

BIDDER \_\_\_\_\_

## PROJECT MANUAL

FOR

Mecklenburg County  
Pine Grove Circle Facility Retaining Wall  
3901 Pine Grove Circle, Charlotte, NC 28206  
September 30, 2025



**Submittal Deadline:**

October 17, 2025 – 2:00 PM

**Submittal Location:**

Electronic submittal to: [dhill@labellapc.com](mailto:dhill@labellapc.com)  
Copy to: [Martin.Sanford@mecklenburgcountync.gov](mailto:Martin.Sanford@mecklenburgcountync.gov) and  
[solidwasteprojects@mecklenburgcountync.gov](mailto:solidwasteprojects@mecklenburgcountync.gov)

**NOTE: UPON REQUEST THIS INFORMATION IS AVAILABLE IN AN ALTERNATIVE  
FORMAT FOR PEOPLE WITH DISABILITIES**

**TABLE OF CONTENTS**

**SECTION A-ADVERTISEMENT FOR BIDS**

**SECTION B-GENERAL CONDITIONS (STANDARD SPECIAL PROVISIONS)**

MECKLENBURG COUNTY DRUG-FREE WORKPLACE POLICY ..... B-1  
STANDARD SPECIFICATIONS ..... B-1  
DEFINITION OF TERMS ..... B-2  
PLANS AND SPECIFICATIONS PROVIDED ..... B-2  
AWARDING OF CONTRACT ..... B-3  
CONTRACT BONDS ..... B-3  
PRE-CONSTRUCTION CONFERENCE ..... B-3  
INSURANCE REQUIREMENTS ..... B-4  
INDEMNIFICATION ..... B-5  
MINIMUM WAGES ..... B-5  
SUBCONTRACTS ..... B-5  
NOTICE TO PROCEED ..... B-5  
PAYMENTS ..... B-5  
ADDITIONAL OR EXTRA WORK NOT IN CONTRACT ..... B-6  
TAXES STATEMENT SUBMITTAL ..... B-6  
TAXES & LICENSES ..... B-7  
OSHA REQUIREMENTS ..... B-7  
HAZARDOUS MATERIALS ..... B-7  
MATERIALS AND EQUIPMENT STORAGE / SITE SECURITY ..... B-7  
TRAFFIC CONTROL ..... B-8  
EXISTING UTILITIES ..... B-8  
CARE OF WORK ..... B-8  
PROTECTION OF ADJOINING PROPERTY ..... B-9  
CLEAN-UP AND DISPOSAL ..... B-9  
MEASUREMENT & PAYMENT ..... B-9  
SUBMITTALS ..... B-9  
QUANTITY TICKETS ..... B-9  
PARTIAL ACCEPTANCE ..... B-9  
WARRANTY PERIOD ..... B-10  
CLAIMS FOR ADJUSTMENTS AND DISPUTES ..... B-10  
TERMINATION BY THE COUNTY FOR CAUSE ..... B-10  
WORKING HOURS ..... B-11  
PROJECT CLOSEOUT DOCUMENTS ..... B-11  
EXAMPLE FORMS ..... B-11

**SECTION C–SPECIAL CONDITIONS (PROJECT SPECIAL PROVISIONS)**

SCOPE OF WORK..... C-1  
LIST OF PLAN SHEETS ..... C-1  
LIST OF TECHNICAL SPECIFICATIONS ..... C-1  
LOCATION OF THE PROJECT..... C-1  
CONTRACT PERIOD AND LIQUIDATED DAMAGES..... C-1  
CONTINGENCY ALLOWANCE..... C-1  
CONSTRUCTION SEQUENCE..... C-1  
PERMITS ..... C-1  
PRE-CONSTRUCTION PHOTOGRAPHS AND VIDEOS ..... C-1  
ACCESS TO THE WORK..... C-2

**SECTION D–TECHNICAL SPECIFICATIONS**

TSP-1 SPECIAL CONDITIONS..... D-1  
ATTACHMENT A - DESIGN DRAWINGS..... D-2  
ATTACHMENT B - TECHNICAL SPECIFICATIONS ..... D-3

**SECTION E–MWSBE PROVISIONS**

**SECTION F–ITEMIZED PROPOSAL AND EXECUTION OF BID**

**SECTION G-CERTIFICATE OF COMPLIANCE WITH ADA**

**SECTION H-CERTIFICATE OF NON-DISCRIMINATION**

**SECTION I-CONTRACTOR E-VERIFY DECLARATION**

**SECTION J-FORM of CONSTRUCTION CONTRACT**

**SECTION A-ADVERTISEMENT FOR BIDS**

# ADVERTISEMENT FOR BIDS

Sealed bids will be received until **2:00 PM on October 17<sup>th</sup>, 2025** for the **Mecklenburg County Pine Grove Facility Retaining Wall**. The bids will be received electronically at the following email addresses: [dhill@labellapc.com](mailto:dhill@labellapc.com), [Martin.Sanford@mecklenburgcountync.gov](mailto:Martin.Sanford@mecklenburgcountync.gov) and [solidwasteprojects@mecklenburgcountync.gov](mailto:solidwasteprojects@mecklenburgcountync.gov)

The project will be located at 3901 Pine Grove Circle, Charlotte, NC 28206, and involves the demolition of timber retaining wall and miscellaneous structures, excavating and constructing a cast-in-place concrete retaining wall, backfilling and constructing a slab on grade.

Project site visits will be available for contractors as scheduled with Mecklenburg County Solid Waste. Contractor to email [solidwasteprojects@mecklenburgcountync.gov](mailto:solidwasteprojects@mecklenburgcountync.gov) to coordinate the visit.

Below are the MWSBE goals set for this project:

Minority Business Enterprise Goal (MBE): 8%  
Women Business Enterprise Goal (WBE): 8%

Bid-documents may be obtained by contacting the following:

- Dan Hill  
Labella  
[DHill@LaBellaPC.com](mailto:DHill@LaBellaPC.com)  
704-941-2130

The Contractor, and his subcontractors performing work at the worksite, will be required to comply with the Occupational Safety and Health Standards and the Safety and Health Regulations for Construction.

Nondiscriminatory bidding procedures shall be afforded to all qualified bidders regardless of National, State or local boundaries and without regard to race, color, religion, sex, national origin, age, or handicap.

Contractors will comply with all applicable laws regulating the practice of General Contracting as required by the General Statutes of North Carolina. Each bid that equals or exceeds \$100,000.00 shall be accompanied by a corporate bid bond or a bid deposit of a certified or cashier's check in the amount of at least 5% of the total amount bid for the contract. When a bid is secured by a bid deposit (certified check or cashier's check), the execution of a bid bond will not be required. When the bid security is in the form of a bid bond, that bid bond shall be executed by a corporate surety.

Bidders will provide North Carolina General Contract License Number, Classification(s), and Limits in the space provided in the signature page of the bid.

Bids may be held by the County for a period not to exceed (60) days from the date of the bid opening for the purpose of reviewing bids and investigating qualifications of bidders.

The itemized proposal form and Project Manual provided by the County shall be used in its entirety. All entries including signatures shall be in ink.

## AWARDING OF CONTRACT

Mecklenburg County will award the contract or contracts conditioned upon funds being available for construction and other governmental approvals. The contract will be awarded to the lowest responsible qualified Bidder selected by the County taking into consideration quality, performance and the time specified in the proposal for the performance of the contract. Consideration will be given only to proposals from Contractors who are properly licensed, bonded, experienced in the class of work proposed and who can refer to projects of similar size and scope that have been completed by them. The County reserves the right to reject any and all proposals and to waive formalities or technicalities as it may deem to be in its best interest.

In evaluating Bids, Mecklenburg County will consider whether or not the Bids comply with the prescribed requirements, and such alternate, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

Determination of the Successful Bidder will be based on the Base Bid and a comparison of any Alternates and on the responsiveness, responsibility, and other factors set forth in these Instructions. The award may be made to said Successful Bidder on its base Bid and the alternate for which the Owner determines to be in the best interest of the Owner.

#### **DELIVERY OF BIDS**

All bids shall be emailed only to the email addresses as indicated above.

**SECTION B—GENERAL CONDITIONS (STANDARD SPECIAL PROVISIONS)**

## **MECKLENBURG COUNTY DRUG-FREE WORKPLACE POLICY**

Mecklenburg County is a drug-free workplace employer. The Board of County Commissioners has also adopted a policy requiring County construction and service Contractors to provide a drug-free workplace in the performance of any County Contract.

In order to be eligible to submit a bid or proposal for a County construction or service contract, a prospective Contractor must certify that it will, if awarded the contract, provide a drug-free workplace during the performance of the contract. This requirement is met by:

(a) notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken for violations of such prohibition;

(b) establishing a drug-free awareness program to inform employees about the dangers of drug abuse in the work place the Contractor's policy of maintaining a drug-free work place any available drug counseling, rehabilitation, and employee assistance program the penalties that may be imposed upon employees for drug abuse violations;

(c) notifying each employee that as a condition of employment, the employee will (1) abide by the terms of the prohibition outlined in (a) above and (2) notify the Contractor of any criminal drug statue conviction for a violation occurring in the workplace not later than five days after such conviction;

(d) notifying the County within ten days after receiving from an employee a notice of a criminal drug statue conviction or after otherwise receiving actual notice of such conviction;

(e) imposing a sanction on, or requiring the satisfactory participation in a drug counseling, rehabilitation or abuse program by, an employee convicted of drug crime;

(f) making a good faith effort to continue to maintain a drug-free workplace for employees; and

(g) requiring any party to which it subcontracts any portion of the work under the contract to comply with the provisions of (a) through (f).

If the prospective Contractor is an individual, the drug-free workplace requirement is met by not engaging in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance in the performance of the contract.

By submitting a bid or proposal, a prospective Contractor certifies that it will comply with the County's drug-free workplace requirement. A false certification or the failure to comply with the above drug-free workplace requirements during the performance of a contract shall be grounds for suspension, termination or debarment.

## **STANDARD SPECIFICATIONS**

The current edition of the Standard Specifications for Roads and Structures of the North Carolina Department of Transportation is hereinafter referred to as the "NCDOT Specifications" shall apply on all portions of the project unless otherwise specified herein.

## DEFINITION OF TERMS

Whenever the following terms are used in the NCDOT Specifications, contract documents, or plans, the intended meaning of such terms shall be as follows:

"State" or "Department" shall be replaced by the words "Mecklenburg County". "Engineer" or "Resident Engineer" shall be replaced by the words "The County or an authorized representative".

"Sampling and Testing by Department" shall be replaced by the words "Sampling and Testing by Mecklenburg County Code Enforcement or its approved testing agency".

"Inspection by Department" shall be replaced by the words "Inspection by the County or an authorized representative".

"City Standard" or "County Standard" shall refer to the most current edition of the "Charlotte-Mecklenburg Land Development Standards Manual (CMLDS)."

"City Water Main Standard" and "City Sanitary Sewer Standard" shall refer to the latest edition of "Charlotte-Mecklenburg Utility Department Policies, Procedures, Standards and Specifications"

"Landscape Construction Standards" shall refer to the latest edition of the "Landscape Construction Standards" for construction within the jurisdiction of Mecklenburg County Code Enforcement, Charlotte, North Carolina.

The term "Engineer", when used in any of the contract documents or plans shall mean a Mecklenburg County Solid Waste Engineer or an authorized representative.

"WATCH" shall refer to the current edition of the Charlotte Department of Transportation's Work Area Traffic Control Handbook.

"Each" refers to any item that is constructed or installed as a one-hundred percent (100%) functional item. No partial payment will be made for such items.

"Date of acceptance" is defined as the date Contractor is notified in writing by the County, that all construction provided for and contemplated by the contract or any portion thereof is found to be satisfactorily completed.

"Construction stakes, lines and grades" shall mean the surveying of topographical or design features using standard survey methods to allow for (1) graphical plotting of cross-sections; (2) accurate calculation of quantities using the "average-end-area" method; (3) the placement of survey stakes to accurately delineate tops of cut slope and toes of fill slope; (4) the proper placement of all features shown on the plans.

The terms "borrow", "import", "select backfill", "select material", wherever used in the contract documents shall be synonymous. Said terms shall refer to suitable material that is brought onto the project site from an offsite location.

## PLANS AND SPECIFICATIONS PROVIDED

Bid-documents may be obtained by contacting the following:

- Dan Hill  
Labella  
DHill@LaBellaPC.com  
704-941-2130

ADDENDA: An addendum will be emailed to all Bidders of Record and kept on file. It shall be the Bidder's responsibility to make inquiry as to the Addenda issued. All such Addenda shall become part of the contract and all Bidders shall be bound by such Addenda whether or not received or acknowledged by the Bidder.

### **AWARDING OF CONTRACT**

Mecklenburg County will award the contract or contracts conditioned upon funds being available for construction and other governmental approvals. The contract will be awarded to the lowest responsible qualified Bidder selected by the County taking into consideration quality, performance and the time specified in the proposal for the performance of the contract. Consideration will be given only to proposals from Contractors, who are properly licensed, bonded, experienced in the class of work proposed and who can refer to projects of similar size and scope that have been completed by them. The County reserves the right to reject any and all proposals and to waive formalities or technicalities as it may deem to be in its best interest.

In evaluating Bids, Mecklenburg County will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.

Determination of the Successful Bidder will be based on the Base Bid and a comparison of any alternates and on the responsiveness, responsibility, and other factors set forth in these Instructions. The award may be made to said Successful Bidder on its base Bid and the selected alternate for which Owner determines funds will be available at the time of award and which alternate the Owner determines to be in the best interest of the Owner.

### **CONTRACT BONDS**

Within fourteen calendar days of notification of award of contracts equal to or exceeding \$100,000, the Contractor shall secure and post a Performance Bond and Labor and Material Payment Bond, each in the amount of 100% of the Total Contract Sum. A surety, acceptable to the County, shall issue all such bonds. The County shall be named as the beneficiary.

### **PRE-CONSTRUCTION CONFERENCE**

A pre-construction conference will be scheduled as soon as practical after the award of the contract. The Contractor or his/her designated agent shall attend the conference along with the proposed job superintendent, any anticipated major Sub-Contractors and major material suppliers. Affected utilities and other agencies shown on the front sheet of the plans will also be invited to attend.

A proposed progress schedule in a format acceptable to the County along with a statement of the anticipated monthly progress payments showing the estimated percent of progress each month shall be submitted at the pre-construction conference.

The Contractor shall also provide at least two (2) local telephone numbers that may be used to contact the Contractor or his authorized representative(s) in the event of an emergency after normal business hours.

Upon receipt of the required documentation, the County will issue a notice to proceed. Delays by the Contractor shall not affect the schedule.

## **INSURANCE REQUIREMENTS**

### **Contractor's Liability and Other Insurance:**

The Contractor shall purchase and maintain with a company acceptable to Mecklenburg County and authorized to do business with the State of North Carolina, such insurance as will protect him from claims under worker's compensation laws, disability benefit laws or other similar employee benefit laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of his employees, and claims insured by usual personal injury liability coverage; from claims for damages because of bodily injury, sickness or disease, or death of any person other than his employees including claims insured by usual personal injury liability coverage; and from claims for injury to or destruction of tangible property, including loss of use resulting therefrom - any or all of which may arise out of or result from the Contractors operations under the contract documents, whether such operations be by himself or any subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. This insurance shall be written for not less than the limits of liability specified below.

**Worker's Compensation and Employers Liability** - Shall meet the statutory requirement of the State of North Carolina, in the amount of \$100,000 each accident and disease - each employee and \$500,000 disease policy limit.

At the time of execution of the contract, the Contractor shall provide the County with insurance certificates certifying that the foregoing insurance is in force; and such insurance certificates shall include provisions that the insurance shall not be canceled, allowed to expire or be materially changed without giving the County thirty (30) days advance written notice by registered mail.

The Contractor is advised that if any part of the work under the contract is sublet, he shall require the subcontractor(s) to carry insurance as required above. However, this will in no way relieve the Contractor from providing full insurance coverage on all phases of the projects, including any that are sublet.

When certain work is to be performed inside rights-of-way owned by railroads, North Carolina Department of Transportation, the City of Charlotte, or other agencies, both the Contractor and any subcontractor may be required to furnish individual insurance certificates made in favor by the controlling agency, with limits established by that agency.

**Automobile** - Bodily injury and property liability covering all owned, non-owned and hired automobiles for limits of not less than \$1,000,000 bodily injury each person, each accident and \$1,000,000 property damage, or \$1,000,000 combined single limit - bodily injury and property damage combined.

**Commercial General Liability** - Bodily injury and property damage liability as shall protect the Contractor and any subcontractor performing work under this contract from claims of bodily injury or property damage which arise from operations of this contract whether such operations are performed by the Contractor, any subcontractor or anyone directly or indirectly employed by either. The amounts of such insurance shall not be less than \$1,000,000 bodily injury each occurrence/aggregate and \$1,000,000 property damage each occurrence/aggregate or \$1,000,000 bodily injury and property damage combined single limits each occurrence/aggregate. This insurance shall include coverage for products/completed operations, personal injury liability and contractual liability assumed under the indemnity provision of this contract and broad form

property damage, explosion, collapse and underground property damage (XC&U). The coverage shall be on an occurrence basis.

### **INDEMNIFICATION**

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless Mecklenburg County and its agents and employees, from and against all claims, damages, losses and expenses, including attorneys' fees, arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

In any and all claims against Mecklenburg County or any of its agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

### **MINIMUM WAGES**

State and Federal law provides that, with certain exceptions, every employer must pay wages at a rate of not less than the prevailing minimum wage.

The Contractor shall have no claim against Mecklenburg County for any changes in the minimum wage laws, State or Federal. It is the responsibility of the Contractor to keep himself fully informed of all Federal and State Laws affecting his Contract.

### **SUBCONTRACTS**

The County reserves the right to waive the subcontracting limits set forth in Article 108-6 of the NCDOT Specifications whenever it is deemed to be in the best interest of the County. The limits can be waived only upon written approval from the County.

### **NOTICE TO PROCEED**

A Notice to Proceed will be issued to the Contractor upon receipt of a fully executed contract, bonds, insurance certificates, receipt of approval by other governmental agencies (if required) and any other documentation required by the County. Any delay in issuance of the Notice to Proceed due to the Contractor's failure to provide the required documentation and consequently not being allowed to begin work on the project will not be sufficient grounds for an extension of the Contract Period.

### **PAYMENTS**

The County will make regular, periodic payments for work completed in accordance with the contract bid items based on work progress estimates prepared by the Contractor and submitted for approval by the County. Payment requests and supporting documentation must be submitted on standard forms approved by the County. Payment will be made within thirty (30) calendar days after receipt of an approved payment request. Along with monthly payment estimates, the

Contractor shall submit a certification that all work performed to date complies with the plans and specifications.

For contracts less than \$50,000, partial payments may be made twice each month if in the judgment of the County the amount of work performed is sufficient to warrant such payment. No partial payment will be made when the total value of the work performed since the last partial payment, excluding mobilization, amounts to less than \$1,000.00.

Partial payment requests submitted at the end of a quarter, fiscal year or final payment, shall be accompanied by a North Carolina Local Sales or Use Tax Statement for the prime Contractor and all subcontractors. The tax statement shall show the N.C. Sales Tax and Mecklenburg County tax paid. It shall also list any payments made directly to the North Carolina Department of Revenue. If no tax has been paid during the pay request period, "NONE" shall be entered on the statement at the appropriate location. Each statement shall be signed by a company officer and certified by a notary public.

The Contractor shall have a copy of his current payment request on the job site which may be reviewed by subcontractors upon request.

An amount equal to five percent (5%) of the total amount due on payment requests will be deducted and retained until fifty percent (50%) of the work has been completed. At this time, the County may reduce the amount of retainage, if, in its opinion, work has been progressing satisfactorily. Any reduction of retainage below five percent (5%) will be at the discretion of the County and will require consent of surety. The full contract retainage may be reinstated if the manner of completion of the work and its progress do not remain satisfactory to the County, or for other good and sufficient reason.

Payment will be made on ninety percent (90%) of materials on hand stored on the project site or in a bonded warehouse. Materials would include coir fiber matting, purchased stone, fill, or steel reinforcement that will become part of the project. The original supplier's invoice and proof of insurance coverage of the storage facility shall accompany requests for payment of materials on hand.

### **ADDITIONAL OR EXTRA WORK NOT IN CONTRACT**

The County may require the Contractor to furnish materials and to do additional or extra work not provided in the contract or in the specifications, but which may be found necessary to the proper protection and completion of the work included in this contract. Compensation for this additional work is to be negotiated. If a price cannot be negotiated, then the work shall be accomplished in accordance with Section 109-3 Force Account Work of the NCDOT Specifications. **No work other than that included in the Contract shall be done, and no additional labor or materials shall be furnished by the Contractor without a WRITTEN Change Order or Field Order from the County, in advance of the work.** In the absence of a Written Change Order from the County, the Contractor shall not be entitled to payment for such additional or extra work. Bills for additional or extra work shall be filed with the County within three (3) days after such additional or extra work is completed, in order that the accuracy of the additional or extra work bills may be established.

### **TAXES STATEMENT SUBMITTAL**

1. All tax statement bodies and all signatures must be original. Photocopies of blank forms may be used, provided the document containing the information is original.
2. All tax statements must be signed by the Contractor/subcontractor's company officer submitting the statement and certified by a Notary Public. All tax statements must list in detail taxes paid by individual invoice. No lump sum, running total, or copies of previously reported

statements will be accepted. Tax statements shall show North Carolina and Mecklenburg County tax paid.

3. All tax statement showing detailed amounts with “amounts previously reported” noted on the face will be accepted if they are original. This is the equivalent of a statement indicating “no taxes paid this period.” All subcontractors for whom tax statements are included must be certified as such on the face of the Contractor’s tax statement.
4. Tax statements (the State/County Sales/Use Tax Statement form) must always accompany a payment request for the related project. All final construction payment requests must have final tax statement regardless of whether any taxes have been paid during the period in question. If no taxes have been paid, the detail page should simply state “0”, “None”, or “No taxes paid this period.”

## **TAXES & LICENSES**

North Carolina sales and/or use taxes are applicable to purchases of building materials and other tangible personal property by Contractors for use in performing County contracts. Use tax is also due on construction equipment brought into North Carolina for use in the performance of County contracts (N.C. Revenue Laws, G.S. 105-164.4 and G.S. 105-164.6). Contractors are liable for payment of applicable privilege licenses (N.C. Revenue Laws, G.S. 105-54). Contractors are also liable for payment of applicable franchise, corporate income, license and withholding taxes (N.C. Revenue Laws, G.S. 105-122, G.S. 105-123, G.S. 105-134 and G.S. 105-163.2).

## **OSHA REQUIREMENTS**

The Contractor shall comply with OSHA 1926, “Subpart P - Trenching and Shoring Regulations” applicable to the work. The Contractor shall submit the name of the competent person at the pre-construction conference.

The Contractor shall provide Material Safety Data Sheets (MSDS) to the County for all required materials on this project.

## **HAZARDOUS MATERIALS**

If the Contractor encounters any materials considered or suspected of being hazardous, he shall immediately secure the area and contact the Charlotte-Mecklenburg Hazardous Materials Coordinator, Phone 704-336-2461 for further instructions.

## **MATERIALS AND EQUIPMENT STORAGE / SITE SECURITY**

The Contractor shall be responsible for locating and providing storage and mobilization areas for construction materials and equipment. The storage and mobilization areas shall comply with all local and state ordinances throughout the construction period. The Contractor shall return the storage area to its original condition upon completion of the project or upon such time as directed by the County. Such restoration shall be at no additional cost to Mecklenburg County.

The Contractor shall be responsible for the safeguarding of their site, materials, and equipment against fire, theft, dumping, trespassing, and vandalism and shall not hold the County responsible in any way for occurrences of same. The Contractor shall furnish and erect, at no additional cost, those facilities as may be necessary for the protection of the general public, including but not limited to barricades, fences, etc. The Contractor shall be responsible for determining and maintaining clear sight lines for vehicle and pedestrian traffic during construction.

Prior to final payment being made, the Contractor shall obtain a release from the property owner of the storage area utilized for the project.

## **TRAFFIC CONTROL**

The Contractor shall mark all hazards within the project limits with well-maintained signs, barricades, warning and/or channelizing devices.

## **EXISTING UTILITIES**

The Contractor shall adhere to the provisions of the 1985 Underground Damage Prevention Act North Carolina General Statutes 887 Chapter 785 Senate Bill 168 Article 3. The Contractor shall include the cost of any coordination and cooperation of utilities in his bid. No additional payment will be made for re-mobilization required by the utility's failure to relocate utility at the request of the Contractor. No additional compensation shall be allowed for preventive safety measures required by other utilities (re-routing, bridging structures, etc.)

When the Contractor's controlling operations are halted due to the failure of a utility owner to relocate or adjust a utility after being properly notified by the Contractor, the contract period will be extended by the amount of time the Contractor's controlling operations have been delayed while awaiting the relocation or adjustment.

Where changes to utility facilities are to be made solely for the convenience of the Contractor, it shall be the Contractor's responsibility to arrange the changes such that the schedule will not be affected, and the Contractor shall bear all costs of such changes.

The County will attempt to contact all involved utility owners/agencies regarding the effect of this project on their respective utilities. Construction plans and anticipated construction schedules will be provided to at least the utility owners/agencies contacted. Each utility owner/agency will be requested to attend the pre-construction conference to discuss potential conflicts and their schedule for utility relocation where required. The Contractor shall coordinate with the utility owners/agencies to make all adjustments or relocations unless otherwise indicated in the Contract Documents.

## **CARE OF WORK**

The Contractor shall furnish and erect, at no additional cost to the County, whatever sidewalks, bridges and culverts, or other works as may be necessary for the protection of the public (including but not limited to barricades, fences, gates, etc.) and for the safe and proper execution of other public utility lines so as not to interfere therewith or damage or cause damage thereto. The Contractor shall be responsible for all damages to persons or property that occur as a result of his fault, omission, or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all work performed hereunder until completion and final acceptance, whether or not the same has been covered in whole or in part by payments made by the County.

To construct the typical section, Contractor shall disturb only those areas that are integral to the construction of the typical section. Contractor shall not disturb areas that are to receive no improvements. In the event that a typical section cannot be constructed without disturbing adjoining areas, Contractor shall request permission from County prior to commencing disturbing activities.

All areas that have been disturbed by construction activities not directly associated with construction of the typical section shall be restored to their original condition or better including but not limited to grading, fertilizing, seeding, mulching, installation of trees and shrubs, etc. at no additional cost to the County.

## **PROTECTION OF ADJOINING PROPERTY**

The Contractor shall take proper means to protect the adjacent or adjoining property or properties in any way encountered, which might be injured or seriously affected by any process of construction to be undertaken under this Agreement, from any damage or injury by reason of said process of construction. The Contractor shall be liable for any and all claims for such damage on account of his failure to fully protect all adjoining property. The Contractor agrees to indemnify, save, and hold harmless the County against any claim or claims for damages due to any injury to any adjacent or adjoining property, arising or growing out of the performance of the Contract, but any such indemnity shall not apply to any claim of any kind arising out of the existence or character of the work. Existing facilities including roadways, driveways, landscaping, grass, etc., disturbed or damaged by construction, shall be restored or repaired to original or better condition at Contractor's expense.

## **CLEAN-UP AND DISPOSAL**

No less than 3 times per week, before acceptance of the project, and whenever directed by the County, the project construction area, transportation routes, and all ground occupied by the Contractor within the project limits in connection with the work, shall be cleaned of all stockpiled waste or debris or discarded materials from any contract items or other project related activities.

All parts of the work shall be left in a condition deemed acceptable to the County. No separate measurement or payment will be made for weekly clean-up and disposal.

## **MEASUREMENT & PAYMENT**

Elevations, contours, distances and quantities shown on the plans and details are approximate. Contractor shall field verify to his satisfaction that they are suitable for estimating purposes.

All completed work shall be measured "in-place" by the County unless otherwise indicated in the plans and specifications. If required, measurement surveys shall be obtained by a surveyor licensed in North Carolina and acceptable to the County. All surveys are the responsibility of the Contractor and payment for survey shall be considered incidental to other work. All completed work will be paid at the contract unit prices bid in accordance with the Project Manual.

There will be no measurement for any lump sum items.

## **SUBMITTALS**

The Contractor shall provide submittals in accordance with the Specifications provided herein, and other data as may be requested by the County.-

## **QUANTITY TICKETS**

All quantity tickets for items not measurable in place shall be submitted to the Engineer within seventy-two (72) hours after receipt of the material on the job. Each ticket shall indicate the date, Contractor, job location and name, type of material, quantity of material, truck number and signature of the Contractor or his authorized representative. No tickets will be accepted after seventy-two (72) hours have elapsed between the time of delivery and submittal of tickets to the Engineer.

## **PARTIAL ACCEPTANCE**

If at any time during the prosecution of the project the Contractor substantially completes a usable portion of the work, the occupancy of which will benefit the County, the County to may decide to make a final inspection of that unit of work. If the County finds upon inspection that the unit of work has been satisfactorily completed in compliance with the contract, the County may accept it

as being complete. Such partial acceptance and beneficial occupancy by the County shall not void or alter any provision of the contract including warranty. Until such time as the project is accepted by the County, responsibility for materials and completed work shall be the sole responsibility of the Contractor.

### **WARRANTY PERIOD**

The Contractor shall guarantee all materials and workmanship, including living systems, for a period of one (1) year from the date of acceptance by the County, and shall replace any portions that fail because of faulty materials, workmanship, storm damage, or lack of maintenance, at no additional cost to the County. A six (6) month and eleven (11) month inspection will be held during the warranty period. The Contractor shall immediately repair or replace all defective items upon notification. Items repaired under these provisions shall have the warranty period extended by twelve (12) months from the date of acceptance by the County of the repair or replacement.

Prior to County acceptance, and during the warranty periods, the Contractor is required to repair or replace any damaged or faulty items that are required to meet the Construction Plans and Specifications.

### **CLAIMS FOR ADJUSTMENTS AND DISPUTES**

If for any reason the Contractor deems that additional compensation is due him for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized as extra work, he shall notify the County in writing of his/her intention to claim such additional compensation before he begins the work on which the claim is based. If such notification is not given or the County is not afforded proper opportunity by the Contractor for keeping strict account of actual cost as required, then the Contractor hereby agrees to waive any claim for such additional compensation. Such notice by the Contractor, and the fact that the County has kept account of the cost of the work, shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the Contractor shall, within 10 calendar days, submit his/her written claim to the County for consideration in accordance with state and local laws or ordinances.

Nothing in this subsection shall be construed as a waiver of the Contractor's right to dispute final payment based on differences in measurements or computations.

### **TERMINATION BY THE COUNTY FOR CAUSE**

1. The County may terminate the Contract if the Contractor:
  - a. Persistently or repeatedly refuses to or fails to supply enough properly skilled workers or proper material;
  - b. Fails to make payment to subcontractors for materials or labor in accordance with the respective agreements between the parties.
  - c. Persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction; or
  - d. Otherwise is guilty of substantial breach of a provision of the Contract Documents
2. When any of the above reasons exist, the County, upon certification by the Engineer that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the County and after giving the Contractor and Contractor's surety, if any, seven days written notice, terminate employment of the Contractor and may, subject to any right of the surety:
  - a. Take possession of the site and all materials, equipment, tools and construction equipment and machinery thereon owned by the Contractor;
  - b. Accept assignment of subcontractor; and

- c. Finish the work by whatever reasonable method the County may deem expedient. Upon request of the Contractor, the County shall furnish the Contractor a detailed accounting of the costs incurred by the Owner to finish the work
3. When the County terminates the Contract for one of the reasons stated above, the Contractor shall not be entitled to receive further payment until the work is finished.
4. The County Engineer shall have authority to terminate the Contract without additional authorization by County Commission.
5. If the unpaid balance of the Contract Sum exceeds the costs of finishing the work, including compensation for the Engineers services and expenses made necessary thereby, and other damages incurred by the County and not expressly waived, such expenses shall be paid to the Contractor. If such cost and damages exceed unpaid balance, the Contractor shall pay the difference to the County. The amount paid to the Contractor of the County, as the case may be, shall be certified by the Engineer, upon application, and this obligation for payment shall survive the termination of the Contract.

### **WORKING HOURS**

Project will be completed during normal working hours (i.e., 7 a.m. – 5 p.m. Monday through Friday). Work outside normal working hours will need to be approved by the County.

### **PROJECT CLOSEOUT DOCUMENTS**

The Contractor shall provide the following documents with the final payment request:

1. Consent of Surety to Final Payment (Contracts equal to or exceeding \$100,000)
2. Contractor's Release and Waiver of Claim
3. N.C. and Mecklenburg Co. Sales or Use Tax Statements and Certifications
4. Itemized Statement of Payments Made to Minority and Women's Business Enterprises (Notarized)

No final payment will be authorized until these documents have been properly completed and submitted by the Contractor.

### **EXAMPLE FORMS**

Example forms for the following will be provided upon request:

1. Contractor's Application for Payment
2. Contractor's Sales Tax Report
3. Field Order
4. Work Change Directive
5. Change Order
6. Certificate of Substantial Completion

**SECTION C—SPECIAL CONDITIONS (PROJECT SPECIAL PROVISIONS)**

## SCOPE OF WORK

This work shall consist of furnishing all labor, materials, and equipment, and performing all work necessary and incidental to the demolition of existing structure along the south side of the building on the property to install a new cast-in-place reinforced concrete wall with backfill and adjacent slab on grade at the Mecklenburg County Pine Grove Facility, in accordance with these documents and on-site instructions by the County.

The following drawings are included as part of the Design Drawings included as Attachment A in Section D – Technical Specifications.

## LIST OF PLAN SHEETS

S001 General Notes

S100 Foundation Plan

S301 Typical Slab-On-Grade & Foundation Details

S302 Typical Slab-On-Grade & Foundation Details

The following technical specifications are included as Attachment B in Section D – Technical Specifications.

## LIST OF TECHNICAL SPECIFICATIONS

033000 Cast-In-Place Concrete

055213 Pipe and Tube Railings

312000 Earth Moving

## LOCATION OF THE PROJECT

The project site is 3901 Pine Grove Circle, Charlotte, NC 28206.

## CONTRACT PERIOD AND LIQUIDATED DAMAGES

The contract period will begin upon Notice to Proceed (NTP) and extend for 80 days. Contract period may be extended to allow procurement of long-lead items. Liquidated damages will be assessed at the rate of **\$1,000** per calendar day for failure to complete the project within the contract period.

## CONTINGENCY ALLOWANCE

Included as a line item in the bid form is a **contingency allowance** to be added to the subtotal. This allowance shall be used only upon issuance of a written change order. Any unused portion of the allowance remaining at the completion of the contract will revert back to the County as a credit. The County reserves the right to delete or alter the contingency allowance from the contract prior to award.

## CONSTRUCTION SEQUENCE

Project construction shall follow the sequence listed on the plans. Under no circumstances shall the Contractor exceed the clearing/work zone limits as shown on the plans.

## PERMITS

It shall be the Contractor's responsibility to obtain all necessary permits to complete the work.

## PRE-CONSTRUCTION PHOTOGRAPHS AND VIDEOS

Prior to the commencement of construction, Contractor is encouraged to take color photographs and video of the project area, as necessary.

## **ACCESS TO THE WORK**

The Contractor shall not access the work for this project except by approved means.

No separate payment will be made to the Contractor for construction of temporary roads or structures for use in his construction operations, or for improving, repairing or maintaining any existing road thereon that may be used by the Contractor in the performance of this contract.

No payment will be made to the Contractor for repair of any facilities, public or private, damaged by the operations of the Contractor in the performance of this contract. Damaged facilities shall be repaired promptly and as soon as practicable. There will be no separate measurement or payment for this work.

**SECTION D-TECHNICAL SPECIFICATIONS**

## **TSP-1 SPECIAL CONDITIONS**

### **1.01 Unit Prices and Bid Items**

For Unit price bid items, overruns and under runs will be adjusted per Section B and C. For lump sum bid items, a change order is applicable only to the modifications in scope of the work and should not be adjusted based on quantity take-off.

### **1.02 Sources of Standards**

See the Design Drawings specific to this project. Design Drawings are attached to this section as Attachment A.

### **1.03 Quantity Estimates**

The Contractor shall verify the estimated quantity and shall bid accordingly. Quantities are provided as an estimate for bidding purposes only and are in no way guaranteed. It is the responsibility of each individual Contractor to complete his/her own take-offs to estimate quantities for this project.

### **1.06 Project and Progress Schedules and Reports**

The Contractor shall be required to furnish an anticipated schedule of work at the time of the pre-construction meeting. The schedule should be based on the priorities established by the County. No progress payments, including mobilization, shall be made to the Contractor until the schedule is reviewed and approved by the County. Updated project schedules shall be provided weekly at each progress meeting indicating work completed to date plotted against the original schedule. Progress payments shall not be made unless an updated schedule has been reviewed and approved the month that the progress payment is submitted.

The County may require the Contractor, at the Contractor expense, to add to his construction forces, equipment, as well as increase in working hours/days, if construction falls behind schedule.

### **1.07 Interpretation of Contract Documents**

When discrepancies or conflicts occur in interpreting the Contract Documents, the discrepancy or conflict shall be resolved giving priority to individual contract documents. The Special Conditions shall govern over all documents followed by the Plans.

### **1.09 Project Access and Work Areas**

The Contractor is hereby reminded that the work to be performed is confined to the limits of disturbance inside the permanent and temporary easements shown on the plans.



**SECTION E-MWSBE PROVISION**

**SECTION F-ITEMIZED PROPOSAL AND EXECUTION OF BID**

FORM OF PROPOSAL

Mecklenburg County Pine Grove Circle  
 Facility Retaining Wall

Bidder: \_\_\_\_\_

Mecklenburg County, North Carolina

Date: \_\_\_\_\_

The undersigned, as bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The bidder further declares that he has examined the site of the work and the contract documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed.

The Bidder proposes and agrees if this proposal is accepted to contract with Mecklenburg County in the form of contract specified below, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of:

Mecklenburg County Pine Grove Circle Facility Retaining Wall

in full in complete accordance with the plans, specifications and contract documents, to the full and entire satisfaction of Mecklenburg County and consultant with a definite understanding that no money will be allowed for extra work except as set forth in the Contract Documents.

Time of Completion and Liquidated Damages:

Bidder hereby acknowledges that the project is to be fully complete within 80 consecutive calendar days after the Notice to Proceed. Bidder also acknowledges that a payment of **\$1,000** for liquidated damages could be levied for each consecutive day beyond the date of completion

ITEM	DESCRIPTION	UNIT PRICE	SUBTOTAL	10% CONTINGENCY	EXTENDED TOTAL
BASE BID	Retaining Wall Construction	LS			

Insert BID BOND here

Insert certified copy of POWER OF ATTORNEY here

Insert INSURANCE CERTIFICATE here

Proposal Signature Page

The undersigned further agrees that in the case of failure on his part to execute the said contract and the bonds within ten (10) days after being given written notice of the award of contract, the certified check, cash or bid bond accompanying this bid shall be paid into the funds of the owner's account set aside for the project, as liquidated damages for such failure; otherwise the certified check, cash or bid bond accompanying this proposal shall be returned to the undersigned.

Respectfully submitted this day of \_\_\_\_\_

(Name of firm or corporation making bid)

WITNESS:

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
(Proprietorship or Partnership) \_

Name: \_\_\_\_\_  
Print or type

Title: \_\_\_\_\_  
(Owner/Partner/Pres./V.Pres)

Address: \_\_\_\_\_

ATTEST:

\_\_\_\_\_

By: \_\_\_\_\_

License No. \_\_\_\_\_

Title: \_\_\_\_\_  
(Corp. Sec. or Asst. Sec. only)

Federal I.D. No. \_\_\_\_\_

(CORPORATE SEAL)

Addendum received and used in computing bid:

Addendum No. 1 \_\_\_\_\_ Addendum No. 3 \_\_\_\_\_ Addendum No. 5 \_\_\_\_\_ Addendum No. 7 \_\_\_\_\_

Addendum No. 2 \_\_\_\_\_ Addendum No. 4 \_\_\_\_\_ Addendum No. 6 \_\_\_\_\_ Addendum No. 8 \_\_\_\_\_

# SECTION G-CERTIFICATE OF COMPLIANCE WITH ADA





**SECTION I-CONTRACTOR E-VERIFY DECLARATION**

**CONTRACTOR E-VERIFY DECLARATION**

STATE OF \_\_\_\_\_ COUNTY OF \_\_\_\_\_

I, \_\_\_\_\_ (the individual attesting below), being duly authorized by and on behalf of \_\_\_\_\_ (the entity contracting with the County, hereinafter "USER") AFFIRM AND DECLARE as follows:

1. USER understands that E-Verify is a federal program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Pursuant to NCGS §143-133.3 and NCGS § 64-26(a), any "employer" that transacts business in this State and employs 25 or more employees in this State entering into a contract with the County is required to verify the work eligibility status of all newly hired employees through the E-verify program.
3. USER is a person, business entity, or other USER that transacts business in this State and employs 25 or more employees in this State. (check Yes or No)  
a. YES \_\_\_\_\_ b. NO \_\_\_\_\_
4. For USERS who employ 25 or more employees in the State and are therefore subject E-Verify, the undersigned verifies the USER's/Employer's compliance with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.
5. USER's subcontractors performing work under this Agreement that employ 25 or more employees in this State must also comply with E-Verify, and USER agrees that it will ensure compliance with E-Verify by any of its subcontractors used by USER on this agreement that employ 25 or more employees in this State.
6. I hereby declare under penalty of perjury that the foregoing is true and correct.

This \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Signature of Declarant: \_\_\_\_\_

Print or Type Name: \_\_\_\_\_

**SECTION J-FORM OF CONSTRUCTION CONTRACT**

STATE OF NORTH CAROLINA     )  
CONSTRUCTION CONTRACT     )  
COUNTY OF MECKLENBURG     )

THIS CONSTRUCTION CONTRACT, hereinafter sometimes "Contract" made this, \_\_\_\_<sup>th</sup> day of \_\_\_\_\_, 2025, by and between **Mecklenburg County**, a political subdivision of the State of North Carolina and herein after called "Owner" and \_\_\_\_\_, with offices at \_\_\_\_\_, hereinafter called "Contractor".

**W I T N E S E T H:**

This Contract represents the entire and integrated Contract between the parties hereto and supersedes all prior negotiations, whether written or oral. That for and in consideration of the covenants set forth herein, the parties hereto mutually promise and agree as follows:

1. **STATEMENT OF WORK:** The Contractor shall furnish all supervision, labor, materials, tools, equipment, and perform and complete all work in an efficient and workmanlike manner, and in accordance with the \_\_\_\_\_, dated \_\_\_\_\_, as prepared by Mecklenburg County Solid Waste (hereinafter called the "Owner"), including all addenda (hereinafter called the "Project Manual") and plans dated \_\_\_\_\_, and per the acceptance of the proposal from the Contractor dated \_\_\_\_\_ for the \_\_\_\_\_.

Total Base Bid	
10% Base Bid Contingency Allowance	
Total Contract Amount	

TOTAL CONTRACT AMOUNT:

2. **CONTRACT TIME:** The Contract Time as defined shall begin on the date specified on a written "Notice to Proceed" from Mecklenburg County. This date is to be no more than approximately one-hundred and twenty (\_\_\_\_) days after the acceptance of the Proposal of the Contractor by the Owner. The work is to be diligently performed to completion within \_\_\_\_ calendar days after the date to start work as indicated in the "Notice to Proceed". It is further agreed that the Owner shall have the right at its discretion to extend the time for completion of the Work.

Contractor agrees that the Work shall be prosecuted regularly, diligently and uninterruptedly and at such rate of progress as will insure full completion thereof within the Contract Time stated above. It is expressly understood and agreed, by and between Contractor and Owner that the Contract Time is reasonable for the completion of the Work, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

3. **CONTRACT MODIFICATION:** The County may require the Contractor to furnish materials and to do additional or extra work not provided in the contract or in the specifications, but which may be found necessary to the proper protection and completion of the work included in this contract. Compensation for this additional work is to be negotiated. If a price cannot be negotiated, then the work shall be accomplished in accordance with Section 109-3 Force Account Work of the NCDOT Specifications. **No work other than that included in the Contract shall be done, and no additional labor or materials shall be furnished by the Contractor without a WRITTEN Change Order or Field Order from the County, in advance of the work.** In the absence of a Written Change Order from the County, the Contractor shall not be entitled to

payment for such additional or extra work. Bills for additional or extra work shall be filed with the County within three (3) days after such additional or extra work is completed, in order that the accuracy of the additional or extra work bills may be established.

4. **LIQUIDATED DAMAGES:** The Contractor hereby further agrees that the Owner shall be and is hereby authorized to deduct and retain out of the monies which may be due or become due to the Contractor under this Contract, as damages for the non-completion of the Work within the Contract Time herein stipulated for completion in accordance with the provisions of this Contract. Liquidated Damages shall be fixed or allowed for such performance and completion in the amount of **One-Thousand (\$1,000.00)** dollars per day for each calendar day of delay until the Work has reached final completion. Liquidated Damages is an estimate of expenses the Owner will suffer by reason of such default and is not by way of a penalty.
5. **CONTRACT PAYMENTS:** The County will make regular, periodic payments for work completed in accordance with the contract bid items based on work progress estimates prepared by the Contractor and submitted for approval by the County. Payment requests and supporting documentation must be submitted on standard forms approved by the County. Payment will be made within thirty (30) calendar days after receipt of an approved payment request. Along with monthly payment estimates, the Contractor shall submit a certification that all work performed to date complies with the plans and specifications.

For contracts less than \$50,000, partial payments may be made twice each month if in the judgment of the County the amount of work performed is sufficient to warrant such payment. No partial payment will be made when the total value of the work performed since the last partial payment, excluding mobilization, amounts to less than \$1,000.00.

Retainage on periodic payments will be an amount equal to five percent (5%) of the total amount due on payment requests, deducted and retained until fifty percent (50%) of the work has been completed, in accordance with N.C. General Statute 143-134.1.

6. **ASSURANCE:** Contractor is familiarized with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and Federal, State and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

Contractor has made or caused to be made examinations, investigations and tests and studies of such reports and related data as Contractor deems necessary for the performance of the Work at the Contract Price within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by Contractor for such purposes.

Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

Contractor has given Owner written notice of any conflict, error or discrepancy that Contractor has discovered in the Contract Documents and the written resolution thereof by Owner is acceptable to Contractor.

Contractor agrees that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

7. **SAFETY:** The Contractor is solely and exclusively responsible for initiating, maintaining, monitoring and supervising all safety programs, safety precautions and procedures, safety equipment and required safety reporting procedures in connection with the Work and in accordance with County requirements and state and Federal statutes. The Contractor shall take all necessary or required measures to prevent damage, injury and loss to all employees present at the site, the employees of subcontractors and all other parties having access to the project site including visitors and the general public. Before beginning work, the Contractor shall provide a written copy of its Safety Program to the Owner for informational purposes and for verification that a safety program is available.

The Project is considered a “Hard Hat”, “Protective Eyewear” and “Appropriate Clothing” construction project. All workmen, delivery truck drivers and visitors to the Project are required to procure and wear approved safety headgear and eye protection regardless of whether “overhead hazard” or “flying debris” work is being performed and regardless of whether the workman is operating a piece of equipment from an enclosed station. All workmen and visitors are required to wear appropriate clothing including trousers, long/short sleeved shirts and leather footwear. No sleeveless shirts or canvas or “athletic-style” shoes will be permitted. The Contractor shall furnish, install, maintain and remove signs at the Project entrance stating that appropriate clothing, hard hats and protective eyewear must be worn at all times.

Notwithstanding anything contained within these General Conditions to the contrary and to the fullest extent permitted by law, the Contractor shall indemnify, protect and hold harmless the Owner, and Engineer, from and against all losses, claims, liens, causes of action at law or at equity and expenses, including without limit, attorney’s fees arising or allegedly arising from such operations, activities, mistakes, negligence or omission of the Contractor, its employees, agents, representatives, subcontractors, materialmen, or suppliers incidental to, or related to the Contract. It is expressly understood that the Owner and Engineer will not, in any way, be responsible for any losses or damages incurred, or allegedly incurred, by the Contractor, its employees, agents, representatives, subcontractors, materialmen or suppliers.

8. **CHANGES IN WORK; CLAIMS:** No claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph.

**Notice: Written notice stating the general nature of each claim shall be delivered by the claimant to the other party to the Contract promptly, but in no event later than thirty (30) days after the start of the event giving rise to the claim.**

The responsibility to substantiate a claim shall rest with the party making the claim. The amount or extent of the claim, with supporting data, shall be delivered to the other party to the Contract within fifteen (15) days after the initial Notice of the Claim. Each claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to the claimant within thirty (30) days after receipt of the claimant's last submittal.

The parties agree to make a good faith effort to resolve the claim or dispute prior to the time it must be submitted to the Consultant or to mediation as set forth in Paragraph 9 below.

9. **DISPUTE RESOLUTION:** Claims and Disputes arising under this Contract shall be subject to one (1) of the following dispute resolution processes:

**A. Claims and Disputes Not Subject to Mediation**

The following claims and disputes, if validly submitted as provided in Paragraph 8, are not subject to mediation, and are to be decided by the Owner without mediation:

- A. A claim or dispute seeking a non-monetary recovery; and
- B. A claim or dispute seeking a monetary recovery of fifteen-thousand dollars (\$15,000) or less; and
- C. A claim or dispute seeking the extension of any time limit shall be subject to mediation pursuant to the Contract Mediation Provisions only if the damages which would be suffered by the Party seeking the extension would exceed fifteen-thousand dollars (\$15,000). To the extent that liquidated damages are set forth in the Contract Documents and is the measurement of damages for failure by such Party(s) to meet the time limit, the liquidated damages shall be the exclusive standard for determining the amount of damages associated with such dispute.

CLAIMS NOT SUBJECT TO MEDIATION MUST BE SUBMITTED TO THE OWNER FOR DECISION WITHIN SIXTY (60) DAYS AFTER THE START OF THE EVENT GIVING RISE TO THE CLAIM OR DISPUTE.

**B. Claims and Disputes Subject to Mediation**

Any other claim or dispute arising between or among the Parties listed herein that arises from the Project, including without limitation a breach of such Contract, shall be subject to non-binding mediation administered by the American Arbitration Association under its Construction Industry Mediation Rules, or to such other mediation process to which the parties may agree, except as otherwise expressly set forth in these Contract Mediation Provisions. To the extent any provision of the Construction Industry Mediation Rules is inconsistent with the provisions of these Contract Mediation Provisions, the provisions of the Contract Mediation Provisions shall control.

The Owner and any Party contracting with the Owner or with any first-tier or lower-tier subcontractor for the Project hereby agree to participate in good faith in any mediation of a claim or dispute subject to these Contract Mediation Provisions, including without limitation the following Parties: Consultant(s), architect(s), engineer(s), surveyor(s), prime contractor(s), surety(ies), subcontractor(s), and supplier(s).

The Contractor, and all other Parties, shall include these Contract Mediation Provisions in every agreement to which they are a Party for the Project, without variation or exception. Failure to do so will constitute a breach of the Construction Contract, and the Contractor or other Party failing to include these Contract Mediation Provisions in any agreement shall indemnify and hold harmless the remaining Parties from and against any and all claims, including without limitation reasonable attorney fees and other costs of litigation arising in any manner from such breach.

For purposes of these Contract Mediation Provisions, a claim or dispute is limited to the recovery of monetary damages from the same transaction or occurrence against a single Party or two (2) or more Parties alleged to be jointly liable. Two (2) or more claims or disputes may not be consolidated without the consent of all Parties to such disputes.

A request for mediation shall include the amount of the monetary relief requested.

**A request for mediation must be made within ninety (90) days after giving notice of the claim or dispute as required by Paragraph 8 above.**

Prior to requesting mediation, a Party must believe that it is entitled under applicable law to recover the monetary amount to be included in the request from one (1) or more of the remaining Parties. Such belief must be based on a reasonable and prudent investigation into the claim or dispute. The request for mediation must be based on such investigation and may not include any amount or the name of any remaining Party(s), unless supported by such investigation by the Party requesting the mediation.

If a Party does not perform a reasonable and prudent investigation, it shall indemnify and hold harmless all other Parties from any costs, including reasonable attorney fees and other costs of mediation, litigation, and damages incurred by such other Parties.

All expenses incurred by a Party in preparing and presenting any claim or defense, shall be paid by the Party preparing for mediation. Such expenses shall include, without limitation, any associated cost for witnesses, exhibits, and attorney fees. All other expenses, including filing fees and required traveling expenses by the mediator, and other expenses of the mediator, shall be borne as follows: 1) One-half (1/2) by the Party requesting the mediation, with the remaining parties paying equal shares of the remaining expenses and costs. 2) If the Owner is named as a party to the mediation, the Owner shall pay at least one-third (1/3) of the mediation expenses and two-third (2/3) of the expenses shall be divided among the remaining Parties. 3) If more than one

(1) Party to dispute requests mediation, the mediation expenses and costs to be divided among the Parties shall be borne equally by the Parties to the dispute; however, if the Owner is named as one

(1) of the parties to the mediation, the Owner shall pay at least one-third (1/3) of the mediation expenses.

The mediation shall be held at a location agreeable to the mediator and all of the Parties. If no agreement can be reached, the mediation will be held at a location in Mecklenburg County as the mediator shall determine.

The provision of these Contract Mediation Provisions is subject to any other provisions of the Construction Contract concerning the submission, documentation and/or proof of any claim(s) or dispute(s).

10. **DOCUMENTS INCORPORATED BY REFERENCE:** It is agreed and understood that the Bid Package, including without limitation, any Addendum to the Bid Package, the Notice to Bidders, Instructions to Bidders, the General Conditions, the MWSBE Provisions, Supplementary Conditions, all information in the Project Manual including the Technical Specifications, the Contractor's Itemized Proposal, and all other specifications and drawings referenced therein (herein "Contract Documents") are part of this Contract and are incorporated herein in full.

11. **MISCELLANEOUS PROVISIONS:** The Contractor hereby agrees that the Contractor has read each and every clause of this Contract, including all Contract Documents, and fully understands the meaning of the same, and that the Contractor will comply with all its terms. This Contract is to be executed with one (1) copy to be delivered to the Contractor and one (1) to be retained by the Owner. The Contract shall contain an original Performance and Payment Bond and a copy of the Certificate of Insurance.

**The Performance and Payment Bond shall be addressed to:**

Mecklenburg County  
600 East Fourth Street Charlotte, NC 28202  
Attn: County Manager's Office Mr. Tyrone C. Wade

**The Certificate of Liability Insurance shall be addressed to:**

Mecklenburg County  
Land Use and Environmental Services Agency  
2145 Suttle Avenue  
Charlotte, NC 28208

12. **GOVERNING LAW AND JURISDICTION:** The parties acknowledge that the Contract is made and entered into in Charlotte, North Carolina, and will be performed in Charlotte and Mecklenburg County, North Carolina. The parties further acknowledge and agree that North Carolina law shall govern all the rights, obligations, duties and liabilities of the parties under the Contract, and that North Carolina law shall govern in the interpretation and enforcement of the Contract and any other matters relating to the Contract (all without regard to North Carolina conflicts of law principles).

The parties further agree that any and all legal actions of proceedings relating to the Contract shall be brought in a State or federal court sitting in Mecklenburg County, North Carolina. By execution of the Contract, the parties submit to the jurisdiction of said courts and hereby irrevocably waive any and all objections, which they may have with respect to venue in any court sitting in Mecklenburg County, North Carolina.

13. **INDEMNIFICATION:** To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless each of the "Indemnitees" (as defined below) from and against any and all "charges" (as defined below) paid or incurred by any of them as a result of any claims, demands, lawsuits, actions or proceedings either: (i) alleging violation, misappropriation, or infringement of any copyright, trademark, patent, trade secret or other proprietary rights with respect to the Work, or any products or deliverables provided to the County pursuant to this Contract ("infringement claims"); (ii) seeking payment for labor or materials purchased or supplied by the Contractor or its subcontractors in connection with this Contract; or (iii) arising from the Contractor's failure to perform its obligations under this Contract, or from any act of negligence or willful misconduct by the Contractor or any of its agents, employees or subcontractors relating to this Contract, including but not limited to any liability caused by an accident or other occurrence resulting in bodily injury, death, sickness, or disease to any person(s) or damage or destruction to any property, real or personal, tangible or intangible; or (iv) arising from a violation of any federal, state or local law, regulation or ordinance by the Contractor or any of its subcontractors, including without limitation, E-Verify (Article 2 of Chapter 64 of the North Carolina General Statutes) or other immigration laws; (v) arising from any claim that the Contractor or an employee or subcontractor of the Contractor is an employee of, including but not limited to claims relating to Workers' Compensation, failure to withhold taxes and the like. For purposes of this section : (a) the term "Indemnitees" means the County and each of the County's officers, officials, employees, agents and independent contractors, excluding the Contractor; and (b) the term "charges" means

any and all losses, damages, costs, expenses (including reasonable attorneys' fees), obligations, duties, fines, penalties, royalties, interest charges and other liabilities including settlement amounts.

14. **COMPLIANCE PROVISION:** The Contractor agrees to make itself aware of and comply with, and cause its subcontractors to comply with, all federal, state, and local laws, regulations and ordinances relating to the performance of this Contract, or to the products and services delivered hereunder, including without limitation, **E-Verify (Article 2 of Chapter 64 of the North Carolina General Statutes)**, Workers' Compensation, the Fair Labor Standards Act (FLSA), the Americans with Disabilities Act (ADA), the Family and Medical Leave Act (FMLA) and Occupational Safety And Health Administration (OSHA). The Contractor further agrees to obtain all verifications, permits and licenses applicable to the performance of this Contract. If any violation of this section has occurred or does occur, the Contractor will indemnify and save harmless the County from all losses, damages, costs, expenses (including reasonable attorneys' fees), obligations, duties, fines, penalties, interest charges and other liabilities (including settlement amounts) incurred on account of such violation.
15. **IRAN DIVESTMENT ACT CERTIFICATION:** Pursuant to N.C.G.S. § 147-86.59, Contractor certifies that as of the date of this Agreement or purchase order, Contractor is not listed on the Final Divestment List as created by the State Treasurer, and is in compliance with the Iran Divestment Act as set forth in N.C.G.S. § 147-86.55-86.63. Further, the Contractor shall not utilize in the performance of the contract any subcontractor that is identified on the Final Divestment List. The Divestment List may be found on the State Treasurer's website at [www.nctreasurer.com/Iran](http://www.nctreasurer.com/Iran).
16. **ADDITIONAL TERMS:** Terms used in this Contract which are defined in Article 1 of the Standard General Conditions of the Construction Contract shall have the meanings assigned in the Standard General Conditions of the Construction Contract.

Neither Owner nor Contractor shall, without the prior written consent of the other, assign or sublet in whole or in part his/her interest under any of the Contract Documents; and, specifically but without limitation, Contractor shall not assign any monies due or to become due without the prior written consent of Owner. In case Contractor assigns all or any part of any monies due or to become due under this Contract, the instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to Contractor shall be subject to prior claims of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for in this Contract.

Owner and Contractor each binds themselves, their partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

The Contract Documents constitute the entire agreement between Owner and Contractor and may only be altered, amended or repealed by a Modification signed by both Owner and Contractor.

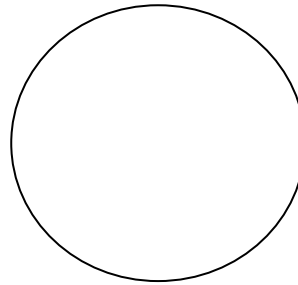
In WITNESS WHEREOF, the parties have duly executed this Contract as of the date first above written.

**CONTRACTOR:**

**ATTEST:**

\_\_\_\_\_  
**Contractor Signature**

\_\_\_\_\_  
**(N/A for Sole Proprietor)**



Corporate Seal

**MECKLENBURG COUNTY AUTHORIZED OFFICER SIGNATURES FOLLOW ON NEXT PAGE**



# Mecklenburg County

## Signature Page

**Contract Number: To be completed by County Finance Department**  
**Amendment Number: To be completed by County Finance Department**  
**Contractor Name: To be completed by County Finance Department**

**MECKLENBURG COUNTY:**

**ATTEST:**

Assistant County Manager

Clerk to the Board of County Commissioners

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

**APPROVED AS TO FORM:**

Finance Director

County Attorney

**APPROVED AS TO INSURANCE REQUIREMENTS:**

Charlotte-Mecklenburg Division  
of Insurance Risk Management



**MECKLENBURG COUNTY  
BUSINESS DIVERSITY & INCLUSION (BDI)  
PROGRAM PROVISIONS GUIDE**

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM OVERVIEW**

Mecklenburg County has made great strides to ensure business is conducted fairly and with diverse populations in our community. Mecklenburg County's Office of Economic Development engaged Griffin & Strong, P.C. (GSPC) to conduct a disparity study on the availability and utilization of minority and women-owned business enterprises by the County and to examine the relevant evidence of race – or gender – based discrimination in the County's contracting process.

The [2020 Mecklenburg County Disparity Study](#) revealed areas for improvement, for which GSPC made recommendations to assist the County in remediating the disparities to ensure that all qualified firms within the relevant market are given equal opportunity to succeed in doing business with the County. The full report and recommendation list can be found on the Mecklenburg County website.

Because the implementation of the Disparity Study recommendations will impact internal and external stakeholders, the County has decided on a phased transitional approach to implement the objectives.

Mecklenburg County Government will provide Minority-owned, Women-owned, and Small Business Enterprises (collectively "MWSBE") as well as other responsible vendors with fair and reasonable opportunity to participate in conducting business with Mecklenburg County.

**The BDI Program Provisions Guide requires Contractors and Subcontractors to take all reasonably necessary steps to ensure maximum inclusion opportunity for the participation of Minority Business Enterprises and Women Business Enterprises certified through NC Historically Underutilized Businesses (NCHUB), herein referred to as MBE, WBE or MWBE firms in its contracting activities with Mecklenburg County.** Businesses that are not certified MBE or WBE as previously mentioned, will be herein referred to as non-certified. It is further the intent of the Program to broaden opportunities for the participation, increase competition, and to ensure the proper and diligent use of public funds. The BDI Program Provisions Guide includes Contract-by-Contract and Achievement goals for MWBE utilization in proportion to the availability of qualified vendors in particular areas of procurement.

**1. Program Statement.**

It is the practice of the Mecklenburg County's Business Diversity and Inclusion Program (the "BDI Program"), in conjunction with the County Procurement Division, to foster greater competition, increase opportunities for participation by all segments of the business community, and maximize value for the taxpayers' dollars through efficient use of public funds. The BDI Program accordingly is intended to promote full and equal business opportunities for all businesses contracting with Mecklenburg County by increasing the opportunity for purchase of goods and services from minority-owned and women-owned enterprises.

Consistent with the Mecklenburg County Solicitation Terms & Conditions, which encourage Bidders and Contractors to take all reasonably necessary and responsible steps to ensure that minority, women, and small business enterprises have the maximum opportunity to participate in County contracts, it is the practice of the BDI Program to encourage Contractors to actively seek MWBE participation to the greatest

extent possible, and to monitor compliance.

**2. Promotion of Equal Opportunity.**

The BDI Program seeks to ensure that firms desiring to participate in contracting and procurement activities with the County are not prevented from doing so based on the race, color, national origin, or gender of their owners. It is the intent of the BDI program that no firm, business enterprise, or person shall be denied the benefit of, or otherwise be discriminated against, on the grounds of race, color, national origin, or gender in connection with the award or performance of any contract paid for, in whole or in part, with funding from Mecklenburg County.

**3. Program Objectives.**

The objectives of the Mecklenburg County BDI Program are to promote and encourage full and open competition in all County contracting and purchasing; to encourage all County personnel involved in procurement and contracting activities to utilize appropriate procedures to identify and remedy any participation by the County in unintended unlawful discrimination (active or passive).

Mecklenburg County engaged a consultant, Griffin & Strong P.C. (“GSPC” or the “consultant”), to conduct a Disparity Study assessing County purchasing, contracting and the MWSBE Program. The consultant produced its Study Report to the County in 2020, and the BDI Program has the objective of implementing recommendations included in the Study. For example, the consultant found that there is a factual predicate for the continuation of the MWSBE (now BDI) Program. Moreover, the results of the study confirmed that the race and gender-neutral policies and program elements thus far employed by the County have proven insufficient to remedy the present effects of past discrimination in purchasing/contracting in the relevant market. The consultant therefore recommended implementation of certain race conscious and gender conscious elements as part of the Program.

**4. Commitment to Program Objectives.**

In the 2020 Disparity Study, GSPC recommended that Mecklenburg County increase staffing to facilitate recommendations relating to supportive services, monitoring and compliance, forecasting, and goal setting. The County is committed to achieving the BDI Program objectives and, accordingly, to providing the necessary budgetary, staffing, and support resources necessary for the success of the BDI Program.

For assistance, contact the Office of Economic Development’s BDI Team.

Mecklenburg County - Office of Economic Development  
**Business Diversity & Inclusion (BDI) Program**  
Charlotte-Mecklenburg Government Center  
600 East 4th Street Charlotte, North Carolina 28202

Phone: 980.314.2945  
Email: [BDI@mecknc.gov](mailto:BDI@mecknc.gov)  
Website: [oed.mecknc.gov/BDI](http://oed.mecknc.gov/BDI)

**BDI SOLICITATION COVERSHEET**

The County maintains a strong commitment to the inclusion of MWBEs in the County’s contracting and procurement process. Accordingly, BDI provides information and forms that Bidders will supply to be considered for the Program.

Bidders are expected to review the entire BDI Program Provisions Guide and this BDI Solicitation Coversheet as they are planning to submit the BDI form(s) with their Bid/Proposal. The Bid/Proposal should outline any supplies and/or services to be provided by Subcontractors, including each certified Minority Business Enterprise (MBE) and Women Business Enterprise (WBE) for the Contract. Submittals (forms) and time frames can be referenced in Section-4.

**PROJECT NAME:** Pine Grove Circle Facility Retaining Wall

**INDUSTRY CATEGORY**

Architect & Engineering  Construction  Professional Services  Other Services  Goods

Review the established participation goal type selected with the  below for this specific solicitation.

**PARTICIPATION GOAL TYPES**

**B. ACHIEVEMENT GOALS**

THE ESTABLISHED PARTICIPATION GOALS FOR THIS PROJECT ARE:

**8% MBE**

**8% WBE**

*\*Note: the goals must be achieved independently and not in combination*

Required Bid forms associated with this participation goal type are:

- [Form B] Identification of Subcontractor Participation
- [Form C] Statement of Intent to Perform Contract with Own Workforce
- [Form D] MWBE Inclusion Plan
- Joint Ventures Documentation (include when  is selected)

## TABLE OF CONTENTS

BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM OVERVIEW.....2

BDI SOLICITATION COVERSHEET .....4

SECTION-1 | FORMAL AND INFORMAL PURCHASING.....6

SECTION-2 | PARTICIPATION GOALS .....6

SECTION-3 | THE BIDDING PROCESS AND RESPONSIBILITIES..... 10

SECTION-4 | SUBMITTALS AND TIME FRAME..... 15

SECTION-5 | GOOD FAITH EFFORTS (GFE) POINTS SYSTEM..... 16

SECTION-6 | REQUIRED FORMS .....21

    Form A – Listing of Good Faith Efforts (GFE) .....22

    Form B – Identification of Subcontractor Participation .....24

    Form B1 – Identification of Subcontractor Participation - ALTERNATES .....26

    Form C – Statement of Intent to Perform Contract with OWN Workforce .....28

    Form D – MWBE Inclusion Plan.....29

    Form E – Subcontractor Commitment.....30

    Form E1 – Tier 2 Subcontractor Commitment (Special Projects Only).....31

    Form F – Certificate of MWBE Unavailability .....32

    Form G – Prime Contractor / Project Identification Form .....33

    Form H – Statement of Payments to Subcontractors (Suppliers/Subconsultants)..... 34

SECTION-7 | PROMPT PAYMENT .....36

SECTION-8 | ADDITIONAL RACE AND GENDER-NEUTRAL PROGRAM ELEMENTS .....36

SECTION-9 | PROGRAM COMPLIANCE & GRIEVANCE PROCEDURES.....37

SECTION-10 | APPENDIX.....40

    1. Definitions.....40

    2. Websites.....45

SECTION-1 | FORMAL AND INFORMAL PURCHASING

The BDI Program Team applies the [general purchasing procurement policies and procedures](#) as required by law and enacted by Mecklenburg County, including all applicable purchasing thresholds and approval requirements, as if fully set forth herein.<sup>1</sup> Mecklenburg County’s Procurement Policies are incorporated in this document by reference, and can be found on the Mecklenburg County website noted in Section-10(2).

SECTION-2 | PARTICIPATION GOALS

1. Achievement Goals

Achievement Goals may be included only in those County solicitations that **do not contain contract-by-contract goal-setting** for specific MWBE goals, and when included, shall be advisory, and must also be accompanied by the full definition of the term in such solicitations as stated in this Program Provisions Guide.

Achievement Goals for MWBE participation in County contracts in the categories of Construction (including Construction-related Professional Services), Architecture and Engineering, non-construction Professional Services, Other Services, and Goods are established as follows and are based upon the MBE and WBE Availability by industry / commodity in accordance with the findings of the 2020 Disparity Study.

Industry Category	MBE Goal	WBE Goal
Construction	8%	8%
Architecture & Engineering	14%	4%
Professional Services	10%	4%
Other Services	11%	4%
Goods	5%	4%

*\*Note: the goals must be achieved independently and not in combination*

2. MWBE Inclusion Plan

*(submitted with Bid/Proposal, when selected in the BDI Solicitation Coversheet)*

**Purpose:**

Create defined metrics of success, by creating a MWBE Inclusion Plan

**MWBE Inclusion Plan:**

Create a detailed description of the strategies and actions the Bidder/Participant will take to outreach fairly and equitably, to support, and to contract with MWBEs.

The following are elements to incorporate into the MWBE Inclusion Plan to help collaborate with MWBEs by addressing any of the following, but not limited to:

- the firms you contacted, when, and how you made contact, and their contact information;
- the outreach strategy used to meet this Contract’s MWBE achievement goals;
- the specific resources and resource contacts utilized to locate MWBE firms for this Contract, when, and how you made contact, and their contact information;

<sup>1</sup> See Mecklenburg County, North Carolina Procurement Policy, ¶¶ 7-8, 10-11.

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

- the plan for building a connection with MWBEs and developing a project team;
- the plan to strengthen business relationships;
- the methods that will be used to improve lines of communication;
- the approach(es) that will be taken to resolve disputes;
- detailed description of the supportive services and activities that will be established for business development and how the plan will be executed;
- the mentorship opportunities that will be made available and how those opportunities will be executed; and
- the efforts that will be made available for capacity building and how those efforts will be executed.

### Resources:

To assist in locating MWBEs, the Bidder/Participant may utilize an MWBE Diversity consultant and/or contact Certification Agencies, Advocacy Groups, Business Resource Agencies, Regional and Diversity Chamber of Commerce Organizations, Industry/Trade Associations, Mecklenburg County's Procurement Department, and the BDI Program Office, etc.

Some Resources: Metrolina Minority Contractors Association, Hispanic Contractors Association of the Carolinas, The Institute, and the HUB Office or hire a diversity consultant.

### 3. Goal-Setting Committee

The Goal-Setting Committee (GSC) is to be chaired by the BDI Director (or designee) with consultation from the County Attorney's Office when applicable. The GSC shall also include, at a minimum, the BDI Compliance Officer assigned to the solicitation (or designee), the Procurement Director (or designee), the Director of the Originating Department(s) (or designee) including the respective BDI liaison, a member from the Mecklenburg County business community, and, if the goal is for a Construction or Architecture & Engineering contract, the project manager or engineer assigned to the solicitation, all without duplication of designees. Any of these committee members may, on an as-needed basis, also designate a subject matter expert to participate in the goal-setting for the particular contract(s) at issue.

The GSC establishes BDI Program goals (e.g., contract-by-contract subcontracting goals) based upon Industry Categories (or commodity codes), vendor availability, and contract-specific characteristics.

At the BDI Director's discretion, additional personnel from the Originating Department(s) and/or industry experts in relevant fields can be appointed, and one or more GSCs may be appointed to serve in this capacity simultaneously if it serves the County's best interests in efficiently processing Bid solicitations and applying Program elements to them. At a minimum, the GSC shall:

- a) Meet as often as it deems necessary to accomplish its duties as outlined in this Program Provisions Guide, but not less than once monthly;
- b) Review in advance proposed contract bid specifications to ensure that they are not unnecessarily restrictive and do not adversely affect the ability of MWBE firms to competitively bid without adequate business justification;

- c) Formulate and recommend to the County Manager (or designee), and implement additional rules and procedures for BDI Program goal-setting and other aspects of its duties in selecting and applying specific Program elements to County contracts in an efficient and effective manner; and
- d) Support the implementation and efforts of the BDI Program.

#### **4. Contract-by-Contract Goals**

The Goal-Setting Committee (GSC) will set specific percentage-based MWBE Subcontracting goals on a contract-by-contract basis for Contracts valued in excess of \$300,000 and shall have the authority to establish such goals based upon the type of Contract, the type of subcontracting work that will be required, and the availability of MWBEs to perform the work for that specific Contract.

The GSC shall not establish Subcontracting Goals on contracts where (a) there are no subcontracting opportunities identified for the contract; or (b) there are not at least three MBE and/or WBE firms that are available and capable to perform a Commercially Useful Function for the overall subcontracting opportunities on the contract. This process is determined by the BDI Program Office.

All subcontracting goals authorized under the BDI Program are intended to be established by the GSC and implemented only on a contract-by-contract basis. It is intended that such goal-setting will be based upon careful analysis of the availability of Commercially Useful subcontracting opportunities within a given contract and the relative availability of MWBE firms to perform required tasks on such subcontracting opportunities. Contract-by-contract goal-setting shall be based upon reasonably reliable MWBE Subcontractor availability data. Compliance with contract-specific subcontracting goals shall also require compliance with Good Faith Efforts as established in this Program Provisions Guide.

The GSC shall not establish a Subcontracting goal for a contract where there are no subcontracting opportunities identified for the contract or there is insufficient availability of MBEs or WBEs (as applicable) to perform scopes of work or provide products or services that the GSC regards as realistic opportunities for subcontracting. Accordingly, in establishing Contract Goals, the GSC shall:

- a) Review in advance proposed contract bid specifications to ensure that they are not unnecessarily restrictive and do not adversely affect the ability of MWBE firms to competitively bid;
- b) Formulate, recommend to the BDI Director (or designee), then implement additional rules and procedures for MWBE goal-setting and other aspects of its duties in selecting and applying specific Program elements to contracts with Mecklenburg County in an efficient and effective manner; and
- c) Monitor and support the implementation of the contract-by-contract goals aspect of the BDI Program.

# BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

## 5. Special Projects

For qualifications-based selections for Construction Manager at Risk (CM@R), Public Private Partnerships (P3), Master Developers, Design Build, and other Alternative Build Methods, the County’s overall goals for the project are based upon the Availability of firms in the Industry Categories of Construction and Architecture & Engineering. The overall goals will be included in the solicitation that the Participant(s) will agree to make Good Faith Efforts to meet the goals. At the time of qualification submittals, Participant(s) should submit an ‘MWBE Inclusion Plan’ that represents how the Participant(s) intends to meet or exceed the goal. As construction bid requests or packages are issued by the selected Contractor(s) and Developer(s), they shall include the BDI Provisions Guide, Good Faith Efforts, and the MWBE Participation Goals for each contract and the requirement for its tiered subcontractors.

Industry Category	MBE Goal	WBE Goal
Construction	15%	8%
Architecture & Engineering	15%	8%

## 6. Program Waiver

Should the BDI Program Office determine after consideration of all relevant documents and other information that there are no subcontracting opportunities identified for a particular contract or there is insufficient availability of MBEs or WBEs (as applicable) to perform scopes of work or provide products or services that identifies realistic opportunities for subcontracting, no subcontracting goal shall be assigned to such contract and a Program Waiver notification shall be issued. As defined herein, a Program Waiver applies to “[a] particular solicitation for which goals are not required and is therefore waived.”<sup>2</sup> This is not the same as a “Waiver based on Good Faith Efforts.”

## 7. Joint Ventures

Based upon the scope of work and market availability, the County Manager (or designee) shall determine if a joint venture for a construction project is required with input from the BDI Program Team and the Originating Department. Utilization efforts to form a joint venture shall be required for such project. Only Construction projects valued over \$5,000,000 are eligible for consideration under this section.

On such projects in which utilization efforts to form a joint venture relationship is required, no Bid shall be accepted unless submitted by a joint venture, unless the BDI Program Team determines that in its discretion and judgement sufficient utilization efforts to enter into a joint venture have been demonstrated based on a careful review of relevant facts, documents, and circumstances.

Also, on such eligible projects, the joint venture member businesses/partners must have different race ownership, different gender ownership, or both. MWBE members of the joint venture must be certified as such (as required by the BDI Program Office), and the joint venture team shall include in its Bid submittal the proof of MWBE Certification of each MWBE joint venture member. A Bid submitted by a joint venture comprised of Bidders with both the same race and gender ownership shall be deemed non-responsive and rejected.

<sup>2</sup> See Definitions, *infra*.

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

As to each joint venture under this section, a written joint venture agreement must be completed by all parties to the joint venture and executed before a notary public, which clearly delineates the rights and responsibilities of each member or partner, complies with any requirements of the BDI Program Office as set forth in Bid documents or otherwise, and provides that the joint venture shall continue for, at a minimum, the duration of the Contract.

The BDI Program Team shall review and approve all contractual agreements (with consultation from the County Attorney's Office when applicable) regarding the terms and provisions of each joint venture relationship prior to the award of a contract on eligible projects. The joint venture agreements should at a minimum include the following information:

- the initial capital investment of each venture partner;
- the proportional allocation of profits and losses to each venture partner;
- the sharing of the right to control the ownership and management of the joint venture;
- actual participation of the venture partners on the project;
- the method of and responsibility for accounting;
- the method by which disputes are resolved; and
- any additional or further information required by the office of contract compliance as set forth in Bid documents or otherwise.

The joint venture, and each member of the joint venture, shall provide the BDI Program Team access to review all records pertaining to joint venture agreements before and after the award of a contract in order to reasonably assess compliance with this subdivision.

A Bid submitted by a joint venture that does not include a satisfactory written joint venture agreement in accordance with the requirements of this section shall be deemed non-responsive and rejected.

### SECTION-3 | THE BIDDING PROCESS AND RESPONSIBILITIES

The formal and informal bidding process is governed by state law and the relevant provisions of the Mecklenburg County, North Carolina Procurement Policy.<sup>3</sup> The following outlines or underscores relevant steps and processes that most often arise in the context of the BDI Program.

The RFP/RFQ process is set out in the County's policies and the BDI Provisions adopt the County's policies and clarify unique BDI requirements.

All parties listed below (1-5) must adhere to the BDI Program Provisions Guide.

---

<sup>3</sup> See N.C.G.S. §§ 143.128, 143.129; Mecklenburg County, North Carolina Procurement Policy, ¶ 11.

**a) Bidder/Participant Responsibilities****a) Time of Bid**

In adherence to the Bid due date, along with the Bid documents, the Bidder is required to fully complete and submit the appropriate BDI Program Form(s) relating to potential MWBE utilization on the project. The specific forms to be utilized are noted on the Bid Solicitation Information Coversheet per the Participation Goal Type.

- Form A – Listing of Good Faith Efforts (GFE)
- Form B – Identification of Subcontractor Participation
- Form C - Statement of Intent to Perform Contract with Own Workforce
- [Form D] MWBE Inclusion Plan
- Joint Venture Documentation (if applicable)

Descriptions of the aforementioned forms are included in Section-4.

Bid responses will be reviewed and validated for compliance by the County.

**b) Time of Intent to Award**

The Bidder that is determined to be the lowest responsible and responsive Bidder (construction) or the best value responsible and responsive Bidder (procurement) is required to submit the appropriate BDI Program Form(s) relating to confirmed MWBE utilization and Good Faith Efforts accomplished (if applicable).

- Form B1 - Identification of Subcontractor Participation – Alternates (Construction Only)
- Form E - Subcontractor Utilization Commitment
- Form E1 – Tier 2 Subcontractor Utilization Commitment (Special Projects Only)
- Form F – Certificate of MWBE Unavailability
- Good Faith Efforts (GFE) Documentation (if applicable)

Descriptions of the aforementioned forms are included in Section-4.

**c) During Contract Period**

The apparent lowest responsible and responsive Bidder/Participant (construction) or the apparent best value responsible and responsive Bidder/Participant (procurement) is required to complete and submit the appropriate BDI Program Form(s), any additional documentation requested, and attend and participate in communication efforts and meetings relating to MWBE utilization on the project, compliance efforts, and dispute resolution(s). The Bidder/Participant should also engage in ongoing communication with the project team (inclusive of Subcontractors/suppliers). After award of fully executed Contract, the contractor is required to utilize the contract compliance solution system when applicable/directed.

- Form E - Subcontractor Utilization Commitment

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

- Form E1 – Tier 2 Subcontractor Utilization Commitment (Special Projects Only)
- Form G – Prime Contractor/Project Identification
- Form H – Statement of Payments to Subcontractors/Suppliers

Descriptions of the aforementioned forms are included in Section-4.

### b) BDI Program Office Responsibilities

- a) At the time of advertisement for Bids, the BDI Program Team will notify certified Minority and Women Business Enterprise firms of the opportunities available to them and will provide them with a list of potential prime Bidders upon request or within 72-hours. The BDI Program Team will provide the Bidders/Participants with an updated list of certified MWBE firms that may be able to provide sub-bids and/or quotes for scopes of service and/or goods upon request or within 72-hours.
- b) The Originating Department and the BDI Program Team shall review and validate the Bid information and forms.
- c) The BDI Program Team will also collect and review all required BDI program forms and documentation submitted by Bidders/Participants, and any additional documents required, in its discretion, to evaluate the compliance and sufficiency of the GFEs claimed.
- d) The BDI Team will conduct meetings and engage in communication efforts with Contractors (prime/sub) prior to and throughout the contract period. The BDI Program Team will utilize the Contract Compliance Solution System when applicable.
- e) BDI Program Team encourages utilization of MWBEs for Contracts and business opportunities under \$30,000 and for any dollar amount when formal advertisement and Bidding requirements are not applicable.
- f) The [Office of Economic Development](#) provides supportive services to all businesses.

### c) County Department Responsibilities

As set forth in the Mecklenburg County, North Carolina Procurement Policy, Department Directors are required to adhere to certain procedures regarding Bids and awards.<sup>4</sup>

It shall further be the responsibility of each Department to ensure that solicitations emanating from the Department adhere to the procedures and provisions set forth in this BDI Program Provisions Guide:

- (a) The Department Director (or designee) shall assume primary responsibility for achieving the objectives of this BDI Program Provisions Guide within the Department and shall review, on a continuing basis, all aspects of the Program's operations to assure that the purpose is being achieved.

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<sup>4</sup> Mecklenburg County North Carolina Procurement Policy, ¶ 17.

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

- (b) Departments shall provide copies of the pre-bid attendance list within two (2) business days of the session ending.
  - (c) Departments shall provide copies of the interested bidders list upon request and/or within two (2) business days following the pre-bid meeting.
  - (d) Departments shall provide copies of the BDI forms submitted with the Bid from all the Bidders within 24 hours of the Bid opening/Bid due date to the BDI Office.
  - (e) Departments and the BDI Program Team shall review and validate the Bid information and forms.
  - (f) Departments shall communicate the selected apparent lowest responsible and responsive Bidder/Participant (construction) or the apparent best value responsible and responsive Bidder/Participant (procurement).
  - (g) Departments shall maintain accurate records for each contract awarded, including unsuccessful Bidders, dollar value, the nature of the goods or services to be provided, the name of the contractor awarded the contract, the efforts it employed to solicit responses from MWBEs, and all subcontracts awarded by the Prime Contractor identifying for each its dollar value, the nature of the goods or services provided and the name of the Subcontractor(s).<sup>5</sup> Departments will utilize the Contract Compliance Solution System when applicable/directed.
- d) BDI Program Team encourages utilization of MWBEs for Contracts and business opportunities under \$30,000 and for any dollar amount when formal advertisement and bidding requirements are not applicable.

### d) MWBE Responsibilities

It is the responsibility of the MWBE firm to contact the BDI Program Team for Contract opportunities, to provide quotes, and/or sub-bids when requested. The MWBE will also be responsible for completing Form E, the Subcontractor Commitment Form, in a timely manner and return it to the Prime Contractor.

**This paragraph only applies to Achievement Goals. This does not apply to Contract-by-Contract Goals.** The MWBE firm must be certified by the NC Office of Historically Underutilized Businesses (MWBE) for their Contract dollar amounts to be counted as MWBE participation. If the MWBE firm is not certified at the time, the firm commits to provide services, the MWBE should apply for the approved Certification designation with the County's approved Certification agency within thirty (30) business days. If the MWBE firm fails to submit an application for Certification within the specified time frame or if the MWBE firm is not certified, the non-certified firm's Contract dollar amount will not be counted as MWBE participation. The Prime Contractor must complete efforts to fulfill the committed MWBE participation goal(s).

MWBE firms who are contacted by Owners or Bidders/Participants must respond promptly whether or not they wish to submit a Bid (or sub-bid).

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<sup>5</sup> See N.C.G.S. § 143-128.2(i); N.C.G.S. § 132-1.

Lastly, the MWBE firm is required to complete and submit the appropriate BDI Program Form(s), any additional documentation requested, and may be asked to attend and participate in communication efforts and meetings relating to MWBE utilization on the project, compliance efforts, and dispute resolution(s). The MWBE firm may also be asked to submit additional documentation when requested.

**e) Contract Compliance Solution System**

When applicable, the BDI Office, the Prime Contractor(s), and Mecklenburg County designees will utilize the web-based Contract Compliance Solution System to document, monitor, and track the project/contract information (including payments), and compliance efforts. Training and supportive services will be provided by the Procurement Department, with the BDI Office serving as their backup, to assist with use of the system.

# BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

## SECTION-4 | SUBMITTALS AND TIME FRAME

The specific forms to be utilized are noted on the Bid Solicitation Coversheet per the Participation Goal Type.

“Failure to file a required affidavit or documentation that demonstrates that the contractor made the required good faith effort is grounds for rejection of the Bid.” NCGS 143-128.2(c)

Form Name/Description	Submission Requirements	Required Form #
<p><del>Listing of Good Faith Efforts (GFE)</del>                      Completed by Bidder(s). Identifies the statutory Good Faith Efforts undertaken to recruit and solicit MWBEs to meet or exceed the participation goal for this Contract.  <b>SELF PERFORMING IS PROHIBITED AND NOT ALLOWED FOR THIS PROJECT</b></p>	<p><del>Due with Bid/Proposal when noted on Bid Solicitation Information (if subcontracting)</del></p>	<p><del>Form A</del></p>
<p><b>Identification of Subcontractor Participation</b>                      Completed by Bidder(s). Identifies MWBEs and non-certified firms (their scope of work and dollar value) that are anticipated to receive a subcontract for this Contract.</p>	<p>Due with Bid/Proposal (if subcontracting)</p>	<p>Form B</p>
<p><b>Identification of Subcontractor Participation - Alternates</b>                      Completed by Bidder(s)/Participant(s). Identifies certified NCHUB MWBEs and non-NCHUB MWBEs that are anticipated to receive a subcontract for this Contract in the event Construction Alternates are selected by the County.</p>	<p>Due within three (3) business days after receiving a request from the County (if subcontracting)</p>	<p>Form B1</p>
<p><b>Statement of Intent to Perform Contract with Own Workforce</b>                      Completed by Bidder(s). Indicates that the Bidder does not customarily subcontract elements of this type of project, normally performs, has the capability to perform, and will perform ALL elements of the work on this Contract with its own current workforce AND will not purchase any material or supplies for the project in the performance of this Contract.</p>	<p>Due with Bid/Proposal (if self-performing)</p>	<p>Form C</p>
<p><b>MWBE Inclusion Plan</b>                      Completed by Bidder(s)/Submitter(s). A detailed description of the strategies and actions the Bidder/submitter will take to outreach fairly and equitably, support, and contract with MWBEs.</p>	<p>Due with Bid/Proposal when noted on Bid Solicitation Information Coversheet (if subcontracting)</p>	<p>Form D</p>
<p><b>Subcontractor Commitment</b>                      Completed by Prime Contractor(s) and ALL of the Subcontractors (Suppliers/Subconsultants). This document shall not serve in a manner as an actual subcontract between the two parties. A separate binding agreement will describe in detail the contractual obligation of the Prime Contractor and the Subcontractor conditioned upon the execution of a contract with Mecklenburg County.</p>	<p>Due within three (3) business days after receiving a request from the County (if subcontracting)</p>	<p>Form E</p>
<p><b>Tier 2 Subcontractor Commitment (Special Projects Only)</b>                      Completed by Tier 1 Subcontractor and ALL of the Tier 2 Subcontractors (Suppliers/Subconsultants). This document shall not serve in a manner as an actual subcontract between the two parties. A separate binding agreement will describe in detail the contractual obligation of the Tier 1 Firm conditioned upon the execution of a contract with the Prime and Mecklenburg County and Tier 1 Firm and the Prime.</p>	<p>Due within three (3) business days after receiving a request from the County (if subcontracting—Tier 2)</p>	<p>Form E1</p>
<p><b>Certificate of MWBE Unavailability</b>                      Completed by Bidder(s)/Participant(s). This document identifies the MWBE firms that were originally committed to Subcontract in good faith but became unavailable prior to signing a formal Agreement/Contract.</p>	<p>Due with the Subcontractor Commitment Form (Forms E/E1)</p>	<p>Form F</p>
<p><b>Prime Contractor / Project Identification</b>                      Completed by Prime Contractor. Identifies the Prime Contractor and Project information.</p>	<p>Due within three (3) business days after receipt of fully executed County Contract</p>	<p>Form G</p>
<p><b>Statement of Payments to Subcontractors/Suppliers</b>                      Completed by Prime Contractor(s) (and Tier 1 Subcontractors when applicable). Prime Contractors must submit this form with each request for payment showing work that has been approved and completed for all Subcontractors (suppliers, manufacturers, brokers, and/or members of a joint venture) in connection with the Contract.</p>	<p>Due with Pay Applications</p>	<p>Form H</p>
<p><b>Good Faith Efforts (GFE) Documentation</b>                      Completed by Bidder(s). If the established MBE and WBE goals are not achieved at the time of Bid, the Bidder shall provide the backup documentation using the GFE Points System as a guide for documentation submission to support the Good Faith Efforts selected on Form A.</p>	<p>Due upon the time specified by the County, if not specified then within three (3) business days after the bid due date</p>	<p>Backup Documentation using the GFE Points System</p>
<p><b>Joint Venture Documentation</b>                      Completed by Prime Contractor(s). Documentation that acknowledges a joint venture, the terms, and percentage breakdown.</p>	<p>Due with Bid/Proposal when noted on Bid Solicitation Information Coversheet (if subcontracting)</p>	<p>Backup Documentation</p>

## SECTION-5 | GOOD FAITH EFFORTS (GFE) POINTS SYSTEM

North Carolina law (N.C.G.S. § 143.128.2(f)) permits local governments some level of discretion in setting and applying the Good Faith Efforts (GFE) point system for MWBE inclusion, but a local government cannot require a Bidder to earn more than fifty (50) points. “Failure to file a required affidavit or documentation that demonstrates that the contractor made the required good faith effort is grounds for rejection of the Bid” as being non-responsive. N.C.G.S. § 143-128.2(c) Id. Accordingly, the County has established the following GFE point system:

- The County will evaluate all efforts made by the Bidder/Participant to determine compliance with good faith efforts categories. The BDI Program Team will assess whether the efforts employed by the Bidder are those a Prime Contractor would reasonably be expected to take if they were actively and aggressively trying to meet each Goal established for the Contract. The assessment will be made on a case-by-case basis taking all available facts into account, including documentation provided by the Bidder/Participant.
- The BDI Program Team (or designee) may take into account the performance of other Bidders/Participants in meeting the established Goals. Mere *pro forma* efforts will not be sufficient. The focus will be on the likely effectiveness of steps taken.
- To avoid any impression of unfair Bid practices, all actions necessary to earn the GFE points must be undertaken prior to the Bid opening/Bid due date. For each subcontracting Goal that is unmet, the Bidder/Participant must earn at least fifty (50) GFE points (the “Minimum GFE Points”) from the GFE categories described below to be considered responsive and responsible.
  - a) **Subcontractor Solicitation - (15 pts)** Bidder/Participant solicited Bids from MWBEs that would meet the Goals stated for the respective Contract, that reasonably could have been expected to submit a quote, and that were known to the Bidder/Participant or available on State or local government-maintained lists, at least **ten (10) Business Days** before the Bid Opening/Bid due date and notified them of the nature and scope of the work to be performed.

Factors considered for these points may include, but are not limited to:

- Providing a contact log (telephone and/or email) of initial communication to, responses from, and follow-up communication to and from each firm solicited.
  - the Bidder’s/Participant’s solicitation of Bids from MWBE Subcontractors, while also considering total number of available MWBE firms that would meet the Goals stated in the respective Contract;
  - whether the Bidder/Participant solicited Bids from MWBEs listed as performing scopes of work sufficient to meet each Goal;
  - whether the solicitations were made at least **ten (10) Business Days** before Bid opening/Bid due date;
  - how the solicitations occurred and whether they were documented in a verifiable way (and in compliance with any forms provided by the County);

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

- whether the substance of the Bidder's/Participant's solicitation was reasonably sufficient to generate a response from MWBEs;
  - whether the Bidder/Participant promptly and adequately responded to inquiries received from MWBEs; and
  - whether the Bidder/Participant initiated follow-up communications to MWBEs that did not respond to the Bidder's/Participant's initial solicitation.
- b) **Plan Availability – (10 pts)** The Bidder/Participant made the Project Documents (e.g., project descriptions, scopes of work, construction plans, specifications, and/or requirements) available for review by prospective MWBE Subcontractors or provided these documents to them at least **ten (10) Business Days** before the Bids are due. **A Bidder/Participant may receive credit for this GFE only if the Bidder/Participant receives credit for the above Subcontractor Solicitation GFE (subsection (a)) and it responds promptly to any request(s) made for access to the project documents.**

The ways a Bidder/Participant made Project Documents available for these points include:

- providing a telephone number or email address for MWBE firms to request copies of the Project Documents via email, fax, regular mail, or other means of document transfer, at no cost; and/or
  - providing an address within the Charlotte-Concord-Gastonia MSA where MWBEs can physically access/review the Project Documents at no cost; and/or
  - posting the Project Documents on a website that MWBEs can access at no cost.
- c) **Breaking Down Work – (10 pts)** The Bidder/Participant separated or combined elements of work into economically feasible units to facilitate MWBE participation. **A Bidder/Participant may receive credit for this GFE only if the Bidder/Participant receives credit for the above Subcontractor Solicitation GFE (subsection (a)).**

In deciding whether to award points for this GFE, the BDI Program Team will consider:

- the number and dollar value of the scopes of work the Bidder/Participant listed in its written invitation to Bid for MWBE participation,
- whether those scopes would be sufficient to meet the contract subcontracting Goals and how the Bidder/Participant notified MWBEs of its willingness to break down the work into such units.

Simply restating the County's subcontracting scopes as listed in the solicitation documents may not be sufficient to earn this GFE; the Bidder/Participant should provide written documentation to demonstrate negotiations with MWBEs after having proposed broken-down or combined elements of work.

- d) **Working with an MWBE Assistance Organization – (10 pts)** The Bidder/Participant must document it worked with MWBE trade, community, or

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

contractor organizations identified by the BDI Program Team, the NC Office of Historically Underutilized Businesses, and/or included in the Bid documents that provide assistance in recruitment of MWBE businesses, at least **fifteen (15) Business Days** before Bids are due. **A Bidder/Participant may receive credit for this GFE only if the Bidder/Participant receives credit for the above Subcontractor Solicitation GFE (subsection (a)).**

The Bidder/Participant must document that it worked with an MWBE assistance organization to provide assistance in recruiting MWBEs for the Contract for which Bids are sought. In deciding whether to award points for this GFE, the BDI Program Team will consider:

- the timing and nature of how the Bidder/Participant worked with the MWBE organization, and;
  - whether such efforts were reasonably likely to result in significant MWBE participation for the Contract for which Bids are sought.
- e) **Attending Pre-Bid – (10 pts)** The Bidder/Participant attended any pre-Bid meetings scheduled by the public owner.
- f) **Bonding or Insurance Assistance – (10 pts) After the Bidder/Participant received a Bid from an MWBE Subcontractor**, the Bidder/Participant committed to providing assistance to the MWBE in obtaining required bonding or insurance or provided alternatives to bonding or insurance. **Mere willingness to offer such assistance in the absence of some MWBE Subcontractor participation will not result in credit for these points.**

To document satisfaction of this GFE, the Bidder/Participant must submit:

- the name and contact information of the MWBE;
- a description of the assistance the Bidder/Participant will provide;
- the date the Bidder/Participant will provide the assistance;
- the name of a contact person with the MWBE who can verify that the Bidder/Participant committed to providing the assistance; and
- any additional information requested by the County.

No credit will be given for assistance provided to an Affiliate of the Bidder/Participant or assistance provided that is required by law.

In deciding whether to award points for this GFE, the BDI Program Team will consider how significant and meaningful the assistance was, how many MWBEs the assistance was offered to, and what impact it likely had on the Bidder's/Participant's efforts to recruit MWBEs for the project.

- g) **Negotiating in Good Faith with MWBEs- (20 pts)** The Bidder/Participant must demonstrate that the Bidder/Participant negotiated in good faith with interested MWBE businesses (which, at a minimum, means showing some back-and-forth negotiations between the Bidder/Participant and prospective MWBEs), and did not reject any MWBEs as unqualified without sound reasons based on their capabilities

and shall document in writing the reasons for rejecting any MWBEs for lack of qualifications.

The County will determine if the rejection is valid based on the following information to be provided by the Bidder/Participant:

- copies of all Subcontractor proposals/responses received from each MWBE firm responding to the Bidder's/Participant's solicitation;
- letter from Bidder/Participant detailing reasons for rejecting MWBEs due to lack of qualifications;
- for subcontracts where a MWBE firm is not considered the lowest responsible Subcontractor, copies of proposals/responses received from all firms submitting proposals for that particular scope of work;
- if the rejection is due to self-performance of a specified work area, Bidder/Participant must submit Bidder's/Participant's own estimate for the scope of work.

The Bidder/Participant must not alter any dollar amounts and/or scopes of work. If a revision is required a revised proposal must be submitted. All telephone proposals must be followed up with a written proposal. All proposals must be received prior to Bid opening/Bid due date.

h) **Financial Assistance – (15 pts) After the Bidder/Participant received a Bid from an MWBE Subcontractor**, the Bidder/Participant committed to providing one of the following types of assistance to an MWBE in connection with the Contract, once awarded:

- assistance in obtaining equipment, a loan, capital, lines of credit, joint pay agreements or guaranties to secure loans, the purchase of supplies, or letters of credit, including waiving credit that is ordinarily required, or
- assistance in obtaining the same unit pricing with the Bidder's/Participant's suppliers as the Bidder/Participant.

To receive credit for this GFE, Bidders/Participants must provide:

- language in the Bidder's/Participant's solicitation letter and publication advertisement stating the Prime Contractor's Financial Assistance Policy;
- the name and contact information of the MWBE;
- the description of the assistance to be provided by the Bidder/Participant;
- the date the Bidder/Participant will provide the assistance; and
- the name of a contact person with the MWBE firm who can verify that the Bidder/Participant committed to providing the assistance.

In deciding whether to award points for this GFE, the BDI Program Team will consider how significant and meaningful the assistance was, how many MWBEs assistance was offered to, and what impact the assistance likely had on the Bidder's/Participant's efforts to recruit MWBEs for the project. **Mere willingness**

**to offer such assistance in the absence of some MWBE Subcontractor participation will not result in credit for these points.** No credit will be given for assistance provided to an Affiliate of the Bidder/Participants.

- i) **Joint Venture Arrangement – (20 pts)** The Bidder/Participant must demonstrate that the Bidder/Participant negotiated joint venture/partnership/association arrangements with MWBE in order to increase opportunities for MWBE participation on this project.
- To receive credit for this GFE, Bidders/Participants must provide:
    - the name and contact information of the MWBE;
    - a copy of the Joint Venture agreement or other formal business arrangement;
    - evidence of the date the MWBE entered into the agreement; and
    - the name of a contact person with the MWBE firm who can verify the existence of the agreement.

No credit will be given for a Joint Venture with an Affiliate of the Bidder/Participant. **Mere willingness to offer such arrangement in the absence of some MWBE Subcontractor participation will not result in credit for these points.**

- j) **Quick Payment Commitment – (10 pts)** After the Bidder/Participant received a Bid/Proposal from an MWBE Subcontractor, the Bidder/Participant committed to providing quick pay agreements and policies to enable such MWBE Subcontractor(s) and/or supplier(s) to meet cash-flow demands. **Mere willingness to offer such agreement in the absence of some MWBE Subcontractor participation will not result in credit for these points.**
- Quick Pay Agreements are defined herein at Section-10(1) (Definitions).
  - To receive credit for this GFE, Bidders must provide the BDI Program Team with:
    - language in the Bidder's/Participant's solicitation letter and publication advertisement stating the Prime Contractor's Quick Pay Policy;
    - a copy of the Bidder's Quick Pay Commitment related to the specific Contract;
    - documentation indicating that all MWBEs notified under the above Subcontractor Solicitation GFE (subsection (a)) have received a written copy of the Bidder's Quick Pay Commitment prior to the Bid opening/Bid due date.

### GFE Documentation

To demonstrate GFE compliance, a Bidder/Participant must submit the GFE Supporting Documentation within the time specified by the BDI Program Office. If the BDI Program does not specify a time, the Bidder/Participant must submit GFE Supporting Documentation within **three (3) Business Days** after the Bid due date. The BDI Program Office may request GFE Supporting Documentation from other Bidders in order to evaluate the MWBE participation achievement and the GFEs of the apparent low/best value Bidder relative to others.

Regardless of when the GFE Supporting Documentation is due, **all actions necessary to earn the GFE points must be undertaken and dated prior to Bid opening/Bid due date.**

**Consistent with the NC general statute**, “Failure to file a required affidavit or documentation that demonstrates that the contractor made the required good faith effort is grounds for rejection of the Bid.” N.C.G.S. § 143-128.2(c).

**MWBE Good Faith Efforts Appeal Process**

If a Bid/Proposal is rejected because the BDI Program Office determined after reviewing all relevant information that the submitted documentation was inadequate to establish sufficient Good Faith Efforts, the Bidder/Participant may request a review of this determination in accordance with the following process: The Bidder/Participant who wishes to dispute the Good Faith Efforts decision of the BDI Program Office may have that decision reviewed by the Hearing Committee provided the Bidder/Participant submits a request for review in writing to the Originating Department within five (5) business days of the date of the decision to reject the proposal. The request shall contain specific reasons and any supporting documentation for why the Bidder/Participant believes that the Good Faith Efforts decision was in error.

The Originating Department shall refer the matter to the Hearing Committee (send a copy to the BDI Program Office). A hearing shall be scheduled within fifteen (15) business days of the receipt of the review request. The Hearing Committee will be provided all relevant documents in possession of the BDI Program Team. The Hearing Committee, upon its discretion, may seek review of the Good Faith Efforts decision with the Bidder and/or its representative and the BDI Director (or designee). The Hearing Committee shall make a decision and notify the Bidder in writing within five (5) business days following the hearing. The Hearing Committee may affirm, reverse, or modify the Good Faith Efforts decision of the BDI Program Office. The decision of the Hearing Committee shall be final.

**SECTION-6 | REQUIRED FORMS**

Listed below.

BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

Form A – Listing of Good Faith Efforts (GFE)

[Submit with Bid]

SELF PERFORMING IS PROHIBITED AND NOT ALLOWED FOR THIS PROJECT

Name of Bidder:

(Company Name)

Project Name:

Solicitation #:

\*\*\*Prior to submission, review your documents for accuracy and ensure all items are complete\*\*\*

I have reviewed and made a good faith effort to comply with Section-5 Good Faith Efforts (GFE) Points System and have marked the following by selecting the checkbox(es) [X] below and totaling the final points attained.

Bidders must earn at least fifty (50) points from the good faith efforts listed for their Bid to be considered responsive. (1 NC Administrative Code 30 I.0101). The Bidder agrees to provide any additional information and/or documentation per Section-5 Good Faith Efforts (GFE) Points System requested by the Owner in support of the Bidder's good faith efforts.

NOTE: All actions necessary to earn GFE Points must be undertaken prior to Bid opening/Bid due date.

[ ] (a) – 15 pts

Subcontractor Solicitation: Bidder/Participant solicited Bids from MWBEs that would meet the Goals stated for the respective project that reasonably could have been expected to submit a quote, and that were known to the Bidder/Participant or available on State or local government-maintained lists, at least ten (10) Business Days before the Bid date and notified them of the nature and scope of the work to be performed.

[ ] (b) – 10 pts

Plan Availability: The Bidder/Participant made the Project Documents (e.g., project descriptions, construction plans, specifications, and/or requirements) available for review by prospective MWBE Subcontractors or provided these documents to them at least ten (10) Business Days before the Bids are due. A Bidder/Participant may receive credit for this GFE only if the Bidder/Participant receives credit for the above Subcontractor Solicitation GFE (subsection (a)) and it responds promptly to any request(s) made for access to the project documents.

[ ] (c) – 10 pts

Breaking Down Work: The Bidder/Participant separated or combined elements of work into economically feasible units to facilitate MWBE participation. A Bidder/Participant may receive credit for this GFE only if the Bidder/Participant receives credit for the above Subcontractor Solicitation GFE (subsection (a)).

[ ] (d) – (10 pts)

Working with an MWBE Assistance Organization: The Bidder/Participant must document it worked with MWBE trade, community, or contractor organizations identified by the BDI Program Team, the state Office of Historically Underutilized Businesses, and/or included in the Bid documents that provide assistance in recruitment of MWBE businesses, at least fifteen (15) Business Days before Bids are due. A Bidder/Participant may receive credit for this GFE only if the Bidder/Participant receives credit for the above Subcontractor Solicitation GFE (subsection (a)).

[ ] (e) – (10 pts)

Attending Pre-Bid: The Bidder/Participant attended any pre-Bid meetings scheduled by the Owner.

[ ] (f) – (10 pts)

Bonding or Insurance Assistance: After the Bidder/Participant received a Bid/Proposal from an MWBE Subcontractor, the Bidder/Participant committed to providing assistance to the MWBE in obtaining required bonding or insurance

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

or provided alternatives to bonding or insurance. **Mere willingness to offer such assistance in the absence of some MWBE Subcontractor participation will not result in credit for these points.**

(g) – (20 pts)

**Negotiating in Good Faith with MWBEs:** The Bidder/Participant must demonstrate that the Bidder/Participant negotiated in good faith with interested MWBE businesses (which, at a minimum, means showing some back-and-forth negotiations between the Bidder/Participant and prospective MWBEs), and did not reject any MWBEs as unqualified without sound reasons based on their capabilities and shall document in writing the reasons for rejecting any MWBEs for lack of qualifications.

(h) – (15 pts)

**Financial Assistance: After the Bidder/Participant received a Bid/Proposal from an MWBE Subcontractor,** the Bidder/Participant committed to providing one of the following types of assistance to an MWBE in connection with the Contract, once awarded:

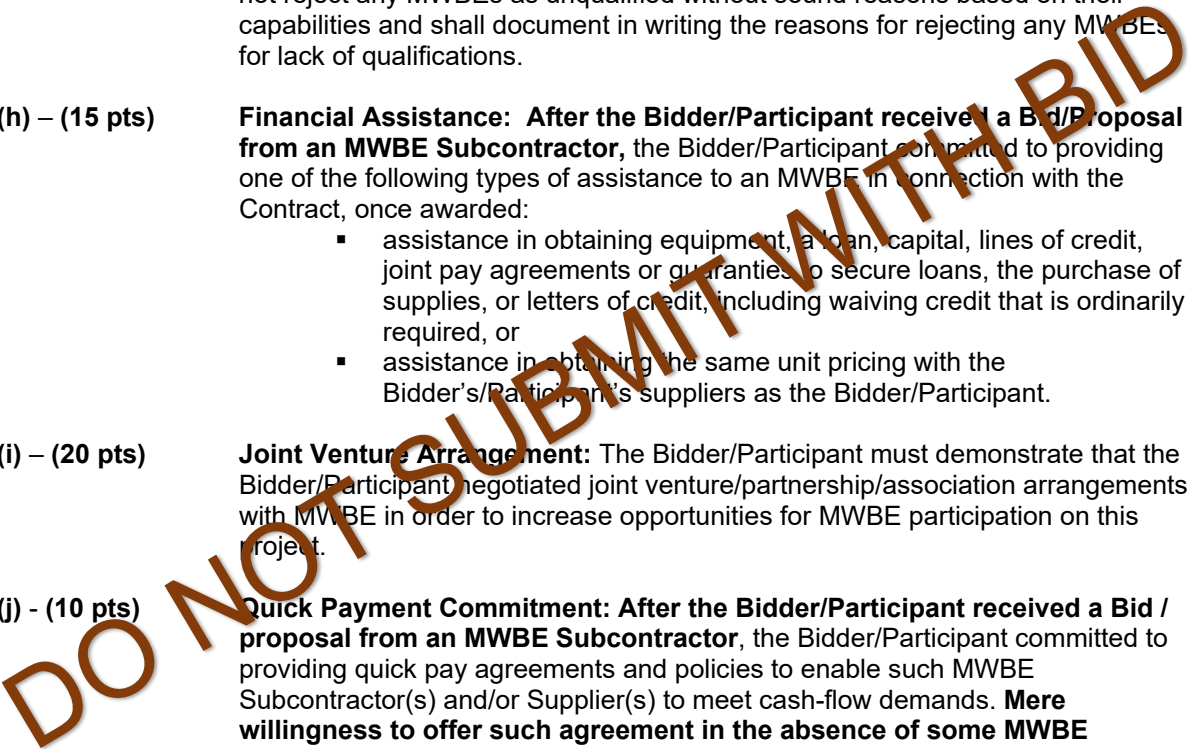
- assistance in obtaining equipment, a loan, capital, lines of credit, joint pay agreements or guarantees to secure loans, the purchase of supplies, or letters of credit, including waiving credit that is ordinarily required, or
- assistance in obtaining the same unit pricing with the Bidder's/Participant's suppliers as the Bidder/Participant.

(i) – (20 pts)

**Joint Venture Arrangement:** The Bidder/Participant must demonstrate that the Bidder/Participant negotiated joint venture/partnership/association arrangements with MWBE in order to increase opportunities for MWBE participation on this project.

(j) - (10 pts)

**Quick Payment Commitment: After the Bidder/Participant received a Bid / proposal from an MWBE Subcontractor,** the Bidder/Participant committed to providing quick pay agreements and policies to enable such MWBE Subcontractor(s) and/or Supplier(s) to meet cash-flow demands. **Mere willingness to offer such agreement in the absence of some MWBE Subcontractor participation will not result in credit for these points.**



The undersigned will enter into a formal agreement with the firms listed on the Identification of Subcontractor Participation Form (Form B), conditional upon the scope of contract to be executed with the Owner. Substitution of Contractors must be in accordance with GS143-128.2(d). Failure to abide by this statutory provision will constitute a breach of the contract, giving rise to all contract and/or statutory remedies, including but not limited to cancellation of the contract.

The undersigned hereby certifies that he or she has read the terms of the BDI Program Provisions Guide and the formal agreement with the firms listed on Form B and is authorized to bind the Bidder/Participant to the commitment herein set forth.

**Total GFE Points** \_\_\_\_\_ (Calculate the total GFE points selected with  above)

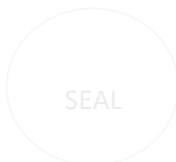
For each Participation Goal (MBE and WBE) that is unmet, the Bidder must earn at least fifty (50) GFE points (the "Minimum GFE Points") to be considered responsive. Be prepared to submit the documentation following the Bid opening/Bid Due date.

Date: \_\_\_\_\_

Name of Authorized Person: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_



State of \_\_\_\_\_, County of \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_

Notary Public Name/Signature \_\_\_\_\_

My commission expires \_\_\_\_\_

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form B – Identification of Subcontractor Participation**

[Submit with Bid]

The County maintains a strong commitment to the inclusion of MWBEs in the County’s contracting and procurement process when there are viable subcontracting opportunities. Bidders must submit this form with their Bid/Proposal outlining any supplies and/or services to be provided by all Subcontractors, including each MBE, WBE, and non-certified firms for the Contract.

\*\*\*Prior to submission, review your documents for accuracy and ensure all items are complete\*\*\*

**Name of Bidder:** \_\_\_\_\_ **Certification Status**  MBE  WBE  NCSBE  
*(Company Name)* *(check all that apply):*  CBI-SBE  NCDOT-DBE

**Project Name:** \_\_\_\_\_ **Solicitation #:** \_\_\_\_\_ **Total Bid Amount:** \_\_\_\_\_

**Authorized Person:** \_\_\_\_\_ **Telephone:** \_\_\_\_\_ **Email:** \_\_\_\_\_

I, the Authorized Person, do hereby certify that on this Contract, we intend to use the following certified **MWBEs** and non-certified firms as Subcontractors (subconsultants, vendors, suppliers, and/or providers of professional and/or other services). We intend to expend the amounts/percentages below of the total dollar amount of the contract with the businesses listed

**\*\*MBE and WBE Certification with the NCHUB Office is required to be counted toward participation goals.**

Total Utilization Amount	Total Utilization Percentage	Total MBE Amount	Total MBE Percentage	Total WBE Amount	Total WBE Percentage	Total Non-Certified Amount	Total Non-Certified Percentage

#	Firm Name / Contact Person	Telephone / Email	County / State	Scope of Work	MBE Amount	WBE Amount	Non-Certified Amount
1							
2							
3							
4							
5							
6							

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

Mecklenburg County Government

Formal Documents

7							
8							
9							
10							
11							
12							
13							
14							
15							

*(add additional sheets if needed)*

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with the firms listed on this form, conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract, giving rise to all contract and/or statutory remedies, including but not limited to cancellation of the contract.

The undersigned hereby certifies that he or she has read the BDI Program Provisions Guide and the terms of this commitment and is authorized to bind the Bidder to the commitment herein set forth.

\_\_\_\_\_  
Signature of Authorized Person

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form B1 – Identification of Subcontractor Participation - ALTERNATES**

[Do not submit with Bid – Due within three (3) business days after receiving a request from the County]

In the event Construction Alternates are selected by the County, the established Subcontracting goal(s) for this Contract will apply to the total contract amount, including contingency and the selected Alternates (“Total Contract Amount”). In such an instance, Bidders/Participants must identify additional MWBE commitments and submit Form B1 showing all commitments made after Bid Opening.

The County maintains a strong commitment to the inclusion of MWBEs in the County’s contracting and procurement process when there are viable subcontracting opportunities. Bidders must submit this form outlining any supplies and/or services to be provided by all Subcontractors, including each MBE, WBE, and non-certified firms for the Contract.

\*\*\*Prior to submission, review your documents for accuracy and ensure all items are complete\*\*\*

**Name of Bidder**

(Company Name): \_\_\_\_\_

**Total Contract Amount:** \_\_\_\_\_

**Project Name:** \_\_\_\_\_

**Solicitation #:** \_\_\_\_\_

**Authorized Officer Title:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

I, the Authorized Person, do hereby certify that on this Contract, we intend to use the following certified **MWBEs** and non-certified firms as Subcontractors (subconsultants, vendors, suppliers, and/or providers of professional and/or other services). We intend to expend the amounts/percentages below of the total dollar amount of the contract with the businesses listed

**\*\*MBE and WBE Certification with the NCHUB Office is required to be counted toward participation goals.**

Total Utilization Amount	Total Utilization Percentage	Total MBE Amount	Total MBE Percentage	Total WBE Amount	Total WBE Percentage	Total Non-Certified Amount	Total Non-Certified Percentage

#	Firm Name / Contact Person	Telephone / Email	County / State	Scope of Work	MBE Amount	WBE Amount	Non-Certified Amount
1							
2							
3							
4							

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

Mecklenburg County Government

Formal Documents

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13							
14							
15							

*(add additional sheets if needed)*

Pursuant to GS143-128.2(d), the undersigned will enter into a formal agreement with the firms listed on this form, conditional upon execution of a contract with the Owner. Failure to fulfill this commitment may constitute a breach of the contract, giving rise to all contract and/or statutory remedies, including but not limited to cancellation of the contract.

The undersigned hereby certifies that he or she has read the BDI Program Provisions Guide and the terms of this commitment and is authorized to bind the Bidder to the commitment herein set forth.

\_\_\_\_\_  
Signature of Authorized Person

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form C – Statement of Intent to Perform Contract with OWN Workforce**

[Submit with Bid]

\*\*\*Prior to submission, review your documents for accuracy and ensure all items are complete\*\*\*

**Name of Bidder:** \_\_\_\_\_ **Certification**  MBE  WBE  NCSBE  
(Company Name) \_\_\_\_\_ **Status:**  CBI-SBE  NCDOT-DBE  
**Telephone:** \_\_\_\_\_ **Emails:** \_\_\_\_\_

**Project Name:** \_\_\_\_\_ **Solicitation #:** \_\_\_\_\_

**Total Bid Amount:** \_\_\_\_\_

**I hereby certify that it is our intent to perform 100% of the contract required for this Contract.**

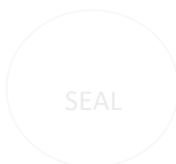
- 1. In making this certification, the Bidder states that the Bidder does not customarily subcontract elements of this type of project, normally performs, has the capability to perform, and will perform **all elements of the work** (labor) on this project with his/her own current workforces – **including any aggregation of material, equipment or supplies required for the project provided by the Bidder’s company for utilization on a County Project, with the total value of which is ten percent (10%) or more of the value of the contract or \$2,000, whichever is less; and**

The Bidder agrees to provide any additional information or documentation requested by the owner in support of the above statement.

- 2. If it should become necessary to subcontract some portion of the work at a later date, the Bidder will comply with all "Good Faith Efforts" requirements in providing equal opportunity to MWBE firms to Subcontract the Work. The BDI Program Office should be notified immediately and approved, and respective BDI Program Provisions and Forms should be adhered to.

The undersigned hereby certifies that he or she has read the BDI Program Provisions Guide and this certification and is authorized to bind the Bidder to the commitments herein contained.

Date: \_\_\_\_\_ Name of Authorized Person: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Title: \_\_\_\_\_



State of \_\_\_\_\_, County of \_\_\_\_\_  
Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_  
Notary Public Name/Signature \_\_\_\_\_  
My commission expires \_\_\_\_\_

**Form D – MWBE Inclusion Plan**

[Submit with Bid/Submission, when selected in the BDI Solicitation Coversheet]

Create a detailed description of the strategies and actions the Bidder will take to outreach fairly and equitably, support, and contract with MWBEs.

\*\*\*Prior to submission, review your documents for accuracy and ensure all items are complete\*\*\*

The following are elements to incorporate into the MWBE Inclusion Plan to help collaborate with MWBEs by addressing the following, but not be limited to:

- the firms you contacted, when, and how you made contact, and their contact information
- the outreach strategy used to meet this Contract’s MWBE achievement goals;
- the specific resources and resource contacts utilized to locate MWBE firms for this Contract;
- the plan for building a connection with MWBEs and developing a project team;
- the plan to strengthen business relationships;
- the methods that will be used to improve lines of communication;
- the approach(es) that will be taken to resolve disputes;
- detailed description of the supportive services and activities that will be established for business development and how the plan will be executed;
- the mentorship opportunities that will be made available and how those opportunities will be executed; and
- the efforts that will be made available for capacity building and how those efforts will be executed.

*(add additional sheets if needed)*

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form E – Subcontractor Commitment**

[Do not submit with Bid – Due within three (3) business days after receiving a request from the County]

This document standing alone shall not be considered an actual subcontract between the two parties. A separate binding agreement will describe in detail the contractual obligation of the Prime Contractor and the Subcontractor. The undersigned will enter into a formal agreement for the scope of work mentioned, conditioned upon the execution of a contract with Mecklenburg County. Breach of this commitment constitutes breach of Bidder's/Participant's contract if awarded. **If subcontracting with MBE/WBE Firms, any changes in this commitment must be approved in advance by the BDI Office.**

<b>To be completed by the Prime Contractor</b>			
Project Name:		Solicitation Number:	
Company Name:			
Authorized Person:		Title:	
Email:		Telephone:	
Reason for Out-of-State Sub Selection (if applicable):			

If the Prime Contractor has entered into a Quick Pay Agreement, in association with this Commitment, attach a copy of the executed Agreement with the undersigned business.

Upon execution of a Prime Contract with the County for the above referenced project, the Bidder/Participant certifies that it intends to utilize the business listed below, and that the description, cost of work to be performed by the business as described below is accurate. Both parties have or will enter into a formal agreement conditioned upon the execution of a Contract with Mecklenburg County.

Signature of Authorized Person (Prime Contractor) \_\_\_\_\_ Date \_\_\_\_\_

<b>To be completed by the Subcontractor (Supplier/Subconsultant)</b>			
Company Name:			
Authorized Person:		Title:	
Telephone:		Email:	
Address, City, St, Zip:			
County:		Ownership is Minority Female:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Source of Ownership Category:	** Please Select **	Ownership Category:	** Please Select **
Contract Date:		Attended the Pre-Bid:	<input type="checkbox"/> Yes <input type="checkbox"/> No

Identify in complete detail the scope of work to be performed and/or item(s) to be supplied with projected start and end timeframe. The undersigned intends to and is prepared to perform the work and/or provide the supplies (described below) in connection with the above project at the following Price (\$): \_\_\_\_\_

NIGP Code	Scope of Work	Projected Start Date	Projected End Date

The subcontracting firm certifies that it has read the BDI DBE Program Guide and agreed to provide such work/supplies for the amount stated above. Both parties have or will enter into a formal agreement conditioned upon the execution of a Contract with Mecklenburg County.

Signature of Authorized Person (Subcontractor/Supplier) \_\_\_\_\_ Date \_\_\_\_\_

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form E1 – Tier 2 Subcontractor Commitment (Special Projects Only)**

[Do not submit with Bid – Due within three (3) business days after receiving a request from the County]

This document standing alone shall not be considered an actual subcontract between the two parties. A separate binding agreement will describe in detail the contractual obligation of the Tier 1 Subcontractor and the Tier 2 Subcontractor. The undersigned will enter into a formal agreement for the scope of work mentioned, conditioned upon the execution of a contract between the Prime Contractor with Mecklenburg County and with the Prime Contractor and the Tier 1 Subcontractor. **If subcontracting with MBE/WBE Firms, any changes in this commitment must be approved in advance by the BDI Office.**

<b>To be completed by the Tier 1 Subcontractor</b>			
Project Name:			
Company Name:			
Authorized Person:		Title:	
Email:		Telephone:	
Reason for Out-of-State Sub Selection (if applicable):			

If the Subcontractor has entered into a Quick Pay Agreement, in association with this Commitment, attach a copy of the executed Agreement with the undersigned business.

Upon execution of the above-mentioned executed Contracts, the Tier 1 Subcontractor certifies that it intends to utilize the business listed below, and that the description, cost of work to be performed by the business as described below is accurate. Both parties have or will enter into a formal agreement conditioned upon the above-mentioned executed Contracts.

Signature of Authorized Person (Tier 1 Subcontractor) \_\_\_\_\_ Date \_\_\_\_\_

<b>To be completed by the Subcontractor (Supplier/Subconsultant)</b>			
Company Name:			
Authorized Person:		Title:	
Telephone:		Email:	
Address, City, St, Zip:			
County:		Ownership is Minority Female: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Source of Ownership Category: ** Please Select **		Ownership Category: ** Please Select **	
Contract Date:		Attended the Pre-Bid: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Identify in complete detail the scope of work to be performed and/or item(s) to be supplied with projected start and end timeframe. The undersigned intends to and is prepared to perform the work and/or provide the supplies (described below) in connection with the above project at the following Price (\$): \_\_\_\_\_

NIGP Code	Scope of Work	Projected Start Date	Projected End Date

The subcontracting firm certifies that it has read the BDI DBE Program Guide and agreed to provide such work/supplies for the amount stated above. Both parties have or will enter into a formal agreement conditioned upon the above-mentioned executed Contracts.

Signature of Authorized Person (Tier 2 Subcontractor/Supplier) \_\_\_\_\_ Date \_\_\_\_\_

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form F – Certificate of MWBE Unavailability**

[Do not submit with Bid – Due within three (3) business days after receiving a request from the County]

This document identifies the MWBE firm that was originally committed to Subcontract in good faith but became unavailable prior to providing the work/supplies, originally agreed upon for this project.

<b>To be completed by the Prime Contractor</b>			
Project Name:		Solicitation Number:	
Company Name:			
Authorized Person:		Title:	
Email:		Telephone:	
Reason for Out-of-State Sub Selection (if applicable):			

The undersigned certifies that the below MWBE was contacted in “**Good Faith**” and agreed to participate on the Project mentioned above with the stated price and scope of work but is now unavailable per the reason they have stated below.

Signature of Authorized Person (Prime Contractor)

Date

<b>To be completed by the Subcontractor (Supplier/Subconsultant)</b>			
Company Name:			
Authorized Person:		Title:	
Telephone:		Email:	
Address, City, St, Zip:			
County:		Ownership is Minority Female:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Source of Ownership Category:	** Please Select **	Ownership Category:	** Please Select **
Contract Date:		Attended the Pre-Bid:	<input type="checkbox"/> Yes <input type="checkbox"/> No

Price (\$)	Scope of Work	Reason for Unavailability

The firm certifies that it is no longer available to provide such work/supplies for the amount stated above, per the reason stated.

Signature of Authorized Person (Subcontractor/Supplier)

Date

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form G – Prime Contractor / Project Identification Form**

[Do not submit with Bid – Due within three (3) business days after receipt of fully executed County contract]

<b>To be completed by the Prime Contractor</b>			
Project Name:		Solicitation #:	
Company Name:			
Owner Name:		Owner Email/Telephone:	
Authorized Person:		Title:	
Email		Telephone:	
Address, City, County, State, Zip:			
Bid Opening Date:		Self-Performing:	<input type="checkbox"/> Yes <input type="checkbox"/> No
Contract Date:		Contract #:	
Original Contract Value:		Current Certification(s):	
Primary Type of Work for this Contract <i>(Construction)</i>	**Please Select**	Primary Discipline for this Contract <i>(Construction)</i>	**Please Select**
Construction Method <i>(Construction)</i>	**Please Select**	Type of Service <i>(Construction)</i>	**Please Select**
Scope of Work <i>(Services/Goods)</i>			
Ownership Category	** Please Select **	Ownership is Minority Female	<input type="checkbox"/> Yes <input type="checkbox"/> No
Source of Ownership Category	** Please Select **		

\_\_\_\_\_  
Signature of Authorized Person

\_\_\_\_\_  
Date

**BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE**

**Form H – Statement of Payments to Subcontractors (Suppliers/Subconsultants)**

[Do not submit with Bid – Due with pay applications]

Prime Contractors (Tier 1 Subcontractors when applicable) must submit this form or when applicable, input this information into the Contract Compliance Solution System with each request for payment showing work that has been approved and completed for all Subcontractors (suppliers, manufacturers, brokers, and/or members of a joint venture) in connection with the Contract.

*Copy this form as needed.*

Project Name:		Contract Number:	
Company Name:			
Authorized Person:		Title:	
Email:		Telephone:	
Address, City, County, State, Zip:			
Payment Period <i>(dates – from/to):</i>		Payment/Invoice #:	
Invoice Amount:		County Project Manager Name:	
Notes:			

**FINAL PAYMENT:**  Check this box only when submitting with the Final Pay Request    **Final Contract Total Value:** \_\_\_\_\_

No Payments: Certify that no Subcontractors (suppliers/subconsultants) were used in performing the Contract for the payment period indicated above.

**PAYMENTS TO ALL SUBCONTRACTORS**

Complete the fields below for all Subcontractors (suppliers/subconsultants) on the contract for the above-mentioned period regardless of dollar amount.

Firm's Name	Cert.	Scope of Work	NIGP	Amount to be Paid from this pay request	Total Payments to Date	Total Amount Committed
	**Select**					
	**Select**					
	**Select**					
	**Select**					
	**Select**					
	**Select**					
	**Select**					
	**Select**					
	**Select**					
	**Select**					



## SECTION-7 | PROMPT PAYMENT

Prompt payment of Prime Contractors and Subcontractors.<sup>6</sup>

The County shall pay the Prime Contractor in compliance with N.C.G.S. § 143 - 134.1(a), which mandates payment within forty-five (45) days of a complete and satisfactory invoice/demand.

Upon payment to the Prime Contractor by the County, the Prime Contractors shall thereafter ensure the prompt and full payment of any Subcontractors working on the contract. **Prime Contractors shall pay Subcontractors within seven (7) days of the Prime Contractor's receipt of payment, in compliance with N.C.G.S. § 143 - 134.1(b).**

Every contract with the County for the performance of work shall contain a provision requiring the Prime Contractor to certify in writing that all Subcontractors and suppliers have been paid promptly for work and materials from previous progress payments received (less any retainage) by the Prime Contractor prior to receipt of any further progress payments. A Prime Contractor is required to pay Subcontractors or suppliers funds due from progress payments within seven (7) days of receipt of payment from the County (see § 143 - 134.1(b) above).

During the contract and upon completion of the contract, the County may request documentation to certify payment to Subcontractors or suppliers. This subsection in no way creates any contractual relationship between any Subcontractor and the County or any liability on the County for a Prime Contractor's failure to make timely payment to the Subcontractor.

A Prime Contractor who fails to ensure the prompt and full payment of Subcontractors for goods or services delivered and accepted shall be subject to the penalties set forth in (N.C.G.S. § 143 - 134.1(b)).

## SECTION-8 | ADDITIONAL RACE AND GENDER-NEUTRAL PROGRAM ELEMENTS

### 1. Vendor Rotation

For certain contracts in Construction, Architectural & Engineering, Professional Services, and Other Services that have the respective contract values listed below and are of a fairly routine nature, the BDI Program Office in conjunction with the Originating Department may reserve such contracts for award to an on-call list or pre-qualified panel of firms on a rotating basis. In determining whether the Vendor Rotation Program should be considered for a particular contract, the BDI Program Team and Department shall consider: a) whether there are at least three (3) firms that are available and capable to perform as Prime on such contracts; and b) whether the anticipated frequency of such contract opportunities will warrant multiple awards on a rotating basis.

- Professional Services and Other Services: contracts valued at \$30,000 or over, may be required to have additional review by the BDI Director (or designee) with consultation from the County Manager (or designee) when applicable;

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<sup>6</sup> Subcontractor payments are monitored and tracked by the BDI Program Office, as appropriate.

- Construction: contracts valued at \$30,000 or over, may be required to have additional review by the BDI Director (or designee) with consultation from the County Manager (or designee) when applicable;
- Architectural & Engineering: contracts valued at \$50,000 or over, may be required to have additional review by the BDI Director (or designee) with consultation from the County Manager (or designee) when applicable;

## **SECTION-9 | PROGRAM COMPLIANCE & GRIEVANCE PROCEDURES**

### **1. Prime Contractor and Subcontractor Non-Compliance**

The BDI Director, along with contracting staff of each County user Department, shall monitor compliance with these BDI Program requirements by Prime Contractors and Subcontractors during the term of the contract. If it is determined there is cause to believe a Prime Contractor or Subcontractor has failed to comply with any of the requirements of this Program, or with the contract provisions pertaining to MWBE utilization, the BDI Director (or designee) shall so notify the Director of the Originating Department, Procurement and the Contractor or Subcontractor in writing.

The BDI Director (or designee) may require such reports, information, and documentation from Prime Contractors, Subcontractors, and/or the Director of any County Department, division or office as are reasonably necessary to determine compliance with the Program requirements, within fifteen (15) business days after the notice of non-compliance.

If the requested materials are not received within fifteen (15) business days, then a finding of non-compliance is determined and appropriate penalties and sanctions will apply as stated in Section-9(3) of this Provisions Guide, set forth below.

It is the joint responsibility of the BDI Director (or designee) and the Director of the Originating Department (or designee) to attempt to resolve the non-compliance with the requirements of this Program, or the contract provisions pertaining to MWBE utilization, within thirty (30) business days.

If non-compliance cannot be resolved within the thirty (30) business days, the BDI Director (or designee) and the Director of the Originating Department (or designee) shall submit written recommendations to the County Manager (or designee) and/or the County Attorney (or designee) and if the County Manager and/or County Attorney (or respective designee) concurs with the finding, such sanctions as stated in Section-9(3) of this Provisions Guide shall be imposed.

### **2. Other Prime Contractor or Subcontractor Program Violations**

It shall be a material violation of the BDI Program to:

- fraudulently obtain, retain, or attempt to obtain/retain (or aid another in fraudulently obtaining, retaining, or attempting to obtain/retain) Certification status as an MBE, WBE, or SBE for purposes of this Program;
- willfully falsify, conceal, or cover up by a trick, scheme, or device, a material fact pertaining to the provisions of this Program;

- knowingly make any false, fictitious, or fraudulent statements or representations, or make use of any false writing or document, knowing the same to contain any false, fictitious, or fraudulent statement or representation pertaining to the provisions of this Program;
- willfully obstruct, impede, or attempt to obstruct/impede any authorized official or employee who is investigating the qualifications of a business entity which has requested Certification as an MBE, WBE, or SBE;
- fraudulently obtain, attempt to obtain (or aid another person fraudulently obtaining or attempting to obtain) public monies to which the person is not entitled under the provisions of this Program; or
- make a false statement to any business entity or government representative that another entity is or is not certified as an MBE, WBE, or SBE for purposes of this Program;
- any person who violates the provisions of this section shall be subject to the penalties and sanctions set forth in Section-9(3) of this Provisions Guide, as well as any other remedies available under law up to the maximum penalty provided by law.

### **3. Penalties and Sanctions for Non-Compliance**

Upon determination and recommendation of sanctions by the County Manager and/or County Attorney (or their respective designee) regarding the failure of a contractor, vendor, or other business representative to comply with any portion of the BDI Program, the non-complying party shall be subject to any or all of the following penalties:

- withholding of up to ten percent (10%) of all future invoiced payments for the eligible project until the BDI Program Office determines that the contractor is in compliance with the Program;
- withholding of all future payments under the eligible project until the BDI Program Office determines that the contractor is in compliance with the Program;
- rescission of the contract based upon a material breach of contract pertaining to BDI Program compliance;
- refusal to accept a Bid, proposal or response; and
- disqualification of the contractor, vendor, or other business from eligibility for Bidding Construction projects, providing goods or services (Professional or otherwise) to the County for a period not to exceed two (2) years.

### **4. Mediation of Disputes between Prime Contractors and Subcontractors; Joint Venture Partners**

If, after the award of a contract, pursuant to the BDI Program, a dispute arises between the Prime Contractor and a Subcontractor regarding performance of work or provision of

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

services or supplies on the eligible project, then such Prime Contractor or Subcontractor may seek review and mediation of the issue before the BDI Director (or designee). The request for review must be made in writing.

Within twenty (20) business days of receipt of a request for review, if the dispute has not already been resolved informally among the parties, the BDI Director (or designee) shall set a mediation date and shall provide written notice of the mediation date to each of the interested parties.

The BDI Director (or designee) shall have authority to make recommendations in an attempt to resolve the dispute.

In the event that the mediation with the BDI Director (or designee) does not resolve all disputes, the BDI Director (or designee) shall have the option of referring mediation proceedings to a qualified outside mediator, contingent upon the consent and at the expense of the interested parties.

However, any actions taken by the BDI Program Office to resolve contractor disputes or to ensure the fair and equitable treatment of Subcontractors (or joint venture partners) working on County contracts are done pursuant to the BDI Program Provisions Guide or general non-discrimination policy and shall not be construed as the County taking a position as to the merits of the dispute nor creating any privity of contract between the County and any contractor or Subcontractor. Further, no contractor working on a County contract shall have any claim against Mecklenburg County for any actions taken to ensure the fair and equitable treatment of Subcontractors (or joint venture partners) working on County contracts.

## SECTION-10 | APPENDIX

## 1. Definitions

**Affiliate(s):** Two entities are affiliates of one another when: (a) one controls or has the power to control the other; (b) a third-party controls, or has the power to control, both; or (c) there is a significant relationship between the two entities based on common ownership, management or employees, shared equipment, assets, or facilities, physical proximity, percentage of revenue derived from the other entity, or loans, leases, contributions, and contracts.

**Achievement Goal(s):** An aspirational participation percentage applied on each contract for MBE and WBE Subcontractor participation for Construction, Professional Services, Goods and Other Services. The Achievement Goals are based upon the availability in the Relevant Market as determined by the disparity study which is conducted every five (5) years by the County.

**Availability: In accordance with the most recent Disparity Study** Means being qualified, ready, willing, and able to perform work for the County on a Contract. This means that the Bidder/Participant does business within an industry group from which the County or its Contractors make certain purchases; the firm's owner has taken steps to do business with the County and qualified itself to do such business by registering with the County as a vendor and/or being certified, as appropriate; and the firm is located within a relevant geographical area such that it can do business with the County.

**Authorized Person:** The authority of a person or business owner to legally sign responses to solicitations and contracts, make price negotiation decisions, sell or liquidate the business, and have the primary authority to direct the day-to-day management and operation of a business enterprise without interference from others.

**Award:** The final selection or approval of a Respondent for a specified (Prime) Contract.

**Best Value Contracting:** A purchasing solicitation process which may evaluate factors other than price. Evaluation criteria for selection may include a Respondent's previous experience and quality of product or services procured, and other factors identified in the applicable solicitation.

**BDI:** Business Diversity and Inclusion

**BDI Director:** The staff member that is primarily responsible for the management of the BDI Program with the County and ultimately responsible for oversight, tracking, monitoring, compliance, administration, implementation, and reporting of the MWSBE elements within the BDI Program. The BDI Director is also responsible for enforcement of contractor and vendor compliance with contract participation requirements and ensuring that overall Program goals and objectives are met.

**BDI Program:** The combination of race- and gender-neutral and race- and gender-conscious remedies, policies, procurement reforms, and Program Elements that are provided herein for the purpose of enhancing the ability of MWSBE firms to fairly compete for County contract opportunities, and for the purpose of establishing a broader marketplace environment that is less susceptible to the ongoing effects of discrimination.

**BDI Program Team or Office:** A group of staff members or designated representatives who work collectively and individually under the direction of the BDI Director. The team is responsible for executing the work of the BDI Program.

**Bid:** A quote, proposal, or offer to perform work or provide labor, materials, supplies, or services for Mecklenburg County for a price.

**Bid Due:** The date and time specified that Bids, Proposals, or other submittals are due.

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

**Bid Opening:** The process of opening Bids conducted at the time and place specified in the Invitation to Bid and/or the advertisement. For Contracts that are subject to formal Bidding requirements under the North Carolina Bid statutes (N.C.G.S. § 143-128 and § 143-129), the Bid Opening shall be the date and time that Bids are opened by the County.

**Bidder/Participant:** Any person, firm, company, partnership, corporation, association, or joint venture seeking to be awarded a contract by the County on a project by submitting a Bid.

**Business Days:** Days on which the administrative offices of Mecklenburg County are open to the public for business.

**Charlotte – Concord – Gastonia MSA:** The Charlotte-Concord-Gastonia Metropolitan Statistical Area in effect as of 2013, consisting of: (a) the North Carolina counties of Mecklenburg, Union, Gaston, Cabarrus, Iredell, Rowan, and Lincoln Counties; and (b) the South Carolina counties of York, Chester and Lancaster.

**Commercially Useful Function:** An MWSBE firm performs a Commercially Useful Function when it is responsible for executing the contracted work and is carrying out its responsibilities by actually performing, staffing, managing and supervising the work involved. To perform a Commercially Useful Function, the MWSBE firm must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quantity and quality, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether an MWSBE firm is performing a Commercially Useful Function, an evaluation must be performed of the amount of work subcontracted, normal industry practices, whether the amount the MWSBE firm is to be paid under the contract is commensurate with the work it is actually performing and the MWSBE credit claimed for its performance of the work, and other relevant factors. An MWSBE firm does not perform a Commercially Useful Function if its role is limited to that of an extra participant in a transaction, contract or project through which funds are passed in order to obtain the appearance of meaningful and useful MWSBE participation, when in similar transactions in which MWSBE firms do not participate, there is no such role performed.

**Contract:** A legally binding agreement through which Mecklenburg County agrees to procure goods or services and a vendor or contractor agrees to provide goods or services for agreed upon consideration.

**Contract Documents:** All documents that constitute the agreement between the County, the Owner and/or the Contractor or Vendor, including documents incorporated by reference into the agreement.

**County:** Mecklenburg County, North Carolina.

**Days:** Any reference to “days” in this Program shall mean calendar days unless it is specifically indicated to be Business Days.

**Disadvantaged Business Enterprise (DBE):** For-profit small business concerns where socially and economically disadvantaged individuals own at least a fifty-one percent (51%) interest and also control management and daily business operations.

African Americans, Hispanics, Native Americans, Asian-Pacific and Subcontinent Asian Americans, and women are presumed to be socially and economically disadvantaged. Other individuals may also qualify as socially and economically disadvantaged on a case-by-case basis.

**Formal Solicitations:** An invitation to Bid (ITB), request for proposal (RFP), request for qualifications (RFQ), or other solicitation document issued by a County Department for a Contract that requires formal advertisement in accordance with the procurement rules adopted by the County Manager (or designee) and/or pursuant to statutory requirements (i.e., N.C.G.S. § 143.129). [Mecklenburg County's Procurement Policies](#)

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

**Goal:** A numerical objective.

**Goal-Setting Committee (GSC):** Means a committee tasked with setting contract-by-contract goals for the MWBE elements within the BDI Program.

**Good Faith Efforts (GFE):** The activities of Bidders/Participants for County projects designed specifically to obtain participation of MWBE Subcontractors on their projects. Such activities shall be documented and verified when MWBE goals for a County project are not achieved. Actions and efforts taken by the Bidder/Participant in furtherance of meeting any MWBE goals, as further defined and outlined in N.C.G.S. § 143.128.2 and in Section-4 herein.

**Good Faith Efforts Documentation:** All forms and documentation as may be required by the County, including pursuant to N.C.G.S. § 143.128.2, described/listed in Form A, or otherwise requested or required by the County at its discretion, relating to the Good Faith Efforts taken by a Bidder/Participant to meet a Goal.

**Good Faith Negotiations:** The actions and efforts taken by the Bidders/Participants to show that they held discussions with MWBEs aimed at reaching an agreement with honesty or sincerity of intention to comply with Bid requirements.

**Independently Owned and Operated:** Ownership of an MWSBE firm may be by individuals and/or by other businesses provided the ownership interests in the MWSBE firm can satisfy the MWSBE eligibility requirements for ownership and Control as specified herein. The MWSBE firm must also be Independently Owned and Operated in the sense that it cannot be the subsidiary or captive Affiliate of another firm that does not itself (and in combination with the certified MWSBE firm) satisfy the eligibility requirements for MWSBE Certification.

**Industry Categories:** Procurement groupings for the County inclusive of Architect & Engineering, Construction, Professional Services, Goods and Other Services (e.g., manufacturing, wholesale, and retail distribution of commodities, and non-professional services). This term may sometimes be referred to as “business categories.”

**Informal Solicitations:** Solicitations for contracts that do not require Formal Bid Solicitations requirements. (See, N.C.G.S. § 143.129 and § 143.131.). It is the policy of the County to obtain at least three (3) quotes. [Mecklenburg County's Procurement Policies](#)

**Hearing Committee:** A committee composed of three or more individuals, which shall review and make decisions on MWBE Good Faith Effort appeals.

**Joint Venture:** An association of two or more businesses to carry out a single business enterprise for profit, for which they combine their property, capital, efforts, skills, and knowledge.

**Minority Business Enterprise (MBE):** A legal entity, except a joint venture, that is organized to engage in for-profit transactions, which is Certified as being at least fifty-one percent (51%) owned, managed and controlled by one or more Minority Group Members, and that is ready, willing and able to sell goods or provide services that are purchased by Mecklenburg County. An MBE is a bona fide MBE only if the minority group ownership interests are real and continuing and not created solely to meet an MBE participation requirement. The MBE must also perform a Commercially Useful Function to be a bona fide MBE for Program purposes. Unless otherwise stated, the term “MBE” as used in this Program are not inclusive of non-minority women-owned business enterprises (WBEs).

**Minority Group Members:** African Americans, Hispanic Americans, Asian Americans and Native Americans legally residing in, or that are citizens of, the United States or its territories, as defined below:

- African American/Black: Persons having origins in any of the black racial groups of Africa.

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

- Hispanic American: Person of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands regardless of race.
- Asian American: Person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.
- American Indian/Native American: Person having no less than 1/16<sup>th</sup> percentage origin in any of the American Indian/Native American Tribes of North America as recognized by the U.S. Department of the Interior, Bureau of Indian Affairs and as demonstrated by possession of personal tribal role documents.
- Woman: female of any of the above listed minority groups
- See N.C.G.S. § 143.128.2(g) for additional definitional guidance.

**MWSBE Certification:** The process by which a firm is determined to be a bona fide minority-owned, women-owned, or small business enterprise.

**MWSBE Directory:** A listing of minority-owned, women-owned, and small businesses that have been certified as eligible to participate in, and benefit from, the application of the County's MWSBE elements within the BDI Program

**NIGP:** National Institute of Governmental Purchasing (NIGP) codes used to describe commodities purchased by governmental agencies.

**Originating Department:** The County Department or authorized representative of the County which issues a solicitation, or for which a solicitation is issued on behalf of, for the purchase of goods or services.

**Owner:** Mecklenburg County.

**Payment Affidavit:** A document detailing the total dollars paid by the Contractor to all Subcontractors and suppliers receiving payment in connection with a Contract. Payment Affidavits shall be in the format specified by the County.

**Points:** The numeric assignment of value for specific evaluation criteria in the vendor selection process used in some Construction, Professional Services, and Other Services contracts to meet Bid requirements (e.g., up to 10 points out of a total of 100 points assigned for the degree of MWBE participation of a Respondent/Bidder team).

**Prime Contractor:** The vendor or contractor to whom a purchase order or contract is issued by Mecklenburg County for purposes of providing goods or services to, or on behalf of, the County.

**Program Elements:** Refers to various race- and gender-neutral and race- and gender-conscious BDI Program tools that are used to encourage greater Prime and Subcontractor participation by MWBE firms, including, but not limited to, evaluation preferences, goals, and supportive services.

**Program Waiver:** A particular procurement solicitation for which goals are not required and is therefore waived. This is not the same as a "Waiver based on Good Faith Efforts."

**Quick Pay Commitment:** An agreement or commitment that a Prime Contractor makes to pay all Subcontractors participating in a Contract within twenty (20) days after the Prime Contractor confirms that the subcontracted work has been properly performed and properly completed. Such agreement or commitment exists outside of the State's Prompt Pay Act requirements, meaning that payment to the Subcontractors pursuant to such agreement is not contingent on the Prime Contractor receiving payment from the County.

**Race-Conscious / Gender-Conscious Program Element(s):** Any business classification or Program element which is defined by the race or gender of the business owner.

## BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

**Race-Neutral / Gender-Neutral:** Any business classification or Program element wherein the race or gender of the business owner(s) is not taken into consideration.

**Relevant Market:** The Relevant Market encompasses the geographical area where Mecklenburg County awards at least seventy-five percent (75%) of its dollars.

**Respondent:** A vendor or Bidder/Participant submitting a Bid, statement of qualifications, or proposal in response to a solicitation issued by the County.

**Responsible:** A firm that is capable in all respects to fully perform the contract requirements and has the integrity, means, reputation and reliability which will assure performance of contract specifications within the required time.

**Responsive:** A firm's submittal (Bid, response, or proposal) that conforms in all material aspects to the solicitation (Invitation for Bid, Request for Qualifications, or Request for Proposal) and shall include compliance with BDI Program requirements.

**Services Contract:** A Contract for a business enterprise to provide an act or a variety of work for an agreed upon payment, and not otherwise defined by statute. Examples include, but not limited to, contracts for architectural, engineering, surveying, or construction management services, accounting or auditing services, computer (IT) consulting, janitorial services, etc.

**Significant Business Presence:** A business enterprise must have its headquarters or an established place of business in the Charlotte-Concord-Gastonia MSA, and from which at least twenty-five percent (25%) of its total full-time, part-time, and contract employees are regularly based. A location utilized solely as a post office box, mail drop, or telephone message center, or any combination thereof, with no other substantial work function, shall not be construed to constitute a significant business presence.

**Small Business Enterprise (SBE):** A business enterprise shall be eligible for Certification as a "Small Business Enterprise" (SBE) only if it meets the eligibility requirements for the NC Historically Underutilized Business Small Business Certification (NCSBE) or the City of Charlotte-Charlotte Business Inclusion Small Business Certification (CBI-SBE).

**Special Projects:** Construction Manager at Risk (CM@R), Public Private Partnerships (P3), Design Build, and other Alternative Build Methods.

**State HUB Office:** The Office of Historically Underutilized Businesses in the Department of Administration for the State of North Carolina.

**Subcontracting Goal:** The MBE goal and WBE goal established by the County.

**Subcontractor:** Any vendor or contractor that is providing goods or services to a Prime Contractor in furtherance of the Prime Contractor's performance under a contract or purchase order with the County. A Subcontractor may be either a first, second, or third-tier Subcontractor. A first-tier Subcontractor provides good or services directly to the Prime Contractor. A second-tier contractor is hired by a first-tier Subcontractor within the same contract or purchase order to provide a portion of the good and/or services the first-tier Subcontractor is obligated to provide under its subcontract to the Prime Contractor. A third-tier Subcontractor is hired by the second-tier Subcontractor within the same contract or purchase order to provide a portion of the goods and/or services it is obligated to provide under the second-tier Subcontractor's subcontract with the first-tier Subcontractor.

**Utilization Documentation:** A provision within the contract which includes the name of all Subcontractors to be utilized in the contract, specifying the MWBE Certification category for each, as approved by the BDI Program Office. This information is provided by the Bidder/Participant in Form B/Form B1.

# BUSINESS DIVERSITY & INCLUSION (BDI) PROGRAM PROVISIONS GUIDE

**Waiver based on Good Faith Efforts:** An exception provided to the lowest responsive and responsible Bidder or best value Bidder who did not meet or exceed the MWBE goals on a specific project/contract but who satisfactorily provided Good Faith Efforts documentation.

**Women Business Enterprises (WBEs):** A legal entity, except a joint venture, that is organized to engage in for-profit transactions, which is Certified as being at least fifty-one percent (51%) owned, managed, and controlled by one or more non-Minority females, and that is ready, willing and able to sell goods or services that are purchased by the County. A WBE is a bona-fide WBE only if the non-Minority female ownership interest(s) is real and continuing and not created solely to meet a WBE participation requirement. The WBE must also perform a Commercially Useful Function to be a bona-fide WBE for Program purposes. Unless otherwise stated, the term “WBE” as used in this Program is not inclusive of MBEs.

**Work:** (sometimes referred as Scope of Work): The construction and/or services required by the Contract Documents, including all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill its obligations under the Contract.

## 2. Websites

(last updated per the revised date of this Document)

- **Mecklenburg County:** [www.mecknc.gov](http://www.mecknc.gov)
  - **Office of Economic Development:** [oed.mecknc.gov](http://oed.mecknc.gov)
    - Business Diversity & Inclusion (BDI): [oed.mecknc.gov/BDI](http://oed.mecknc.gov/BDI)
    - 2020 Disparity Study Full Report: [oed.mecknc.gov/BDI](http://oed.mecknc.gov/BDI)
  - **Procurement Department:** [www.mecknc.gov/finance/procurement/Pages/default.aspx](http://www.mecknc.gov/finance/procurement/Pages/default.aspx)
    - Procurement Policies: [www.mecknc.gov/Finance/Procurement/Pages/policies.aspx](http://www.mecknc.gov/Finance/Procurement/Pages/policies.aspx)
    - MeckProcure (Vendor Registration/Solicitation Search): [meckprocure.com](http://meckprocure.com)
- **State of North Carolina**
  - **NC Department of Administration:** [ncadmin.nc.gov](http://ncadmin.nc.gov)
    - NC Interactive Purchasing System (Vendor Registration/Solicitation Search): [www.ips.state.nc.us/vendor/VendorPubMain.aspx](http://www.ips.state.nc.us/vendor/VendorPubMain.aspx)
  - **NC Historically Underutilized Businesses (NCHUB):** [ncadmin.nc.gov/businesses/historically-underutilized-businesses-hub](http://ncadmin.nc.gov/businesses/historically-underutilized-businesses-hub)
    - NCHUB/NCSBE Certifications: [ncadmin.nc.gov/businesses/hub/hub-certification](http://ncadmin.nc.gov/businesses/hub/hub-certification)
    - Vendor Directory: [www.ips.state.nc.us/vendor/searchvendor.aspx?t=h](http://www.ips.state.nc.us/vendor/searchvendor.aspx?t=h)
  - **NC General Statutes:** [ncleg.gov/Laws/GeneralStatutesTOC](http://ncleg.gov/Laws/GeneralStatutesTOC)
- **City of Charlotte**
  - **Charlotte Business Inclusion (CBI):** [CharlotteBusinessInclusion.com](http://CharlotteBusinessInclusion.com)
    - Small Business Enterprise (SBE) Certification: [charlottenc.gov/GS/procurement/cbi/Pages/getting-started.aspx](http://charlottenc.gov/GS/procurement/cbi/Pages/getting-started.aspx)
    - Vendor Directory: [charlottenc.gov/GS/procurement/cbi/Pages/vendors.aspx](http://charlottenc.gov/GS/procurement/cbi/Pages/vendors.aspx)

## SECTION 033000 – CAST-IN-PLACE CONCRETE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.
- B. Related Requirements: Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.
  - 1. Section 033300 "Architectural Concrete" for general building applications of specially finished formed concrete.
  - 2. Section 312000 "Earth Moving" as related to concrete work.
  - 3. Section 321313 "Concrete Paving" for concrete pavement and walks.

#### 1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.
- C. Watertight Concrete: Concrete in which a liquid or gas will not flow freely through.

#### 1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
    - a. Contractor's superintendent.
    - b. Independent testing agency responsible for concrete design mixtures.
    - c. Ready-mix concrete manufacturer.
    - d. Concrete Subcontractor.
    - e. Special concrete finish Subcontractor.

2. Review testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, vapor-retarder installation, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
  1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Placing Drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
  1. Location of construction joints is subject to approval of the Architect.
- E. Samples: For waterstops and vapor retarder.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Welding certificates.
- C. Material Certificates: For each of the following, signed by manufacturers:
  1. Cementitious materials.
  2. Admixtures.
  3. Form materials and form-release agents.
  4. Steel reinforcement and accessories.
  5. Fiber reinforcement.
  6. Waterstops.
  7. Curing compounds.
  8. Floor and slab treatments.
  9. Bonding agents.
  10. Adhesives.
  11. Vapor retarders.
  12. Semirigid joint filler.

13. Joint-filler strips.
  14. Repair materials.
- D. Material Test Reports: For the following, from a qualified testing agency:
1. Aggregates: Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
- E. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer, detailing fabrication, assembly, and support of formwork.
1. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and reshoring installation and removal.
- F. Floor surface flatness and levelness measurements indicating compliance with specified tolerances.
- G. Field quality-control reports.
- H. Minutes of preinstallation conference.

#### 1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
  2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Grade I. Testing agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician, Grade II.
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M.
- E. Mockups: Cast concrete formed-surface panels to demonstrate typical joints, surface finish, texture, tolerances, floor treatments, and standard of workmanship.

1. Build panel approximately 100 sq. ft. (9.3 sq. m) for formed surface Insert area in the location indicated or, if not indicated, as directed by Architect.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.8 PRECONSTRUCTION TESTING

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

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

#### 1.10 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
  1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301 (ACI 301M).
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 (ACI 301M) and as follows:
  1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

## PART 2 - PRODUCTS

### 2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
1. ACI 301 (ACI 301M).
  2. ACI 350 (ACI 350M).
  3. ACI 117 (ACI 117M).

### 2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
1. Plywood, metal, or other approved panel materials.
  2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
    - a. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
  3. Overlaid Finnish birch plywood.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.
- D. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.
- E. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- F. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum.
- G. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- H. Form-Release Agent: Commercially formulated form-release agent that does not bond with, stain, or adversely affect concrete surfaces and does not impair subsequent treatments of concrete surfaces.
1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

- I. Form Ties: Factory-fabricated, removable or snap-off glass-fiber-reinforced plastic or metal form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
  1. Furnish ties that, when removed, leave holes no larger than **1 inch (25 mm)** in diameter in concrete surface.

## 2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, **Grade 60 (Grade 420)**, deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- C. Steel Bar Mats: ASTM A 184/A 184M, fabricated from ASTM A 615/A 615M, **Grade 60 (Grade 420)**, deformed bars, assembled with clips.
- D. Plain-Steel Wire: ASTM A 1064/A 1064M, as drawn.
- E. Deformed-Steel Wire: ASTM A 1064/A 1064M.
- F. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.
- G. Deformed-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, flat sheet.

## 2.4 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, **Grade 60 (Grade 420)**, plain-steel bars, cut true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
  1. For concrete surfaces exposed to view, where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

## 2.5 CONCRETE MATERIALS

- A. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- B. Cementitious Materials:
  1. Portland Cement: ASTM C 150/C 150M, Type I/II, gray.
  2. Fly Ash: ASTM C 618, Class F.

3. Slag Cement: ASTM C 989/C 989M, Grade 100 or 120.
  4. Silica Fume: ASTM C 1240, amorphous silica.
- C. Normal-Weight Aggregates: ASTM C 33/C 33M, Class 4S coarse aggregate or better, graded. Provide aggregates from a single source.
1. Maximum Coarse-Aggregate Size: **1-1/2 inches (38 mm)** for slabs on grade, **1 inch (25 mm)** nominal for all other locations.
  2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- D. Air-Entraining Admixture: ASTM C 260/C 260M.
- E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures and that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
- F. Water: ASTM C 94/C 94M and potable.

## 2.6 FIBER REINFORCEMENT

- A. Synthetic Macro-Fiber: Polyolefin macro-fibers (containing no reprocessed olefin materials) engineered and designed for use as secondary reinforcing in concrete, complying with ASTM C 1116/C 1116M, Type III, **1 1/4 to 2-1/4 inches (25 to 57 mm)** long, varying fiber thickness, and no water absorption.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. 3M; Scotchcast Polyolefin Fibers 2".
    - b. BASF Construction Chemicals, "MasterFiber MAC" Series
    - c. Euclid Chemical Company (The), an RPM company; Tuf-Strand SF.
    - d. FORTA Corporation; FORTA FERRO.
    - e. Grace Construction Products, W. R. Grace & Co.; Strux 90/40.
    - f. Nycon, Inc.; XL.
    - g. Propex Concrete Systems Corp.; Fibermesh 650.
    - h. Sika Corporation; Sika Fiber MS10.

## 2.7 WATERSTOPS

- A. Chemical Resistant Self-Expanding Rubber Strip Waterstops: Manufactured rectangular or trapezoidal strip, bentonite-free hydrophilic polymer-modified chloroprene rubber, for adhesive bonding to concrete, **3/4 by 1 inch (10 by 19 mm)**.

1. Available Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:
  - a. Adeka Ultra Seal/OCM, Inc.
  - b. CETCO, a Minerals Technologies company.
  - c. Grace Construction Products; W.R. Grace & Co. – Conn.
  - d. Sika Greenstreak.

## 2.8 VAPOR RETARDERS

- A. Sheet Vapor Barrier at building slabs with adhered finishes: ASTM E 1745, Class A, except with maximum water-vapor permeance of less than 0.015 perms (gr/ft<sup>2</sup>/hr/in-Hg). Include manufacturer's recommended adhesive and/or pressure-sensitive tape.
  1. Available Products: Subject to compliance with requirements, provide one of the following:
    - a. Layfield Construction Materials; VaporFlex 15.
    - b. Reef Industries, Inc.; Griffolyn Vaporguard.
    - c. Stego Industries, LLC; Stego Wrap 15 mil Class A.
- B. Sheet Vapor Retarder: Polyethylene sheet, ASTM D 4397, not less than **10 mils (0.25 mm)** thick.

## 2.9 SEALED CONCRETE

- A. Sealer: Clear, chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; that penetrates, hardens, and densifies concrete surfaces.
  1. Available Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ChemMasters; Chemisil Plus.
    - b. Dayton Superior Corporation; Day-Chem Sure Hard (J-17).
    - c. Edoco by Dayton Superior; Titan Hard.
    - d. Euclid Chemical Company (The), an RPM company; Euco Diamond Hard.
    - e. Kaufman Products, Inc.; SureHard.
    - f. L&M Construction Chemicals, Inc.; Seal Hard.
    - g. Meadows, W. R., Inc.; LIQUI-HARD.
    - h. US SPEC, Division of US Mix Products Company; US SPEC Industraseal.

## 2.10 STAIN MATERIALS

- A. Reactive Stain: Acidic-based stain with wetting agents and high-grade, UV-stable metallic salts that react with calcium hydroxide in cured concrete to produce permanent, variegated, or translucent color effects.
  1. Available Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. H & C Infusion, H&C Decorative Concrete Products, Cleveland, OH.
    - b. Lithochrome Chemstain Classic, L.M. Scofield Co., Douglasville, GA.

## 2.11 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, nondissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.
  - 1. Available Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. BASF Corporation-Construction Systems.
    - b. ChemMasters, Inc.
    - c. Dayton Superior.
    - d. Euclid Chemical Company (The); an RPM company.

## 2.12 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Slab Control Joint Sealer at Stained floor finish locations: One-component, self-leveling, flexible, polyurethane with a Type A shore durometer hardness of 80 per ASTM D 2240, conforming to ACI 302.1R (5.12-Joint Materials) and the ability to color.
  - 1. Color: to be selected by Architect.
- A. Slab Control Joint Sealer at all other non-water retention structure locations: Two-component, self-leveling, flexible, 100 percent solids, epoxy resin and adhesive with a Type A shore durometer hardness of 80 per ASTM D 2240 and conforming to ACI 302.1R (5.12-Joint Materials).
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Chem Masters; PolyTops 480.
    - b. Euclid Chemical Company (The); Euco 800.
    - c. Sika Corporation; Sikadur 51 SL.
- B. Joint Sealer at water-retaining structure locations: provide sealant per typical details and Joint Sealant specification.
- C. Bonding Agent: ASTM C 1059/C 1059M, Type II, nonredispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Types I and II, nonload bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- E. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than **0.034 inch (0.85 mm)** thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

## 2.13 REPAIR UNDERLAYMENT OR OVERLAYMENT MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from **1/8 inch (3.2 mm)** and that can be feathered at edges to match adjacent floor elevations.
  1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
  2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
  3. Aggregate: Well-graded, washed gravel, **1/8 to 1/4 inch (3.2 to 6 mm)** or coarse sand as recommended by underlayment manufacturer.
  4. Compressive Strength: Not less than **4100 psi (29 MPa)** at 28 days when tested according to ASTM C 109/C 109M.
- B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from **1/4 inch (6.4 mm)** and that can be filled in over a scarified surface to match adjacent floor elevations.
  1. Cement Binder: ASTM C 150/C 150M, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
  2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
  3. Aggregate: Well-graded, washed gravel, **1/8 to 1/4 inch (3.2 to 6 mm)** or coarse sand as recommended by topping manufacturer.
  4. Compressive Strength: Not less than **5000 psi (34.5 MPa)** at 28 days when tested according to ASTM C 109/C 109M.
- C. Crack injection repair for watertight concrete structures: Epoxy injection of cracked concrete structures with epoxy resin adhesive using manual pressure injection method. Provide 2 component injection system and associated gel for sealing with the following properties:
  - a. Tensile Strength, Minimum: 7,100 psi (**50.4 MPa**), per ASTM D 638.
  - b. Elongation: 2.3 percent per ASTM D 638.
  - c. Compressive Strength, Minimum (7 Days): 12,300 psi (**84.8 MPa**), per ASTM D 695.
  - d. Compressive Modulus of Elasticity (28 Days): 250,000 psi (**1,724 MPa**) per ASTM D 695.
  - e. Flexural Strength (14 Days): 8,600 psi (**59.3 MPa**) minimum, per ASTM D 790.
  - f. Bond Strength, 2 Days Dry Cure (Hardened Concrete to Hardened Concrete): 2,380 psi (**26.4 MPa**) per ASTM C 882.

- g. Bond Strength, 14 Days Wet Cure (Hardened Concrete to Hardened Concrete): 4,000 psi (27.6 MPa) per ASTM C 882.
- h. Water Absorption (24 Hour Immersion): 0.84 percent per ASTM D 570.
- i. Conform to ASTM C 881, Type I, II, IV, V, Grade 1, Classes B and C.

## 2.14 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301 (ACI 301M).
  1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- A. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
  1. Fly Ash: 25 percent.
  2. Combined Fly Ash and Pozzolan: 25 percent.
  3. Slag Cement: 50 percent.
  4. Combined Fly Ash or Pozzolan and Slag Cement: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
  5. Silica Fume: 10 percent.
  6. Combined Fly Ash, Pozzolans, and Silica Fume: 35 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.
  7. Combined Fly Ash or Pozzolans, Slag Cement, and Silica Fume: 50 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.
- B. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement.
- C. Admixtures: Use admixtures according to manufacturer's written instructions.
  1. Use water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
  2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
  3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a w/c ratio below 0.50.

## 2.15 CONCRETE MIXTURES FOR BUILDING AND TANK ELEMENTS

- A. Foundation footings and walls, building walls and frame members: Normal-weight concrete.
  1. Minimum Compressive Strength: 4,000 psi at 28 days.
  2. Maximum W/C Ratio: 0.50.
  3. Minimum Cementitious Materials Content: 470 lb/cu. yd..
  4. Slump Limit: 8 inches for concrete with verified slump of 2- to 4-inches before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1-inch.

5. Air Content: 4.5 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.
- B. Slabs-on-Grade: Normal-weight concrete.
1. Minimum Compressive Strength: 4,000 psi at 28 days.
  2. Maximum W/C Ratio: 0.50.
  3. Minimum Cementitious Materials Content: 470 lb/cu. yd..
  4. Slump Limit: 4-inches, plus or minus 1-inch.
  5. Air Content: 4.5 percent, plus or minus 1.5 percent at point of delivery for 1-inch nominal maximum aggregate size.
  6. Air Content: Do not allow air content of trowel-finished floors to exceed 3 percent.
  7. Synthetic Macro-Fiber: Uniformly disperse in concrete mixture, at concrete batch facility, at manufacturer's recommended rate, but not less than 3.0 lb/cu. yd. (2.4 kg/cu. m).

## 2.16 CONCRETE MIXTURES FOR EXTERIOR CONCRETE

- A. Exterior Concrete Elements And Retaining Walls: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 4500 psi (31 MPa) at 28 days.
  2. Maximum Water-Cementitious Materials Ratio: 0.45.
  3. Slump Limit: 4 inches, (100 mm) plus or minus 1 inch (25 mm); or 8 inches (200 mm) for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch (25 mm).
  4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.
- B. Exterior Slabs (concrete pads, walks and curbs): Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 4500 psi (31 MPa) at 28 days.
  2. Maximum Water-Cementitious Materials Ratio: 0.45.
  3. Slump Limit: 4 inches, (100 mm) plus or minus 1 inch (25 mm); or 8 inches (200 mm) for concrete with verified slump of 2 to 4 inches (50 to 100 mm) before adding high-range water-reducing admixture or plasticizing admixture, plus or minus 1 inch (25 mm).
  4. Air Content: 5.5 percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.
  5. Synthetic Macro-Fiber: Uniformly disperse in concrete mixture, at concrete batch facility, at manufacturer's recommended rate, but not less than 3.0 lb/cu. yd. (2.4 kg/cu. m).

## 2.17 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

## 2.18 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.
  - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For mixer capacity of 1 cu. yd. (0.76 cu. m) or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
  - 2. For mixer capacity larger than 1 cu. yd. (0.76 cu. m), increase mixing time by 15 seconds for each additional 1 cu. yd. (0.76 cu. m).
  - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

## PART 3 - EXECUTION

### 3.1 FORMWORK INSTALLATION

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301 (ACI 301M), to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 (ACI 117M).
- C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:
  - 1. Class A, 1/8 inch (3.2 mm) for smooth-formed finished surfaces.
  - 2. Class B, 1/4 inch (6 mm) for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Construct forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
  - 1. Install keyways, reglets, recesses, and the like, for easy removal.
  - 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

### 3.2 EMBEDDED ITEM INSTALLATION

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
  - 2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
  - 3. Install dovetail anchor slots in concrete structures as indicated.

### 3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than **50 deg F (10 deg C)** for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
  - 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
  - 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material are not acceptable for exposed surfaces. Apply new form-release agent.

- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

#### 3.4 SHORING AND RESHORING INSTALLATION

- A. Comply with **ACI 318 (ACI 318M)** and **ACI 301 (ACI 301M)** for design, installation, and removal of shoring and reshoring.
  - 1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

#### 3.5 VAPOR-RETARDER/BARRIER INSTALLATION

- A. Sheet Vapor Retarder/Barriers: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.
  - 1. Lap joints **6 inches (150 mm)** and seal with manufacturer's recommended tape.

#### 3.6 STEEL REINFORCEMENT INSTALLATION

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
  - 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
  - 1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded-wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

#### 3.7 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
  2. Form keyed joints as indicated. Embed keys at least **1-1/2 inches (38 mm)** into concrete.
  3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
  4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
  5. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
  6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  7. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  8. All joints in watertight structures require waterstops.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of **1/8 inch (3.2 mm)**. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
  2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut **1/8-inch- (3.2-mm-)** wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
  2. Terminate full-width joint-filler strips not less than **1/2 inch (13 mm)** or more than **1 inch (25 mm)** below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
  3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

### 3.8 WATERSTOP INSTALLATION

- A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of the Work. Field fabricate joints in waterstops according to manufacturer's written instructions.
- B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

### 3.9 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections are completed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
  - 1. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
  - 2. Consolidate placed concrete with mechanical vibrating equipment according to **ACI 301 (ACI 301M)**.
  - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least **6 inches (150 mm)** into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
  - 1. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  - 2. Maintain reinforcement in position on chairs during concrete placement.
  - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  - 4. Slope surfaces uniformly to drains where required.
  - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

### 3.10 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
  - 1. Apply to concrete surfaces not exposed to public view.
- B. Architectural Concrete finishes, refer to specification section 033300 “Architectural Concrete”.
  - 1. Apply to all concrete surfaces exposed to public view.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

### 3.11 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of **1/4 inch (6 mm)** in one direction.
  - 1. Apply scratch finish to surfaces to receive mortar setting beds for bonded cementitious floor finishes.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
  - 1. Apply float finish to surfaces to receive trowel finish.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
  - 1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
  - 2. Finish surfaces to the following tolerances, according to **ASTM E 1155 (ASTM E 1155M)**, for a randomly trafficked floor surface:
    - a. Specified overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 17; for slabs-on-grade.

- E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thinset method. While concrete is still plastic, slightly scarify surface with a fine broom.
  - 1. Comply with flatness and levelness tolerances for trowel-finished floor surfaces.
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and any exterior walking surface.
  - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

### 3.12 MISCELLANEOUS CONCRETE ITEM INSTALLATION

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations:
  - 1. Coordinate sizes and locations of concrete bases with actual equipment provided.
  - 2. Construct concrete bases **6 inches (150 mm)** high unless otherwise indicated, and extend base not less than **6 inches (150 mm)** in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
  - 3. Minimum Compressive Strength: **4000 psi (27.6 MPa)** at 28 days.
  - 4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on **18-inch (450-mm)** centers around the full perimeter of concrete base.
  - 5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete substrate.
  - 6. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
  - 7. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.
- D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel finish concrete surfaces.

### 3.13 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and **ACI 301 (ACI 301M)** for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching **0.2 lb/sq. ft. x h (1 kg/sq. m x h)** before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for remainder of curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
  - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water, continuous water-fog spray or absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with **12-inch (300-mm)** lap over adjacent absorptive covers.
    - b. All watertight structures to be moisture cured.
  - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least **12 inches (300 mm)**, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.
    - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
    - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
    - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies does not interfere with bonding of floor covering used on Project.
  - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
    - a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound does not interfere with bonding of floor covering used on Project.
  - 4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

### 3.14 JOINT FILLING

- A. Prepare, clean, and install joint sealant according to manufacturer's written instructions and as indicated in the contract documents.
  - 1. Defer installation of joint sealant until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.

### 3.15 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2-1/2 parts fine aggregate passing a **No. 16 (1.18-mm)** sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
  - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than **1/2 inch (13 mm)** in any dimension to solid concrete. Limit cut depth to **3/4 inch (19 mm)**. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
  - 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar matches surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
  - 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
  - 1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of **0.01 inch (0.25 mm)** wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
  - 2. After concrete has cured at least 14 days, correct high areas by grinding.
  - 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.

4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
  5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of **1/4 inch (6 mm)** to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
  6. Repair defective areas, except random cracks and single holes **1 inch (25 mm)** or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a **3/4-inch (19-mm)** clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
  7. Repair random cracks and single holes **1 inch (25 mm)** or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

### 3.16 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- B. Inspections:
1. Steel reinforcement placement.
  2. Steel reinforcement welding.
  3. Headed bolts and studs.
  4. Verification of use of required design mixture.
  5. Concrete placement, including conveying and depositing.
  6. Curing procedures and maintenance of curing temperature.
  7. Verification of concrete strength before removal of shores and forms from beams and slabs.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172/C 172M shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding **5 cu. yd. (4 cu. m)**, but less than **25 cu. yd. (19 cu. m)**, plus one set for each additional **50 cu. yd. (38 cu. m)** or fraction thereof.
  2. Testing Frequency: Obtain at least one composite sample for each **50 cu. yd. (76 cu. m)** or fraction thereof of each concrete mixture placed each day.

- a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
3. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
4. Air Content: ASTM C 231/C 231M, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
5. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample.
6. Compression Test Specimens: ASTM C 31/C 31M.
  - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
  - b. Cast and field cure an additional two sets of two standard cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
  - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
  - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

- D. Measure floor and slab flatness and levelness according to **ASTM E 1155** (ASTM E 1155M) within 24 hours of finishing.

END OF SECTION 033000

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## SECTION 055213 - PIPE AND TUBE RAILINGS

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Steel railings.

#### 1.2 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

#### 1.3 ACTION SUBMITTALS

A. Product Data:

1. Shop primer.
2. Intermediate coats and topcoats.
3. Bituminous paint.
4. Nonshrink, nonmetallic grout.
5. Anchoring cement.
6. Paint products.

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

C. Samples for Verification: For each type of exposed finish required.

1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters, including finish.
2. Fittings and brackets.
3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.

#### 1.4 INFORMATIONAL SUBMITTALS

A. Welding certificates.

- B. Mill Certificates: Signed by manufacturers of stainless steel products, certifying that products furnished comply with requirements.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

#### 1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:
  - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
  - 3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

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

#### 1.7 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication.

### PART 2 - PRODUCTS

- A. Structural Performance: Railings, including attachment to building construction, withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - 1. Handrails and Top Rails of Guards:
    - a. Uniform load of **50 lbf/ ft. (0.73 kN/m)** applied in any direction.
    - b. Concentrated load of **200 lbf (0.89 kN)** applied in any direction.
    - c. Uniform and concentrated loads need not be assumed to act concurrently.
  - 2. Infill of Guards:
    - a. Concentrated load of **50 lbf (0.22 kN)** applied horizontally on an area of **1 sq. ft. (0.093 sq. m)**.
    - b. Infill load and other loads need not be assumed to act concurrently.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
  - 1. Temperature Change: **120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.**

## 2.2 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

## 2.3 STEEL RAILINGS

- A. Source Limitations: Obtain each type of railing from single source from single manufacturer.
- B. Pipe: ASTM A53/A53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
  - 1. Provide paint finish as indicated below for exterior installations.
- C. Plates, Shapes, and Bars: ASTM A36/A36M.
- D. Cast Iron Fittings: Either gray iron, ASTM A48/A48M, or malleable iron, ASTM A47/A47M, unless otherwise indicated.

## 2.4 FASTENERS

- A. Fastener Materials:
  - 1. Primed and painted Railing Components: Type 304 stainless steel or hot-dip zinc-coated steel fasteners complying with ASTM A153/A153M or ASTM F2329/F2329M for zinc coating.
  - 2. Finish exposed fasteners to match appearance, including color and texture, of railings.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction and capable of withstanding design loads.
- C. Fasteners for Interconnecting Railing Components:
  - 1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless otherwise indicated.
  - 2. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.
- D. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193.
  - 1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.

2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy **Group 2 (A4)** stainless steel bolts, ASTM F593, and nuts, ASTM F594.

## 2.5 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for metal alloy welded.
- B. Etching Cleaner for Galvanized Metal: Complying with MPI#25.
- C. Galvanizing Repair Paint: High-zinc-dust-content paint, complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- E. Epoxy Intermediate and Top Coat: Complying with MPI #77 and compatible with primer and topcoat.
- F. Bituminous Paint: Cold-applied asphalt emulsion, complying with ASTM D1187/D1187M.
- G. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled, non-expanding cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound.
  1. Water-Resistant Product: At exterior locations, provide formulation that is resistant to erosion and expansion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

## 2.6 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.
- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations.
  1. Clearly mark units for reassembly and coordinated installation.
  2. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately.
  1. Remove burrs and ease edges to a radius of approximately **1/32 inch (1 mm)** unless otherwise indicated.
  2. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.

- E. Fabricate connections that are exposed to weather in a manner that excludes water.
  - 1. Provide weep holes where water may accumulate.
  - 2. Locate weep holes in inconspicuous locations.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
  - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
  - 2. Obtain fusion without undercut or overlap.
  - 3. Remove flux immediately.
- I. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with
  - 1. Fabricate splice joints for field connection, using an epoxy structural adhesive, if this is manufacturer's standard splicing method.
- J. Bend members in jigs to produce uniform curvature for each configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- K. Close exposed ends of hollow railing members with prefabricated cap and end fittings of same metal and finish as railings.
- L. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is **1/4 inch (6 mm)** or less.
- M. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
  - 1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- N. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work.
  - 1. Fabricate anchorage devices capable of withstanding loads imposed by railings.
  - 2. Coordinate anchorage devices with supporting structure.
- O. For railing posts set in concrete, provide stainless steel sleeves not less than **6 inches (150 mm)** long with inside dimensions not less than **1/2 inch (13 mm)** greater than outside dimensions of post, with metal plate forming bottom closure.

- P. For removable railing posts, fabricate slip-fit sockets from stainless steel tube or pipe whose ID is sized for a close fit with posts; limit movement of post without lateral load, measured at top, to not more than one-fortieth of post height.
  - 1. Provide socket covers designed and fabricated to resist being dislodged.
  - 2. Provide chain with eye, snap hook, and staple across gaps formed by removable railing sections at locations indicated. Fabricate from same metal as railings.
- Q. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.

## 2.7 STEEL AND IRON FINISHES

- A. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with requirements indicated below:
  - 1. Exterior Railings: SSPC-SP 6/NACE No. 3.
  - 2. Railings Indicated To Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3.
  - 3. Other Railings: SSPC-SP 3.
- B. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in SSPC-PA 1 for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.
  - 1. Do not apply primer to galvanized surfaces.
- C. Shop-Painted Finish: Comply with intermediate and top coats as indicated above.
  - 1. Color: As selected by Architect from manufacturer's full range.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Perform cutting, drilling, and fitting required for installing railings.
  - 1. Fit exposed connections together to form tight, hairline joints.
  - 2. Install railings level, plumb, square, true to line; without distortion, warp, or rack.
  - 3. Set railings accurately in location, alignment, and elevation; measured from established lines and levels.
  - 4. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
  - 5. Set posts plumb within a tolerance of **1/16 inch in 3 feet (2 mm in 1 m)**.
  - 6. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed **1/4 inch in 12 feet (6 mm in 3.5 m)**.

- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
  - 1. Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- C. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

### 3.2 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article, whether welding is performed in the shop or in the field.

### 3.3 ANCHORING POSTS

- A. Use stainless steel pipe sleeves preset and anchored into concrete for installing posts. After posts are inserted into sleeves, fill annular space between post and sleeve with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions. For removable railings no anchoring cement is required.
- B. Anchor posts to metal surfaces with flanges, angle type, or floor type, as required by conditions, connected to posts and to metal supporting members as follows:
- C. Install removable railing sections, where indicated, in slip-fit stainless steel sockets cast in concrete.

### 3.4 ATTACHING RAILINGS

- A. Secure wall brackets and railing end flanges to building construction as follows:
  - 1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
  - 2. For hollow masonry anchorage, use toggle bolts.
  - 3. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.
  - 4. For steel-framed partitions, use toggle bolts installed through flanges of steel framing or through concealed steel reinforcements.
- B. Install railing gates level, plumb, and secure for full opening without interference.
  - 1. Attach hardware using tamper-resistant or concealed means.
  - 2. Adjust hardware for smooth operation.

3.5 REPAIR

A. Touchup Painting:

1. Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
  - a. Apply by brush or spray to provide a minimum **2.0-mil (0.05-mm)** dry film thickness.

[Retain subparagraph below if touchup painting is not specified in this Section.](#)

2. Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint as recommended by manufacturer.

3.6 CLEANING

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

3.7 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period, so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 055213

## SECTION 312000 – EARTH MOVING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Preparing subgrades for slabs-on-grade, walks, pavements and turf and grasses.
  - 2. Excavating and backfilling for buildings and structures.
  - 3. Subbase course for concrete slabs-on-grade.
  - 4. Excavating and backfilling trenches for utilities.
- B. Related Sections:
  - 1. Division 03 Section "Cast-in-Place Concrete" for granular course if placed beneath the slab-on-grade.

#### 1.3 REFERENCES

- A. National Fire Protection Association:
  - 1. NFPA 495 - Explosive Materials Code.

#### 1.4 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
  - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
  - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: All boulder, solid ledges, bedded deposits, unstratified masses, and conglomerations of material so firmly cemented as to possess the characteristics of solid rock, which cannot be dislodged and excavated with modern, track mounted, heavy-duty excavating equipment without drilling, blasting, or ripping. The Engineer shall determine when Rock is encountered. Previously excavated boulders or other rock stockpiled on site and requiring removal under this Project will not be considered Rock excavation.
1. For open excavations, material which cannot be effectively excavated during general grading with a D-8 or equivalent dozer drawing a new single-tooth ripper. Effective open excavation is defined as the ability to remove 10 cubic yards or more of material after one hour of continuous ripping. Typical of materials classified as Rock in open excavation are boulders larger than 1-1/2 cubic yards or more in volume, solid rock, rock in ledges, and rock-hard cementitious aggregate deposits.
  2. Trench Excavation is unclassified.
  3. For Jack-and-Bore operations, material that cannot be bored with the auger advancing at least 2 feet in one hour using a Michael Byrne MBH all-purpose soil head or equivalent, or if it can be demonstrated that the soil head is sustaining abnormal damage at that rate or higher. Bored rock material requires a rock head equivalent to a Michael Byrne MBF double row flat face rock head, or hand-tunneling techniques. Soil bored with a rock head will be paid as soil boring.
- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- J. Subbase: Granular aggregate layer supporting the slab-on-grade and pavement that also minimizes upward capillary flow of pore water.
- K. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.5 Non-Granular Fill: Soil fill material used to raise existing grades in areas that do not require granular or structural fill.

## 1.6 SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
  - 1. Classification according to ASTM D 2487.
- C. Pre-excavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earth moving operations. Submit before earth moving begins.

## 1.7 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify "NC One Call" for area where Project is located before beginning earth moving operations.
- C. The following practices are prohibited within protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Foot traffic.
  - 4. Erection of sheds or structures.
  - 5. Impoundment of water.
  - 6. Excavation or other digging unless otherwise indicated.
  - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- D. Do not direct vehicle or equipment exhaust towards protection zones.
- E. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.
- F. If, during the course of earth moving operations, contaminated soil or groundwater is encountered, cease activities in the immediate area and contact Owner for further direction. Contaminated soil or groundwater may be recognized by the appearance of unusual color, differing consistency or texture, unusual odor, oozing liquids, sheen or other discoloration on ponded water, or other signs of sudden or unexpected change in the nature of the excavated soils.

## PART 2 - PRODUCTS

### 2.1 SOIL MATERIALS

#### A. Soil Materials:

1. General: Provide imported soil materials when sufficient satisfactory soil materials are not available from onsite excavations.
2. Topsoil: Refer to Division 32 Section "Turf and Grasses".

#### A. Hazardous Materials:

1. Provide fill materials that are not contaminated with petroleum product, hazardous waste or industrial waste.
2. Contamination above federal, state or local requirements is not acceptable. Materials with a visible sheen or petroleum odor shall be rejected.

#### B. Unsuitable Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.

1. Unsuitable soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

#### C. Non-Granular Fill: Material is to comply with NCDOT requirements for Borrow Material (Section 1018) with modifications shown below. This material is not allowed in areas where granular soils are required, including within the building footprint, below pavement areas, below pipe or below a synthetic turf athletic field.

##### 1. On-Site Non-Granular Fill

- a. Submittal must be provided demonstrating that on-site soil material meets the criteria outlined in this Section for use as fill material.
- b. Obtain approval of Architect before proceeding with use of on-site material.
- c. Material is to have no particles greater than 4" in maximum dimension, no more than 70% by weight passing the #40 sieve and no more than 20% passing the #200 sieve.
- d. Testing submitted is to demonstrate that proper compaction can be achieved as required in Part 3, Execution.

##### 2. Imported Non-Granular Fill

- a. Where quantity of approved non-granular fill materials required exceeds that available from on-site stock-piles, provide suitable material from off-site sources.
- b. Obtain approval of Architect before proceeding with use of imported fill material.
- c. Material is to have no particles greater than 4" in maximum dimension, no more than 70% passing by weight the #40 sieve and no more than 15% passing the #200 sieve.
- d. Testing submitted is to demonstrate that proper compaction can be achieved as required in Part 3, Execution.

#### D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; provide granular No. 57 stone as indicated below.

- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; provide ABC fill as indicated in structural fill below.
- F. Structural Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand.
  - 1. ABC Fill (NCDOT Standard Specification, Section 1016, Class IV / Granular Fill) gradation requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieves
1 1/2 inch	100
1 inch	75 to 97
1/2-inch	55 to 80
#4	35 to 55
#10	25to 45
#40	14 to 30
#200	4 to 12

- G. Granular Fill: Import all granular fill types from off-site sources. Granular fill consists of stone, sand, and gravel, or blends of these materials, free of slag, complying with North Carolina Department of Transportation (NCDOT) Standard Specification, Section 1016, as modified below:
  - 1. No. 57 Stone (NCDOT Class 57 / Washed Stone, Crushed Ledge Rock or Naturally occurring) Gradation Requirements.

Sieve Designation	Percent by Weight Passing Square Mesh Sieves
1 1/2 inch	100
1-inch	95 to 100
1/2 inch	25 to 60
#4	0 to 10
#8	0 to 5
#200	0 to 0.6

- H. Bedding Course: Refer to Division 33 Section “Pipe Bedding” for pipe bedding requirements.
- I. Drainage Fill: Coarse aggregate complying with the following requirements:
  - 1. ASTM D448, Size 57 Requirements:

Sieve Designation	Percent by Weight Passing Square Mesh Sieves
1-1/2 inch	100
1-inch	95 to 100
1/2-inch	25 to 60
#4	0 to 10
#8	0 to 5

- J. Sand: ASTM C 33; fine aggregate.
- K. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

## 2.2 GEOTEXTILES

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  - 1. Survivability: Class 2; AASHTO M 288.
  - 2. Survivability: As follows:
    - a. Grab Tensile Strength: 157 lbf (700 N); ASTM D 4632.
    - b. Sewn Seam Strength: 142 lbf (630 N); ASTM D 4632.
    - c. Tear Strength: 56 lbf (250 N); ASTM D 4533.
    - d. Puncture Strength: 56 lbf (250 N); ASTM D 4833.
  - 3. Apparent Opening Size: No. 40 (0.425-mm) sieve, maximum; ASTM D 4751.
  - 4. Permittivity: 0.5 per second, minimum; ASTM D 4491.
  - 5. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

## 2.3 ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6-inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30-inches (750 mm) deep; colored as follows:
  - 1. Red: Electric.
  - 2. Yellow: Gas, oil, steam, and dangerous materials.
  - 3. Orange: Telephone and other communications.
  - 4. Blue: Water systems.
  - 5. Green: Sewer systems.

## PART 3 - EXECUTION

### 3.1 PREPARATION

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

### 3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

### 3.3 EXCAVATION, GENERAL

- A. Unclassified Excavation: Unless the Bid Form provides for payment for one or more Excavation Types, excavation is unclassified. Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
- B. Classified Excavation: Excavate to subgrade elevations. Unit Price payment will be made for any Excavation Types separately itemized in the Bid Form. All other excavation types will be unclassified.
- C. Excavation Types:
  - 1. Satisfactory soil excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.
    - a. Intermittent drilling; blasting, if permitted; ram hammering; or ripping of material not classified as rock excavation is earth excavation.
  - 2. Remove unsatisfactory soil to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions (If excavated materials intended for fill and backfill include unsatisfactory soil materials, replace with satisfactory soil materials):
    - a. 24-inches outside of concrete forms other than at footings.
    - b. 12-inches outside of concrete forms at footings.
    - c. 6-inches outside of minimum required dimensions of concrete cast against grade.
    - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
    - e. 6-inches beneath bottom of concrete slabs-on-grade.
    - f. 6-inches beneath pipe in trenches, and the greater of 24-inches wider than pipe or 42-inches wide.
  - 3. Rock excavation includes removal and proper disposal of rock. Remove rock to lines and subgrade elevations indicated to permit installation of permanent construction without exceeding the following dimensions:
    - a. 24-inches outside of concrete forms other than at footings.
    - b. 15-feet outside of concrete forms at footings.
    - c. 6-inches outside of minimum required dimensions of concrete cast against grade.

- d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
- e. 6-inches beneath bottom of concrete slabs-on-grade.
- f. 6-inches beneath pipe in trenches, and the greater of 24-inches wider than pipe or 42-inches wide.

### 3.4 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1-inch (25 mm). If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
  - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
  - 2. Excavation for Underground Basins: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1-inch (25 mm). Do not disturb bottom of excavations intended as bearing surfaces.
- B. Excavations at Edges of Tree- and Plant-Protection Zones:
  - 1. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

### 3.5 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
  - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12-inches (300 mm) higher than top of pipe or conduit unless otherwise indicated.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
  - 1. For pipes and conduit less than 6-inches (150 mm) in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
  - 2. For pipes and conduit 6-inches (150 mm) or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference. Fill depressions with tamped sand backfill.
  - 3. Excavate trenches 6-inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

- D. Trench Bottoms: Excavate trenches 4-inches (100 mm) deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.
  - 1. Excavate trenches 6-inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- E. Trenches in Tree- and Plant-Protection Zones:
  - 1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
  - 2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

### 3.6 SUBGRADE INSPECTION

- A. Notify testing agency when excavations have reached required subgrade.
- B. If testing agency determines that unsuitable soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below structure slabs, building slabs and pavements with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes) to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph (5 km/h).
  - 2. Excavate soft spots, unsuitable soils, and areas of excessive pumping or rutting, as determined by Engineer, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

### 3.7 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Flowable fill, per Section 312323.33, may be used when approved by Engineer.
  - 1. Fill unauthorized excavations under other construction, pipe or conduit as directed by Engineer.

### 3.8 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

### 3.9 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  2. Surveying locations of underground utilities for Record Documents.
  3. Testing and inspecting underground utilities.
  4. Removing concrete formwork.
  5. Removing trash and debris.
  6. Removing temporary shoring and bracing, and sheeting.
  7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

### 3.10 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18-inches (450 mm) of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Division 03 Section "Cast-in-Place Concrete."
- D. Trenches under Roadways: Provide 4 inch thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in Division 03 Section "Cast-in-Place Concrete".
- E. Backfill voids with satisfactory soil while removing shoring and bracing.
- F. Place and compact initial backfill of satisfactory soil, free of particles larger than 1-inch (25 mm) in any dimension, to a height of 12-inches (300 mm) over the pipe or conduit.
  1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- G. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- H. Install warning tape directly above utilities, 12-inches (300 mm) below finished grade, except 6-inches (150 mm) below subgrade under pavements and slabs.

### 3.11 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  - 1. Under grass and planted areas, use satisfactory non-granular fill material.
  - 2. Under walks, pavements and exterior slabs, use Structural Fill below subbase layer and granular fill for subbase layer.
  - 3. Under steps and ramps, use structural fill below subbase layer and granular fill for subbase layer.
  - 4. Under building slabs, use structural fill below subbase layer. For subbase, use granular fill for subbase layer. See Drawings.
  - 5. Under footings and foundations, use structural fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

### 3.12 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 6-inches (150 mm) in loose depth for material compacted by heavy compaction equipment, and not more than 4-inches (100 mm) in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
  - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12-inches (300 mm) of existing subgrade and each layer of backfill or fill soil material at 98 percent.
  - 2. Under walkways, scarify and recompact top 6-inches (150 mm) below subgrade and compact each layer of backfill or fill soil material at 95 percent.
  - 3. Under turf or unpaved areas, scarify and recompact top 6-inches (150 mm) below subgrade and compact each layer of backfill or fill soil material at 85 percent.
  - 4. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

### 3.14 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  - 1. Provide a smooth transition between adjacent existing grades and new grades.
  - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
  - 1. Turf or Unpaved Areas: Plus or minus 1-inch (25 mm).
  - 2. Walks: Plus or minus ½-inch (13 mm).
  - 3. Pavements: Plus or minus ½-inch (13 mm).
- C. Grading inside Building Lines: Finish subgrade to a tolerance of ½-inch (13 mm) when tested with a 10-foot (3 m) straightedge.

### 3.15 SUBSURFACE DRAINAGE

- A. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch (150 mm) course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12-inches (300 mm) of filter material, placed in compacted layers 6-inches (150 mm) thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6-inches (150 mm).
  - 1. Compact each filter material layer to 92 percent of maximum dry unit weight according to ASTM D 698 with a minimum of two passes of a plate-type vibratory compactor.
- B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12-inches (300 mm) of final subgrade, in compacted layers 6-inches (150 mm) thick. Overlay drainage backfill with one layer of subsurface drainage geotextile, overlapping sides and ends at least 6-inches (150 mm).
  - 1. Compact each filter material layer to 92 percent of maximum dry unit weight according to ASTM D 698 with a minimum of two passes of a plate-type vibratory compactor.
  - 2. Place and compact impervious fill over drainage backfill in 6-inch- (150 mm-) thick compacted layers to final subgrade.

### 3.16 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
  - 1. Place sub base 8 inches or less in compacted thickness in a single layer.
  - 2. Place sub base that exceeds 8 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 8 inches thick or less than 3 inches thick.

3. Compact each layer of sub base to required cross sections and thicknesses to not less than 95 percent of maximum dry density according to ASTM D 4254.

### 3.17 FIELD QUALITY CONTROL

- A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:
  1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
  2. Determine that fill material and maximum lift thickness comply with requirements.
  3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.
- B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Engineer.
- E. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
  1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2,000 sq. ft. (186 sq. m) or less of paved area or building slab, but in no case fewer than three tests.
  2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100-foot (30 m) or less of wall length, but no fewer than two tests.
  3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150-foot (46 m) or less of trench length, but no fewer than two tests.
- F. Laboratory testing for on-site fills:
  1. ASTM D 1557 Modified Proctor compaction curve including sieve analysis.
- G. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

### 3.18 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

### 3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

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

END OF SECTION 312000

GENERAL STRUCTURAL NOTES:

- 1. BUILDING CODE: NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION
2. CONSTRUCTION LOADING: DURING CONSTRUCTION, THE GENERAL CONTRACTOR SHALL LIMIT AND CONTROL CONSTRUCTION LOADING, INCLUDING BUT NOT LIMITED TO:
a. MATERIAL STOCKPILING AND EQUIPMENT TO PRECLUDE OVERSTRESSING, CONSTRUCTION LIVE LOAD IN EXCESS OF 20 PSF, OR DAMAGE TO ANY STRUCTURAL ELEMENT.
4. EXISTING CONDITIONS: THE INFORMATION SHOWN ON THESE DOCUMENTS IS THE BEST REPRESENTATION OF EXISTING CONDITIONS AVAILABLE TO THE ENGINEER...

FOUNDATION NOTES:

- 1b. (NO GEOTECHNICAL INFORMATION WAS AVAILABLE AT THE TIME OF DESIGN. ASSUMED ALLOWABLE BEARING PRESSURE = 1,500 PSF.)
2. TAKE ALL NECESSARY PRECAUTIONS WHEN EXCAVATING OR DRILLING ADJACENT TO EXISTING STRUCTURES TO AVOID DISTURBING EXISTING FOUNDATIONS. DO NOT EXCAVATE BELOW EXISTING FOUNDATIONS. CONTACT THE ENGINEER IF EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON THE DRAWING.
3. ALL EXCAVATIONS SHALL FULLY CONFORM TO LOCAL, STATE AND FEDERAL SAFETY REGULATIONS.

CONCRETE NOTES:

- 2. PROVIDE THE FOLLOWING MINIMUM CONCRETE CLEAR COVER FOR REINFORCING STEEL, UNLESS OTHERWISE NOTED:
a. CHAMBER EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE: 3.0 IN.
b. FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER: #6 THROUGH #18 BARS: 2.0 IN. #5 BARS AND SMALLER: 1.5 IN.
3. ALL CONCRETE WORK, CONSTRUCTION, AND REINFORCING DETAILS SHALL CONFORM TO THE "NORTH CAROLINA STATE BUILDING CODE, LATEST EDITION".

CONCRETE MIX NOTES:

- 1. SUBMIT MIX DESIGNS FOR REVIEW AND APPROVAL.
2. FOOTINGS: PROPORTION NORMAL-WEIGHT CONCRETE MIXTURE AS FOLLOWS:
a. MINIMUM COMPRESSIVE STRENGTH: 4000 PSI AT 28 DAYS.
b. MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO: 0.45.
c. SLUMP LIMIT: 8 INCHES PLUS OR MINUS 1 INCH. IF ADMIXTURES ARE USED TO IMPROVE WORKABILITY, THE MAXIMUM SLUMP LIMITS MAY BE RELAXED WITH ENGINEER'S APPROVAL.

GENERAL DEMOLITION NOTES:

- 1. DEMOLISH AND REMOVE EXISTING CONSTRUCTION ONLY TO THE EXTENT REQUIRED BY NEW CONSTRUCTION AND AS INDICATED. USE METHODS REQUIRED TO COMPLETE THE WORK WITHIN LIMITATIONS OF GOVERNING REGULATIONS AND AS FOLLOWS:
a. PROCEED WITH SELECTIVE DEMOLITION SYSTEMATICALLY, FROM HIGHER TO LOWER LEVELS. COMPLETE SELECTIVE DEMOLITION OPERATIONS ABOVE EACH FLOOR OR TIER BEFORE DISTURBING SUPPORTING MEMBERS ON THE NEXT LOWER LEVEL.
2. BUILDING ELEMENTS TO REMAIN: DO NOT DEMOLISH BUILDING ELEMENTS BEYOND LIMITS INDICATED.
3. EXISTING ITEMS TO REMAIN: PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION...

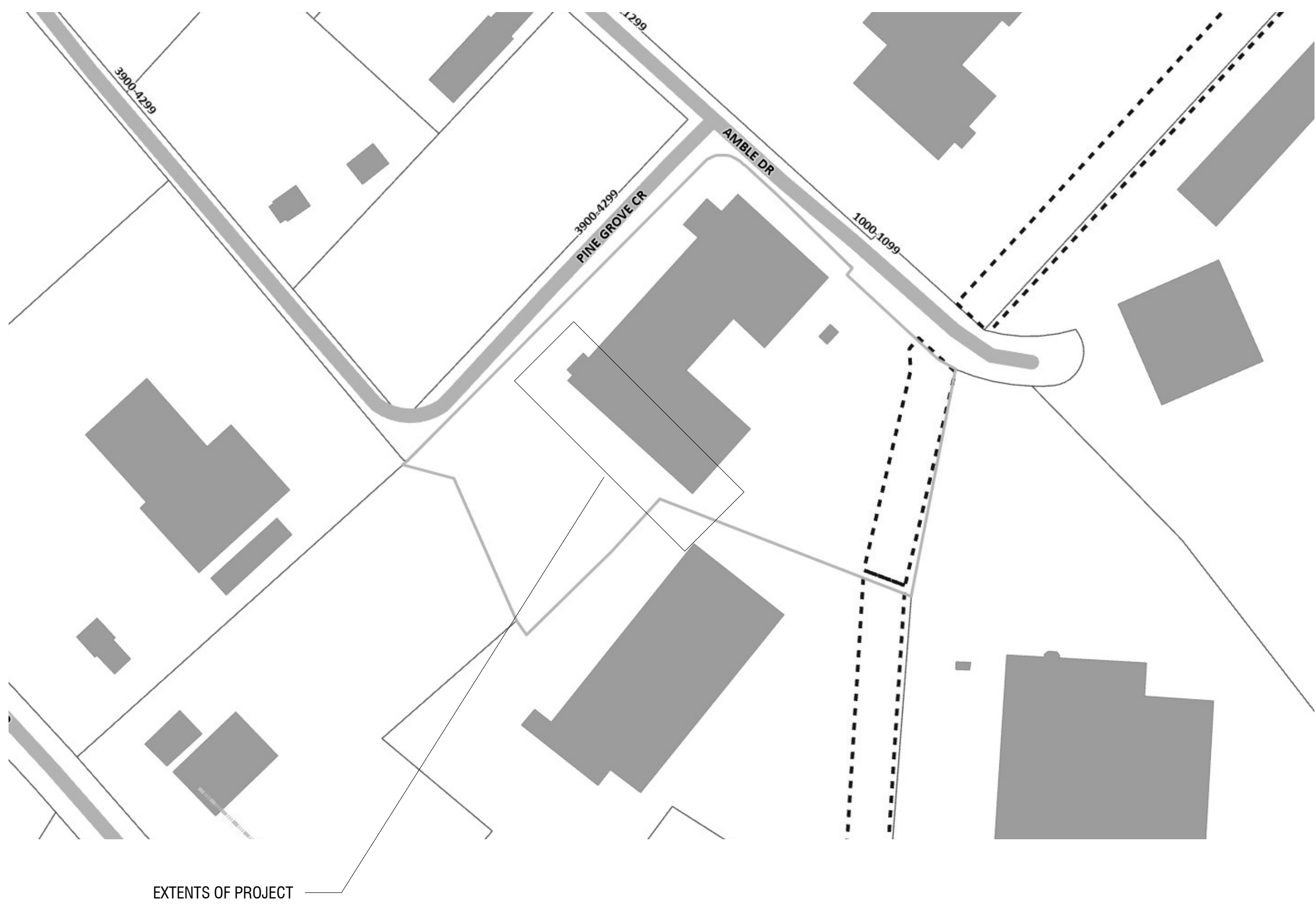
STRUCTURAL DESIGN TABLE - NCSBC 2018 (IN ACCORDANCE WITH APPLICABLE BUILDING CODE)
BUILDING DATA: LOCATION: 3901 PINE GROVE CIRCLE, CHARLOTTE, NC 28206
FLOOR LIVE LOAD: LOBBY LL1 100 PSF, CORRIDORS (FIRST FLOOR) LL2 100 PSF, OFFICES LL3 40 PSF, MECHANICAL LL4 150 PSF, GARAGES LL5 40 PSF, STAIRS LL6 100 PSF
SNOW LOAD: ROOF LLr 20 PSF
WIND LOAD (MAIN WIND-FORCE RESISTING SYSTEM): ANALYSIS PROCEDURE: DIRECTIONAL PROCEDURE
ULTIMATE DESIGN WIND SPEED (3-SECOND GUST) Vult 115 mph
NOMINAL DESIGN WIND SPEED (3-SECOND GUST) Vnd 89 mph
WIND DIRECTIONALITY FACTOR Kd 0.85
EXPOSURE CATEGORY C
TOPOGRAPHIC FACTOR Kt 1.00
GUST-EFFECT FACTOR G 0.85
ENCLOSURE CLASSIFICATION ENCLOSED
INTERNAL PRESSURE COEFFICIENT GCpf -0.18/-0.18
MINIMUM WALL WIND PRESSURE Fmin 16 PSF
MINIMUM ROOF WIND PRESSURE Fmin 8 PSF
WIND LOADS ARE CALCULATED FROM THESE PARAMETERS FOR EACH SURFACE OF THE MAIN WIND-FORCE RESISTING SYSTEM.

WALL FOOTING SCHEDULE
MARK: WF-1
WIDTH: 4'-6"
THICKNESS: 1'-0"
FOOTING REINFORCEMENT: LONGITUDINAL: #4 BARS @ 8' O.C., TRANSVERSE: #4 BARS @ 12' O.C.
COMMENTS:

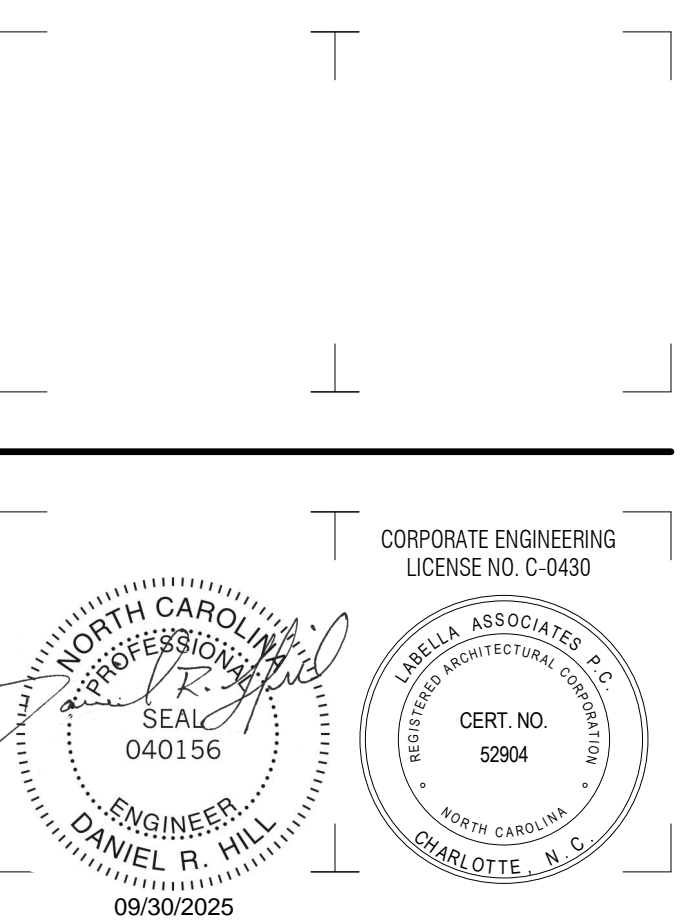
SLAB-ON-GRADE SCHEDULE
MARK: S.O.G. 1
TYPE: SLAB-ON-GRADE
SLAB THICKNESS: 6"
SLAB REINFORCEMENT: #4 @ 12" O.C.
COMMENTS:

FOUNDATION WALL SCHEDULE
MARK: C12
TYPE: CONC. WALL
THICKNESS: 1'-0"
WALL REINFORCEMENT: HORIZONTAL: #5 BARS @ 12" O.C. E.F., VERTICAL: #5 BARS @ 12" O.C. E.F.
COMMENTS:

SPLICE & DEVELOPMENT LENGTHS
BAR SIZE: #3, #4, #5, #6, #7, #8, #9, #10, #11
LAP SPLICE LENGTHS (IN.): TOP BARS, OTHER
DEVELOPMENT LENGTHS (IN.): TENSION, COMP., HOOKED
NOTES: 1. TOP BARS ARE HORIZONTAL BARS, PLACED SO THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS PLACED BELOW THE BAR. 2. ALL LAP SPLICES SHALL BE CLASS 'B' UNLESS OTHERWISE NOTED.



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MECKLENBURG COUNTY SOLID WASTE
2145 SUTTLE AVE.
CHARLOTTE, NC 28208

PINE GROVE FACILITY RETAINING WALL
3901 PINE GROVE CIRCLE
CHARLOTTE, NC 28206

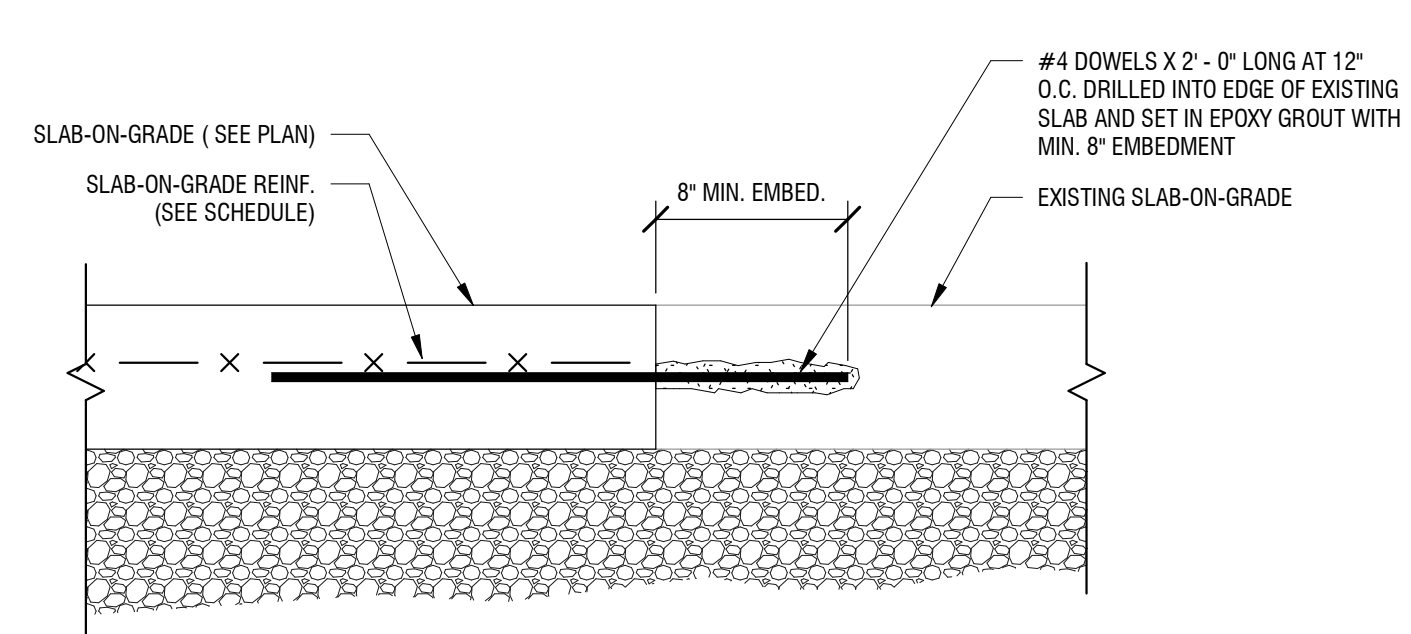
Table with 3 columns: NO., DATE, DESCRIPTION. Includes a 'Revisions' section and project details: PROJECT NUMBER: 2253065, DRAWN BY: ME, REVIEWED BY: DRH, ISSUED FOR: CONSTRUCTION, DATE: 09/30/2025, DRAWING NAME:

GENERAL NOTES

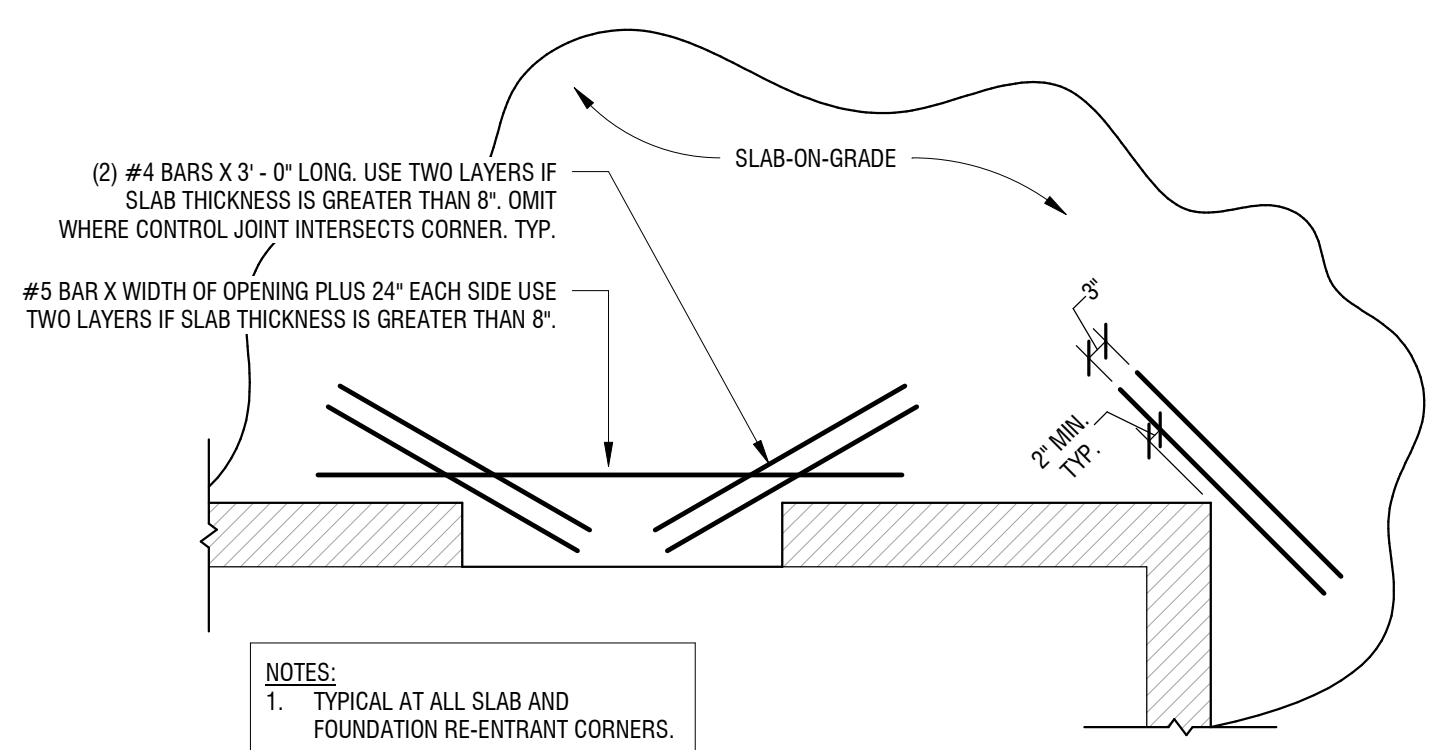
DRAWING NUMBER:

S001

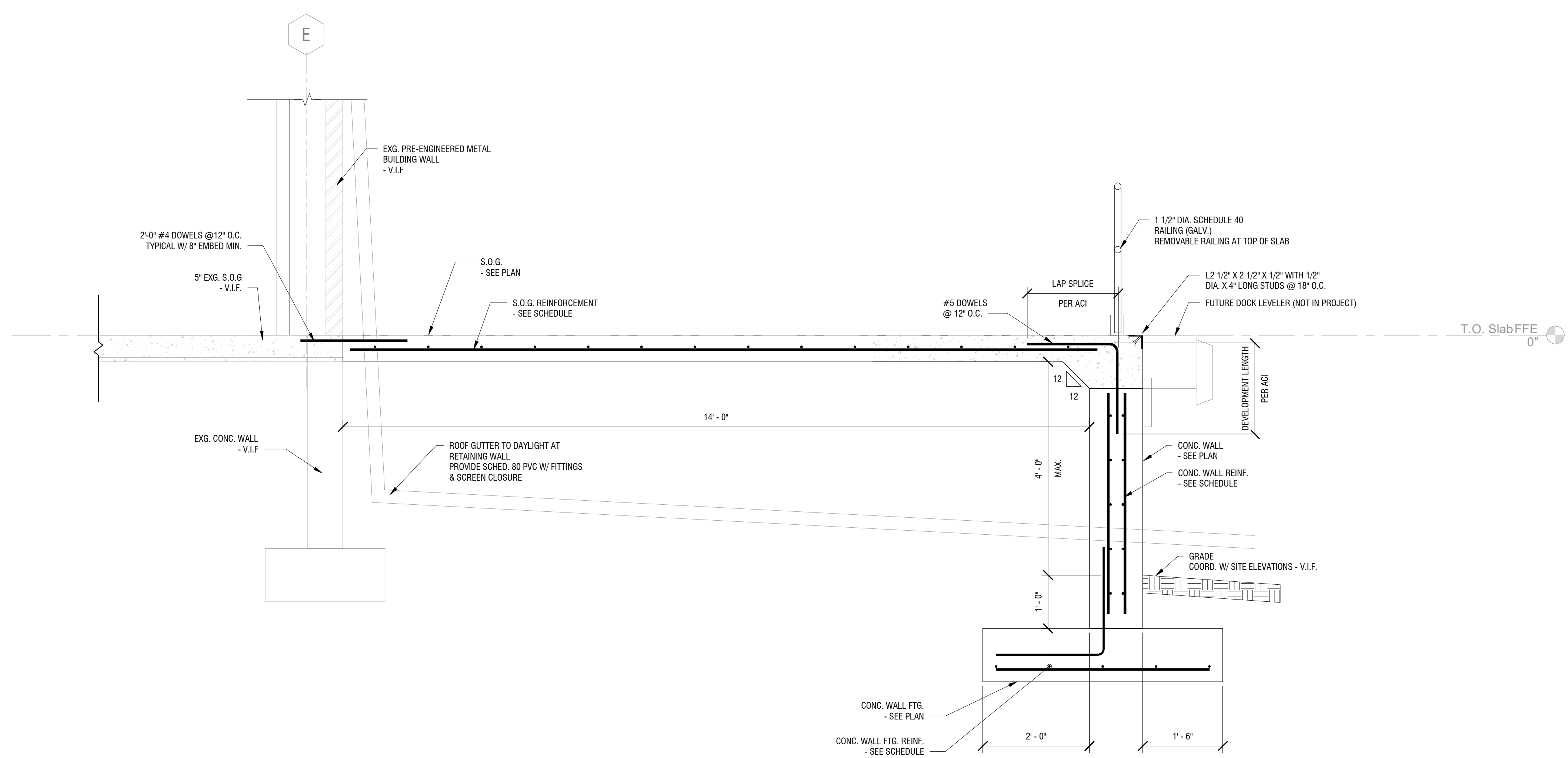




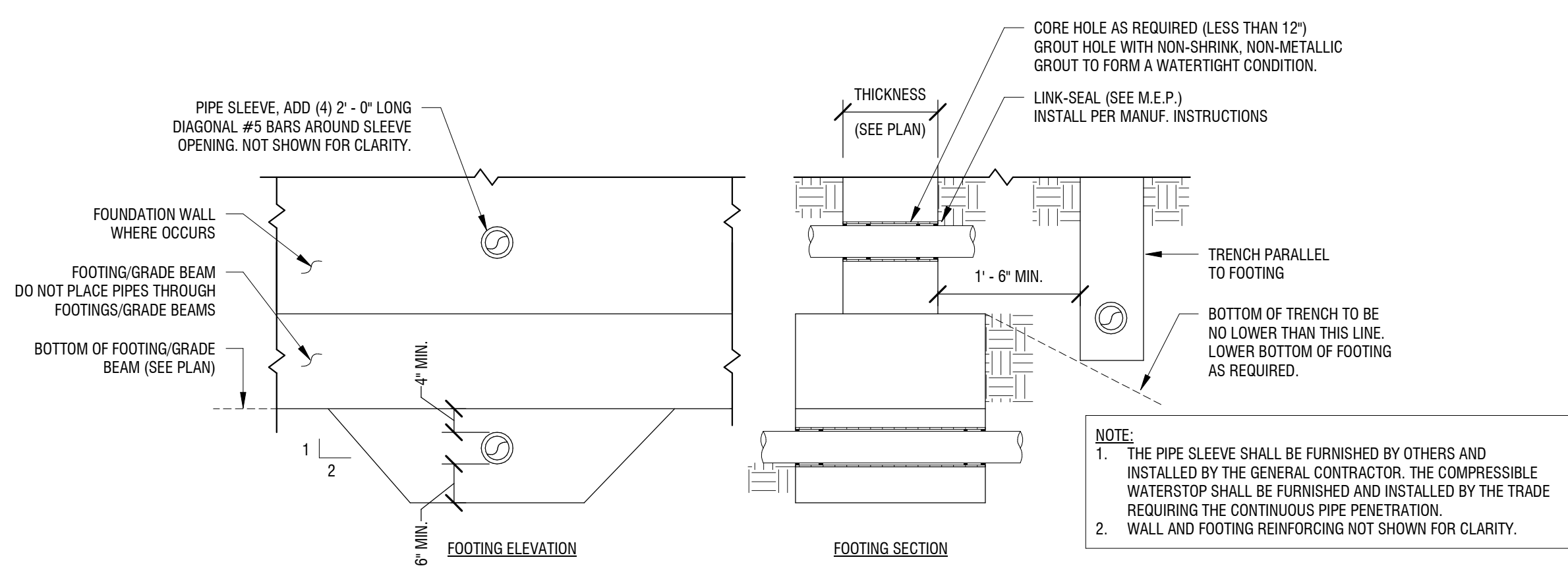
**9 TYPICAL SLAB-ON-GRADE PATCH DETAIL**  
S301 1 1/2" = 1'-0"



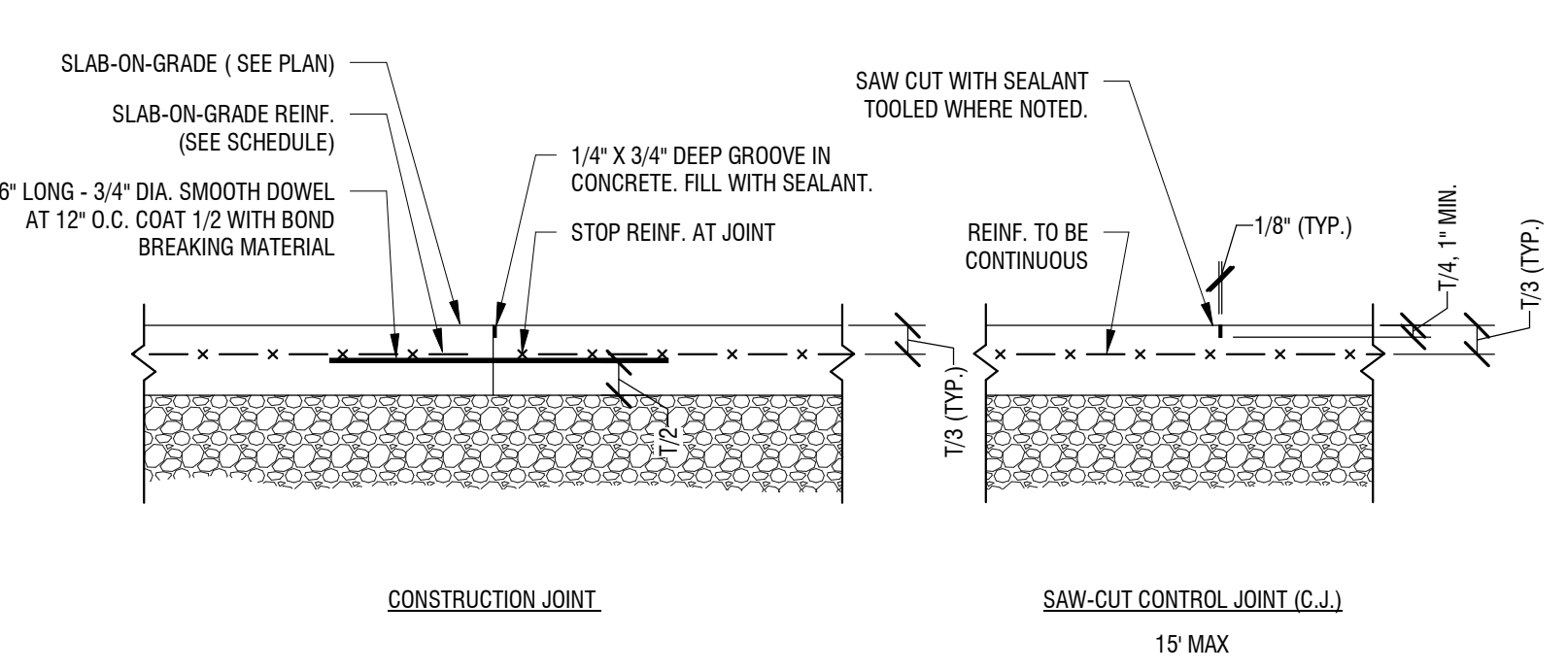
**8 TYPICAL SLAB-ON-GRADE RE-ENTRANT CORNER**  
S301 1/2" = 1'-0"



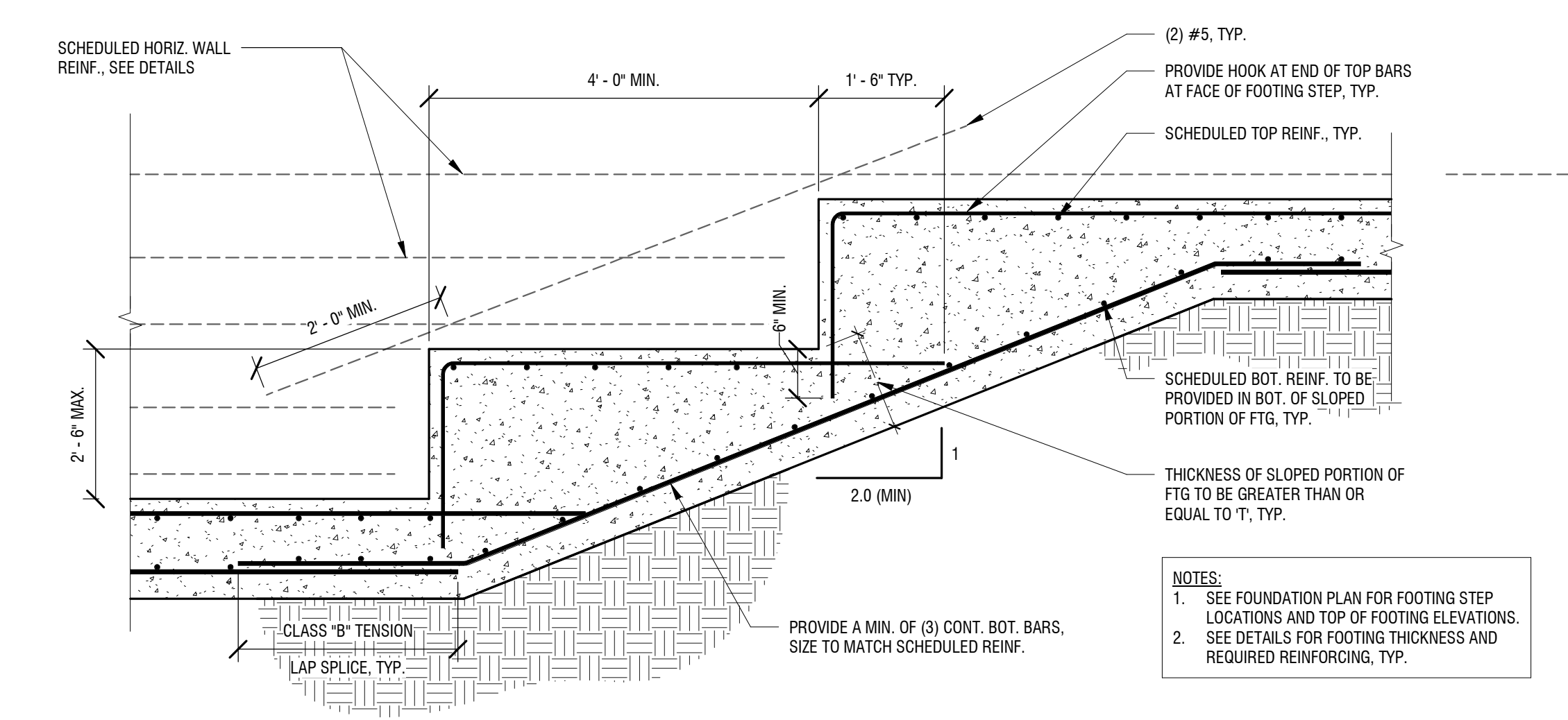
**7 RETAINING WALL DETAIL**  
S301 3/4" = 1'-0"



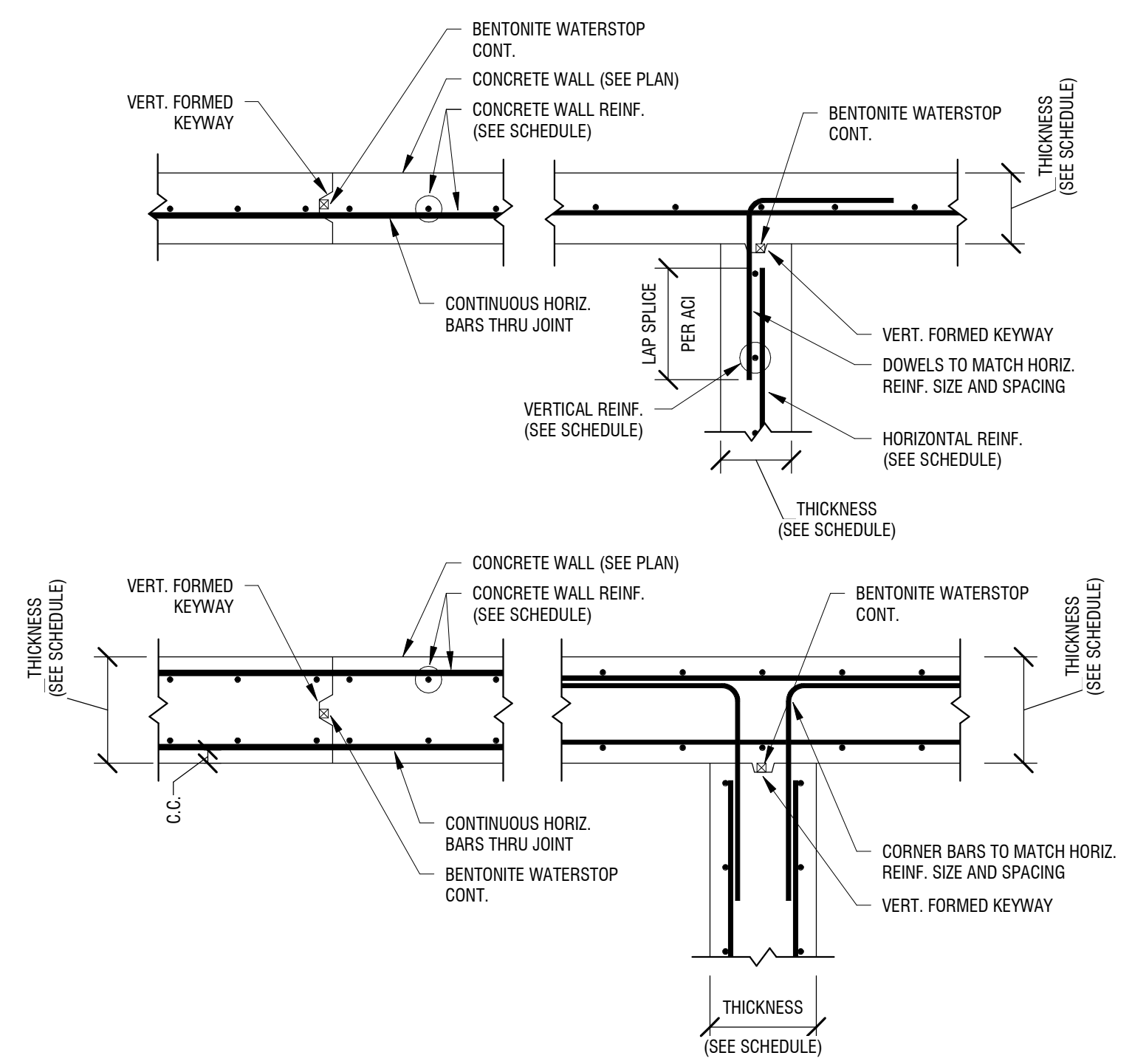
**6 TYPICAL PIPE SLEEVE THRU FOUNDATION WALL**  
S301 3/4" = 1'-0"



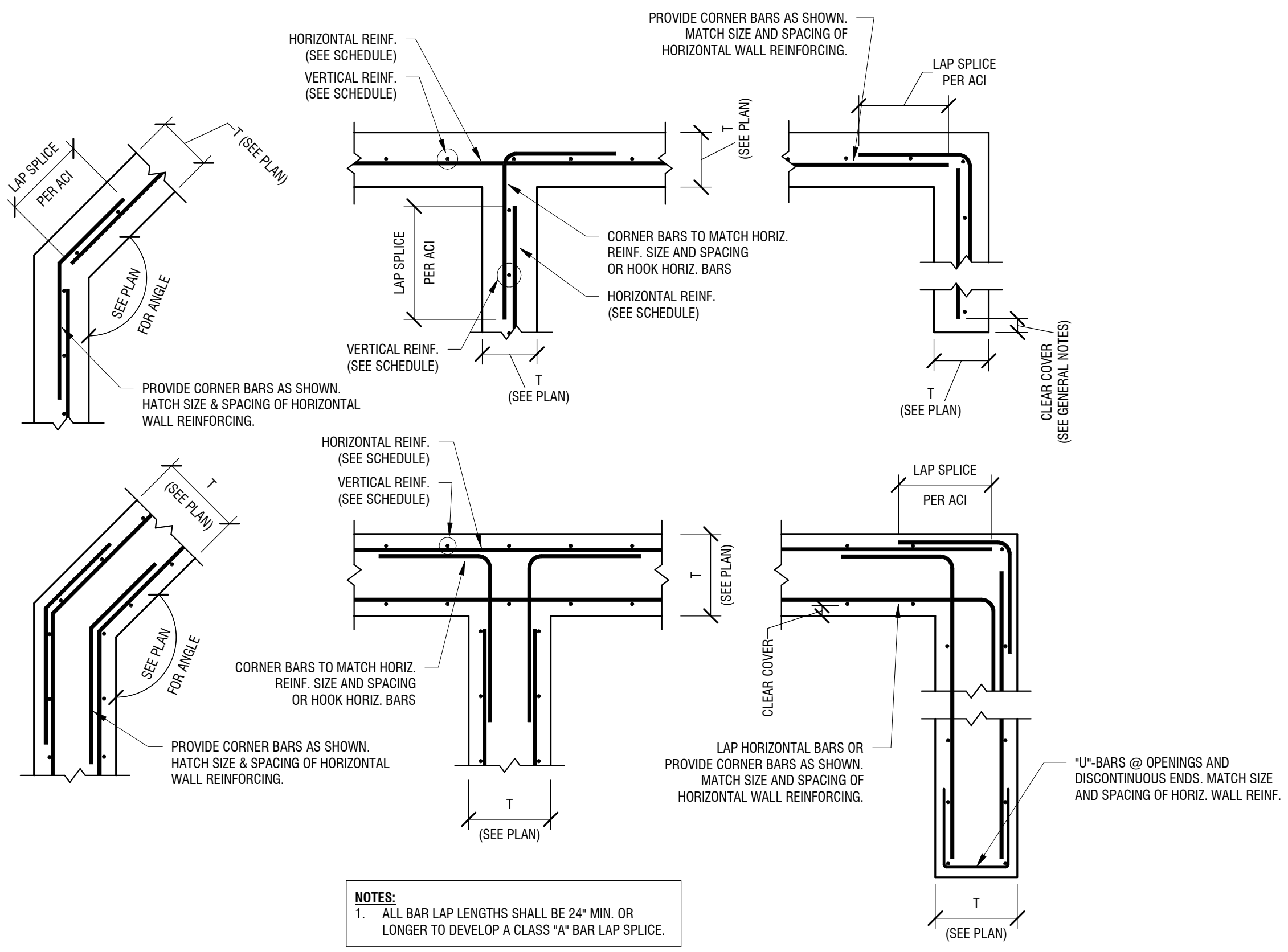
**5 TYPICAL SLAB-ON-GRADE JOINT**  
S301 3/4" = 1'-0"



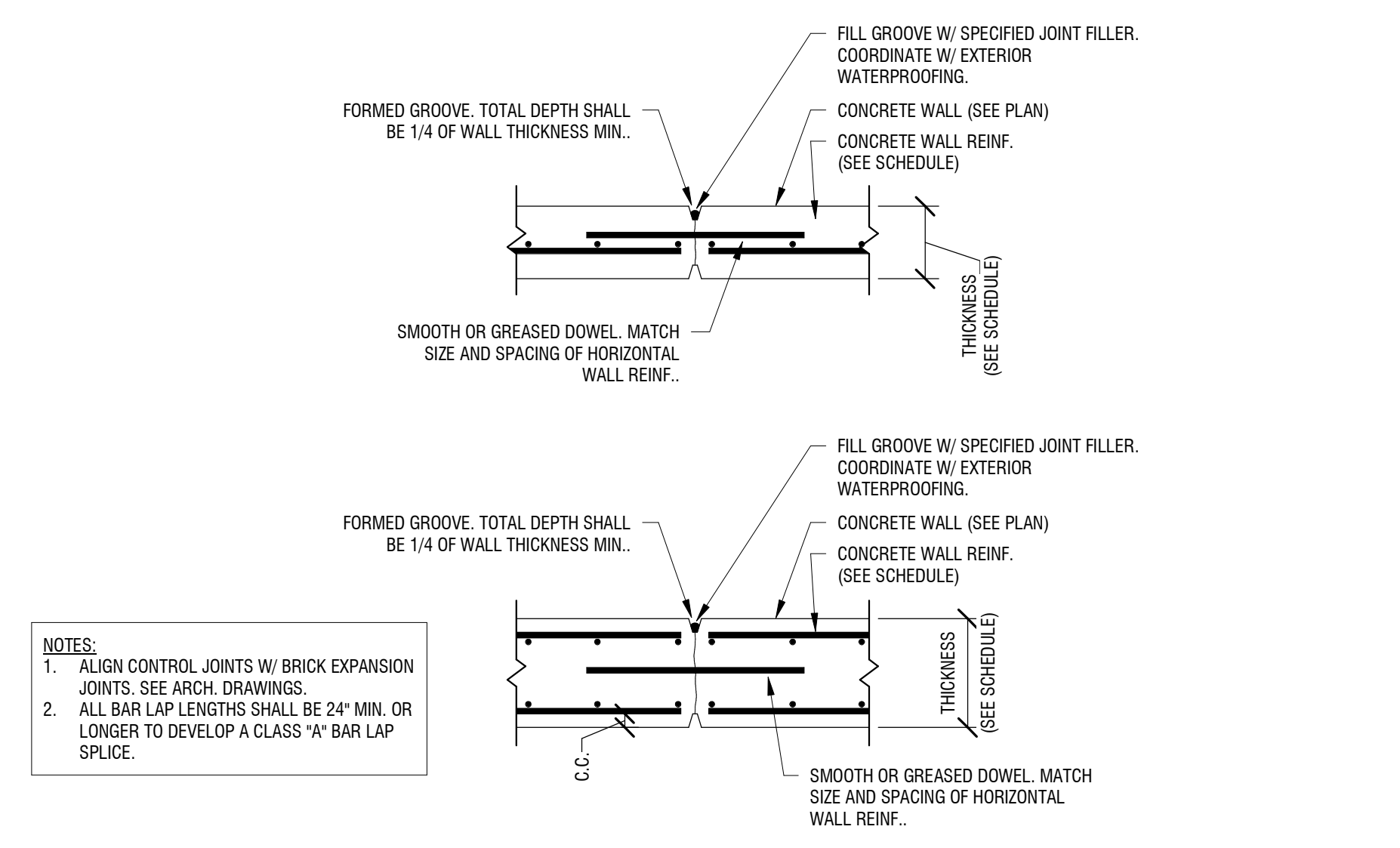
**4 STEPPED WALL FOOTING DETAIL**  
S301 3/4" = 1'-0"



**3 TYPICAL CONCRETE WALL CONSTRUCTION JOINTS**  
S301 3/4" = 1'-0"



**2 TYPICAL CONCRETE WALL AT INTERSECTION**  
S301 3/4" = 1'-0"



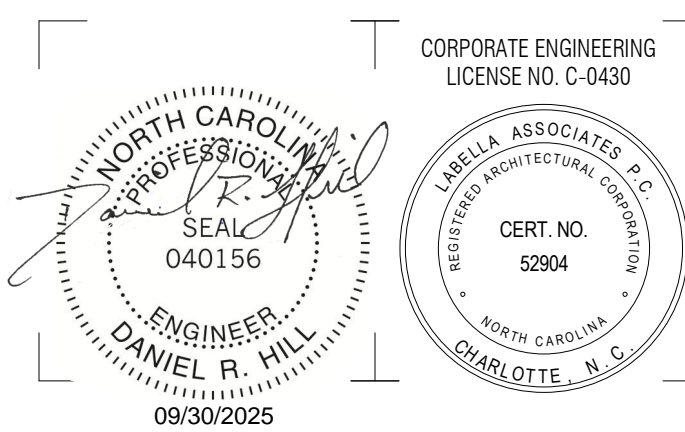
**1 TYPICAL CONCRETE WALL CONTROL JOINTS**  
S301 3/4" = 1'-0"

**PINE GROVE FACILITY RETAINING WALL**  
3901 PINE GROVE CIRCLE  
CHARLOTTE, NC 28206

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ISSUED FOR: CONSTRUCTION		
DATE: 09/30/2025		
DRAWING NAME:		

**TYPICAL SLAB-ON-GRADE & FOUNDATION DETAILS**

DRAWING NUMBER:



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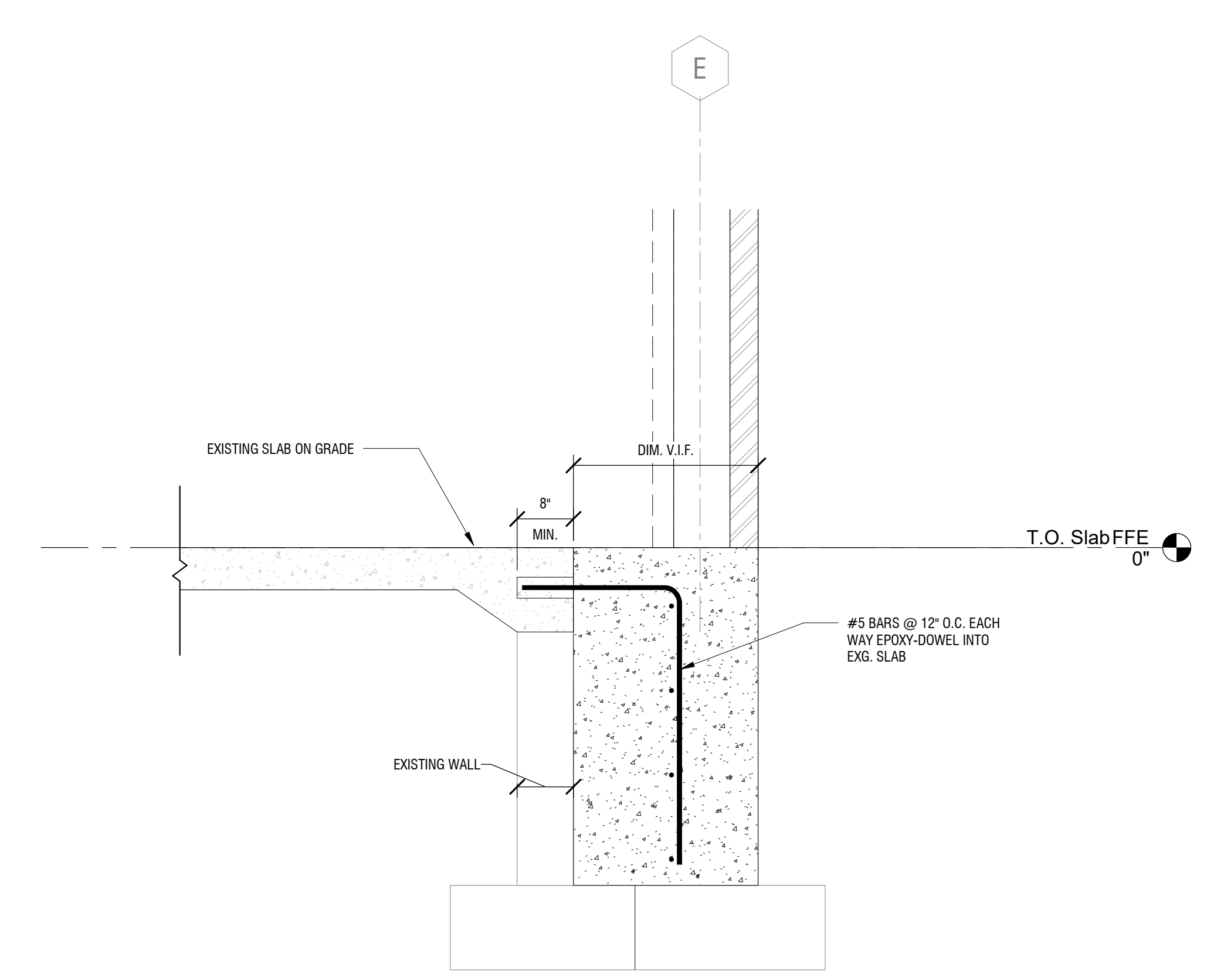
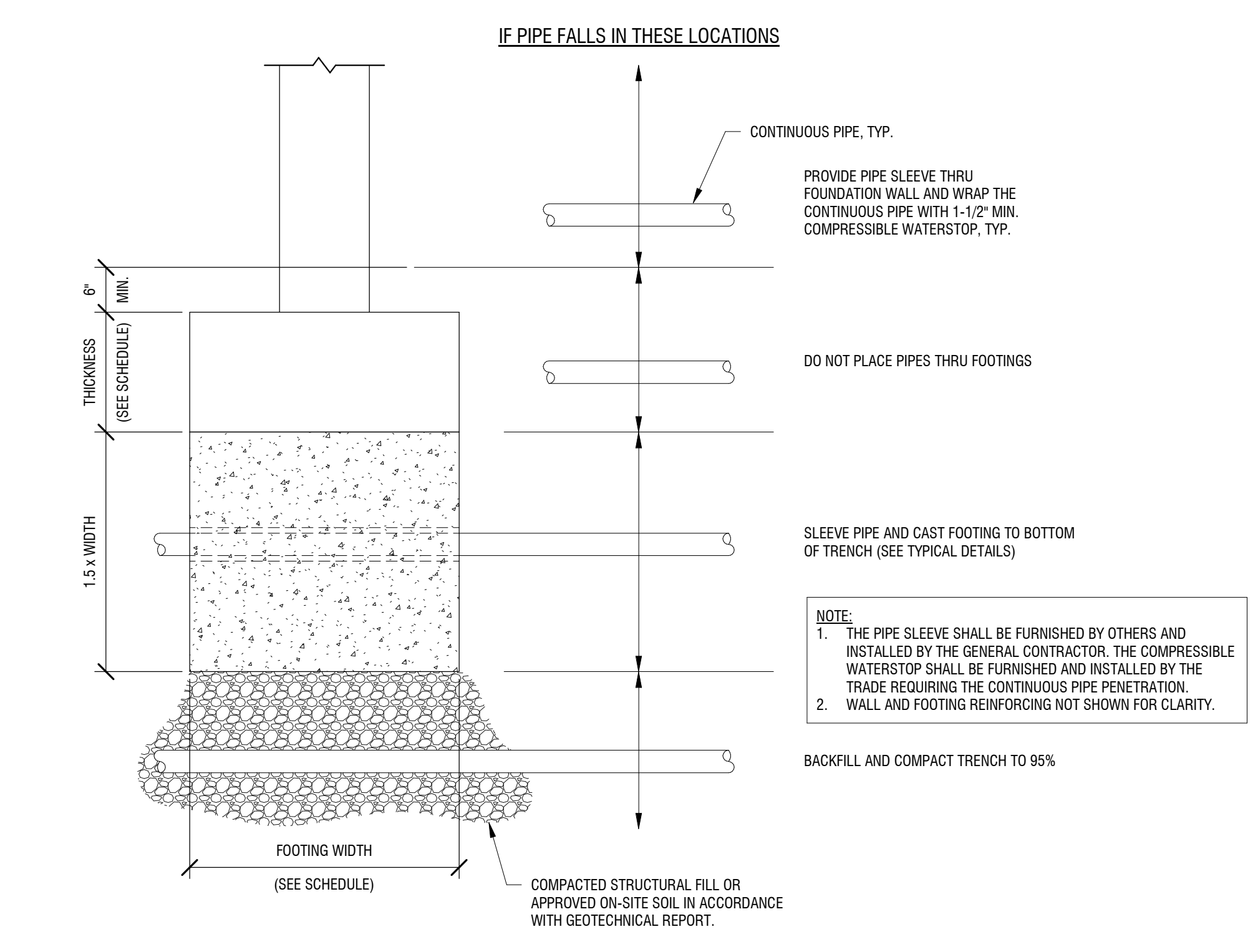
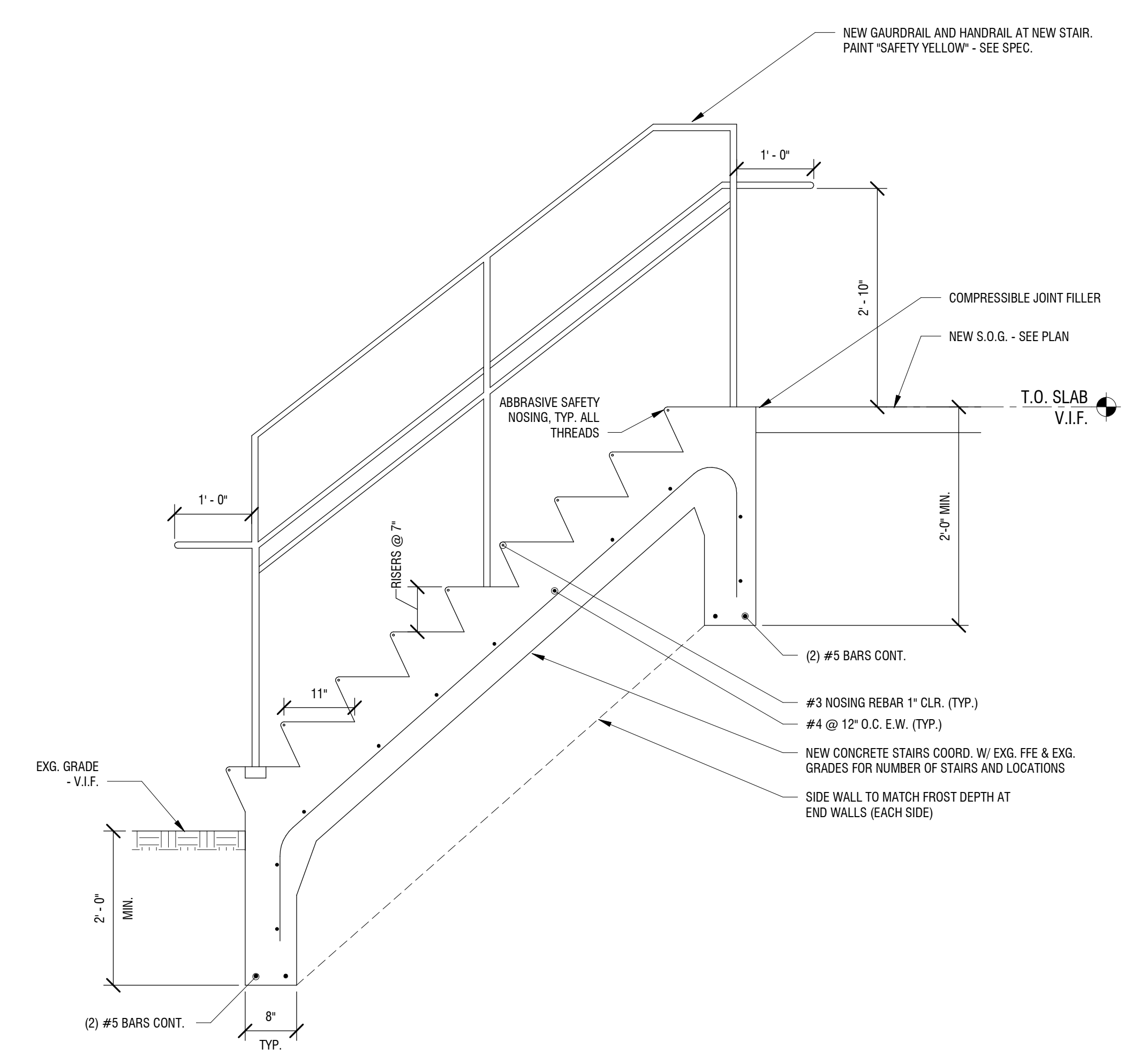
**PINE GROVE FACILITY RETAINING WALL**  
3901 PINE GROVE CIRCLE  
CHARLOTTE, NC 28206

NO.	DATE	DESCRIPTION
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DATE:		09/30/2025
DRAWING NAME:		

**TYPICAL SLAB-ON-GRADE & FOUNDATION DETAILS**

DRAWING NUMBER:

**S302**



10/02/2025 9:37:30 AM