



Highlands Housing Authority

215 Shore Drive, Highlands, New Jersey 07732

TELEPHONE: (732) 872-2022

FAX: (732) 291-8743

June 2, 2021

REQUEST FOR PROPOSALS

for

Entry Stoop Replacement Apartment B7

at

Jennie Parker Manor

HIGHLANDS, NEW JERSEY

Proposals due by 10:00 a.m. on Wednesday, August 11, 2021

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Highlands Housing Authority

Request for Proposals

Entry Stoop Replacement Apartment B7 at Jennie Parker Manor

INTRODUCTION- The Housing Authority of the Borough of the Highlands (the “Authority”) is requesting proposals from qualified Contractors for the replacement of the existing rear entry masonry stoop at Apartment B7, Jennie Parker Manor located at 121 Waterwitch Ave in Highlands, NJ 07732 as per the technical specifications and drawings included herein. Minimally, the contractor shall demolish the existing concrete slab, masonry foundation and footing; remove and reinstall existing railings and precast concrete steps; repair building foundation as necessary; install new reinforced concrete piers, grade beams, CMU walls and concrete slab and other incidental work. All permitting fees, if any are required, will be paid for by the contractor with no expense to the Authority.

All questions must be emailed to the Authority engineer at lmestres@PerthAmboyHA.org.

QUALIFICATIONS – The Contractor must:

Be licensed to do business in the State of New Jersey and demonstrate that they, or their principles assigned to the project, have successfully completed services similar to the work requested. Please submit a completed Qualifications Questionnaire, attached herein, with proposals.

Be insured as required by state and federal regulations.

Be registered as a Public Works Contractor with the Department of Labor. The Public Works Contractor Registration Act (PWCRA) requires that all contractors, including named subcontractors, to register with the Department of Labor prior to submitting price proposals or engaging on certain public works contracts that exceed the prevailing wage threshold of \$2,000.00 for authorities. More information may be found at http://lwd.dol.state.nj.us/labor/wagehour/regperm/pw_cont_reg.html. Bidders are responsible for checking for updates to the rates, if any, in order to submit an accurate proposal.

PRE-BID MEETING A Pre-Bid meeting is scheduled for Wednesday, July 28, 2021 at 10:00 AM. Attendance is not mandatory but strongly encouraged.

BONDING REQUIREMENTS: NONE

PROPOSAL SUBMISSION Proposals are due by 10:00 AM on Wednesday, August 11, 2021 by mail or delivery to:

Highlands Housing Authority
215 Shore Drive
Highlands, NJ 07732
“Proposal for Entry Stoop Replacement Apartment B7 at Jennie Parker Manor”

Proposals are to minimally include:

Proposal form
Qualification Questionnaire
Business Registration Certificate
Public Works Contractor Registration Certificate

PUBLIC NOTICE: The following public notice was advertised in the Asbury Park Press on 7/9/21:

**Public Notice-Request for Proposals
Highlands Housing Authority
Entry Stoop Replacement Apartment B7 at Jennie Parker Manor**

The Housing Authority of the Borough of the Highlands (the “Authority”) is requesting proposals from qualified Contractors for the replacement of the existing rear entry masonry stoop at Apartment B7, Jennie Parker Manor located at 121 Waterwitch Ave in Highlands, NJ 07732 as per the technical specifications and drawings included in the contract documents. Minimally, the contractor shall demolish the existing concrete slab, masonry foundation and footing; remove and reinstall existing railings and precast concrete steps; repair building foundation as necessary; install new reinforced concrete piers, grade beams, CMU walls and concrete slab and other incidental work.

Interested parties may download the RFP from www.HighlandsHA.org. Proposals will be received until 10:00 a.m. on Wednesday, August 11, 2021 and shall be submitted as requested in the RFP. A Pre-bid meeting is scheduled for Wednesday, July 28, 2021 at 10:00 AM at 121 Waterwitch Ave in Highlands, NJ. Proposers must be registered with the New Jersey Department of Treasury, Division of Revenue and with the New Jersey Department of Labor as a Public Works contractor at the time the proposals are received. The Authority invites the participation of Minority-Owned Business Enterprises in this solicitation and reserves the right to reject any or all bids or to waive any informality in bidding.

Form of Contract-SAMPLE ONLY
Entry Stoop Replacement Apartment B7 at Jennie Parker Manor

This **AGREEMENT** made this ____ day of _____ in the year ____ by and between

(Name of Contractor)

(Address)

hereinafter called the "Contractor," and the

Housing Authority of the Borough of Highlands
215 Shore Drive, Highlands, New Jersey 07732

hereinafter called the "Authority".

WITNESSETH that the Contractor and the Authority for the consideration stated herein mutually agree as follows:

Article 1. Statement of Services. The Contractor shall furnish all labor, materials, tools and equipment and shall perform and complete all work required for the rear entry stoop replacement at Apartment B7 of Jennie Parker Manor located at 121 Waterwitch Ave in Highlands, NJ 07732 as per the technical specifications and drawings included in the Contract Documents dated August 11, 2021 which are incorporated herein by reference and made a part hereof.

Article 2. Time of Completion. The contractor must complete all work within 30 days of the contractor's receipt of the 'Notice to Proceed'.

Article 3. Performance of Work. Work shall be performed during the Authority's standard business hours from 8:30 AM to 4:30 PM unless otherwise agreed upon between the Authority and Contractor.

Article 4. Work Requirements and Contractor's Responsibility. The Contractor shall be responsible for furnishing all materials, equipment, labor and transportation necessary to perform the work.

All work shall be performed in accordance with federal, State, County and local statutes, regulations and codes presently established or as may be established during the term of this contract. If the Contractor performs any work contrary to any federal, State, County or local statute, ordinance, regulation or code, he shall assume full responsibility and shall bear any and all costs attributable thereto.

The Contractor shall be responsible to apply for and secure any and all permits required by governing authorities to perform the work.

The Contractor shall not sub-contract any work under this contract without express prior written approval of the Authority.

The Contractor shall at all times keep the work area orderly and free from accumulations of waste materials. After completing work each day, the Contractor shall remove all equipment materials and tools that are not the property of the Authority and leave the work area in a neat, clean and orderly condition.

The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take all necessary health and safety precautions to protect the work,

the workers, the public, and the property of others. The Contractor shall hold and save the Authority, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

Article 5. Rates and Payments. The Authority shall pay the Contractor for all work a lump sum fee of _____ dollars and _____ cents (\$_____.__). The fee shall be inclusive of all costs for materials, labor, tools and equipment.

The Contractor shall submit an invoice upon satisfactory completion of all work. Payment shall be due within 30 days of receipt of the invoice by the Authority.

Article 6. Insurance. In accordance with State law, before performing any work, the Contractor shall furnish the Authority with certificates of insurance naming the Highlands Housing Authority and the Authority Engineer as additional insured showing the following insurance is in force and will insure all operations under the Contract:

1. Workers' Compensation, in accordance with New Jersey Workers' Compensation laws.
2. Commercial General Liability with a combined single limit for bodily injury and property damage of not less than \$1,000,000.00 per occurrence to protect the Contractor and the Authority against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims-made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract, and the extended reporting period may not be less than five years following the completion date of the Contract.
3. Automobile Liability on owned on owned and non-owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than \$500,000.000 per occurrence.

All Insurance shall be carried with companies which are financially responsible and admitted to do business in the State of New Jersey. If any such insurance is due to expire during the construction period, the Contractor shall not permit the coverage to lapse and shall furnish evidence of coverage to the Authority. All certificates of insurance, as evidence of coverage, shall provide that no coverage maybe canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Authority.

Article 7. New Jersey Business Registration Requirements. The contractor shall provide to the Authority proof of the contractor's business registration with the New Jersey Division of Taxation before contract award.

The contractor shall provide written notice to its subcontractors and suppliers of the responsibility to submit proof of business registration to the contractor. The requirement of proof of business registration extends down through all levels (tiers) of the project.

Before final payment on the contract is made by the Authority, the contractor shall submit an accurate list and the proof of business registration of each subcontractor or supplier used in the fulfillment of the contract, or shall attest that no subcontractors were used.

For the term of this Agreement, the contractor and each of its affiliates and a subcontractor and each of its affiliates [N.J.S.A. 52:32-49(g)(3)] shall collect and remit to the Director, New Jersey Division of Taxation, the use tax pursuant to the Sales and Use Tax Act on all sales of tangible personal property delivered into this State, regardless of whether the tangible personal property is intended for a contract with a contracting agency.

A business organization that fails to provide a copy of a business registration as required pursuant to section 1 of P.L. 2001, c.34 (C.52:32-44 et al.) or subsection e. or f. of section 92 of P.L. 1977, c.110 (C.5:12-92), or that provides false business registration under the requirements of either of those sections, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with a contracting agency.

Article 8. Warranty. Contractor shall supply a one-year warranty on installation and specific manufacturer's warranty on applicable products.

Article 9. Contract Documents. Contract Documents shall consist of the following component parts:

1. This instrument; and
2. Request for Proposals date August 11, 2021;
3. Contractor's Proposal dated August 11, 2021.

This instrument together with the document enumerated in this Article form the Contract, and they are fully a part of the Contract as if hereto attached or herein repeated. In the event that any provision in one of the component parts of the Contract conflicts with any provision of any other component part, the provision in the component part first enumerated in this Article shall govern, except as otherwise specifically stated.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed the date and year first above written.

In the presence of:

_____ by _____
(Name)
(Title)
(Company Name)
(Phone Number)

In the presence of:

_____ by _____
Douglas G. Dzema, PHM
Executive Director
Housing Authority of the Borough of Highlands

Proposal Form

Proposal for: Entry Stoop Replacement Apartment B7 at Jennie Parker Manor

TO: Housing Authority of the Borough of Highlands
215 Shore Drive, Highlands, New Jersey 07732

FROM:

_____ Company Name of Bidder	_____ Federal Employer Identification Number (FEIN)
_____ Street Address	
_____ City, State - Zip Code	
_____ Contact Name / Telephone Number	
_____ Fax Number / Email Address	

The undersigned, having read the entire Request for Proposals, and addenda, if any, thereto, and having investigated the local conditions affecting the cost of the work, hereby propose to furnish all labor, materials, services, equipment and related items to complete all work for the Entry Stoop Replacement Apartment B7 at Jennie Parker Manor in accordance therewith at the following lump sum price:

_____ dollars and _____ cents (\$_____.____)

This Proposal is accompanied by

- (1) Qualification Questionnaire;
- (2) New Jersey Business Registration Certificate
- (3) Public Works Contractor Registration Certificate

In submitting this proposal, it is understood that the Housing Authority of the Borough of Highlands reserves the right to reject any and all offers. If written notice of the acceptance of this proposal is mailed, telegraphed or delivered to the undersigned within 60 days after the opening thereof, or at any time thereafter before this proposal is withdrawn, the undersigned agrees to execute and deliver a Contract in prescribed form within 10 days after the contract is presented to him for signature.

_____ Signature of Offeror - Title	_____ Date
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Qualification Questionnaire

Proposal for: Entry Stoop Replacement Apartment B7 at Jennie Parker Manor

Name of Offeror: _____

(a) It shall be necessary for the offeror to present evidence that he has been in business for at least 3 years in this field and can submit a suitable record of satisfactorily completing similar contracts.

How many years have you been or engaged in business under your present firm or trade name?

_____ Years.

(b) How many years has your organization been performing the work required under this contract?

_____ Years.

(c) If a corporation, answer the following:

Date of incorporation: _____

State of Incorporation: _____

President's Name: _____

Vice President's Name(s): _____

(d) If a partnership, answer the following:

Date of Organization: _____

(e) If the contract is awarded to your firm, who will personally supervise the work?

(f) Are there any liens of any character filed against your company at this time? If so, specify the nature and amount of the lien.

(g) Give trade references:

(h) Give bank references:

(i) Give full information concerning all of your contracts in progress or completed within the last 3 years, whether private or government contracts.

OWNER/LOCATION

DESCRIPTION

CONTRACT AMOUNT

State of _____

County of _____

_____ being first duly sworn deposes and says:
(Individual's Name)

THAT he is _____ of
(Owner, Officer or Partner)

(Firm Name)
and that he hereby authorizes and requests any person, firm or corporation to furnish any information requested by the Housing Authority of the Borough of Highlands in verification of the recitals comprising this Statement of Offeror's Qualification; and that all answers to the foregoing questions and all statements therein contained are true and correct.

(Signature of Offeror)

Subscribed and sworn to before me, this _____ day of _____, in the year _____

Notary Public

My Commission expires _____

TECHNICAL SPECIFICATIONS AND DRAWINGS

HABITECH ARCHITECTURE, LLC

Please direct all questions pertaining to this section to:

DSabey@PerthAmboyHA.org

AND

lmestres@PerthAmboyHA.org

The following technical specifications and drawings include:

TECHNICAL SPECIFICATIONS – 34 PAGES

DRAWINGS – 2 PAGES INCLUDING COVER

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TECHNICAL SPECIFICATIONS

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03300	CAST-IN-PLACE CONCRETE
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DIVISION 4 - MASONRY

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**TECHNICAL
SPECIFICATIONS**

THE FOLLOWING DIVISIONS CONTAIN DETAILED DESCRIPTIONS OF THE TECHNICAL REQUIREMENTS OF THE WORK. TOGETHER WITH THE DRAWINGS, THEY FORM THE BASIS OF THE TECHNICAL DETAILED DESCRIPTIONS OF THE WORK.

ARCHITECT

HABITECH ARCHITECTURE, LLC
Architecture • Building Systems • Planning
12 PINECREST DRIVE
MEDFORD, NEW JERSEY 08055
(609) 413-2566

SECTION 01045

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section establishes general requirements pertaining to cutting (including excavating), fitting, patching of the Work required to:
 - 1. Make the several parts fit properly;
 - 2. Uncover work to provide for installing, inspecting, or both, of ill-timed work;
 - 3. Remove and replace work not conforming to requirements of the Contract Documents; and
 - 4. Remove and replace defective work.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. In addition to other requirements specified, upon the Architect's request uncover work to provide for inspection by the Architect of covered work, and remove samples of installed materials for testing.
 - 3. Do not cut or alter work performed under separate contracts without the Architect's written permission.

1.2 SUBMITTALS

- A. Request for Architect's consent:
 - 1. Prior to cutting which effects structural safety, submit written request to the Architect for permission to proceed with cutting.
 - 2. Should conditions of the Work, or schedule, indicate a required change of materials or methods for cutting and patching, so notify the Architect and secure his written permission and the required Change Order prior to proceeding.
- B. Notices to the Architect:
 - 1. Prior to cutting and patching performed pursuant to the Architect's instructions, submit cost estimate to the Architect. Secure the Architect's approval of cost estimates and type of reimbursement before proceeding with cutting and patching.
 - 2. Submit written notice to the Architect designating the time the Work will be uncovered, to provide for the Architect's observation.

1.3 QUALITY ASSURANCE

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. For replacement of items removed, use materials complying with pertinent Sections of these Specifications.

2.2 PAYMENT FOR COSTS

- A. The owner will reimburse the Contractor for cutting and patching performed pursuant to a written Change Order, after claim for such reimbursement is submitted by the Contractor. Perform other cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Inspection:
 - 1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching, and back filling.
 - 2. After uncovering the work, inspect conditions effecting installation of new work.
- B. Discrepancies:

1. If uncovered conditions are not as anticipated, immediately notify the Architect and secure needed directions.
 2. Do not proceed until unsatisfactory conditions are corrected.
- 3.2 PREPARATION PRIOR TO CUTTING
 - A. Provide required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the Work.
- 3.3 PERFORMANCE
 - A. Perform required excavating and back filling as required under pertinent other Sections of these Specifications.
 1. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and provide proper surfaces to receive installation of repair and new work.
 2. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.

END OF SECTION

SECTION 01630
PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes product options available to bidders and the Contractor, plus procedures for securing approval of proposed substitutions.
- B. Related Work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, The Instructions to Bidders, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Form 00440 in the Bidding Documents provides space for bidders to propose substitutions prior to award of the Contract. These proposed substitutions shall be made in accordance with Section 00100.
 - 3. Make submittal in accordance with pertinent provisions of Section 01340 and Section 00100.

1.2 PRODUCT OPTIONS

- A. The Contract is based on standards of quality established in the Contract Documents.
 - 1. In agreeing to the terms and conditions of the contract, the Contractor has accepted a responsibility to verify that the specified products will be available and to place orders for all required materials in such a timely manner as is needed to meet his agreed construction schedule.
 - 2. Neither the Owner nor the Architect has agreed to the substitution of materials or methods called for in the Contract Documents, except as they may specifically otherwise state in writing prior to bid opening in accordance with Section 00100.
- B. Materials and/or methods specified by name:
 - 1. Where materials and/or methods specified by naming one single manufacturer and/or model number, without stating that equal products will be considered, only the material and/or method named is approved for incorporation into the work.
 - 2. Should the contractor demonstrate to the approval of the Architect that a specified material or method was ordered in a timely manner and will not be available in time for incorporation into this Work, the contractor shall submit to the Architect such data on proposed substitute materials and/or methods as are needed to help the Architect determine suitability of the proposed substitution.
- C. Where materials and/or methods are specified by name and/or model number:
 - 1. The material and/or method specified by name establishes the required standard of quality.
 - 2. Materials and/or methods proposed by the Contractor to be used in lieu of materials and/or methods so specified by name shall in all ways equal or exceed the qualities of the named materials and/or methods, and shall be proposed during the bidding period in accordance with Section 00150.
- D. The following products do not require further approval except for interface with the Work:
 - 1. Products selected in reference to standard specifications such as ASTM and similar standards.
 - 2. Products specified by manufacturer's name and catalog model number listed in the specification and those approved during the bidding period and listed in an addendum prior to receipt of bids.
- E. Where the phrase "or equal," or "or equal as approved by the Architect", occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Architect as described in Section 00150.
- F. The decision of the Architect shall be final.

1.3 DELAYS

- A. Delays in construction arising by virtue of the non-availability of a specified material and/or method will not be considered by the Architect as justifying an extension of the agreed Time of Completion.

END OF SECTION

PRODUCT OPTIONS AND SUBSTITUTIONS
01630

SECTION 01830

MISCELLANEOUS MATERIALS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide miscellaneous materials where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications.

1.2 QUALITY ASSURANCE

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

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
 - 4. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 MISCELLANEOUS SCHEDULED MATERIALS

- A. Throughout the Drawings, various miscellaneous products may be scheduled or described which are required for a complete and proper installation. These miscellaneous products shall be furnished by the Contractor, subject to the approval of the Architect.

2.2 OTHER NON-SCHEDULED MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, and the manufacturer's recommended installation procedures as approved by the Architect, anchoring all components firmly into position for long life under hard use.

END OF SECTION

MISCELLANEOUS MATERIALS

01830

SECTION 02070

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Carefully demolish and remove from the site those items scheduled to be so demolished and removed.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications.
 - 2. Section 01045: Cutting and patching.

1.2 QUALITY ASSURANCE

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

1.3 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

(No products are required in this Section)

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 DEMOLITION

- A. By careful study of the Contract Documents, determine the location and extent of selective demolition to be performed.
- B. In company with the Architect, visit the site and verify the extent and location of selective demolition required.
 - 1. Carefully identify limits of selective demolition.
 - 2. Mark interface surfaces as required to enable workmen also to identify items to be removed and items to be left in place intact.
- C. Prepare and follow an organized plan for demolition and removal of items.
 - 1. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
 - 2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.
 - 3. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.
- D. Demolished material shall be considered to be property of the Contractor and shall be completely removed from the job site.
- E. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

3.3 REPLACEMENTS

- A. In the event of demolition of items not so scheduled to be demolished, promptly replace such items to the approval of the Architect and at no additional cost to the Owner.

END OF SECTION

SELECTIVE DEMOLITION

02070

SECTION 02220

EXCAVATING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Excavate, backfill, compact, and grade the site to the elevations shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown in the Contract Documents.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work of this Section in a timely manner.
- C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the soil engineer.

1.3 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Fill and backfill materials:
 - 1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension, and with not more than 15% of the rocks or lumps larger than 2-3/8" in their greatest dimension.
 - 2. Fill material is subject to the approval of the soil engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soils free from roots and other deleterious matter.
 - 3. Do not permit rocks having a dimension greater than 1" in the upper 12" of fill or embankment.
 - 4. Cohesionless material used for structural backfill: Provide sand free from organic material and other foreign matter, and as approved by the soil engineer.
 - 5. Where granular base is called for under building slabs, provide aggregate complying with requirements of Section 03300 of these Specifications.

2.2 WEED KILLER

- A. Provide a dry, free-flowing, dust-free chemical compound, soluble in water, capable of inhibiting growth of vegetation, and approved for use on this Work by governmental agencies having jurisdiction.

2.3 TOPSOIL

- A. Where and if shown on the Drawings or otherwise required, provide topsoil consisting of friable, fertile soil of loamy character, containing an amount of organic matter normal to the region, capable of sustaining healthy plant life, and reasonably free from subsoil, roots, heavy or stiff clay, stones larger than 2" in greatest dimension, noxious weeds, sticks, brush, litter, and other deleterious matter.
- B. Obtain topsoil from sources within the project limits, or provide imported topsoil obtained from sources outside the project limits, or from both sources.

2.4 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 FINISH ELEVATIONS AND LINES

- A. Comply with pertinent provisions of Section 01050.

3.3 PROCEDURES

- A. Utilities:
 - 1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.
 - 2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
 - 4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.
 - 5. Do not proceed with permanent relocation of utilities until written instructions are received from the Architect.
- B. Protection of persons and property:
 - 1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
 - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 - 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
- C. Dewatering:
 - 1. Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.
 - 2. Keep excavations and site construction area free from water.
- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

- E. Maintain access to adjacent areas at all times.

3.4 EXCAVATING

- A. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades, and elevations indicated and specified herein.
- B. Satisfactory excavated materials:
 - 1. Transport to, and place in, fill or embankment areas within the limits of the Work.
- C. Unsatisfactory excavated materials:
 - 1. Excavate to a distance below grade as directed by the soil engineer, and replace with satisfactory materials.
 - 2. Include excavation of unsatisfactory materials, and replacement by satisfactory materials, as parts of the work of this Section.
- D. Surplus materials:
 - 1. Dispose of unsatisfactory excavated material, and surplus satisfactory excavated material, away from the site at disposal areas arranged and paid for by the Contractor.
- E. Excavation of rock:
 - 1. Where rocks, boulders, granite, or similar material is encountered, and where such material cannot be removed or excavated by conventional earth moving or ripping equipment, take required steps to proceed with the general grading operations of the Work, and remove or excavate such material by means which will neither cause additional cost to the Owner nor endanger buildings or structures whether on or off the site.
 - 2. Do not use explosives without written permission from the Architect.
- F. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.
- G. Borrow:
 - 1. Obtain material required for fill or embankment in excess of that produced within the grading limits of the Work from borrow areas selected and paid for by the Contractor and approved by the soil engineer.
- H. Ditches and gutters:
 - 1. Cut accurately to the cross sections, grades, and elevations shown.
 - 2. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the Work.
 - 3. Dispose of excavated materials as shown on the Drawings or directed by the soil engineer; except do not, in any case, deposit materials less than 3'-0" from the edge of a ditch.
- I. Unauthorized excavation:
 - 1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific instruction from the Architect or the soil engineer.
 - 2. Under footings, foundations, or retaining walls:
 - a. Fill unauthorized excavations by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering the required top elevation.
 - b. When acceptable to the soil engineer, lean concrete fill may be used to bring the bottom elevation to proper position.
 - 3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the soil engineer.
- J. Stability of excavations:
 - 1. Slope sides of excavations to 1:1 or flatter, unless otherwise directed by the soil engineer.
 - 2. Shore and brace where sloping is not possible because of space restrictions or stability of the

- materials being excavated.
 - 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
 - K. Shoring and bracing:
 - 1. Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 - 2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
 - 3. Carry shoring and bracing down as excavation progresses.
 - L. Excavating for structures:
 - 1. Conform to elevations and dimensions shown within a tolerance of 0.10 ft, and extending a sufficient distance from footings and foundations to permit placing and removing concrete formwork, installation of services, other construction required, and for inspection.
 - 2. In excavating for footings and foundations, take care not to disturb bottom of excavation:
 - a. Excavate by hand tools to final grade just before concrete is placed.
 - b. Trim bottoms to required lines and grades to leave solid base to receive concrete.
 - 3. Excavate for footings and foundations only after general site excavating, filling, and grading are complete.
 - M. Excavating for pavements:
 - 1. Cut surface under pavements to comply with cross sections, elevations, and grades.
 - N. Cold weather protection:
 - 1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.
- 3.5 FILLING AND BACKFILLING
- A. General:
 - 1. For each classification listed below, place acceptable soil material in layers to required subgrade elevations.
 - 2. In excavations:
 - a. Use satisfactory excavated or borrow material.
 - 3. Under asphalt pavements:
 - a. Use subbase materials.
 - 4. Under building slabs:
 - a. Use granular fill, if so called for on the Drawings, complying with aggregate acceptable under Section 03300 of these Specifications.
 - B. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following.
 - 1. Acceptance of construction below finish grade including, where applicable, dampproofing and waterproofing.
 - 2. Inspecting, testing, approving, and recording locations of underground utilities.
 - 3. Removing concrete formwork.
 - 4. Removing shoring and bracing, and backfilling of voids with satisfactory materials.
 - 5. Removing trash and debris.
 - 6. Placement of horizontal bracing on horizontally supported walls.
 - C. Ground surface preparation:
 - 1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of fills.
 - 2. Plow, strip, or break up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.
 - 3. When existing ground surface has a density less than that specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture-condition to the optimum

moisture content, and compact to required depth and percentage of maximum density.

- D. Placing and compacting:
 - 1. Place backfill and fill materials in layers not more than 8" in loose depth.
 - 2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
 - 3. Compact each layer to required percentage of maximum density for area.
 - 4. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
 - 5. Place backfill and fill materials evenly adjacent to structures, to required elevations.
 - 6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.
 - 7. Where the construction includes basement or other underground walls having structural floors over them, do not backfill such walls until the structural floors are in place and have attained sufficient strength to support the walls.

3.6 GRADING

- A. General:
 - 1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.
 - 2. Smooth the finished surfaces within specified tolerance.
 - 3. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.
 - 4. Where a change of slope is indicated on the Drawings, construct a rolled transition section having a minimum radius of approximately 8'0", unless adjacent construction will not permit such a transition, or if such a transition defeats positive control of drainage.
- B. Grading outside building lines:
 - 1. Grade areas adjacent to buildings to achieve drainage away from the structures, and to prevent ponding.
 - 2. Finish the surfaces to be free from irregular surface changes, and:
 - a. Shape the surface of areas scheduled to be under walks to line, grade, and cross-section, with finished surface not more than 0.10 ft above or below the required subgrade elevation.
 - b. Shape the surface of areas scheduled to be under pavement to line, grade, and cross-section, with finished surface not more than 0.05 ft above or below the required subgrade elevation.

3.7 COMPACTING

- A. Control soil compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557.
- B. Provide not less than the following maximum density of soil material compacted at optimum moisture content for the actual density of each layer of soil material in place, and as approved by the soil engineer.
 - 1. Structures:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
 - 2. Lawn and unpaved areas:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
 - b. Compact the upper 12" of filled areas, or natural soils exposed by excavating, at 85% of maximum density.
 - 3. Walks:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
 - 4. Pavements:

- a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
- C. Moisture control:
 - 1. Where subgrade or layer of soil material must be moisture-conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
 - 2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
 - 3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisture-density relation tests approved by the soil engineer.

3.8 FIELD QUALITY CONTROL

- A. Secure the soil engineer's inspection and approval of subgrades and fill layers before subsequent construction is permitted thereon.
- B. Provide at least the following tests to the approval of the soil engineer:
 - 1. At paved areas, at least one field density test for every 2000 sq ft of paved area, but not less than three tests;
 - 2. In each compacted fill layer, one field density test for every 2000 sq ft of overlaying paved area, but not less than three tests.
- C. If, in the soil engineer's opinion based on reports of the testing laboratory, subgrade or fills which have been placed are below specified density, provide additional compacting and testing under the provisions of Section 01410 of these Specifications.

3.9 MAINTENANCE

- A. Protection of newly graded areas:
 - 1. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds;
 - 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.
- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

3.10 CERTIFICATION

- A. Upon completion of this portion of the Work, and as a condition of its acceptance, deliver to the Architect a written report from the soil engineer certifying that the compaction requirements have been obtained. State in the report the area of fill or embankment, the compaction density obtained, and the type or classification of fill material placed.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide concrete reinforcement where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications.
 - 2. Section 03100: Concrete formwork.
 - 3. Section 03300: Cast-in-place concrete.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Comply with pertinent provisions of the following, except as may be modified herein.
 - 1. ACI 318;
 - 2. CRSI "Manual of Standard Practice."

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Shop Drawings showing details of bars, anchors, and other items, if any, provided under this Section.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.
- B. Delivery and storage:
 - 1. Use necessary precautions to maintain identification after bundles are broken.
 - 2. Store in a manner to prevent excessive rusting and fouling with dirt, grease, and other bond-breaking coatings.

PART 2 - PRODUCTS

2.1 REINFORCEMENT MATERIALS AND ACCESSORIES

- A. Bars:
 - 1. Provide deformed billet steel bars complying with ASTM A615, using grades shown on the Drawings.
 - 2. Where grades are not shown on the Drawings, use grade 60.
- B. Steel wire:

1. Comply with ASTM A82.
 2. For tie wire, comply with Fed Spec QQ-W-461, annealed steel, black, 16 gage minimum.
- C. Welded wire fabric:
1. Provide welded steel, complying with ASTM A185.
- D. Welding electrodes:
1. Comply with AWS A5.1, low hydrogen, E70 series.
- E. Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place:
1. Use wire bar type supports complying with CRSI recommendations, unless otherwise shown on the Drawings.
 2. Do not use wood, brick, or other non-complying material.
 3. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
 4. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with either hot-dip galvanized or plastic-protected legs.

2.2 FABRICATION

- A. General:
1. Fabricate reinforcing bars to conform to the required shapes and dimensions, with fabrication tolerances complying with the CRSI Manual.
 2. In case of fabricating errors, do not straighten or rebend reinforcement in a manner that will weaken or injure the material.
 3. Reinforcement with any of the following defects will not be acceptable.
 - a. Bar lengths, depths, and/or bends exceeding the specified fabrication tolerances;
 - b. Bends or kinks not shown on the Drawings;
 - c. Bars with reduced cross-section due to excessive rusting or other cause.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. General:
1. Comply with the specified standards for detail and method of placing reinforcement and supports, except as may be modified herein.
 2. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.
 3. Position, support, and secure reinforcement against displacement by formwork, construction, and concrete placing operations.
 4. Locate and support reinforcement by metal chairs, runners, bolsters, spacers, and hangers, as required.
 5. Place reinforcement to obtain minimum coverages for concrete protection.
 6. Arrange, space, and securely tie bars and bar supports together with the specified tie wire.
 7. Set wire ties so twisted ends are directed away from exposed concrete surfaces.
- B. Install welded wire fabric in as long lengths as practicable, lapping adjoining pieces at least one full mesh.
- C. Provide sufficient numbers of supports, and of strength to carry the reinforcement.

- D. Do not place reinforcing bars more than 2" beyond last leg of any continuous bar support.
- E. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

3.3 SPLICES

- A. Lap splices:
 - 1. Tie securely with the specified wire to prevent displacement of splices during placement of concrete.
- B. Splice devices:
 - 1. Obtain the Architect's approval prior to using splice devices.
 - 2. Install in accordance with manufacturer's written instructions.
 - 3. Splice in a manner developing at least 125% of the yielding strength of the bar.
- C. Welding:
 - 1. Perform in accordance with AWS D1.4-79.
- D. Do not splice bars except at locations shown on the Drawings, except as otherwise specifically approved by the Architect.

3.4 TESTING

- A. Samples:
 - 1. Samples for physical tests of reinforcement will consist of at least two pieces, each 18" long, of each size of reinforcement steel, selected by the testing agency from material at the building site or at the fabricator's or supplier's yard.
 - 2. Material to be sampled at the building site shall have been delivered thereto at least 72 hours before it is needed.
- B. Tests:
 - 1. Where samples are taken from bundles as delivered from the mill, with the bundles identified as to heat number, and provided mill analyses accompany the report, then one tensile test and one bend test will be made from a specimen of each ten tons or fraction thereof of each size of reinforcement steel.
 - 2. Where positive identification of the heat number cannot be made, or where random samples are taken, then one series of tests will be made from each 2-1/2 tons or fraction thereof of each size of reinforcement steel.
 - 3. Payment for testing is described in Section 01410 of these Specifications.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide cast-in-place concrete where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications. (if applicable)
 - 2. Section 02000: Testing Laboratory Services.
 - 3. Section 03345: Concrete finishing.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of this work.
- B. Quality control:
 - 1. Do not commence placement of concrete until mix designs have been reviewed and approved by the Architect and all governmental agencies having jurisdiction, and until copies are at the job site, the batch plant, and the building department.
 - 2. Also see other requirements in Part 3 of this Section.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 CEMENT

- A. Provide a standard brand of portland cement complying with ASTM C150, type I or II, low alkali. Do not change the brand of cement during progress of the Work except as approved in writing by the Architect.

2.2 AGGREGATES

- A. General:
 - 1. Provide hardrock aggregate complying with ASTM C33, with additional attributes as specified herein.
 - 2. For making grading tests of fine and coarse aggregate, use square mesh wire cloth complying

with ASTM E11.

B. Fine aggregate:

1. Provide washed natural sand with strong, hard, durable particles, with not more than 2% by weight of deleterious matter such as clay lumps, mica, shale, or schist.
2. Grade from coarse to fine within the following limits:

Sieve Percentage by weight passing sieve:

size:	Minimum	Maximum
3/8"	100	-
No. 4	95	100
No. 8	65	95
No. 16	45	75
No. 30	30	50
No. 50	10	22
No. 100	2	8

C. Coarse aggregate:

1. Provide coarse aggregate consisting of clean, hard, fine grained, sound crushed rock or washed gravel, or a combination of both, containing less than 5% by weight of flat, chip-like, thin, elongated, friable, or laminated pieces, and less than 2% by weight of shale material.
 - a. Any piece having a length in excess of five times the average thickness shall be considered flat.
2. Use coarse aggregate of the largest practicable size for each condition of placement, subject to the following maximum size limitations:
 - a. Do not exceed 3/4 of the clear distance between reinforcing bars, 1/5 of the narrowest dimension between sides of forms, or 1/3 the depth of any slab section.
3. Grade combined aggregates within the following limits.

Sieve size Percentage by weight passing sieve:

or size in 1-1/2" aggregate: 1" aggregate: 3/4" aggregate:

inches:	Min:	Max:	Min:	Max:	Min:	Max:
1-1/2"	95	---	---	---	---	---
1"		75	90	90	100	---
3/4"	55	77	70	90	90	100
3/8"	40	55	45	65	60	80
No. 4	30	40	31	47	40	60
No. 8	22	35	23	40	30	45
No. 16	16	30	17	35	20	35
No. 30	10	20	10	23	13	23
No. 50	2	8	2	10	5	15
No. 100	0	3	0	3	0	5

- D. Lightweight aggregate, coarse and fine: Provide rounded, sealed, expanded shale or clay conforming to ASTM C330.

2.3 WATER

- A. Use only water which is clean and free from deleterious amounts of acid, alkali, salt, and organic materials.

2.4 ADMIXTURES

- A. Use only a standard brand of admixture for concrete, approved by the Architect, meeting or exceeding the following:
1. Reduce the required mixing water at least 75% without entraining air in excess of 2% by volume.

- a. If the admixture used entrains more than 2% air, water reduction shall be at least 10%, but in no case shall the volume of air entrained exceed 5%.
2. A separate approved air-entraining agent may be used in addition to the water-reducing admixture, provided the combination of the two admixtures meets the requirements listed above.
3. If pozzolanic materials are used, make them from an oil-impregnated diatomaceous shale, or from an opaline cherty shale, chert, or porcelaneous rock found in the Monterey formation, or other Miocene strata, or material of similar mineralogical composition.
4. Use only automatic dispensers approved by the testing agency for adding admixture.
5. If an air-entraining agent is used, run air content determinations periodically during the pour to make certain the air volume entrained is less than 5%.

2.5 OTHER MATERIALS

- A. Abrasive:
 1. Provide aluminum oxide grains, uniformly graded, screen size 12-13, 14-36, or 16-30.
 2. Acceptable products:
 - a. "Alundrum";
 - b. "Aloxite".
- B. Expansion joint filler:
 1. Provide preformed strips, non-extruding and resilient bituminous type, of thickness indicated, complying with ASTM D1751.
 2. If sealants specified in Section 07920 are used in the joints built under this Section, provide a filler complying with ASTM D1752.
- C. Curing materials:
 1. Curing paper: Comply with ASTM C171, type 1, regular.
 2. Liquid curing compounds:
 - a. Provide a standard brand, clear or black as directed by the Architect for the particular application, and complying with ASTM C309.
 - b. When black compound is used, provide compatibility with the adhesive used for laying floor covering in such areas.
- D. Floor hardener:
 1. Provide natural gray mineral or metallic hardener.
 2. Acceptable products:
 - a. "Lithochrome" by L. M. Scofield Company;
 - b. "Hydroment" by the Upco Company;
 - c. "Colorcron" or "Masterplate" by MasterBuilders;
 - d. "Harcot" or "Ferrolith H" by Sonneborn;
 - e. "Colorundum" or "Duraflex" by A. C. Horn Products.
- E. Vapor barrier membrane:
 1. Provide polyethylene sheet of the thickness shown on the Drawings, complying with ASTM D2103.
 2. If vapor barrier is shown on the Drawings, but thickness is not indicated, provide 4 mil thickness.

2.6 CONCRETE MIXES

- a. Schedule of Concrete Classes:

Mix ID/Use	Aggregate Size	Slump	Min. Strength	Other Req'ts
Mix A Drilled Piers, Foundations	Size 57 (1 inch) (25 mm)	4 to 6 inches (100 to 150 mm)	4000 psi (27.6 MPa)	

Mix ID/Use		Aggregate Size	Slump	Min. Strength	Other Req'ts
Mix B	Walls, Columns, Suspended Slabs & Beams	Size 57 (1 inch) (25 mm)	4 to 6 inches (100 to 150 mm)	4000 psi (27.6 MPa)	Req't E.1, Req't E.2
Mix C	Floor Slabs on Grade, Miscellaneous Concrete	Size 57 (1 inch) (25 mm)	4 to 5 inches (100 to 150 mm)	4000 psi (27.6 MPa)	Req't E.1, Req't E.2
Mix D	Lightweight Concrete Fill on Metal Decking	1/2 inch (13 mm) by #4 lightweight	3 to 5 inches (75 to 125 mm)	4000 psi (27.6 MPa)	Req'ts E.2 and E.3
Mix E	Miscellaneous concrete for curbs, pads, etc.	Size 57 (1 inch) (25 mm)	4 to 5 inches (100 to 150 mm)	4500 psi (24.1 MPa)	
Lean Concrete		Size 57 (1 inch) (25 mm)	3 to 5 inches (75 to 125 mm)	1500 psi (10.3 MPa)	

- b. Aggregate: Coarse aggregate size number in accordance with ASTM C33 for normal-weight aggregate. Coarse aggregate size in accordance with ASTM C330 for lightweight aggregates.
- c. Slump: Minimum-maximum slump at point of placement in inches when tested in accordance with ASTM C143.
- d. Strength: Minimum compressive strength in psi after [7] [14] [28] days, tested in accordance with ASTM C39.
- e. Other Requirements (apply only where indicated in Schedule of Concrete Mixes)
 - 1. Shrinkage Controlled Concrete: Use special coarse aggregates specified. Select materials and proportion mix to achieve shrinkage less than 0.040 percent (ASTM C157 modified).
 - 2. Water to Cementitious Material Ratio: Mixes "B", "C" and "D" shall have a water-to-cementitious-material ratio not exceeding 0.45 by weight. Weight of water shall include all free moisture, including liquid admixtures. Mixes shall contain specified high range water reducing admixture at mid-range dosage as required to achieve specified slump.
 - 3. Lightweight Concrete: Equilibrium weight (at 100 days air dry) of 113 pcf plus or minus 3 pcf, ASTM C567. Mix shall contain 4 percent, plus or minus 1 percent, entrained air by volume at point of placement.
- f. Proposed mixes shall produce concrete to strengths specified with adequate workability and proper consistency to permit concrete to be worked into forms and around reinforcement without excessive segregation or bleeding.
- g. Add air entraining agent to normal weight concrete mix for work exposed to exterior.
- h. For any concrete mix that uses greater than 45% total cementitious material the maximum water-cement ratio shall not exceed 0.38.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 CONCRETE MIXING

- A. Concrete for minor work, when approved by the Architect, may be mixed at the site in a power mixer when the mixer has a capacity not less than one full sack batch.
- B. Unless otherwise approved by the Architect, use ready mixed concrete complying with ASTM C94, except as may be modified by the following.
 - 1. For materials for ready mixed concrete, and for methods of measuring materials, comply with applicable provisions of this Section.
 - 2. Equip the loading plant to handle not less than four sizes of aggregate so as to prevent intermixing of aggregates until loaded into the weighing hopper.
 - 3. Equip truck mixers with a mixing water tank fitted with a water gauge.
 - 4. Mixing:
 - a. Mix each batch of concrete a minimum of 15 minutes, 5 minutes of which shall be at the site.
 - b. Rotate the drum at the rate specified by the manufacturer of the mixer as "mixing speed."
 - c. Whenever there is a delay in unloading, rotate the drum slowly at intervals to prevent incipient set of concrete.
 - 5. Addition of water:
 - a. Normally, do not deliver concrete with total permissible amount of water incorporated therein.
 - b. Unless otherwise approved by the Architect, withhold at least 2-1/2 gal per cu yd and add before the concrete is discharged under observation of the Architect or designated inspector.
 - c. After water is added, mix at least five minutes immediately prior to discharge.
 - d. Concrete will be rejected if not placed in final position within 1-1/2 hours after water is first added to the batch.
 - 6. Concrete at time of placing shall be in such condition that it can be placed properly.
 - 7. Discharge all wash water from the mixing drum before the truck reloads at the batching plant.
- C. Concrete consistency:
 - 1. Use the amount of water established by the approved mix design.
 - a. Do not exceed the maximum quantity specified for the grade of concrete.
 - b. Use the minimum amount of water necessary to produce concrete of the workability required.
 - c. Do not supplement the predetermined amount of water with additional water for any reason.
 - 2. Measure concrete consistency by ASTM C143 method.
 - a. As part of the routine testing and inspecting, test twice each day or partial day's run of the mixer.
 - b. Maintain a complete and accurate record of tests.
 - 3. Provide maximum slumps of concrete as:
 - a. Footings, and slabs on soil: 3";
 - b. Other concrete: 4".
- D. Modified concrete mix:
 - 1. Where modified concrete mix is directed, provide the same composition as regular concrete mix; except omit 50% of the coarse aggregate.
 - 2. Do not exceed the water/cement ratio specified for the grade of concrete.
- E. Cement grout and dry-pack grout:
 - 1. Mix at the site, in composition of one volume of portland cement to 2-1/2 volumes of fine aggregate.
 - 2. Mix the materials dry; then add sufficient water to make the mixture flow under its own weight.
 - 3. When grout is used as dry-pack concrete, add water to make a mixture which can be molded into a sphere.

- F. Miscellaneous provisions:
1. Provide strengths of concrete as shown on the Drawings.
 2. Provide concrete dense and free from honeycomb and other defects.
 3. Place and finish members to conform to the shapes and dimensions indicated, with all surfaces true to line, plumb, and level.

3.3 INSERTS, ANCHORS, AND EMBEDDED ITEMS

- A. Powder driven concrete fasteners:
1. In addition to their use where the pins are loaded in shear, powder driven concrete fasteners may be used in tension for support of light loads such as acoustical ceilings, duct work, conduits, pipes, and similar items when such loads are limited to less than 75 lbs.
 2. Testing:
 - a. Secure prequalification of operator, tool, and fastener by an approved testing agency, who shall observe testing of the first ten fastener installations.
 - b. Apply a test "pull-out" load of not less than twice the design load or 150 lbs, whichever is the greater, to the pin in such a manner as not to resist the spalling tendency of the concrete surrounding the pin.
 - c. Thereafter, secure random tests by the approved testing agency of approximately one in ten pins; except that when the design load exceeds 75 lbs, test one-half of the pins.
 - d. Should failure occur on any pin tested, test all installations under observation of the approved testing agency, and replace all unqualifying pins at no additional cost to the Owner.
 - e. Where "Red Head" or similar types of concrete anchor bolts are used for significant gravity loads or seismic anchorage, test in the presence of the approved testing agency:
 - (1) Proof test 50% of the bolts (alternate bolts in any group arrangement) to twice the allowable load;
 - (2) If there are any failures, also test the immediately adjacent bolt.
 3. Where hanger rods, bolts, wire, or similar items are used to suspend construction items, place in the concrete as required and/or indicated.
 4. Where suspended ceilings with metal carrying systems are called for on the Drawings:
 - a. Provide hanger wires in the slab, as shown on the Drawings or otherwise required, of sufficient length to extend 12" below the line of the finish ceiling;
 - b. Place the hanger wires in line to receive runner channels, beginning 6" from the walls parallel to the runners.
- B. Reglets and rebates:
1. Form reglets and rebates as required to receive frames, flashing, and other equipment.
 2. Verify the dimensions and positions of required reglets and rebates with trades whose work is related to or contingent upon such dimensions and positions.
 3. If concrete slabs on earth join a wall or other perpendicular concrete surface, form a reglet in the wall to receive and carry the horizontal concrete work.
 - a. Provide reglet full thickness of the slab and 3/4" deep, unless otherwise shown on the Drawings.
 - b. Exterior walks need not be provided for in this way except where so detailed on the Drawings.
- C. Embedded piping and rough hardware:
1. Coordinate the various trades who are required to fasten work to the structure, or are required to insert therein any sleeve, box, bolt, anchor, insert, or other rough hardware.
 2. Provide every facility for setting all required items accurately in the forms.
 3. Be responsible for changes in position of such items after they have been set.
 4. Provide in the forms for all sleeves, boxes, bolts, anchors, inserts, strap anchors for frames, and other rough hardware required for the Work, and which are shown or required to be embedded in the concrete.
 5. Conduits and sleeves:
 - a. Locate so as not to reduce the strength of construction. Do not place pipes, except

- conduits, in a slab of less than 3-1/2" thickness.
 - b. In supported concrete slabs, do not bury conduit having an outside diameter greater than 33% of the thickness of the slab. Increase slab thickness locally to meet this requirement.
 - c. Do not place conduit between the bottom of reinforcing steel and the bottom of supported slab.
 - d. In placing conduits at slabs on earth, place below the reinforcement, and encase in concrete by increasing thickness of the slab locally to at least 3" of concrete around the conduit on all sides.
- D. Where openings in floors and walls are required by the various trades, but are not detailed on the Drawings, reinforce as directed by the Architect.

3.4 CONVEYING AND PLACING CONCRETE

- A. Before placing concrete, thoroughly clean forms, wash out with water, and make tight.
- B. Time of placing:
 - 1. Do not place concrete until reinforcement, conduits, outlet boxes, anchors, sleeves, hangers, bolts, and other embedded materials are securely and properly fastened in their correct positions.
 - 2. Secure the Architect's approval of reinforcement before commencing placement of concrete.
- C. Preparation:
 - 1. Before new concrete is deposited upon or against concrete that has taken its initial set or has hardened, remove all incrustations from forms and reinforcement.
 - 2. Remove all laitance, oil, and loose particles from concrete and concrete surfaces, and thoroughly clean the forms with water under stiff pressure.
 - 3. Remove laitance after concrete has hardened partially (not less than two hours nor more than four hours after placing) by brushing with stiff bristles, or by directing a stream of water from a 1/4" nozzle, or by other method approved by the Architect, to expose the clean top surface of the coarse aggregate.
 - 4. Where cleaning is not satisfactory to the Architect, sandblast the surface and then wash again.
- D. Modified concrete mix:
 - 1. Before proceeding with placing the regular specified mix of concrete, cover existing horizontal concrete surface with modified concrete mix.
 - a. Use the mix design specified in Paragraph 3.2-D of this Section.
 - b. In walls, provide not less than 3" thickness of modified mix.
 - c. Place the modified mix immediately ahead of regular concrete.
 - d. Do not permit modified concrete mix to dry out prior to placing the regular mix.
 - 2. Use modified concrete mix where conditions make compaction difficult, and where reinforcement is congested.
 - 3. After placing modified concrete mix, carry on the placing of regular mix at such a rate that concrete is plastic at all times and flows readily into the forms and the spaces between reinforcement.
- E. Method of placing:
 - 1. Place concrete only under the degree of inspection described elsewhere in these Specifications, and as required by governmental agencies having jurisdiction.
 - 2. Do not place concrete outside of regular working hours unless required inspection authorities have been notified properly and are present.
 - 3. Spouts, pipes, troughs, belts, chain buckets, and other equipment may be used in conveying concrete, but the manner and method used shall be only as approved by the Architect.
 - 4. Do not permit concrete to free drop more than 6'-0".
 - 5. Deposit concrete direct into conveyances, and direct from conveyances to final points of repose, except where troughs, buckets, or the like are used, in which case dump concrete into hoppers

and then into the conveyances.

6. Where tremies are used, or where the free drop is 5'-0" or more, and through reinforcement, use a dumping box or board, moving the concrete therefrom by shovels or hoes.
7. Deposit concrete so that the surface is kept level throughout, a minimum being permitted to flow from one to another, and place as rapidly as practicable after mixing.
8. Do not use in this Work any concrete not placed within 30 minutes after leaving the mixer.

F. Tamping and conveying:

1. Thoroughly work concrete around reinforcement and embedded fixtures, and into corners of forms, during placing operations.
2. Completely compact with tamping poles and by tapping forms until the concrete is thoroughly compact and without voids. Determine the number of tampers needed by the amount and method of placing concrete.
3. Exercise care to tamp concrete vigorously and thoroughly to obtain maximum density.
4. Use manual tampers as well as mechanical vibrators.
 - a. Exercise care to direct the quick handling of vibrators from one position to another.
 - b. Do not over-vibrate concrete.
 - c. Do not move concrete by use of vibrator.

G. Stoppages:

1. Stop concrete placing only when and where approved by the Architect.
2. Maintain flow surfaces of freshly placed concrete as level whenever a pour is stopped, providing tight dams to accomplish this.
3. Make construction joints only where unavoidable, and then only at points determined by the Architect.
4. Make horizontal construction joints only where shown on the Drawings or specifically approved by the Architect.
5. Provide keys and dowels at construction joints where indicated on the Drawings, and where concrete placement is interrupted.

3.5 STEPS, SLABS, WALKS, AND PAVING ON EARTH

A. Preparation for slabs on earth:

1. Prepare the subgrade as specified in other Sections.
2. Dampen the subgrade for exterior slabs and paving prior to placing concrete, but do not dampen subgrade at interior floor slabs.
3. Provide the specified vapor barrier membrane, with the bedding and covering shown on the Drawings, beneath floor slabs on grade.
 - a. Place the membrane in as large sheets as practicable, lapping 12", with the top lap placed in the direction concrete will be spread.
 - b. Carefully cut, fit, and seal the membrane to all pipes and conduits projecting through the membrane, using small sheets, where necessary, and pressure-sensitive tape.
 - c. Make necessary repairs to the membrane, and secure to the Architect's approval before placing concrete.
 - d. Do not permit membrane to be punctured except at screed stakes and utility risers.

B. Placing and finishing:

1. Tamp the freshly placed concrete, except slabs to receive separate topping finish or mortar setting bed, using a heavy tamper, until at least 3/8" of mortar is brought to the surface.
2. Use tampers having a face consisting essentially of a grid of parallel metal bars.
3. Tamp with a light tamper, and screed with a heavy straightedge, until depressions and irregularities are worked out and the surface is true to finish grades and elevations.
4. Remove excess water and debris worked to the surface in compacting and screeding.
5. At slabs to receive separate topping finish or mortar setting beds, do not continue tamping to raise the mortar described in subparagraph 3.5-B-1 above.
6. Remove laitance as described in subparagraph 3.4-C-3 above.
7. When concrete has hardened sufficiently, float to a compact and smooth surface.

- 8. Provide the finish surfaces shown on the Drawings or otherwise directed by the Architect, in accordance with pertinent provisions of Section 03345 of these Specifications.
 - C. Cure and protect concrete in accordance with pertinent provisions of Section 03345 of these Specifications.
- 3.6 SODA AND ACID WASH
- A. At concrete surfaces to receive plaster, paint, or other finish, and which have been formed by oil-coated forms, scrub with a solution of 1-1/2 lbs caustic soda to one gal of water.
 - B. On surfaces where smooth wood or waste molds have been used, scrub with a solution of 20% muriatic acid or hydrochloric acid.
 - C. After the surfaces have been scrubbed, wash with clean water as soon as possible.
- 3.7 DEFECTIVE CONCRETE
- A. The following concrete will be deemed to be defective, and shall be removed promptly from the job site.
 - 1. Concrete which is not formed as indicated, is not true to intended alignment, is not plumb or level where so intended, is not true to intended grades and levels;
 - 2. Has voids or honeycomb that have been cut, resurfaced, or filled, unless with the approval of the Architect;
 - 3. Has sawdust, shavings, wood, or embedded debris;
 - 4. Or does not conform fully to provisions of the Contract Documents.
 - B. Repairs and replacements:
 - 1. Defective concrete may be cut out and repaired with gunite, or other approved methods, when and as directed by the Architect.
 - 2. Where defective concrete is found after removal of the forms, cut out the defective concrete, if necessary, and make the surfaces match adjacent surfaces.
 - 3. Work uneven surfaces and angles of concrete to a surface matching adjacent concrete surfaces.
- 3.8 GROUTING AND CEMENT POINTING
- A. After steel columns have been installed and leveled, drypack the space between the bottom of the plate and concrete, using cement grout driven in to completely fill the space and forming solid bearing for the column base plate.
- 3.9 MISCELLANEOUS CONCRETE ITEMS
- A. Walls and curbs:
 - 1. Construct header walls and curbs as shown on the Drawings.
 - 2. Trowel exposed concrete surfaces smooth.
 - B. Leave openings in floor slabs and future foundations for machines and equipment, where so indicated on the Drawings, and in dimensions and arrangements required for the approved machines and equipment.

END OF SECTION

SECTION 03345

CONCRETE FINISHING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included: Provide finishes on cast-in-place concrete as called for on the Drawings, specified herein, and needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division I of these Specifications.
 - 2. Section 03300: Cast-in-place concrete.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Except as may be modified herein or otherwise directed by the Architect, comply with ACI 301, "Specifications for Structural Concrete for Buildings."

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General:
 - 1. Carefully study the Drawings and these Specifications, and determine the location, extent, and type of required concrete finishes.
 - 2. As required for the Work, provide the following materials, or equals approved in advance by the Architect.
- B. Concrete materials: Comply with pertinent provisions of Section 03300, except as may be modified herein.
- C. Liquid bonding agent: "Weld-Crete," manufactured by the Larsen Products Corporation.

CONCRETE FINISHING

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- D. Curing and protection paper:
 - 1. Approved products:
 - a. "Sisalkraft, Orange Label";
 - b. Equal products complying with ASTM C171.
 - 2. Where concrete will be exposed and will be subjected to abrasion, such as floor slabs, use non-staining paper such as "Sisalkraft, Seekure 896," or equal paper faced with polyethylene film.
- E. Liquid curing agents:
 - 1. Where application of specified finish materials will be inhibited by use of curing agents, cure the surface by water only; do not use chemical cure.
 - 2. For curing other areas, use "Hunt TLF" manufactured by Hunt Process Company, Inc.
- F. Floor sealer: Acceptable products:
 - 1. "Superkote Special Clear Sealer" manufactured by Ven- Chem Company, Inc., P. O. Box 3186, Santa Barbara, California 93105 (213) 342-1195.
 - 2. "Supershield" manufactured by James Darcey Company, Inc., 19712 Merridy Street, Chatsworth, California 91311 (213) 349-3705.
- G. Slip-resistant abrasive aggregate:
 - 1. Provide aluminum oxide, 14/36 grading.
 - 2. Acceptable manufacturers:
 - a. Carborundum Company;
 - b. Norton Company;
 - c. L. M. Scofield Company.

2.2 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 FINISHING OF FORMED SURFACES

- A. General:
 - 1. After removal of forms, give the concrete surfaces one or more of the finishes specified below where so indicated on the Drawings.
 - 2. Revise the finishes as needed to secure the approval of the Architect.
- B. As-cast finish:
 - 1. Rough form finish:
 - a. Leave surfaces with the texture imparted by forms, except patch tie holes and defects.
 - b. Remove fins exceeding 1/4" in height.
 - 2. Smooth form finish:
 - a. Coordinate as necessary to secure form construction using smooth, hard, uniform surfaces, with number of seams kept to a practical minimum and in a uniform and orderly pattern.
 - b. Patch tie holes and defects.
 - c. Remove fins completely.
- C. Rubbed finishes:

1. Provide these finishes only where specifically called for, and then only on a "smooth form finish" base as described above.
 2. Smooth rubbed finish:
 - a. Produce on newly hardened concrete no later than the day following form removal.
 - b. Wet the surfaces, and rub with carborundum brick or other abrasive until uniform color and texture are produced.
 - c. Do not use a cement grout other than the cement paste drawn from the concrete itself by the rubbing process.
 3. Grout cleaned finish:
 - a. Do not start cleaning operations until all contiguous surfaces to be cleaned are completed and accessible.
 - b. Do not permit cleaning as the work progresses.
 - c. Mix one part portland cement and 1-1/2 parts fine sand with sufficient water to produce a grout having the consistency of thick paint.
 - d. Substitute white portland cement for part of the gray portland cement as required to produce a color matching the color of surrounding concrete, as determined by a trial patch.
 - e. Wet the surface of the concrete sufficiently to prevent absorption of water from the grout, and apply the grout uniformly with brushes or spray gun.
 - f. Immediately after applying the grout, scrub the surface vigorously with a cork float or stone to coat the surface and fill all air bubbles and holes.
 - g. While the grout is still plastic, remove all excess grout by working the surface with a rubber float, sack, or other means.
 - h. After the surface whites from drying (about 30 minutes at normal temperatures), rub vigorously with clean burlap.
 - i. Keep the surface damp for at least 36 hours after final rubbing.
 4. Cork floated finish:
 - a. Remove forms at an early stage, and no later than three days after placement of concrete.
 - b. Remove ties.
 - c. Remove burrs and fins.
 - d. Mix one part portland cement and one part fine sand with sufficient water to produce a stiff mortar.
 - e. Dampen the wall surface.
 - f. Apply mortar with a firm rubber float or with a trowel, filling all surface voids.
 - g. Compress mortar into voids using a slow-speed grinder or stone.
 - h. If the mortar surface dries too rapidly to permit proper compacting and finishing, apply a small amount of water with a fog sprayer.
 - i. Produce the final texture with a cork float using a swirling motion.
- D. Unspecified finish: If the finish of formed surfaces is not specifically called out elsewhere in the Contract Documents, provide the following finishes as applicable.
1. Rough form finish:
 - a. For all concrete surfaces not exposed to public view.
 2. Smooth form finish:
 - a. For all concrete surfaces exposed to public view.

3.3 FINISHING SLABS

- A. Definition of finishing tolerances:
1. "Class A": True plane within 1/8" in ten feet as determined by a ten foot straightedge placed anywhere on the slab in any direction.
 2. "Class B": True plane within 1/4" in ten feet as determined by a ten foot straightedge placed anywhere on the slab in any direction.
 3. "Class C": True plane within 1/4" in two feet as determined by a two foot straightedge placed anywhere on the slab in any direction.

- B. Scratched finish: After the concrete has been placed, consolidated, struck off, and leveled to a Class C tolerance, roughen the surface with stiff brushes or rakes before the final set.
- C. Floated finish:
1. After the concrete has been placed, consolidated, struck off, and leveled, do not work the concrete further until ready for floating.
 2. Begin floating when the water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation.
 3. During or after the first floating, check the planeness of the surface with a ten foot straightedge applied at not less than two different angles.
 4. Cut down high spots and fill low spots, and produce a surface with a Class B tolerance throughout.
 5. Refloat the slab immediately to a uniform sandy texture.
- D. Troweled finish:
1. Provide a floated finish as described above, followed by a power troweling and then a hand troweling.
 - a. Produce an initial surface which is relatively free from defects, but which still may show some trowel marks.
 - b. Provide hand troweling when a ringing sound is produced as the trowel is moved over the surface.
 - c. Thoroughly consolidate the surface by hand troweling.
 2. Provide a finished surface essentially free from trowel marks, uniform in texture and appearance, and in a plane of Class A tolerance.
 - a. For concrete on metal deck, Class B plane tolerance is acceptable.
 - b. On surfaces intended to support floor coverings, use grinding or other means as necessary and remove all defects of such magnitude as would show through the floor covering.
- E. Broom finish:
1. Provide a floated finish as described above.
 2. While the surface is still plastic, provide a textured finish by drawing a fiber bristle broom uniformly over the surface.
 3. Unless otherwise directed by the Architect, provide the texturing in one direction only.
 4. Provide "light," "medium," or "coarse" texturing as directed by the Architect or otherwise called for on the Drawings.
- F. Exposed aggregate finish:
1. Provide a floated finish as described above.
 2. While the surface is still plastic, embed an approved aggregate uniformly into the surface by light tamping.
 3. Provide complete coverage to the depth of a single stone.
 4. Float the surface until the embedded stone is fully coated with mortar and the surface has been brought to a true plane with Class B tolerance.
 5. After the matrix has hardened sufficiently to prevent dislodgement of aggregate, begin exposure.
 - a. Allow copious quantities of water, without force, to flow over the surface of the concrete while the matrix encasing the aggregate is removed by brushing with a fine bristle brush.
 - b. Continue this operation until the aggregate is uniformly exposed but not dislodged.
 6. An approved chemical retarder sprayed onto the freshly floated surface may be used to extend the working time for exposure of aggregate.
- G. Unspecified finish: If the finish of slab surfaces is not specifically called for elsewhere in the Contract Documents, provide the following finishes as applicable:
1. Scratched finish:
 - a. For surfaces scheduled to receive bond-applied cementitious applications.

2. Floated finish:
 - a. For surfaces intended to receive roofing.
3. Troweled finish:
 - a. For floors intended as walking surfaces;
 - b. Floors scheduled to receive floor coverings or waterproof membrane;
 - c. Parking areas;
4. Broom finish:
 - a. Garage ramps.
5. Non-slip finish:
 - a. Exterior platforms, steps, and landings;
 - b. Interior and exterior pedestrian ramps.

3.4 CURING AND PROTECTION

- A. Beginning immediately after placement, protect concrete from premature drying, excessively hot and cold temperatures, and mechanical injury.
- B. Preservation of moisture:
 1. Unless otherwise directed by the Architect, apply one of the following procedures to concrete not in contact with forms, immediately after completion of placement and finishing.
 - a. Ponding or continuous sprinkling;
 - b. Application of absorptive mats or fabric kept continuously wet;
 - c. Application of sand kept continuously wet;
 - d. Continuous application of steam (not exceeding 150 degrees F) or mist spray;
 - e. Application of waterproof sheet materials specified in Part 2 of this Section;
 - f. Application of other moisture-retaining covering as approved by the Architect;
 - g. Application of the curing agent specified in Part 2 of this Section or elsewhere in the Contract Documents.
 2. Where forms are exposed to the sun, minimize moisture loss by keeping the forms wet until they can be removed safely.
 3. Cure concrete by preserving moisture as specified above for at least seven days.
- C. Temperature, wind, and humidity:
 1. Cold weather:
 - a. When the mean daily temperature outdoors is less than 40 degrees F, maintain the temperature of the concrete between 50 degrees F and 70 degrees F for the required curing period.
 - b. When necessary, provide proper and adequate heating system capable of maintaining the required heat without injury due to concentration of heat.
 - c. Do not use combustion heaters during the first 24 hours unless precautions are taken to prevent exposure of the concrete to exhaust gases which contain carbon dioxide.
 2. Hot weather: When necessary, provide wind breaks, fog spraying, shading, sprinkling, ponding, or wet covering with a light colored material, applying as quickly as concrete hardening and finishing operations will allow.
 3. Rate of temperature change: Keep the temperature of the air immediately adjacent to the concrete during and immediately following the curing period as uniform as possible and not exceeding a change of 5 degrees F in any one hour period, or 50 degrees F in any 24 hour period.
- D. Protection from mechanical injury:
 1. During the curing period, protect the concrete from damaging mechanical disturbances such as heavy shock, load stresses, and excessive vibration.
 2. Protect finished concrete surfaces from damage from construction equipment, materials, and methods, by application of curing procedures, and by rain and running water.
 3. Do not load self-supporting structures in such a way as to overstress the concrete.

END OF SECTION

SECTION 04230

REINFORCED UNIT MASONRY

PART 1 _ GENERAL

1.1 DESCRIPTION

- A. Work included: Provided reinforced unit masonry where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

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

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit sufficient technical data to prove compliance with the specified requirements.
- C. Mock_ups:
 - 1. At an area on the site where approved by the Architect, provide mock_up masonry panels as follows:
 - a. Make each mock_up panel approximately 4' _0" high and 6' _0" long.
 - b. Provide one mock_up panel for each combination of masonry unit, bond pattern, mortar color, and joint type used in the Work.
 - c. The mock_up panels may be part of the Work, and may be incorporated into the finished Work when so approved by the Architect.
 - d. Revise as necessary and secure the Architect's approval.
 - 2. If the mock_up panels are not permitted to be part of the finished Work, completely demolish and remove them from the job site upon completion and acceptance of the other work of this Section.

1.4 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01640.
- B. Store masonry units above ground on level platforms which allow air circulation under the stacked units.
- C. Cover and protect against wetting prior to use.

PART 2 _ PRODUCTS

2.1 CONCRETE MASONRY UNITS

- A. Provide lightweight hollow load_bearing concrete masonry units complying with ASTM C90, grade N. type I, in color "natural gray," and in dimensions as indicated on the Drawings.
 - 1. Where dimensions are not indicated on the Drawings, provide units having nominal face dimensions of 16" long by 8" high by the depth shown or otherwise required.

REINFORCED UNIT MASONRY

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2. Provide accessory shapes as indicated or otherwise required.

2.2 BRICK MASONRY UNITS

- A. Where brick masonry is indicated on the Drawings, provide H. C. Muddox Company face brick as distributed by Western Brick and Tile Company, 1905 Fremont Avenue, South Pasadena, California 91030 (213) 254_6728, and having the following attributes.
 1. Dimensions: 3_1/2" x 3_1/2" x 7_1/2";
 2. Type: Comply with ASTM C216, type FBS, grade SW;
 3. Color: #1535.
- B. If prefabricated masonry panel system is utilized, provide two-cell bricks; if standard construction is utilized, provide the manufacturer's standard cored pattern.

2.3 REINFORCEMENT AND ACCESSORIES

- A. Comply with the following as minimums:
 1. Bars: ASTM A615, grade 40, unless otherwise shown on the Drawings, using deformed bars for number 3 and larger.
- B. Fabricate reinforcement in accordance with recommendations contained in CRSI "Manual of Standard Practices."

2.4 MORTAR

- A. Ingredients:
 1. Portland cement: Comply with ASTM C150, type I.
 2. Lime:
 - a. Provide hydrated lime complying with ASTM C207, or quicklime complying with ASTM C5.
 - b. When quicklime is used, slake and then screen through a 16 mesh sieve. After slaking and screening, but before using, store and protect for not less than ten days.
 3. Aggregate: Provide clean, sharp, well graded aggregate free from injurious amounts of dust, lumps, shale, alkali, surface coatings, and organic matter, and complying with ASTM C144.
 4. Admixtures: Do not use admixtures unless specifically approved in advance by the Architect.
 5. Water: Provide water free from deleterious amounts of acids, alkalis, and organic materials.
- B. Mixing:
 1. Provide mortar type "M" or type "S," as designated on the Drawings or otherwise directed by the Architect, and in accordance with ASTM C270.
 2. Proportions:
 - a. For type "M" mortar, provide one part portland cement to 1/4 part hydrated lime and 3_3/4 parts sand by volume.
 - b. For type "S" mortar, provide one part portland cement to 1/2 part hydrated lime and 4_1/2 parts sand by volume.
 3. Mechanically mix in a batch mixer for not less than three minutes, using only sufficient water to produce a mortar which is spreadable and of a workable consistency.
 4. Retemper mortar with water as required to maintain high plasticity.
 - a. On mortar boards, retemper only by adding water within a basin formed with mortar, and by working the mortar into the water.
 - b. Discard and do not use mortar which is unused after 1_1/2 hours following initial mixing.

2.5 GROUT

- A. Ingredients:
 1. Portland cement: Comply with ASTM C150, type I.

REINFORCED UNIT MASONRY

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2. Aggregate: Provide clean, sharp, well graded aggregate free from injurious amounts of dust, lumps, shale, alkali, surface coatings, and organic matter.
 3. Admixtures: Do not use admixtures unless specifically approved in advance by the Architect.
 4. Water: Provide water free from injurious amounts of acids, alkalis, and organic materials.
- B. Mixing:
1. Provide "fine grout" or "coarse grout" as designated on the Drawings or otherwise directed by the Architect, and in accordance with ASTM C476.
 2. When the minimum grout compressive strength is required to be more than 2000 psi, provide laboratory design mix prepared as required for design mixes of concrete under Section 03300 of these Specifications.
 3. Proportions:
 - a. For "fine grout," provide one part portland cement to 2_1/4 parts minimum to 3 parts maximum of damp loose sand, with sufficient water to achieve fluid consistency.
 - b. For "coarse grout," provide one part portland cement to 3 parts maximum of damp loose sand to two parts coarse aggregate, with sufficient water to achieve fluid consistency.
 4. "Fluid consistency" is interpreted as meaning as fluid as possible for pouring intimately in place without segregation.
- C. Use "fine grout" where called for on the Drawings, where the grout space is less than 3" in its least dimension, and where otherwise directed by the Architect or required by governmental agencies having jurisdiction.

PART 3 _ EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 ENVIRONMENTAL CONDITIONS

- A. Do not place masonry units when air temperature is below 40 degrees F.
- B. Protect masonry construction from direct exposure to wind and sun whe erected in ambient air temperature of 99 degrees F in the shade, with relative humidity less than 50%.

3.3 INSTALLATION

- A. General
1. Do not commence installation of the work of this Section until horizontal and vertical alignment of foundation is within 1" of plumb and the lines shown on the Drawings.
 2. Lay only dry masonry units.
 3. Use masonry saws to cut and fit masonry units.
 4. Set units plumb, true to line, and with level courses accurately spaced.
 5. Clean the top surface of foundation free from dirt, debris, and laitance, and expose the aggregate prior to start of installing first course.
 6. Accurately fit the units to plumbing, ducts, openings, and other interfaces, neatly patching all holes.
 7. Keep the walls continually clean, preventing grout and mortar stains. If grout does run over, clean immediately.
- B. Unless otherwise shown on the Drawings, provide running bond with vertical joints located at center of masonry units in the alternate course below.

REINFORCED UNIT MASONRY

04230

- C. Do not use chipped or broken units. If such units are discovered in the finished wall, the Architect may require their immediate removal and replacement with new units at no additional cost to the Owner.
- D. Laying up:
 - 1. Place units in mortar with full shoved bed and head joints.
 - 2. Align vertical cells of hollow units to maintain a clear and unobstructed system of flues.
 - 3. Hold racking to an absolute minimum.
 - 4. Provide cleanouts at the bottom of each cell of hollow units for removing mortar droppings. Do not close the cleanouts until they have been inspected and approved by the Architect.
- E. Reinforcement:
 - 1. Provide reinforcement as shown on the Drawings, fully embedded in grout and not in mortar or mortar joints.
 - 2. Provide required metal accessories to ensure adequate alignment of steel during grout filling operations.
- F. Tooling:
 - 1. Tool joints to a dense, smooth surface.
 - 2. Unless otherwise shown on the Drawings, provide joints of "concave" pattern throughout.

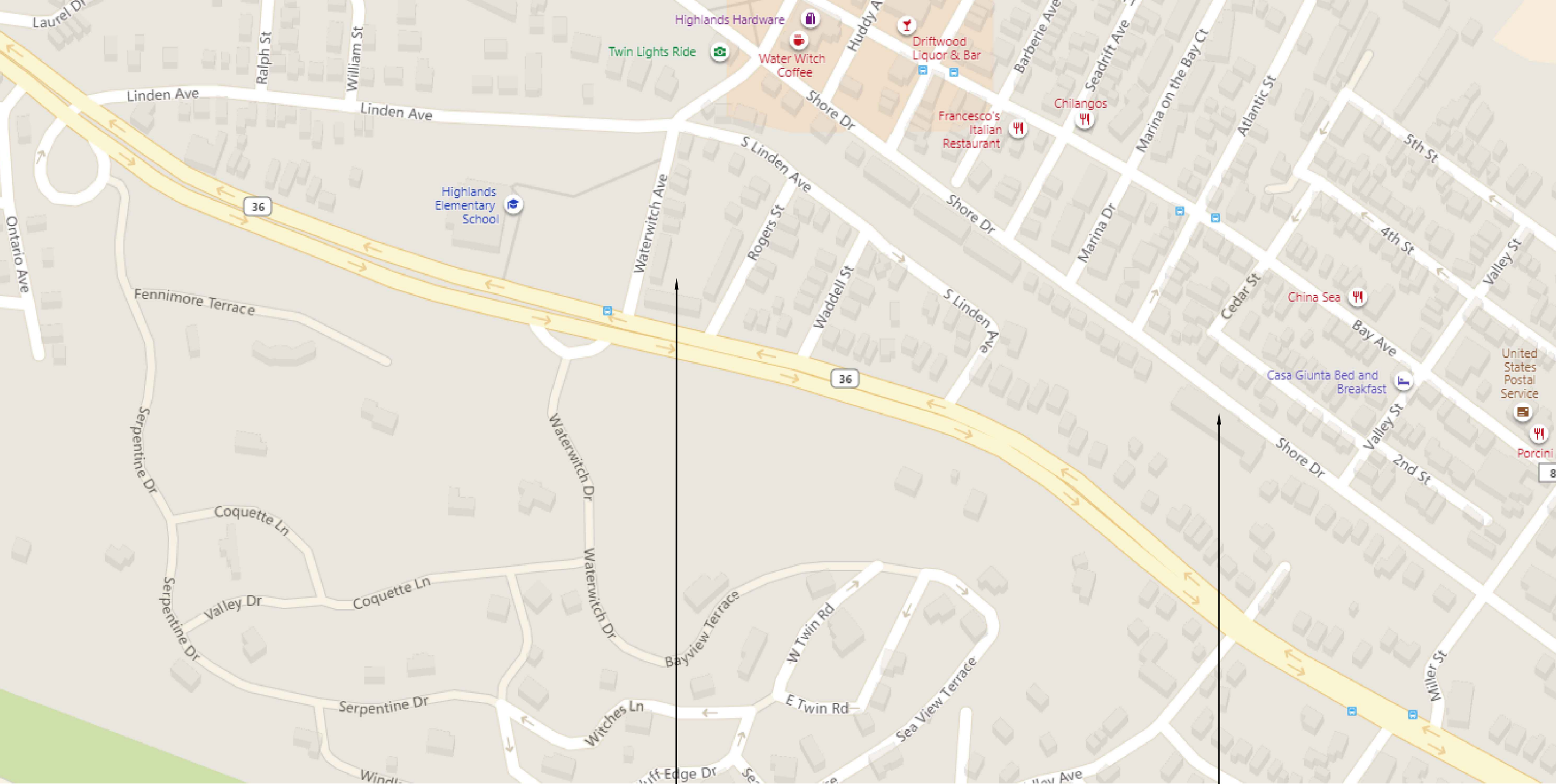
3.4 GROUTING

- A. Perform grouting in strict accordance with the provisions of the governing building code.
 - 1. Solidly fill vertical cells containing reinforcement.
 - 2. Consolidate grout at time of pour by puddling with a mechanical vibrator, filling all cells of the masonry, and then reconsolidating later by puddling before the plasticity is lost.

3.5 CLEANING

- A. Inspection and adjustment:
 - 1. Upon completion of the work of this Section, make a thorough inspection of installed masonry and verify that units have been installed in accordance with the provisions of this Section.
 - 2. Make necessary adjustments.
- B. Clean surfaces of masonry as required for proper application of the specified finishes.

END OF SECTION



LOCATION PLANS

SCALE: NONE



1 SITE PLAN — JENNIE PARKER MANOR
NTS

ENTRY STOOP REPLACEMENT - APARTMENT B7
AT JENNIE PARKER MANOR
MAY 2021
HIGHLANDS HOUSING AUTHORITY
PTAK TOWERS
215 SHORE DR
HIGHLANDS, NJ 07732
(732) 826-3110

DRAWING INDEX:

- A.1 TITLE PAGE, LOCATION PLANS, SITE PLAN & GENERAL NOTES
- A.2 STOOP PLANS - EXISTING & RENOVATED

GENERAL PROJECT NOTES

NOTICE: THESE NOTES ARE NOT REFERENCED THROUGHOUT THE DRAWINGS. THE CONTRACTOR SHALL ASSUME THAT THE NOTES ARE GENERIC AND APPLY TO THE DESCRIBED CONDITIONS WHEREVER THEY MAY APPEAR IN THE WORK.

- ◊ THE CONTRACTOR SHALL COORDINATE THE PHASING OF THE WORK WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCING THE WORK. IT IS IMPERATIVE THAT SUBSTANTIAL COMPLETION BE OBTAINED IN THE TIME ALLOTTED FOR THE WORK. PRIOR TO PERFORMING THE WORK AS OUTLINED IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR IS TO DO A WALK THROUGH WITH THE ARCHITECT AND/OR OWNER'S REPRESENTATIVE TO DISCUSS THE SCOPE OF WORK REQUIRED.
- ◊ ALL WORK, MATERIALS AND METHODS OF CONSTRUCTION SHALL COMPLY WITH ALL CODES HAVING JURISDICTION OVER THIS WORK, INCLUDING, BUT NOT LIMITED TO, ALL APPLICABLE FEDERAL, STATE, CITY, AND COUNTY BUILDING, ZONING, ELECTRICAL, MECHANICAL, PLUMBING AND FIRE CODES. ALL PROVISIONS OF THE NEW JERSEY UNIFORM CONSTRUCTION CODE SHALL APPLY TO THIS CONSTRUCTION, INCLUDING, BUT NOT LIMITED TO, THE REHABILITATION SUBCODE SECTION 5.23-6.4 - "REPAIRS". CONTRACTOR SHALL VERIFY ALL CODE REQUIREMENTS BEFORE COMMENCEMENT OF CONSTRUCTION AND BRING ANY DISCREPANCIES BETWEEN CODE REQUIREMENTS AND THE CONSTRUCTION DOCUMENTS TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- ◊ CONTRACTOR SHALL VERIFY ALL CONDITIONS REPRESENTED AS EXISTING, INCLUDING, BUT NOT LIMITED TO, UTILITIES, GRADES, AND ELEVATIONS. BEFORE PROCEEDING WITH THIS WORK, ANY UTILITIES SHOWN ON THESE DRAWINGS ARE SCHEMATIC IN NATURE AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THIS WORK. ANY AND ALL CONDITIONS FOUND TO BE DIFFERENT THAN THOSE REPRESENTED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT. THE CONTRACTOR PROCEEDS AT HIS OWN RISK IN DEALING WITH UNDOCUMENTED, CONFLICTING, OR INACCURATE CONDITIONS NOT BROUGHT TO THE ATTENTION OF THE ARCHITECT AND EVALUATED. THE CONTRACTOR MAY BE REQUIRED TO REMOVE SUCH UNAPPROVED WORK AND REINSTALL MATERIALS IN ACCORDANCE WITH THE ARCHITECT'S FINAL DETERMINATION.
- ◊ CONTRACT DOCUMENT INTERPRETATION: WHERE CONFLICTS, DISCREPANCIES, OMISSIONS, OR INCONSISTENCIES APPEAR IN THE CONTRACT DOCUMENTS, BIDDERS MUST BRING THESE ITEMS TO THE ATTENTION OF THE ARCHITECT AT LEAST TEN (10) DAYS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCEPTED, BEFORE THE BID DUE DATE, TO RECEIVE A WRITTEN INTERPRETATION FROM THE ARCHITECT REGARDING THESE ITEMS. LACKING SUCH WRITTEN DETERMINATION FROM THE ARCHITECT, APPLY THE MORE COSTLY INTERPRETATION IN TOTAL MATERIAL AND LABOR COSTS TO COMPLETE THE WORK IN PREPARING THE BID FOR THE PROJECT. INTERPRETATIONS MADE BY THE ARCHITECT FOLLOWING THE CONTRACT SIGNING REGARDING THE CONTRACT DOCUMENTS SHALL BE FINAL AND BINDING ON THE CONTRACTOR.
- ◊ THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED SIZES, TYPES, ETC. OF ALL SYSTEM COMPONENTS THAT REQUIRE REPLACEMENT AND/OR SERVICE AS DESCRIBED IN THE CONTRACT DRAWINGS.
- ◊ WHERE EXISTING MATERIALS ARE REMOVED AND NEW SIMILAR OR DISSIMILAR MATERIALS ARE CALLED FOR TO BE INSTALLED ON THE SAME SURFACE, THE CONTRACTOR SHALL PROPERLY PREPARE THE SURFACE IN ACCORDANCE WITH THE MANUFACTURERS' GUIDELINES FOR THE NEW MATERIAL TO BE INSTALLED. UNDER NO CIRCUMSTANCES SHALL NEW MATERIALS BE INSTALLED OVER IMPROPERLY PREPARED SUBSTRATES OR SURFACES.
- ◊ WHERE EXISTING MATERIALS AND STRUCTURES ARE TO BE MODIFIED, REMOVED, REPAIRED OR REPLACED SUCH CONSTRUCTION SHALL CONFORM TO THE STANDARDS AS SET FORTH IN THE DETAILS AS BEING EQUAL TO THAT OF NEW CONSTRUCTION. SUCH CONSTRUCTION SHALL LEAVE CLEAN SOLID SURFACES READY TO RECEIVE NEW MATERIALS AS SPECIFIED. REPLACEMENT OF EXISTING SYSTEM COMPONENTS SHALL BE ON A ONE-FOR-ONE BASIS, WHEREIN THE REPLACEMENT SHALL EQUAL THE EXISTING IN QUALITY, AND REQUIRED OPERATION FOR THE SYSTEM IT SERVES.
- ◊ WHERE OMITTING OF EXISTING SURFACES OR REMOVAL OF EXISTING FINISHES IS REQUIRED TO PERFORM THE WORK UNDER THIS CONTRACT, AND A NEW FINISH IS NOT INDICATED, FILL RESULTING OPENINGS AND PATCH THE SURFACE AFTER DOING THE WORK, AND FINISH TO MATCH ADJACENT EXISTING SURFACES.
- ◊ PROTECT ALL BUILDING ELEMENTS AND IMPROVEMENTS INDICATED TO REMAIN. ITEMS OF SALVAGE VALUE AND NOT INCLUDED ON THE SCHEDULE OF ITEMS TO BE RETURNED TO THE OWNER SHALL BE REMOVED FROM THE STRUCTURE. STORAGE OR SALE OF ITEMS AT PROJECT SITE IS PROHIBITED.
- ◊ DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, DRIVES, MEANS OF EGRESS OR OTHER OCCUPIED OR USED SPACES OR FACILITIES WITHOUT THE WRITTEN PERMISSION OF THE OWNER AND THE AUTHORITIES HAVING JURISDICTION. DO NOT INTERRUPT UTILITIES SERVING OCCUPIED FACILITIES WITHOUT THE WRITTEN PERMISSION OF THE OWNER. IF NECESSARY, PROVIDE TEMPORARY UTILITIES, FACILITIES, AND MEANS OF EGRESS, ETC. TO ALLOW CONTINUOUS OPERATION AND USE OF THE OCCUPIED FACILITIES AS REQUIRED TO COMPLETE THE WORK. ALL TEMPORARY MEASURES SHALL BE INSTALLED AND MAINTAINED AS REQUIRED BY AND IN CONFORMANCE WITH ALL REGULATING AGENCIES.
- ◊ ALL TRASH AND POTENTIALLY FLAMMABLE MATERIAL SHALL BE REMOVED FROM THE SITE DAILY. CONTRACTOR SHALL MAINTAIN THE SITE IN AN ORDERLY AND SAFE CONDITION DURING THE WORK. UNDER NO CIRCUMSTANCES SHALL GASOLINE, SOLVENTS OR OTHER VOLATILE OR POTENTIALLY EXPLOSIVE MATERIALS OR LIQUIDS BE BROUGHT INTO, STORED OR USED ON THE PREMISES.
- ◊ DEMOUSHED MATERIAL SHALL BE CONSIDERED THE PROPERTY OF THE CONTRACTOR AND SHALL BE COMPLETELY REMOVED FROM THE JOB SITE AND DISPOSED OF IN A SAFE AND LEGAL MANNER. THE CONTRACTOR MAY BE REQUIRED TO PRODUCE BILLS OF LADING, DUMPING OR TRANSPORTATION CERTIFICATES TO PROVE THAT MATERIALS WERE PROPERLY TRANSPORTED AND DISPOSED.
- ◊ IN THE EVENT OF DAMAGE TO ITEMS NOT SCHEDULED FOR MODIFICATION OR DEMOLITION, PROMPTLY REPLACE SUCH ITEMS TO THE APPROVAL OF THE ARCHITECT AND AT NO ADDITIONAL COST TO THE OWNER.
- ◊ ALL UTILITIES THAT ARE NOT TO BE REINCORPORATED INTO THE NEW WORK SHALL BE PROPERLY CLOSED OFF AND CAPPED SO AS NOT TO BE AESTHETICALLY INAPPROPRIATE OR POTENTIALLY HAZARDOUS TO THE BUILDING OR ITS OCCUPANTS.
- ◊ THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN SAFE EGRESS PASSAGE FOR THE BUILDING INHABITANTS AND TAKE ALL NECESSARY PRECAUTIONS TO AVOID CREATING HAZARDOUS CONDITIONS. IN NO CASE SHALL THE BUILDING EGRESS PASSAGEWAYS BE LEFT IN A CONDITION THAT MAY RENDER THEM UNUSABLE BY THE CONTRACTOR'S EMPLOYEES AND/OR THE GENERAL PUBLIC. THE CONTRACTOR SHALL CAREFULLY COORDINATE ALL WORK IN AREAS ACCESSIBLE TO THE PUBLIC WITH THE PHA SO AS TO MINIMIZE INCONVENIENT CONDITIONS FOR THE BUILDING INHABITANTS.
- ◊ BEFORE BEGINNING THE WORK, AT THE SITE, WHERE POSSIBLE, AND THROUGHOUT THE COURSE OF THE WORK, INSPECT AND VERIFY THE LOCATION OF EVERY ITEM AFFECTED BY THE WORK UNDER THIS CONTRACT. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK RELATED TO THAT BEING INSPECTED.
- ◊ THE DRAWINGS SHOW PRINCIPAL AREAS WHERE WORK MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INCIDENTAL WORK MAY ALSO BE NECESSARY IN AREAS NOT SHOWN ON THE DRAWINGS DUE TO CHANGES AFFECTING EXISTING MECHANICAL, ELECTRICAL, PLUMBING AND/OR OTHER BUILDING SYSTEMS. SUCH INCIDENTAL WORK IS ALSO A PART OF THIS CONTRACT. INSPECT SUCH AREAS TO ASCERTAIN WORK REQUIRED MEETING NEW CONDITIONS AND COMPLETING SUCH WORK TO MEET CONTRACT REQUIREMENTS.
- ◊ TRADE, PRODUCT, OR MANUFACTURER'S NAMES AND CATALOG NUMBERS SHOWN ON THE DRAWINGS FOR NEW PRODUCTS ARE TO ESTABLISH QUALITY REQUIRED. IN EACH CASE ADD, BY INFERENCE, AFTER TRADE, PRODUCT OF MANUFACTURER'S NAME, THE PHRASE "OR APPROVED EQUAL". FOR PRODUCTS TO BE CONSIDERED FOR EQUIVALENCY TO A SPECIFIED PRODUCT, THEY MUST BE FORMALLY PRESENTED TO THE ARCHITECT DURING THE BIDDING PERIOD IN ACCORDANCE WITH THE SUBSTITUTION APPROVAL METHOD DESCRIBED IN THE SPECIFICATION. REQUESTS FOR SUBSTITUTION OF SPECIFIED PRODUCTS WILL NOT BE ACCEPTED AFTER THE BIDDING PERIOD. IF NO SUBSTITUTION WAS APPROVED DURING THE BIDDING PERIOD THE SUCCESSFUL BIDDER CONTRACTED TO DO THE WORK WILL BE REQUIRED TO SUPPLY AND INSTALL THE SPECIFIED ITEM WITHOUT VARIATION.
- ◊ IN SOME CASES, THE SPECIFICATIONS WILL LIST A CHOICE OF PRODUCTS THAT THE CONTRACTOR CAN USE IN THE WORK FOR A PARTICULAR PURPOSE. THE CONTRACTOR MAY USE ANY ONE OF THESE PRODUCTS IN THE WORK WITHOUT A REQUEST FOR SUBSTITUTION. IN THIS CASE, HOWEVER, NO OTHER PRODUCTS, OTHER THAN THOSE LISTED, WILL BE CONSIDERED AS AN EQUAL. IN CERTAIN RARE INSTANCES, DUE TO PERSONNEL TRAINING, MAINTENANCE CONSIDERATION, COMPATIBILITY WITH OTHER EQUIPMENT OR OTHER REASONS, ONE PRODUCT ALONE WILL BE ACCEPTABLE WITHOUT CONSIDERATION OF OTHER PRODUCTS. IF THIS IS THE CASE, IT WILL BE CLEARLY STATED SO IN THE SPECIFICATIONS.

- ◊ THE CONTRACTOR SHALL USE ACCEPTED CONSTRUCTION PRACTICES AND COMMON SENSE THROUGHOUT THE CONSTRUCTION PROCESS, ESPECIALLY IN THE PLACEMENT AND STORAGE OF MATERIAL IN OR ON THE UNCOMPLETED OR EXISTING STRUCTURE.
- ◊ WHERE NOTES AND SPECIFICATIONS REFER TO A WORK ITEM AS "INSTALL" OR "PROVIDE AND INSTALL", BOTH TERMINOLOGY'S SHALL BE INTERPRETED TO ALWAYS MEAN THAT THE CONTRACTOR MUST PURCHASE, TRANSPORT TO THE SITE AND INSTALL THE ITEM, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS; AND THE ITEM SHALL BE FULLY FUNCTIONAL AND BE ABLE TO SERVE ITS INTENDED PURPOSE AT THE COMPLETION OF THE INSTALLATION. ONLY WHEN AN ITEM IS REFERRED TO AS "INSTALL ONLY", IS THE ITEM TO BE PURCHASED AND SUPPLIED BY THE OWNER FOR INSTALLATION BY THE CONTRACTOR.
- ◊ LEAVE ALL AREAS RENOVATED IN MOVE-IN CLEAN CONDITION. LEAVE NO FINGER PRINTS, MARKS, HAZE OR CONSTRUCTION DIRT. REMOVE ALL PACKING, TAPE, AND MARKINGS FROM APPLIANCES. LEAVE ALL LITERATURE AND USER INSTRUCTIONS AND OWNERSHIP MANUALS WITH A REPRESENTATIVE OF THE OWNER.
- ◊ REUSE OF EXISTING MATERIALS MAY BE PERMITTED ONLY WHEN IN STRICT CONFORMANCE WITH ALL REGULATING AGENCIES. ALL MATERIALS WHICH ARE TO BE REUSED IN COMPLETING THE NEW CONSTRUCTION ARE TO BE REFURBISHED TO LOOK AND FUNCTION AS IF NEW. THE CONTRACTOR SHALL CONSULT THE ARCHITECT PRIOR TO REUSING ANY MATERIAL IN THE NEW CONSTRUCTION. THE ARCHITECT RESERVES THE RIGHT TO REJECT ANY EXISTING MATERIAL REUSED IN THE CONSTRUCTION IF AT THE ARCHITECT'S DISCRETION THE MATERIAL DOES NOT CONFORM WITH GENERALLY ACCEPTED LIKE NEW STANDARDS. THIS REJECTION CAN BE MADE AT ANY TIME DURING THE COURSE OF THE WORK, AND THE CONTRACTOR WILL BEAR THE SOLE RESPONSIBILITY FOR REMEDYING THE REJECTED WORK.
- ◊ SITE RESTORATION AND CLEAN UP: AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL RESTORE/REPAIR ANY PORTION OF THE SITE AND THE EXTERIOR OF THE BUILDING DAMAGED OR DISRUPTED AS A RESULT OF THE WORK CONDUCTED. IN ADDITION, THE FOLLOWING CLEAN UP ACTIVITIES SHALL BE CONDUCTED PRIOR TO VACATING THE SITE:
 - REMOVE ALL DEBRIS CREATED DURING THE WORK.
 - THOROUGHLY RAKE THE ENTIRE WORK AREA AND REMOVE ALL TRASH, DEBRIS, LEAVES, ETC. WHETHER CREATED BY THE WORK OR NOT AND DISPOSE OF OFF SITE.
 - SEED AND WATER ALL BARE LAWN AREAS DISTURBED BY THE WORK.
- ◊ GRASS SEED: MECHANICAL THATCHING, SCARIFYING, AND RAKING- APPLICATION OF PELLETIZED, DOLOMETIC LIME, GRANULAR PRE-EMERGENCE WEED TREATMENT, APPLICATION OF 10-6-4 FERTILIZER AND SEEDING (CYCLONE TYPE APPLICATOR) OF LOFTS FULL SUN URBAN SEED MIX AS APPROVED BY THE ARCHITECT. WATERING AND MOWING IS INCLUDED WITH ALL REFURBISHED GRASS AND SEEDED AREAS AS SPECIFIED BY THE ARCHITECT. WATER AND MAINTAIN SEEDED AREAS FOR THE PERIOD OF AT LEAST ONE MONTH TO ENSURE THE UNINTERRUPTED GROWTH AND FULL VIGOR OF THE SEED. THE CONTRACTOR WILL BE RESPONSIBLE TO SUPPLY ALL EQUIPMENT, HOSES AND WATER IF NECESSARY TO MAINTAIN THE SEED.
- ◊ NOTES REGARDING UTILITIES: IN THE CASE OF THE INTERRUPTION OF ESSENTIAL SERVICES OR THE CREATION OF A LIFE THREATENING CONDITION, THE CONTRACTOR SHALL TREAT THE REPAIR OF THE DAMAGE AS AN EMERGENCY SITUATION AND SHALL PAY FOR ALL ADDITIONAL EXPENSES INCURRED IN DEALING WITH AN EMERGENCY INCIDENT. THESE ADDITIONAL EXPENSES MAY INCLUDE BUT ARE NOT LIMITED TO, OVERTIME PAY, SPECIAL COURIER DELIVERY SERVICE OF ESSENTIAL PARTS OR EQUIPMENT, THE SERVICES OF OUTSIDE SPECIALISTS OR CONSULTANTS, THE RENTAL OF SPECIALIZED EQUIPMENT, OR THE PROVISION OF, OR RENTAL OF, EQUIPMENT NECESSARY TO PROVIDE TEMPORARY SERVICES OR UTILITIES DURING THE REPAIR PERIOD, AND SPECIAL UTILITY COMPANY CHARGES. FOR THE PURPOSES OF THIS CONTRACT, ESSENTIAL SERVICES ARE DEFINED AS GAS SERVICE, ELECTRICAL POWER, HOT AND COLD POTABLE WATER SUPPLY, SPACE HEATING, SANITARY SEWER SERVICE, STORM DRAINAGE, AND TELEPHONE SERVICE. INTERRUPTION OF THESE SERVICES TO MORE THAN TWO LIVING UNITS OR ANY COMMON FACILITY SHALL BE CONSIDERED AN EMERGENCY CONDITION.
- ◊ THE CONTRACTOR SHOULD BE MADE AWARE THAT SHOULD A TIMELY AND APPROPRIATE RESPONSE NOT BE PROVIDED TO AN ESSENTIAL UTILITY INTERRUPTION OR EMERGENCY CAUSED BY HIM OR HIS WORKMEN OR SUBCONTRACTORS, THAT THE OWNER MAY TAKE ACTION TO HAVE THE EMERGENCY REPAIR MADE BY A THIRD PARTY. DEPENDING ON THE NATURE AND SEVERITY OF THE EMERGENCY OR BREAK AND THE AVAILABILITY OF CONTRACTOR PERSONNEL WITH DECISION MAKING AUTHORITY, THE OWNER MAY OR MAY NOT GIVE PRIOR NOTICE TO THE CONTRACTOR OF THIRD PARTY INVOLVEMENT IN THE CORRECTION OF THE EMERGENCY CONDITION. THE COST OF SUCH THIRD PARTY REPAIRS SHALL BE DEDUCTED FROM THE CONTRACTOR'S BID PRICE.
- ◊ IN THE EVENT THAT A UTILITY MUST BE RELOCATED TO CARRY OUT OR EXPEDITE THE WORK, AND THE RELOCATION IS NOT CALLED FOR IN THE PROJECT MANUAL TO BE INCLUDED IN THE CONTRACT PRICE, THE CONTRACTOR SHALL BE REIMBURSED FOR THESE COSTS BY THE OWNER ON THE BASIS OF A NEGOTIATED AND MUTUALLY AGREED UPON CHANGE ORDER. THIS WORK SHALL NOT PROCEED WITHOUT A FORMAL, WRITTEN CHANGE ORDER, SIGNED BY THE OWNER, ARCHITECT, AND CONTRACTOR AND APPROVED BY A HUD REPRESENTATIVE.

THE CONTRACTOR WILL BE EQUALLY RESPONSIBLE FOR SIMILAR DAMAGE AND / OR INTERRUPTIONS OF ESSENTIAL SERVICES OCCURRING THROUGHOUT THE WORK, INCLUDING THAT WORK WHICH TAKES PLACE WITHIN RENOVATED BUILDINGS OR STRUCTURES. ADDITIONALLY ALL OF THE FORGOING APPLIES TO WORK ENGAGED IN BY SUBCONTRACTORS HIRED BY THE CONTRACTOR TO CARRY OUT THE WORK.

- ◊ ACCESS / DISRUPTION OF USE: IN THE COURSE OF EXECUTING THE WORK, THE CONTRACTOR MAY BE REQUIRED TO WORK IN OR NEAR AREAS WHICH ALLOW RESIDENTS, STAFF AND VISITORS FREE ACCESS TO THE SITE AND TO THE BUILDING(S) OR IN AREAS WHERE REGULAR ACTIVITIES TAKE PLACE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT FREE ACCESS IS SAFE AND EFFICIENTLY MAINTAINED TO THESE AREAS DURING THE COURSE OF THE WORK AND THAT ROUTINE ACTIVITIES NORMALLY CARRIED OUT ARE NOT DISRUPTED. AT A MINIMUM THE CONTRACTOR SHALL PERFORM THE FOLLOWING TO GUARANTEE ACCESS AND PREVENT DISRUPTION: (1) PRIOR TO WORK COMMENCING, INDICATE THOSE AREAS WHERE WORK IS TO TAKE PLACE, (2) DETERMINE, THROUGH OBSERVATION AND DISCUSSION WITH A DESIGNATED OWNER'S REPRESENTATIVE, HOW WORK IN THESE AREAS WILL AFFECT SCHEDULED AND ROUTINE ACTIVITIES AND GENERAL ACCESS TO THE SITE AND STRUCTURES, (3) IF IT HAS BEEN MUTUALLY DETERMINED THAT WORK MAY POTENTIALLY INTERFERE WITH OR DISRUPT ACTIVITIES AND/OR HINDER FREE ACCESS TO THE SITE AND STRUCTURES, THE CONTRACTOR MUST FORMULATE A PLAN OF ACTION TO PREVENT SUCH INTERFERENCE AND MAINTAIN FREE ACCESS DURING THE COURSE OF THE WORK. THIS PLAN SHALL BE PRESENTED TO THE OWNER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF WORK. IF THE OWNER DOES NOT DEEM THE PLAN SUITABLE, THE CONTRACTOR WILL MAKE MODIFICATIONS TO THE PLAN, RESUBMIT THE PLAN AND RECEIVE FINAL APPROVAL FROM THE OWNER. THE PROPOSED PLAN, AT A MINIMUM, SHOULD INCLUDE THE FOLLOWING INFORMATION: AREAS AND ACTIVITIES IMPACTED BY THE WORK, TIME OF COMMENCEMENT OF THE WORK, DURATION OF THE WORK, PROPOSED MEANS TO MINIMIZE THE DISRUPTION, PROPOSED TEMPORARY ACCESS TO THE SITE OR BUILDINGS, PROPOSED ACTIONS TAKEN BY THE CONTRACTOR MAY INCLUDE, BUT NOT BE LIMITED TO THE CONSTRUCTION OF, PLACEMENT OF, AND REMOVAL OF THE FOLLOWING: PROTECTED AND LEGAL ACCESS PATHS, PROTECTED AND LEGAL STAIRS AND/OR RAMPS, LIGHTING AND/OR POWER OR OTHER UTILITIES (SEE ABOVE REGARDING UTILITIES), DOORS AND HARDWARE, AND SIGNAGE. TO MEET THE REQUIREMENTS OF THIS SECTION, WORK NORMALLY DONE IN ONE CONTINUOUS ACTIVITY MAY BE REQUIRED TO DIVIDE INTO TWO OR MORE WORK SESSIONS OR MAY BE REQUIRED TO BE SEQUENTIALLY STAGED.

- ◊ JOB SITE SAFETY: NEITHER THE PROFESSIONAL ACTIVITIES OF HABITECH ARCHITECTURE, LLC, NOR THE PRESENCE OF HABITECH ARCHITECTURE, LLC OFFICERS, PERSONNEL, EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR, SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES, AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCES, TECHNIQUES, OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING, OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. HABITECH ARCHITECTURE, LLC OFFICERS, PERSONNEL, EMPLOYEES AND SUB-CONSULTANTS HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY, AND SHALL WARRANT THAT THIS INTENT SHALL BE MADE CARRIED OUT THROUGHOUT THE WORK. IN ACCORDANCE WITH THE INSURANCE REQUIREMENTS FOR THIS WORK, THE CONTRACTOR AGREES TO INDEMNIFY AND LIST AS ADDITIONAL INSURED UNDER HIS GENERAL LIABILITY INSURANCE POLICY, OFFICERS, PERSONNEL, EMPLOYEES, AND SUB-CONSULTANTS OF HABITECH ARCHITECTURE, LLC AND THE OWNER.



12 PINECREST DRIVE MEDFORD, NJ 08055
VOICE: (609) 413-2566 ~ FAX: (609) 654-8230

REVISIONS

NO.	DATE	DESCRIPTION

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ENTRY STOOP REPLACEMENT

APARTMENT B7

JENNIE PARKER MANOR

HIGHLANDS HOUSING AUTHORITY

HIGHLANDS, NEW JERSEY

HABITECH ARCHITECTURE, LLC
Architecture and Planning

12 Pinecrest Drive
Medford, NJ 08055

Telephone: (609) 413-2566
Email lgmestres@gmail.com

LEE G. MESTRES JR., R.A. ~ N.J. LIC. NO. A-12017

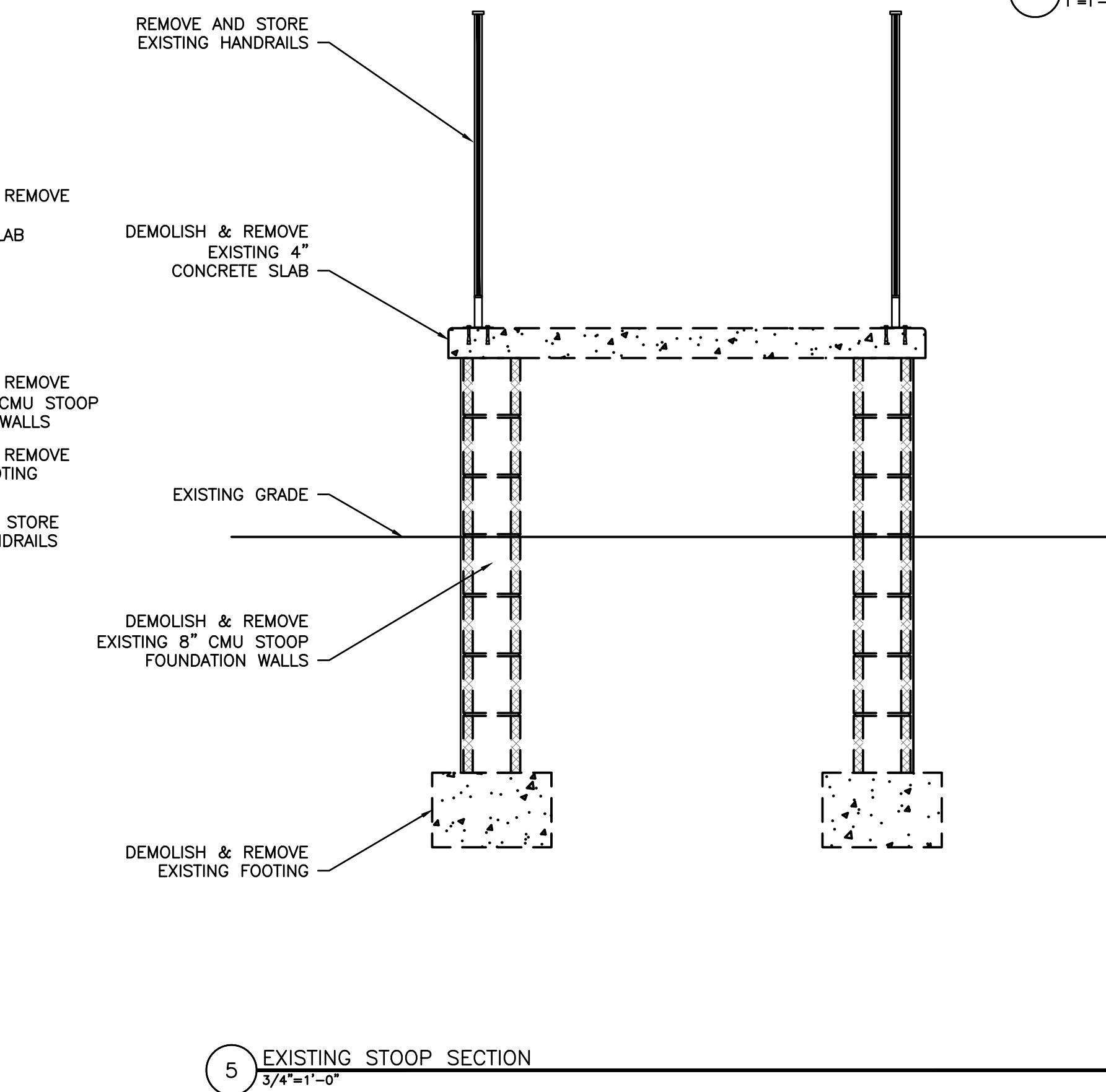
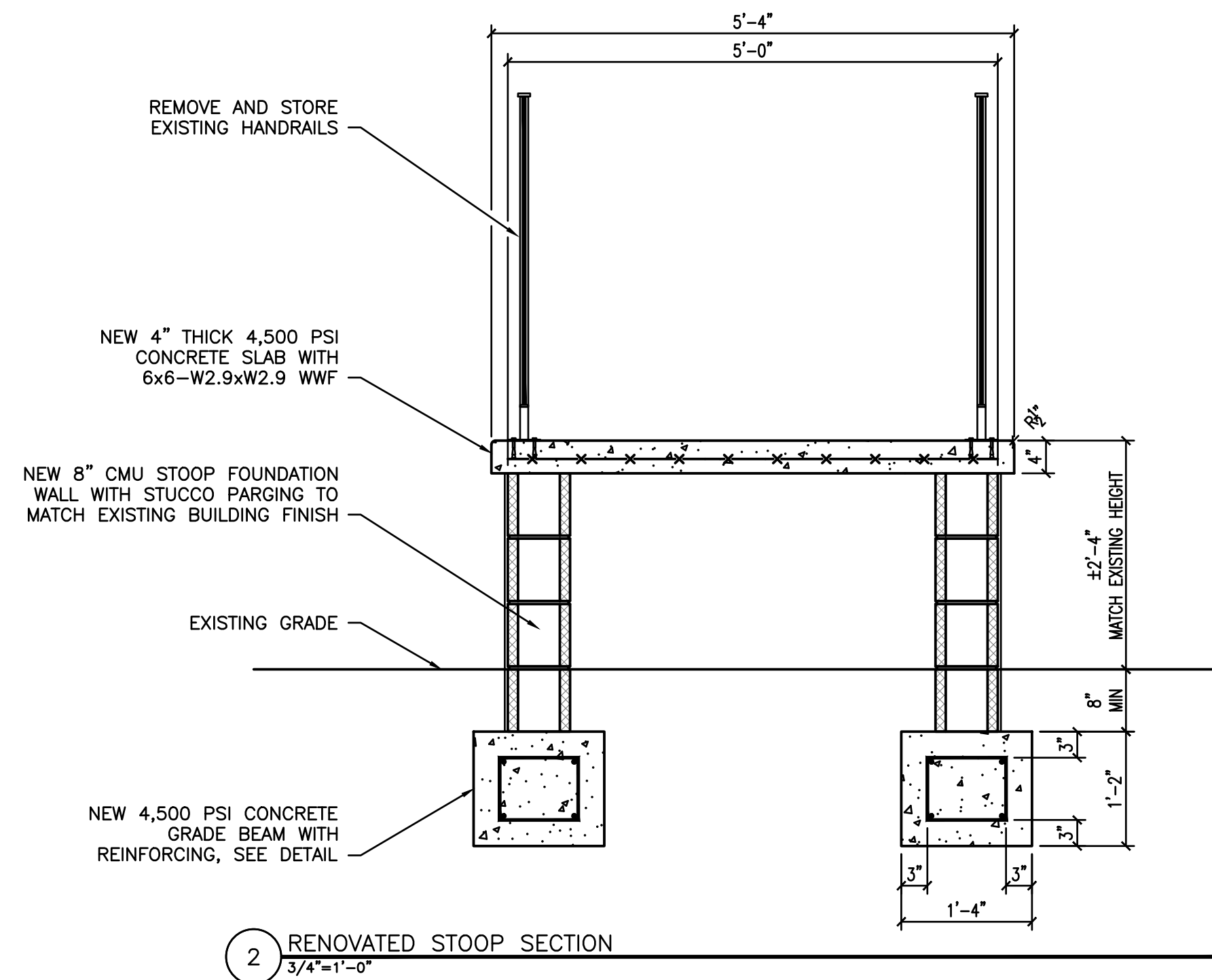
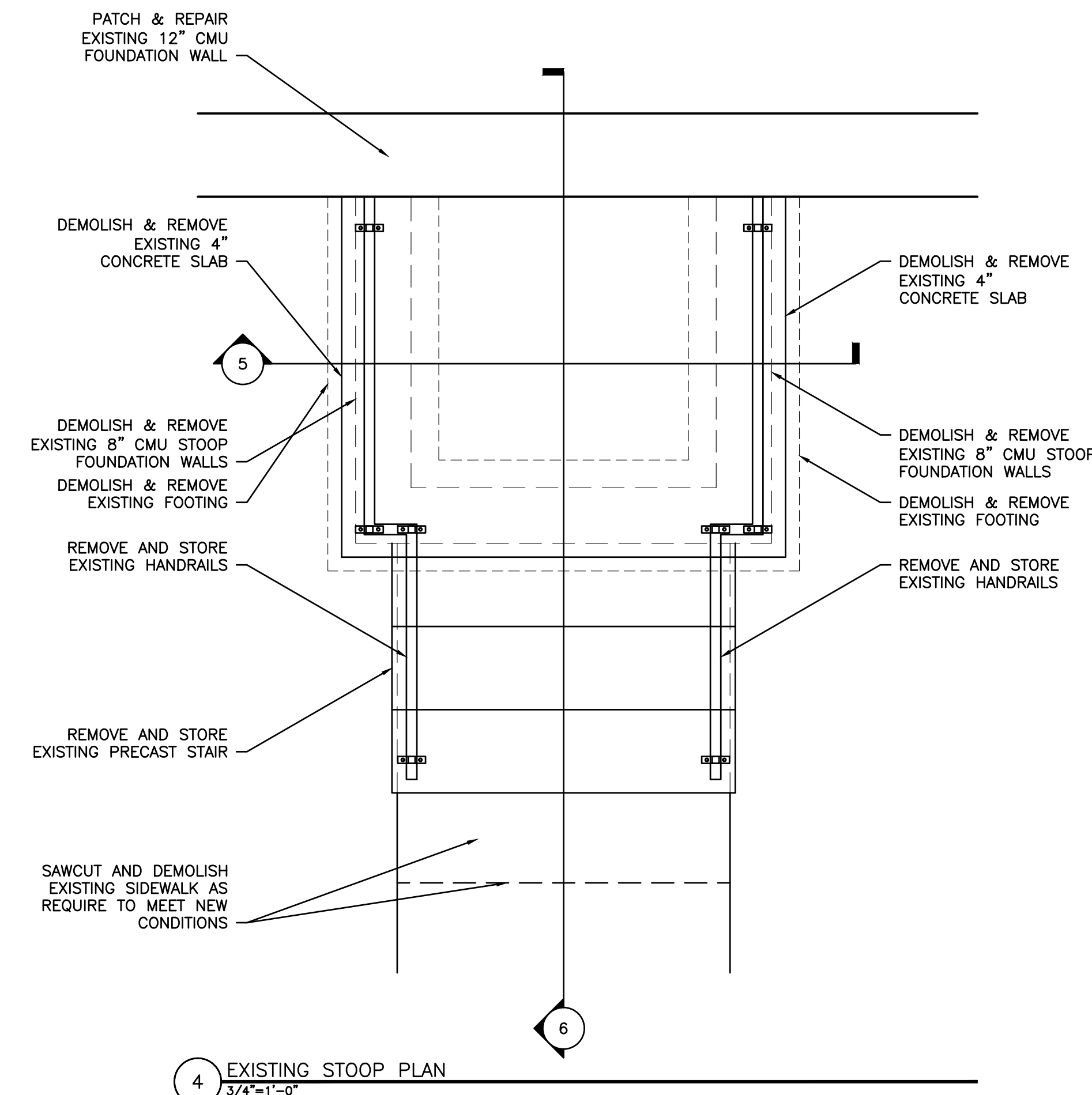
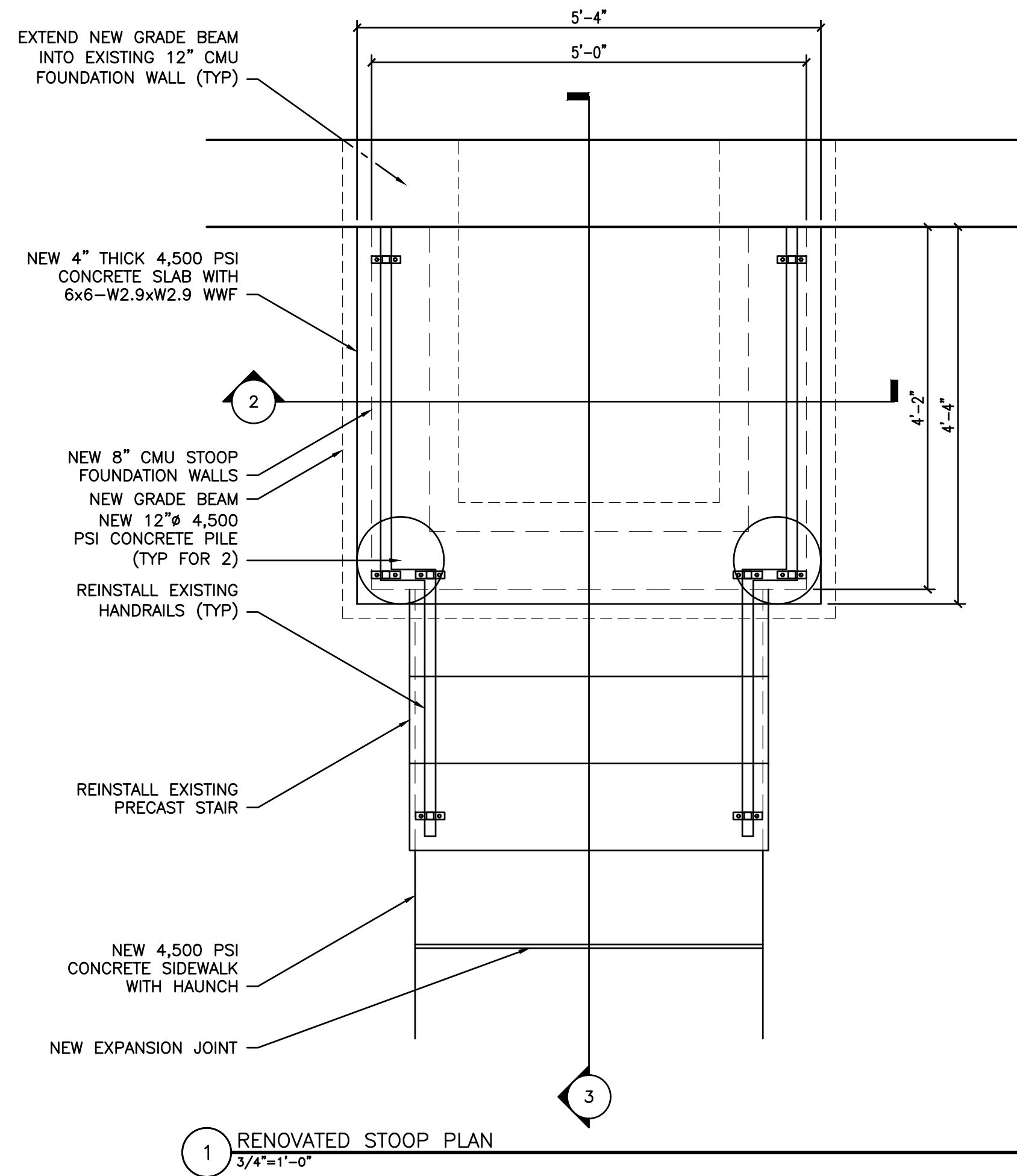
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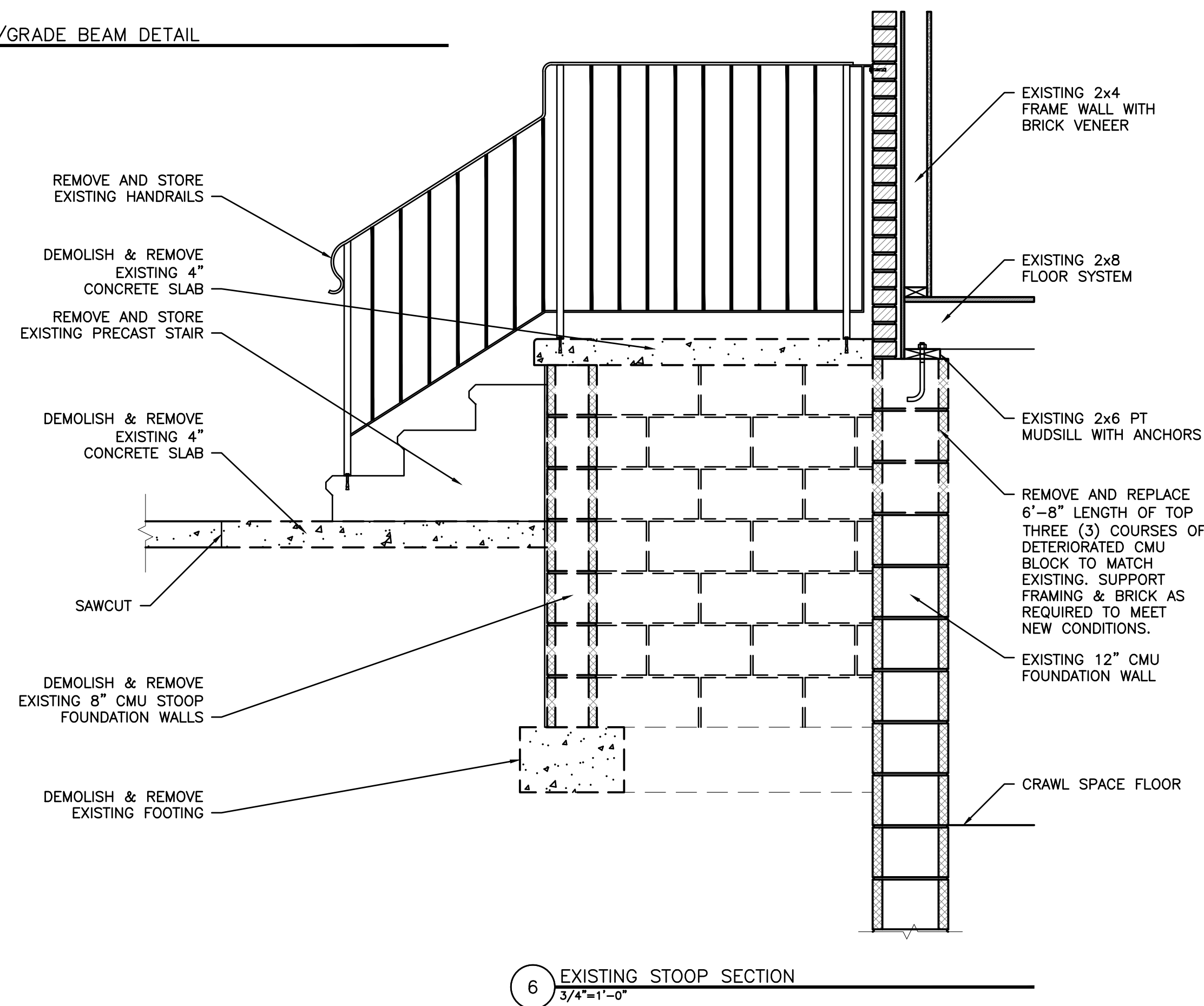
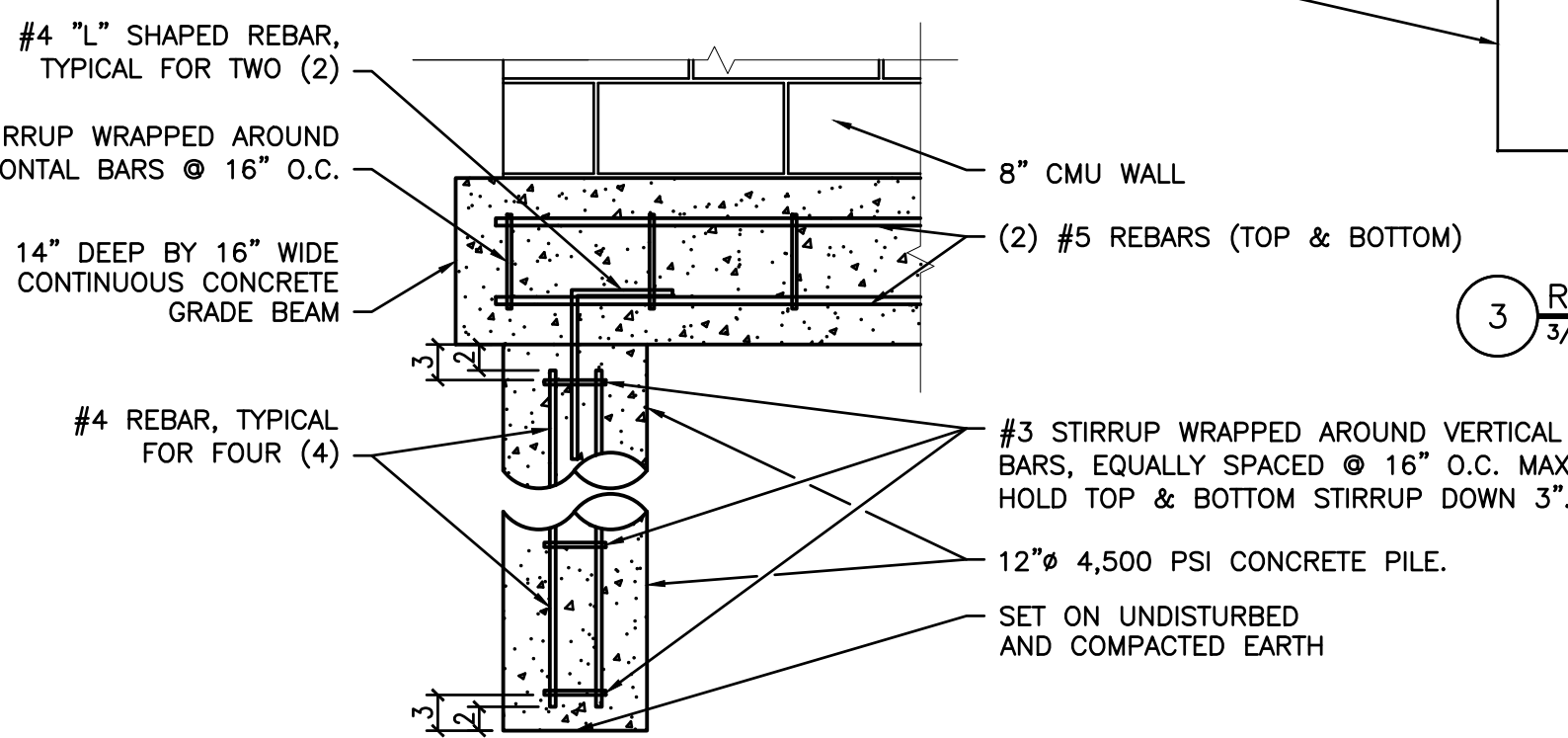
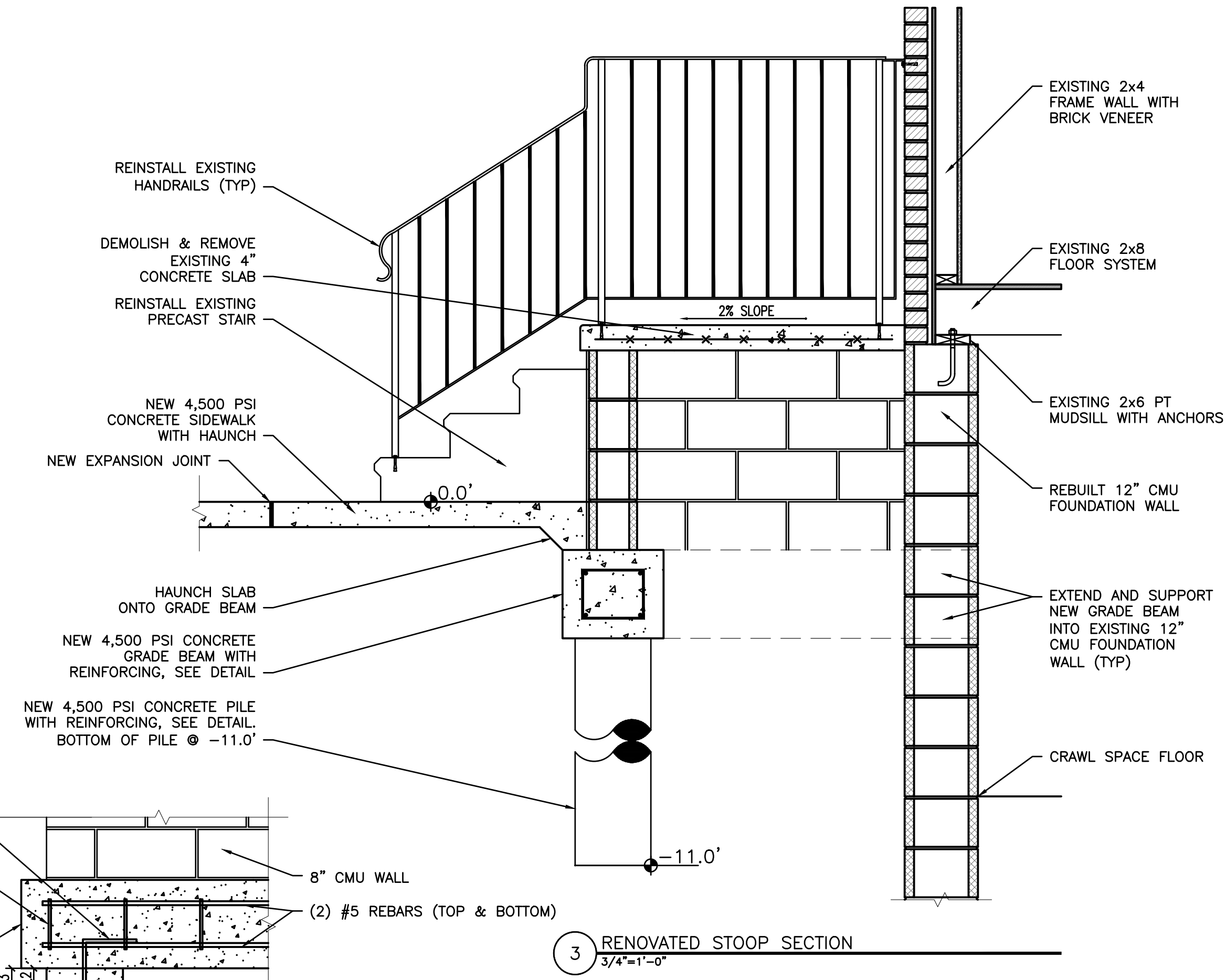
LOCATION PLANS

SITE PLAN & GENERAL NOTES

COMM NO. N/A	DRAWING
DATE MAY 2021	A.1
SCALE AS NOTED	
DRAWN BY LGM	
CHECKED BY LGM / JPB	1 OF 2



NOTE: PATCH/REPAIR EXISTING STUCCO FINISH ON OUTSIDE OF FOUNDATION WALL AS REQUIRED TO COMPLETE THE INSTALLATION OF ALL REQUIRED WORK. FINISH TO MATCH EXISTING.



REVISIONS

NO.	DATE	DESCRIPTION

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ENTRY STOOP REPLACEMENT
APARTMENT B7
JENNIE PARKER MANOR
HIGHLANDS HOUSING AUTHORITY
HIGHLANDS, NEW JERSEY

HABITECH ARCHITECTURE, LLC
Architecture and Planning

12 Pinecrest Drive
Medford, NJ 08055

Telephone: (609) 413-2566
Email lgmestres@gmail.com

LEE G. MESTRES JR., RA ~ NJ LIC. NO. AI-12017

DATE: May 28, 2021

STOOP PLANS
EXISTING & RENOVATED

COMM NO. N/A	DRAWING
DATE MAY 2021	A.2
SCALE AS NOTED	
DRAWN BY LGM	
CHECKED BY LGM / JPB	2 OF 2