installation of machinery and/or equipment, both above and below grade level, does not change a project's character as a building. On-site grading, utility work and landscaping are included within this definition. Residential buildings of four (4) stories or less, agricultural buildings, parking lots and driveways are NOT included within this definition.

SKILLED TRADES

Fringe Benefits Must Be Paid On All Hours Worked

CODE	TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
101	Acoustic Ceiling Tile Installer Future Increase(s): Add $.75/hr on 6/3/2013. Add $1.25/hr on 6/2/2014.	32.93	19.81	52.74
102	Boilermaker	31.09	27.23	58.32
103	Bricklayer, Blocklayer or Stonemason	35.10	17.13	52.23
104	Cabinet Installer	30.16	15.31	45.47
105	Carpenter Future Increase(s): Add $.75/hr on 6/3/2013. Add $1.25/hr on 6/2/2014. Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	32.93	19.81	52.74
106	Carpet Layer or Soft Floor Coverer	33.43	19.21	52.64
107	Cement Finisher	30.11	19.72	49.83
108	Drywall Taper or Finisher	29.34	6.70	36.04
109	Electrician	35.25	19.41	54.66
110	Elevator Constructor	44.94	23.84	68.78
111	Fence Erector	28.00	4.50	32.50
112	Fire Sprinkler Fitter Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	36.07	17.22	53.29
113	Glazier	22.00	2.09	24.09
114	Heat or Frost Insulator	33.93	23.20	57.13
115	Insulator (Batt or Blown)	27.47	19.16	46.63
116	Ironworker	31.31	21.97	53.28
117	Lather	33.43	19.31	52.74

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
118	Line Constructor (Electrical)	37.05	16.94	53.99
119	Marble Finisher	20.00	0.00	20.00
120	Marble Mason	35.10	17.13	52.23
121	Metal Building Erector	18.50	3.20	21.70
122	Millwright	27.18	18.23	45.41
123	Overhead Door Installer	13.50	0.00	13.50
124	Painter Premium Increase(s): Add $.15/hr. for structural steel; Add $.75/hr. for lead abatement work; Add $1.00/hr. for spraying.	30.24	17.10	47.34
125	Pavement Marking Operator	30.00	0.00	30.00
126	Piledriver Future Increase(s): Add $.75/hr on 6/3/2013. Premium Increase(s): Add $.65/hr for Piledriver Loftsman; Add $.75/hr for Sheet Piling Loftsman. DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	29.06	25.46	54.52
127	Pipeline Fuser or Welder (Gas or Utility)	31.18	19.29	50.47
129	Plasterer	32.06	16.76	48.82
130	Plumber	36.96	17.94	54.90
132	Refrigeration Mechanic	36.96	17.94	54.90
133	Roofer or Waterproofer	29.40	15.55	44.95
134	Sheet Metal Worker	32.28	23.12	55.40
135	Steamfitter	36.96	17.94	54.90
137	Teledata Technician or Installer Premium Increase(s): DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.	24.75	16.08	40.83
138	Temperature Control Installer	37.31	19.49	56.80
139	Terrazzo Finisher Future Increase(s): Add $ .80 on 6/1/2013	26.57	16.50	43.07
140	Terrazzo Mechanic	29.51	17.63	47.14
141	Tile Finisher	20.60	6.95	27.55

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
142	Tile Setter Future Increase(s): Add $.80 on 6/01/2013	28.51	17.63	46.14
143	Tuckpointer, Caulker or Cleaner	34.35	14.96	49.31
144	Underwater Diver (Except on Great Lakes)	34.16	15.31	49.47
146	Well Driller or Pump Installer Future Increase(s): Add $.20/hr on 06/01/2013.	25.32	15.45	40.77
147	Siding Installer	37.20	17.01	54.21
150	Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	28.24	15.10	43.34
151	Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	29.64	14.64	44.28
152	Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51
153	Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04
154	Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	24.00	11.57	35.57

TRUCK DRIVERS

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
201	Single Axle or Two Axle	33.32	17.60	50.92
203	Three or More Axle	18.00	9.50	27.50
204	Articulated, Euclid, Dumptor, Off Road Material Hauler Future Increase(s): Add $0.75/hour 6/3/2013; Add $1.00/hour 6/2/2014; Add $1.50/hour 6/1/2015; Add $1.60/hour 5/30/2016.	33.52	17.60	51.12
205	Pavement Marking Vehicle	20.85	11.02	31.87
207	Truck Mechanic	18.00	9.50	27.50

LABORERS

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
301	General Laborer Premium Increase(s): Add $.15/hr.for plasterer laborer, mason tender, building wrecker and torchman, and welder.	27.37	16.71	44.08

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
302	Asbestos Abatement Worker	18.00	0.00	18.00
303	Landscaper	19.87	0.00	19.87
310	Gas or Utility Pipeline Laborer (Other Than Sewer and Water)	19.69	16.03	35.72
311	Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.24	15.03	32.27
314	Railroad Track Laborer	15.00	5.49	20.49
315	Final Construction Clean-Up Worker	27.87	16.21	44.08

HEAVY EQUIPMENT OPERATORS
SITE PREPARATION, UTILITY OR LANDSCAPING WORK ONLY

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
501	Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Milling Machine; Boring Machine (Directional, Horizontal or Vertical); Backhoe (Track Type) Having a Mfgr's Rated Capacity of 130,000 Lbs. or Over; Backhoe (Track Type) Having a Mfgr's Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bulldozer or Endloader (Over 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Crane, Shovel, Dragline, Clamshells; Forklift (Machinery Moving or Steel Erection, 25 Ft & Over); Gradall (Cruz-Aire Type); Grader or Motor Patrol; Master Mechanic; Mechanic or Welder; Robotic Tool Carrier (With or Without Attachments); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Tractor (Scraper, Dozer, Pusher, Loader); Trencher (Wheel Type or Chain Type Having Over 8 Inch Bucket). Future Increase(s): Add $0.75/hour 6/3/2013; Add $1.00/hour 6/2/2014; Add $1.50/hour 6/1/2015; Add $1.60/hour 5/30/2016.	33.82	17.60	51.42
502	Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Environmental Burner; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Jeep Digger; Screed (Milling Machine); Skid Rig; Straddle Carrier or Travel Lift; Stump Chipper; Trencher (Wheel Type or Chain Type Having 8 Inch Bucket & Under). Future Increase(s): Add $0.75/hour 6/3/2013; Add $1.00/hour 6/2/2014; Add $1.50/hour 6/1/2015; Add $1.60/hour 5/30/2016.	33.52	17.60	51.12

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
503	Air Compressor (&/or 400 CFM or Over); Augers (Vertical & Horizontal); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Crusher, Screening or Wash Plant; Farm or Industrial Type Tractor; Forklift; Generator (&/or 150 KW or Over); Greaser; High Pressure Utility Locating Machine (Daylighting Machine); Mulcher; Oiler; Post Hole Digger or Driver; Pump (3 Inch or Over) or Well Points; Refrigeration Plant or Freeze Machine; Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $0.75/hour 6/3/2013; Add $1.00/hour 6/2/2014; Add $1.50/hour 6/1/2015; Add $1.60/hour 5/30/2016.	33.52	17.60	51.12
504	Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	37.45	19.45	56.90
505	Work Performed on the Great Lakes Including Crane or Backhoe Operator; Assistant Hydraulic Dredge Engineer; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder; 70 Ton & Over Tug Operator. Future Increase(s): Add $2.19/hr on 01/01/2013; Add $2.00/hr on 01/01/2014. Premium Increase(s): Add $.50/hr for Friction Crane, Lattice Boom or Crane Certification (CCO).	38.80	20.17	58.97
506	Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery. Future Increase(s): Add $2.08/hr on 01/01/2013; Add $2.00/hr on 01/01/2014.	34.50	20.04	54.54
507	Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks - Great Lakes ONLY. Future Increase(s): Add $1.88/hr on 01/01/2013; Add $2.00/hr on 01/01/2014.	28.70	19.86	48.56

HEAVY EQUIPMENT OPERATORS
EXCLUDING SITE PREPARATION, UTILITY, PAVING LANDSCAPING WORK

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
508	Boring Machine (Directional); Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity of Over 4,000 Lbs., Crane With Boom Dollies; Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Master Mechanic. Future Increase(s): Add $1/hr on 6/2/2013. Premium Increase(s): Add $.50/hr for >200 Ton / Add $1/hr at 300 Ton / Add $1.50 at 400 Ton / Add $2/hr at 500 Ton & Over.	35.12	18.46	53.58
509	Backhoe (Track Type) Having a Mfgr's Rated Capacity of 130,000 Lbs. or Over; Boring Machine (Horizontal or Vertical); Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs. & Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Pile Driver; Versi Lifts, Tri-Lifts & Gantrys (20,000 Lbs. & Over). Premium Increase(s): Crane Operators with CCO certification add $.50/hr.	38.66	19.10	57.76
510	Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump (Over 46 Meter), Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Dredge (NOT Performing Work on the Great Lakes); Forklift (Machinery Moving or Steel Erection, 25 Ft & Over); Gradall (Cruz-Aire Type); Hydro-Blaster (10,000 PSI or Over); Milling Machine; Skid Rig; Traveling Crane (Bridge Type). Premium Increase(s): Crane Operators with CCO certification add $.50/hr.	38.16	19.10	57.26
511	Air, Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Bulldozer or Endloader (Over 40 hp); Compactor (Self-Propelled 85 Ft Total Drum Width & Over, or Tractor Mounted, Towed & Light Equipment); Concrete Pump (46 Meter & Under), Concrete Conveyor (Rotec or Bidwell Type); Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Environmental Burner; Gantrys (Under 20,000 Lbs.); Grader or Motor Patrol; High Pressure Utility Locating Machine (Daylighting Machine); Manhoist; Material or Stack Hoist; Mechanic or Welder; Railroad Track Rail Leveling Machine, Tie Placer, Extractor, Tamper, Stone Leveler or Rehabilitation Equipment; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yd or More Capacity; Screed (Milling Machine); Sideboom; Straddle Carrier or Travel Lift; Tining or Curing Machine; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Tractor or Truck Mounted Hydraulic Crane (10 Tons or Under); Trencher (Wheel Type or Chain Type Having Over 8-Inch Bucket).	37.47	18.13	55.60

CODE	Fringe Benefits Must Be Paid On All Hours Worked TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
512	Backfiller; Broom or Sweeper; Bulldozer or Endloader (Under 40 hp); Compactor (Self-Propelled 84 Ft Total Drum Width & Under, or Tractor Mounted, Towed & Light Equipment); Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Conveyor System; Concrete Finishing Machine (Road Type); Fireman (Pile Driver & Derrick NOT Performing Work on the Great Lakes); Grout Pump; Hoist (Tugger, Automatic); Industrial Locomotives; Jeep Digger; Lift Slab Machine; Mulcher; Roller (Rubber Tire, 5 Ton or Under); Screw or Gypsum Pumps; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Stump Chipper; Trencher (Wheel Type or Chain Type Having 8-Inch Bucket & Under); Winches & A-Frames.	35.59	17.48	53.07
513	Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Boatmen (NOT Performing Work on the Great Lakes); Boiler (Temporary Heat); Crusher, Screening or Wash Plant; Elevator; Farm or Industrial Type Tractor; Fireman (Asphalt Plant NOT Performing Work on the Great Lakes); Forklift; Generator (&/or 150 KW or Over); Greaser; Heaters (Mechanical); Loading Machine (Conveyor); Oiler; Post Hole Digger or Driver; Prestress Machine; Pump (3 Inch or Over) or Well Points; Refrigeration Plant or Freeze Machine; Robotic Tool Carrier (With or Without Attachments); Rock, Stone Breaker; Skid Steer Loader (With or Without Attachments); Vibratory Hammer or Extractor, Power Pack.	30.44	19.10	49.54
514	Gas or Utility Pipeline, Except Sewer & Water (Primary Equipment). Future Increase(s): Add $2/hr on 1/1/2013.	34.89	20.59	55.48
515	Gas or Utility Pipeline, Except Sewer & Water (Secondary Equipment). Future Increase(s): Add $1.60/hr on 06/01/2013; Add $1.60/hr on 06/01/2014; Add $1.65/hr on 06/01/2015	32.26	17.95	50.21
516	Fiber Optic Cable Equipment	20.00	7.88	27.88

********** END OF RATES **********

Department of Workforce Development
Equal Rights Division
P.O. Box 8928
Madison, WI 53708·8928
Telephone: (608) 266·6860
Fax: (608) 267-4592
TTY: (608) 264-8752

STATE OF WISCONSIN

€®®DWD

Department of Workforce Development

The documents following the Prevailing Wage Rate Determination consist of 18 pages of various forms/documents that will be used throughout the completion of the project. The chart below lists the form number, form/document name, the party who uses the document, and the document's number of pages. If you have any questions regarding these forms please call the Prevailing Wage Office at (608)266-6861.

ERD Form Number	Form Name	Party Who Uses the Form	Pages
16056	Post the White Sheet	Contracting agency	1
16770	Public Works and Publicly Funded Projects, §103.503, Wis. Stats.	contractors on public works and publicly funded private construction projects	1
10908	Consolidated List of Debarred Contractors	Any party someone to complete work on a prevailing wage project	2
7777	Disclosure of Ownership	Contractors that meet the set out in (3)(A)&(B) of the form	1
5724	Prime Contractor Affidavit of Compliance	Pri contractor agency upon completion of the before receiving final payment	2
1	Agent or Compliance	with their awarding contractor upon completion of their work on the project before receiving final payment	2
10880	Request to Employ Subjourneyperson	Contractors wishing to employ a subjourneyperson(s)	
	Prevailing Wage - Public Entity Project Owners	Explanation of project owner responsibilities	2
	Prevailing Wage – Contractors	Explanation of contractor responsibilities	2
	Summary of Prevailing Wage Law Changes Effective July 1, 2011	Information for public entity or any other interested party	4

09/01/12

State of Wisconsin
Department of Workforce Development
Equal Rights Division
Labor Standards Bureau

POST THE WHITE SHEET

As the public entity receiving this prevailing wage rate determination, YOU ARE REQUIRED by law to post the prevailing wage rate determination (i.e., white sheet) in at least one conspicuous and easily accessible place on the project site that is available to all construction workers. The white sheet must remain posted from the onset of the project until all construction labor on the project has been completed.

[See, Wis. Admin. Code §DWD 290.12(1)]

Posting the white sheet inside the general contractor's trailer does not meet this requirement. That placement is not available/accessible to all workers and is not a location over which you have control.

If you have questions about posting, please call (608)266-6861 and ask for prevailing wage intake.

Disclaimer

Employers performing work on public works and publicly funded private construction projects in Wisconsin are required to have a written substance abuse testing program in place. The provisions of this requirement are contained in Sec. 103.503, Wis. Stats. The Department of Workforce Development is neither responsible for enforcement of this law nor authorized to answer questions concerning its provisions. For legal advice on complying with Sec. 103.503, Wis. Stats., you may wish to consult with a private attorney.

103.503 Substance abuse prevention on public works and publicly funded projects. (1) DEFJNITJONS. In this section:

(a) "Accident" means an incident caused, contributed to, or otherwise involving an employee that resulted or could have resulted in death, personal injury, or property damage and that occurred while the employee was performing the work described ins. 66.0903 (4), 66.0904 (3), or 103.49 (2m) on a project.

(b) "Alcohol" has the meaning given ins. 340.01 (lq).

(c) "Contracting agency" means a local governmental unit, as defined ins. 66.0903 (1) (d), a state agency, as defined ins. 103.49 (1) (f), or an owner or developer under s. 66.0904 that has contracted for the performance of work on a project.

(d) "Drug" means any controlled substance, as defined ins. 961.01 (4), or controlled substance analog, as defined ins. 961.01 (4m), for which testing is required by an employer under its substance abuse prevention program under this section.

(e) "Employee" means a laborer, worker, mechanic, or truck driver who performs the work described ins. 66.0903 (4), 66.0904 (3), or I03.49 (2m) on a project.

(t) "Employer" means a contractor, subcontractor, or agent of a contractor or subcontractor that performs work on a project.

(g) "Projecf' mean a project of public works that is subject to s. 66.0903 or I03.49 or a publicly funded private construction project that is subject to s. 66.0904.

(2) SUBSTANCE ABUSE PROHIBITED. No employee may use, possess, attempt to possess, distribute, deliver, or be under the influence of a drug, or use or be under the influence of alcohol, while performing the work described ins. 66.0903 (4), 66.0904 (3), or 103.49 (2m) on a project. An employee is considered to be under the influence of alcohol for purposes of this subsection if he or she has an alcohol concentration that is equal to or greater than the amount specified ins. 885.235 (!g) (d).

(3} SUBSTANCE ABUSE PREVENTION PROGRAMS REQUIRED. (a) Before an employer may commence work on a project, the employer shall have in place a written program for the prevention of substance abuse among its employees. At a minimum, the program shall include all of the following:

1. A prohibition against the actions or conditions specified in sub. (2).

2. A requirement that employees performing the work described ins. 66.0903 (4), 66.0904 (3), or 103.49 (2m) on a project submit to random, reasonable suspicion, and post-accident drug and alcohol testing and to drug and alcohol testing before commencing work on a project, except that testing of an employee before commencing work on a project is not required if the employee has been participating in a random testing program during the 90 days preceding the date on which the employee commenced work on the project.

3. A procedure for notifying an employee who violates sub. (2), who tests positive for the presence of a drug in his or her system, or who refuses to submit to drug or alcohol testing as required under the program that the employee may not perform work on a project until he or she meets the conditions specified in sub. (4) (b) I. and 2.

(b) Each employer shall be responsible for the cost of developing, implementing, and enforcing its substance abuse prevention program, including the cost of drug and alcohol testing of its employees under the program. The contracting agency is not responsible for that cost, for the cost of any medical review of a test result, or for any rehabilitation provided to an employee.

(4} EMPLOYEE ACCESS TO PROJECT. (a) No employer may permit an employee who violates sub. (2), who tests positive for the presence of a drug in his or her system, or who refuses to submit to drug or alcohol testing as required under the employer's substance abuse prevention program under sub. (3) to perform work on a project until he or she meets the conditions specified in par. (b) I. and 2. An employer shall immediately remove an employee from work on a project if any of the following occurs:

1. The employee violates sub. (2), tests positive for the presence of a drug in his or her system, or refuses to submit to dmg or alcohol testing as required under the employer's substance abuse prevention program.

2. An officer or employee of the contracting agency has a reasonable suspicion that the employee is in violation of sub. (2) and requests the employer to immediately remove the employee from work on the project.

(b) An employee who is barred or removed from work on a project under par. (a) may commence or retum to work on the project upon his or her employer providing to the contracting agency documentation showing an of the following:

I. That the employee has tested negative for the presence of drugs in his or her system and is not under the influence of alcohol as described in sub. (2).

2. That the employee has been approved to commence or return to work on the project in accordance with the employer's substance abuse prevention program.

(c) Testing for the presence of drugs or alcohol in an employee's system and the handling of test specimens shall be conducted in accordance with guidelines for laboratory testing procedures and chain-of-custody procedures established by the substance abuse and mental health services administration of the federal department of health and human services.

(5} LOCAL ORDINANCES; STRICT CONFORMITY REQUIRED. A local governmental unit, as defined ins. 66.0903 (1) (d), may enact an ordinance regulating the conduct regulated under this section only if the ordinance strictly conforms to this section.

History: 2005 a. 181; 2009 a. 28.

Consolidated List of Debarred Contractors
Prepared and Issued By
State of Wisconsin
Department of Workforce Development

This list has been prepared in accordance with the provisions of s. 66.0903(12), s. 66.0904(10) and s. 103.49(7), Stats. and Chapter DWD 294 of the Wisconsin Administrative Code. All contractors on this list were found to have committed a "debarable offense" related to certain labor standard provisions determined or established for a state or local public works project or publicly funded private construction project. No state agency, local governmental unit or owner or developer may knowingly solicit bids from, negotiate with or award any contracts to or approve or allow any subcontracts with a debarred contractor, including all divisions, affiliates or other organizational elements of such contractor that are engaged in construction business activiti s, until the debarment is terminated. The name of each debarred contractor must remain on this list for a period of three (3) years from the termination date indicated below. The contractor is, however, only "debarred" from the "effective date" through the "termination date" indicated for that contractor. Questions regarding this list should be addressed to Julie Eckenwalder, Equal Rights Division, P. O. Box 8928, Madison, WI 53708 or call (608) 266-3148. Deaf, hearing or speech-impaired callers may contact the department by calling its TDD number (608) 264-8752.

Name of Contractor	Address	Effective Date	Termination Date	Cause Code	Date of Violation(s)	Limitations/Deviations
Abel, Mike	*See,* Abel Electric, Inc					
Abel Electric, Inc	3385 Belmar Rd Green Bay, WI 54313	9/1/12	8/31/2015	1	2011	None
Atkins, Scott	*See,* Freedom Insulation, Inc					
Boecker, Roger	*See,* R-Way Pumping, Inc					
Castlerock Commercial Construction, Inc	PO Box 11699 Milwaukee, WI 53211-0699	2/1/12	1/31/15	1, 2 and4	2009 & 2010	None
Custom Heating & Air LLC	283 Tony Lane Green Bay, WI 54304	12/1/06	11/30/09	1, 2 and4	2003 & 2004	None
Dem/Ex Group, Inc	805 S Adams St Manito, IL 61546	12/1/11	11/30/14	1 and 2	2010	None
Fisher, Ed &/or Fisher, Rhonda	*See,* Dem/Ex Group, Inc					
Freedom Insulation, Inc	117925 219th Ave Chippewa Falls, WI 54729	9/1/11	8/31/14	1	2008-2010	None

Name of Contractor	Address	Effective Date	Termination Date	Cause Code	Date of Violation(s)	Limitations/Deviations
JT Roofing, Inc	350 Tower Dr Saukville, WI 53080	6/1/11	5/31/15	1,2 and4	2007 & 2008	None
Jinkins, Richard	*See,* Castlerock Commercial Construction, Inc.					
Joseph Stoller Company	N8426 Hwy42 Algoma, WI 54201	2/1/07	1/31/10	1 and 2	2004& 2005	None
Keiver, David	*See,* Custom Heating & Air LLC					
Ofstie, Darin	*See,* Precision Excavating and Grading, LLC					
Precision Excavating and Grading, LLC or Precision Excavating Enterprises, LLC	2104 Pierce Saint Croix Rd Baldwin, WI 54002	5/1/11	4/30/14	1, 2 and4	2006-2008	None
R-Way Pumping, Inc	3023 Lake Maria Rd Freeport, MN 56331	3/1/12	2/28/15	1, 2 and4	2008	None
Stoller Enterprises LLC	N8426 Hwy 42 Algoma, WI 54201-9552	2/1/2007	1/31/10	1 and 2	2005 to 2006	None
Stoller, Joseph	*See,* Joseph Stoller Company					
Stoller, Patrick J	*See,* Stoller Enterprises LLC					
Thull, Gerald T	*See,* JT Roofing, Inc.					

Cause Code: 1 = Failure to Pay Straight Time 2 = Failure to Pay Overtime 3 = Kickback 4 = Payroll Records.

State of Wisconsin
Department of Workforce Development
Equal Rights Division

Disclosure of Ownership

The statutory authority for the use of this form is prescribed in Sections 66.0903(12)(d), 66.0904(10)(d) and 103.49(7)(d), Wisconsin Statutes.
The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1) (m), Wisconsin Statutes]

(1) On the date a contractor submits a bid to or completes negotiations with a state agency, local governmental unit, or developer, investor or owner on a project subject to Section 66.0903, 66.0904 or 103.49, Wisconsin Statutes, the contractor shall disclose to such state agency, local governmental unit, or developer, investor or owner, the name of any "other construction business", which the contractor, or a shareholder, officer or partner of the contractor, owns or has owned within the preceding three (3) years.

(2) The term "other construction business" means any business engaged in the erection, construction, remodeling, repairing, demolition, altering or painting and decorating of buildings, structures or facilities. It also means any business engaged in supplying mineral aggregate, or hauling excavated material or spoil as provided by Sections 66.0903(3), 66.0904(2), 103.49(2) and 103.50(2), Wisconsin Statutes.

(3) This form must ONLY be filed, with the state agency project owner, local governmental unit project owner, or developer, investor or owner of a publicly funded private construction project that will be awarding the contract, if both (A) and (B) are met.
(A) The contractor, or a shareholder, officer or partner of the contractor:
(1) Owns at least a 25% interest in the "other construction business", indicated below, on the date the contractor submits a bid or completes negotiations.
(2) Or has owned at least a 25% interest in the "other construction business" at any time within the preceding three (3) years.
(B) The Wisconsin Department of Workforce Development (DWD) has determined that the "other construction business" has failed to pay the prevailina *waae* rate or time and one-half the required hourly basic rate of pay, for

Other Construction Business

Name of Business			
Street Address or P O Box	City	State	Zip Code
Name of Business			
Street Address or P O Box	City	State	Zip Code
Name of Business			
Street Address or P O Box	City	State	Zip Code
Name of Business			
Street Address or P O Box	City	State	Zip Code

accurate accordmg to my knowledlge and beltef,

Print the Name of Authorized Officer			
Signature of Authorized Officer	Date Signed		
Name of Corporation, Partnership or Sole Proprietorship			
Street Address or P O Box	City	State	Zip Code

If you have any questions call (608) 266-6861

Stale of Wisconsin
Department of Workforce Development
Equal Rights Division

Prime Contractor Affidavit of Compliance With Prevailing Wage Rate Determination

Authorization for this form is provided under Sections 66.0903(9)(c), 66.0904(7)(c) and 103.49(4r)(c) Wisconsin Statutes.
The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m), Wisconsin Statutes].

This form must **ONLY** be filed with the **Awarding Agency** indicated below.

State Of)	Project Name	
	DWD Determination Number	Project Number (if applicable)
)SS	Date Determination Issued	Date of Contract
County Of)	Awarding Agency	
	Date Work Completed	

After being duly sworn, the person whose name and signature appears below hereby states under penalty of perjury that

- **I am** the duly authorized officer of the corporation, partnership, sole proprietorship or business indicated below and have recently completed all of the work required under the terms and conditions of a contract with the above-named awarding agency and make this affidavit in accordance with the requirements set forth in Section 66.0903(9)(c), 66.0904(7)(c) or 103.49(4r)(c), Wisconsin Statutes and Chapter DWD 290 of the Wisconsin Administrative Code in order to obtain FINAL PAYMENT from such awarding agency.
- **I have** fully complied with all the wage and hour requirements applicable to this project, including all of the requirements set forth in the prevailing wage rate determination indicated above which was issued for such project by the Department of Workforce Development on the date indicated above.
- **I have** received the required affidavit of compliance from each of my agents and subcontractors that performed work on this project and have listed each of their names and addresses on page 2 of this affidavit.
- **I have** full and accurate records that clearly indicate the name and trade or occupation of every worker(s) that I employed on this project, including an accurate record of the hours worked and actual wages paid to such worker(s).
- **I will** retain the records and affidavit(s) described above and make them available for inspection for a period of at least three (3) years from the completion date indicated above at the address indicated below and shall not remove such records or affidavit(s) without prior notification to the awarding agency indicated above.

Name of Corporation, Partnership, Sole Proprietorship, Business, State Agency or Local Governmental Unit				
Street Address	City	State	Zip Code	Telephone Number
Print Name of Authorized Officer			Date Signed	
Signature of Authorized Officer				

List of Agents and Subcontractors

Name			Name		
Street Address			Street Address		
City	State	Zip Code	City	State	Zip Code
Telephone Number			Telephone Number		
Name			Name		
Street Address			Street Address		
City	State	Zip Code	City	State	Zip Code
Telephone Number			Telephone Number		
Name			Name		
Street Address			Street Address		
City	State	Zip Code	City	State	Zip Code
Telephone Number			Telephone Number		
Name			Name		
Street Address			Street Address		
City	State	Zip Code	City	State	Zip Code
Telephone Number			Telephone Number		
Name			Name		
Street Address			Street Address		
City	State	Zip Code	City	State	Zip Code
Telephone Number			Telephone Number		
Name			Name		
Street Address			Street Address		
City	State	Zip Code	City	State	Zip Code
Telephone Number			Telephone Number		

State of Wisconsin
Department of Workforce Development
Equal Rights Division

Agent or Subcontractor Affidavit of Compliance With Prevailing Wage Rate Determination

Authorization for this form is provided under Sections 66.0903(9)(b), 66.0904(7)(b) and 103.49(4r)(9b), Wisconsin Statutes. The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes [Privacy Law, Section 15.04(1)(m), Wisconsin Statutes].

This form must **ONLY** be filed with the **Awarding Contractor** indicated below.

State Of _____))SS County Of _____)	Project Name	
	DWD Determination Number	Project Number (if applicable)
	Date Determination Issued	Date of Subcontract
	Awarding Contractor	
	Date Work Completed	

After being duly sworn, the person whose name and signature appears below hereby states under penalty of perjury that

- **I am** the duly authorized officer of the corporation, partnership, sole proprietorship or business indicated below. We have recently completed all of the work required under the terms and conditions of a subcontract with the above-named awarding contractor. We make this affidavit in accordance with the requirements set forth in Section 66.0903(9)(b), 66.0904(7)(b) or 103.49(4r)(b), Wisconsin Statutes and Chapter DWD 290 of the Wisconsin Administrative Code in order to obtain FINAL PAYMENT from such awarding contractor.
- **I have** fully complied with the entire wage and hour requirements applicable to this project, including all of the requirements set forth in the prevailing wage rate determination indicated above which was issued for such project by the Department of Workforce Development on the date indicated above.
- **I have** received the required affidavit of compliance from each of my agents and subcontractors that performed work on this project and have listed each of their names and addresses on page 2 of this affidavit.
- **I have** full and accurate records that clearly indicate the name and trade or occupation of every worker(s) that I employed on this project, including an accurate record of the hours worked and actual wages paid to such worker(s).
- **I will** retain the records and affidavit(s) described above and make them available for inspection for a period of at least three (3) years from the completion date indicated above at the address indicated below and shall not remove such records or affidavit(s) without prior notification to the awarding contractor.

Name of Corporation, Partnership, Sole Proprietorship, Business, State Agency or Local Governmental Unit				
Street Address or PO Box	City	State	Zip Code	Telephone Number ( )
Print Name of Authorized Officer			Date Signed	
Authorized Officer Signature				

List of Agents and Subcontractors

Name	Name
Street Address	Street Address
City | State | Zip Code	City | State | Zip Code
Telephone Number ( )	Telephone Number ( )
Name	Name
Street Address	Street Address
City | State | Zip Code	City | State | Zip Code
Telephone Number ( )	Telephone Number ( )
Name	Name
Street Address	Street Address
City | State | Zip Code	City | State | Zip Code
Telephone Number ( )	Telephone Number ( )
Name	Name
Street Address	Street Address
City | State | Zip Code	City | State | Zip Code
Telephone Number ( )	Telephone Number ( )
Name	Name
Street Address	Street Address
City | State | Zip Code	City | State | Zip Code
Telephone Number ( )	Telephone Number ( )
Name	Name
Street Address	Street Address
City | State | Zip Code	City | State | Zip Code
Telephone Number ( )	Telephone Number ( )
Name	Name
Street Address	Street Address
City | State | Zip Code	City | State | Zip Code
Telephone Number ( )	Telephone Number ( )

If you have any questions call (608) 266-6861

State of Wisconsin
Department of Workforce Development
Equal Rights Division
Labor Standards Bureau

Request to Employ Subjourneyperson

The use of this form is mandatory. The penalty for failing to complete this form is prescribed in Section 103.005(12), Wisconsin Statutes.
Personal information you provide may be used for secondary purposes (Privacy Law, s. 15.04(1)(m), Wisconsin Statutes].
The employer indicated below requests that the Department of Workforce Development (DWD) determine the prevailing wage rate(s) and related qualifications to enable such employer to use a subjourneyperson(s) on the following prevailing wage project, in accordance with the provisions of Section DWD 290.025, Wisconsin Administrative Code.

1. Name of Project Appearing on the Project Determination	
County	City, Village or Town
DWD Project Determination Number	Project Number (if applicable)
2. Job Classification(s) for which you request a subjourney rate (i.e., carpenter, electrician, plumber, etc.)	
a.	b.
c.	d.
3. Employer Name (Print)	Requester Name (Print)
Address	City | State | Zip Code
Telephone Number ( )	Requester Title
Email address (if you prefer to receive your response via email)	Fax Number (if you prefer to receive your response via fax) ( )

READ CAREFULLY: I understand that this request is ONLY applicable to the project and job classification(s) listed above and that subjourney employees primarily work under the direction of and assist a skilled trade employee by frequently using the tools of a skilled trade and will NOT regularly perform the duties of a general laborer, heavy equipment operator or truck driver. If the subjourney employee regularly performs the work of a different trade or occupation, he/she will be compensated for such work at the applicable journeyperson prevailing wage rate. I agree to com_l)ensate subiournev employees in strict accordance with the directions received from the DWD.

Requester Signature _____ Date Signed _____

MAIL the completed request to:
EQUAL RIGHTS DIVISION, LABOR STANDARDS BUREAU
PO BOX 8928, MADISON WI 53708
OR
FAX the completed request to: (608) 267-0310 / DO NOT e-mail your request.
Call (608) 266-6861 for assistance in completing this form.

ERD-10880 (R. 11/2010)

Department of Workforce Development
Equal Rights Division
P.O. Box 8928
Madison, WI 53708-8928
Telephone: (608) 266-6860
Fax: (608) 267-4592
TTY: (608) 264-8752

STATE OF WISCONSIN
€®®DWD
Department of Workforce Development

PREVAILING WAGE- Public Entity Project Owners

Any public works project that has a total estimated project cost that equals or exceeds single-trade or multiple-trade project thresholds requires a prevailing wage rate determination issued by the Department of Workforce Development (DWD). Public works include erecting, constructing, remodeling, repairing, demolishing, alterations, painting and decorating projects for a local governmental unit or state agency. State law excludes minor service or maintenance work, warranty work, or work under a supply-and-installation contract. There is a statutory definition for each of these exclusions. The prevailing wage law that applies to local governmental units is §66.0903, Wis. Stats. The prevailing wage law that applies to state agencies is §103.49, Wis. Stats. The applicable administrative rules for all public entities are DWD 290 and DWD 294, Wis. Adm. Code.

Thresholds

A "single-trade project of public works" means a project in which a single trade accounts for 85% or more of the total labor cost of the project. The single trade threshold is $48,000.

A "multiple-trade project of public works" means a project in which no single trade accounts for 85% or more of the total labor cost of the project.

(a) The multiple-trade threshold is $100,000, unless a municipality falls under the description in (b).

(b) The multiple-trade threshold of $234,000 applies to public works projects erected, constructed, repaired, remodeled, or demolished by a private contractor for •a city or village with a population less than 2500 or •a town.

Effective July 1, 2011, a local governmental unit or state agency that has a public works project that equals or exceeds the prevailing wage thresholds must do all of the following:

- Request a prevailing wage rate determination for the project from DWD at least 30 days before soliciting bids or negotiating contracts. An Application for Prevailing Wage Rate Determination is available on the DWD website: http:ljdwd.wisconsin.gov/er/prevailing_wage_rate/default.htm
  To avoid waiting for a project determination use the on-line application system that permits the user to generate a determination immediately and save all documents in PDF form to the user's computer. Use this project determination on line application at the following address:

http:Udwd.wisconsin.gov/er/prevailing_wage_rate/pw_online determinations.htm

- Tell potential contractors the project is subject to state prevailing wage law when soliciting bids.

- Include the prevailing wage rate determination in the construction contract, or if there is no written contract, provide a copy of the project determination to each prime contractor.

- Award contracts to contractors who do *not* appear on the {/Consolidated List of Debarred Contractors."

- Post the prevailing wage rate determination on the project site. (This document is often referred to as {/the white sheet.")

- Notify project contractors that if DWD finds that a contractor violated the prevailing wage law, DWD will assess liquidated damages of 100% of the wages owed to employees.

- Obtain an Affidavit of Compliance from each prime contractor before making final payment for the project.

If the total estimated cost of the project exceeds the prevailing wage thresholds, a local governmental unit or state agency also must obtain a prevailing wage rate determination under the following circumstances:

- when a completed facility is leased, purchased, lease-purchased or otherwise acquired by or dedicated to a public entity in lieu of the public entity contracting for the project,

- when one public entity does work for another public entity,

- when a *private* entity will construct a road, street, bridge, sanitary sewer or water main project and dedicate it to a local governmental unit or the state for its ownership or maintenance (except for some residential subdivisions).

For more information, visit the prevailing wage website: http:ljdwd.wisconsin.gov/er/prevailing_wage_rate/default.htm. For further assistance, call the Equal Rights Division at 608-266-6861 and ask for prevailing wage.

Department of Workforce Development
Equal Rights Division
P.O. Box 8928
Madison, WI 53708-8928
Telephone: (608) 266-6860
Fax: (608) 267-4592
TIY: (608) 264-8752

STATE OF WISCONSIN

€®®DWD

Department of Workforce Development

PREVAILING WAGE- Contractors

Any public works project that has a total estimated project cost that equals or exceeds prevailing wage project thresholds requires a prevailing wage rate ·determination issued by the Department of Workforce Development (DWD). Public works include erecting, constructing, remodeling, repairing, demolishing, alterations, painting and decorating projects for a local governmental unit or state agency. State law excludes minor service or maintenance work, warranty work, or work under a supply-and-installation contract. There is a statutory definition for each of these exclusions. The prevailing wage law that applies to local governmental units and their contractors is §66.0903, Wis. Stats. The prevailing wage law that applies to state agencies and their contractors is §103.49, Wis. Stats. The applicable administrative rules for all prevailing wage projects are DWD 290 and DWD 294, Wis. Adm. Code. These laws include provisions that apply to all contractors and subcontractors working on prevailing wage projects. ·

Effective July 1, 2011, any contractor or subcontractor working on a local governmental unit or state agency's public works project that equals or exceeds current prevailing wage project thresholds must do all of the following:

- Receive and review the project's prevailing wage rate determination (i.e., white sheet).
- Tell subcontractors the project is subject to state prevailing wage law and include the prevailing wage rate determination in the construction contract, or if there is no written contract, provide a copy of the project determination to each subcontractor.
- Hire subcontractors who do *not* appear on the "Consolidated List of Debarred Contractors."
- Notify subcontractors that if DWD finds that a contractor or subcontractor violated the prevailing wage law, DWD will assess liquidated damages of 100% of the wages owed to employees.

- Apply to DWD for subjourney wage rates prior to employing these individuals on the project.

- Receive and retain a completed Affidavit of Compliance from each subcontractor brought on to the project before providing final payment to those subcontractors.

- Submit a completed Affidavit of Compliance to the contractor who brought the subcontractor on to the project before receiving final payment for the project.

- Maintain payroll records for 3 years that comply with §§66.0903(10)(a) or 103.49(5)(a), Stats. and DWD 274.06.

- Respond to requests from DWD or the project owner to provide payroll records and/or respond to prevailing wage complaints filed by employees or third parties.

For more information, visit the prevailing wage website: http:ljdwd.wisconsin.gov/er/prevailing_wage_rate/default.htm. For further assistance, call the Equal Rights Division at 608-266-6861and ask for prevailing wage.

SUMMARY OF PREVAILING WAGE LAW CHANGES EFFECTIVE JULY 1, 2011

document **07/27/11)**

For further updates on this topic, refer to the prevailing wage website at:
http://dwd.wisconsin.gov/er/prevailing_wage_rate/default.htm

The recently approved State budget bill (2011 Wisconsin Act 40) includes major changes to prevailing wage laws (§§66.0903, 66.0904, 103.49 & 103.50, Wis. Stats.) effective JULY 1, 2011. Significant changes are described below.

Topic		Brie equirement under §66.0903 or §103.49
Thresholds	All public entities & Contractors	The $25,000 threshold for public works projects has been changed to single-trade and multiple-trade project thresholds as noted below. The new thresholds apply to prevailing wage projects whose contract is awarded after June 2011.
Non-applicability: Threshold for Single-Trade Projects	All public entities & Contractors	Any single-trade project of public works with an estimated cost of completion of less than $48,000 does not require a prevailing wage rate determination. "Single-trade project of public works" means a project of public works in which a single trade accounts for 85 percent or more of the total labor cost of the
Non-applicability: Threshold for Multiple-Trade Projects	All public entities except cities, towns & villages as noted below & Contractors	Any multiple-trade project of public works with an estimated cost of completion of less than $100,000 does not require a prevailing wage rate determination. "Multiple-trade project of public works" means a project of public works in which no single trade accounts for 85 percent or more of the total labor cost of the project.
Non-applicability: Threshold for Multiple-Trade Projects	Cities or villages with a population less than 2500 & Towns & Contractors	A multiple trade project of public works erected, constructed, repaired, remodeled, or demolished by a private contractor for a city or village with a population less than 2500, or a town with an estimated cost of completion of less than $234,000 does not require a prevailing wage rate determination. "Multiple-trade project of public works" means a project of public works in which no single trade accounts for 85 percent or more of the total labor cost of the
Non-applicability: Minor service & maintenance work	Towns & Contractors	The following TOWN projects only do not require a prevailing wage rate determination: • A project not funded under §86.31, Stats. (TRIP projects) that is limited to minor crack filling, chip or slurry sealing or other minor pavement patching, not including overlays. • The depositing of gravel on an existing gravel road applied solely to maintain the road; • Road shoulder maintenance; • Cleaning drainage or sewer ditches or structures; • Any other limited, minor work on public facilities or equipment that is routinely performed to prevent breakdown or deterioration.
Non-applicability: Work which a contractor or individual donates to a blic	All public entities	Prevailing wage laws §§66.0903 & 103.49, Stats., do not apply to work performed on a project of public works for which the local governmental unit or the state or the state agency contracting for the project is not required to compensate any contractor, subcontractor, contractor's or subcontractor's agent or individual for the work.

	Who's affected?	Brief description of requirement under §66.0903 or §103.49
Non-applicability: Residential	All public entities	A prevailing wage rate determination is not required for the erection,construction,repair,remodeling, or demolition of a residential [illegible] units or less.
Non-applicability: Residential subdivision infrastructure	All public entities	A prevailing wage rate determination is not required for a road, street,bridge,sanitary sewer,or water main project that is a part of a development in which at least 90 percent of the lots contain or will contain 2 dwelling units or less,as determined by the local governmental unit at the time of approval of the development,and that, on completion,is acquired by,or dedicated to,a local governmental unit (including under §236.13(2),Stats.),or the state, for ownership or maintenance the local [illegible] ental unit or the state.
Non-applicability: Certain nursing homes	All public entities	Prevailing wage law §66.0903,Stats.,does not apply to a project of public works involving the erection,construction, repair,remodeling,or demolition of a nursing home in a county having a population of less than 50,000 when the project commences no later than 2012.
Electronic certified payroll record	Contractors	The requirement that every contractor on a prevailing wage project submit to DWD monthly a certified record of employees who worked on the project and that DWD post these certified records on its Internet website is discontinued effective July 1, 2011. However,contractors who worked on prevailing wage projects during the period January 1,2010 through June 30, 2011,must comply with the repealed law for work completed on duri that of time
Payroll record inspection request by any person	Contractors & Complainants	Any person may request DWD to inspect the payroll records of any contractor working on a prevailing wage project. On receipt of such a request,the contractor must submit to DWD a certified record of its payroll records,other than personally identifiable information relating to an employee of the contractor, for no longer than a 4-week period. DWD may request records from a contractor under this provision no more than once per calendar quarter for each project of public works on which the contractor is performing work. The department may not charge a requester a fee for obtaining that information. DWD must make these certified records available for ublic inspection
Complaints	Complainants	There are no longer i
Statewide uniformity	Local govern-mental units	A local governmental unit may not enact & administer a prevailing wage ordinance/provision for public works or publicly funded private construction projects. Any extant laws to that effect are void.

Topic	Who's affected?	Brief description of requirement under §66.0903, §103.49 or §103.50
Covered employees	Truck drivers & Other workers & Contractors	A laborer,worker,mechanic,or truck driver who is employed to process,manufacture,pick up,or deliver materials or products from a commercial establishment that has a fixed place of business from which the establishment supplies processed or manufactured materials or products or from a facility that is not dedicated exclusively,or nearly so,to a project of public works is NOT entitled to receive the prevailing wage rate UNLESS any of the following applies: 1) the laborer,worker,mechanic,or truck driver is employed to go to the source of mineral aggregate such as sand,gravel,or stone and deliver that mineral aggregate to the site of a project of public works by depositing the material directly in final place,from the transporting vehicle or through spreaders from the transporting vehicle. 2) the laborer,worker,mechanic,or truck driver is employed to go to the site of a project of public works,pick up excavated material or spoil from the site of the project, and transport that excavated material or spoil away from the site of the ect.
Annual Prevailing Wage Survey	All public entities	When establishing yearly prevailing wage rates,DWD may not use data from any construction work that is performed by a local ental unit or a state
Prevailing Wage Rates	DOT & Contractors & Employees	For state highway prevailing wage rates, DWD is required to include wage rates for work performed on Sundays, holidays and shift differentials based on the time of day or night when work is n<>o·fno·m•>n

The 2009-2011State budget bill (2009 Wisconsin Act 28) created a new prevailing wage law (§66.0904, Wis. Stats.) for PUBLICLY FUNDED PRIVATE CONSTRUCTION PROJECTS effective January 1,2010. The current 2011-2013 State budget bill (2011Wisconsin Act 32) REPEALS this law. So the publicly funded private construction projects law only applies to projects that awarded the prime contract during the **period January 1,** 2010 _ June 2011 . RII!i

SINGLE & MULTIPLE TRADE PROJECT THRESHOLDS FOR §§66.0903 & 103.49, Wis. Stats. Effective July 1, 2011

The $25,000 threshold for public works projects has been changed to single-trade and multiple-trade project thresholds as described below. Projects of public works with total estimated costs of completion that equal or exceed these thresholds require a prevailing wage rate determination.

SINGLE-TRADE THRESHOLD

A "single-trade project of public works" means a project in which a single trade accounts for 85 percent or more of the total labor cost of the project.

The single trade threshold is $48,000.

MULTIPLE-TRADE THRESHOLDS

A "multiple-trade project of public works" means a project in which no single trade accounts for 85 percent or more of the total labor cost of the project.

(a) The multiple-trade threshold is $100,000, unless a municipality falls under the description in (b).

(b) The multiple-trade threshold of $234,000 applies to public works projects erected, constructed, repaired, remodeled, or demolished by a private contractor for:

- a city or village with a population less than 2500, or
- a town

APPLYING **THE** NEW THRESHOLDS

The department will apply the new single-trade & multiple-trade prevailing wage thresholds to projects of public works for which the prime contract is awarded on or after July 1, 2011.

CONTRACT: 20130709015 PROJECT(S): 1030-31-72 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 PROPOSAL ITEMS					
0010	629.0210 FERTILIZER TYPE B	0.060 CWT		.		.
0020	631.0300 SOD WATER	3.000 MGAL		.		.
0030	631.1000 SOD LAWN	76.000 SY		.		.
0040	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-INCH	180.000 LF		.		.
0050	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM	1.000 EACH		.		.
0060	654.0111 CONCRETE BASES TYPE 11	3.000 EACH		.		.
0070	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG	924.000 LF		.		.
0080	SPV.0060 SPECIAL 01. AUTOMATIC FLUSH VALVES, URINAL	10.000 EACH		.		.
0090	SPV.0060 SPECIAL 02. AUTOMATIC FLUSH VALVES, WATER CLOSET	27.000 EACH		.		.
0100	SPV.0060 SPECIAL 03. LUMINAIRES DECORATIVE LED	3.000 EACH		.		.

CONTRACT: 20130709015 PROJECT(S): 1030-31-72 FEDERAL ID(S): N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0110	SPV.0105 SPECIAL 01. REST AREA 26 FAMILY ASSISTED RESTROOM	LUMP	LUMP			.
0120	SPV.0105 SPECIAL 02. EXTERIOR PAINTING	LUMP	LUMP			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE