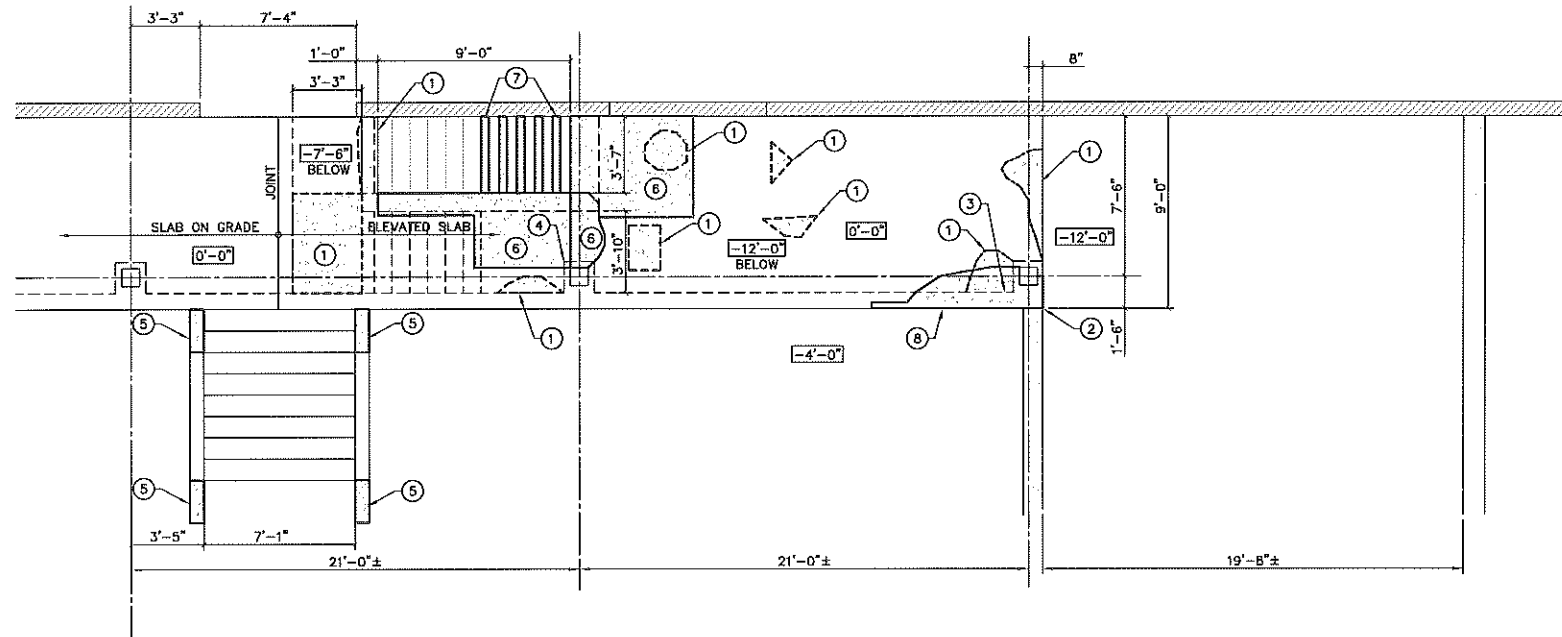


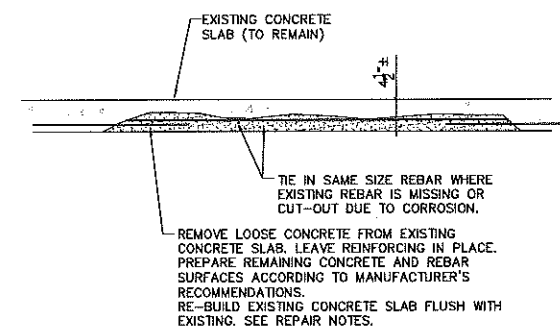
**LIST OF MINIMUM REPAIRS**

CONTRACTOR SHALL PROVIDE TEMPORARY SHORING OF EXISTING STRUCTURE AS REQUIRED FOR NOTED REPAIRS. TEMPORARY SHORING DESIGN IS NOT BY WTN.

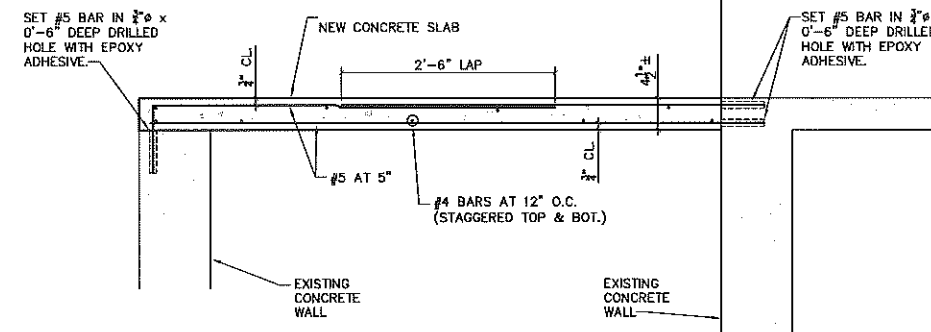
- 1 OVERHEAD CEILING REPAIR:  
REMOVE ALL SPALLED AND LOOSE CONCRETE TO A DEPTH OF AT LEAST 1/4" IN AREA TO BE REPAIRED. USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE PROFILE OF +/- 1/4". MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL AND APPLY SIKA ARMATEC 110 EPOCEM. PRIME PREPARED SUBSTRATE WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC 110 EPOCEM OR A SCRUB COAT OF SIKA-TOP 123 PLUS. APPLY SIKA-TOP 123 PLUS REPAIR MORTAR INTO WET SCRUB COAT FOLLOWING MANUFACTURER'S APPLICATION INSTRUCTIONS.
- 2 SPALLED COLUMN REPAIR:  
REMOVE ALL LOOSE SPALLED CONCRETE AT BASE OF COLUMN TO A MINIMUM DEPTH OF 1". REMOVE EXPOSED WELD STUDS ON BOTTOM OF TUBE COLUMN BASE PLATE. USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE SURFACE WITH A MINIMUM SURFACE PROFILE OF +/- 1/4" TO CLEAN, SOUND CONCRETE. MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL TO REMOVE ALL TRACES OF RUST AND SCALE. APPLY SIKA ARMATEC TO CLEAN REINFORCING STEEL. PRIME PREPARED SURFACES WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC OR SIKADUR BONDING AGENTS. PLACE FORM AS REQUIRED. PREPARE SIKATOP-111 PLUS AS DIRECTED BY MANUFACTURER AND COMPLETE REPAIR WITHIN FORM.
- 3 VERTICAL SURFACE REPAIR:  
REMOVE ALL SPALLED AND LOOSE CONCRETE TO A DEPTH OF AT LEAST 1/4" IN AREA TO BE REPAIRED. USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE PROFILE OF +/- 1/4". MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL AND APPLY SIKA ARMATEC 110 EPOCEM. PRIME PREPARED SUBSTRATE WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC 110 EPOCEM OR A SCRUB COAT OF SIKA-TOP 122 PLUS. APPLY SIKA-TOP 123 PLUS REPAIR MORTAR INTO WET SCRUB COAT FOLLOWING MANUFACTURER'S APPLICATION INSTRUCTIONS.
- 4 SPALLED COLUMN REPAIR:  
REMOVE ALL LOOSE SPALLED CONCRETE AT TOP OF PILASTER TO A MINIMUM DEPTH OF 1". USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE SURFACE WITH A MINIMUM SURFACE PROFILE OF +/- 1/4" TO CLEAN, SOUND CONCRETE. MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL TO REMOVE ALL TRACES OF RUST AND SCALE. APPLY SIKA ARMATEC TO CLEAN REINFORCING STEEL. PRIME PREPARED SURFACES WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC OR SIKADUR BONDING AGENTS. PLACE FORM AS REQUIRED. PREPARE SIKATOP-111 PLUS AS DIRECTED BY MANUFACTURER AND COMPLETE REPAIR WITHIN FORM.
- 5 SPALLED STAIR WALL/CURB REPAIR:  
REMOVE ALL LOOSE SPALLED CONCRETE AT TOP OF WALL/CURB TO A MINIMUM DEPTH OF 1". USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE SURFACE WITH A MINIMUM SURFACE PROFILE OF +/- 1/4" TO CLEAN, SOUND CONCRETE. MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL TO REMOVE ALL TRACES OF RUST AND SCALE. APPLY SIKA ARMATEC TO CLEAN REINFORCING STEEL. PRIME PREPARED SURFACES WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC OR SIKADUR BONDING AGENTS. PLACE FORM AS REQUIRED. PREPARE SIKATOP-111 PLUS AS DIRECTED BY MANUFACTURER AND COMPLETE REPAIR WITHIN FORM.
- 6 HORIZONTAL TROWELLED DECK SURFACE REPAIR:  
REMOVE ALL SPALLED AND LOOSE CONCRETE TO A DEPTH OF AT LEAST 1/4" IN AREA TO BE REPAIRED. USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE PROFILE OF +/- 1/4". MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL AND APPLY SIKA ARMATEC 110 EPOCEM. PRIME PREPARED SUBSTRATE WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC 110 EPOCEM OR A SCRUB COAT OF SIKA-TOP 122 PLUS. APPLY SIKA-TOP 122 PLUS REPAIR MORTAR INTO WET SCRUB COAT FOLLOWING MANUFACTURER'S APPLICATION INSTRUCTIONS.
- 7 HORIZONTAL TROWELLED STAIR TREAD SURFACE REPAIR:  
REMOVE ALL SPALLED AND LOOSE CONCRETE TO A DEPTH OF AT LEAST 1/4" IN AREA TO BE REPAIRED. USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE PROFILE OF +/- 1/4". MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL AND APPLY SIKA ARMATEC 110 EPOCEM. PRIME PREPARED SUBSTRATE WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC 110 EPOCEM OR A SCRUB COAT OF SIKA-TOP 122 PLUS. APPLY SIKA-TOP 122 PLUS REPAIR MORTAR INTO WET SCRUB COAT FOLLOWING MANUFACTURER'S APPLICATION INSTRUCTIONS.
- 8 SPALLED DECK & SLAB EDGE REPAIR:  
REMOVE ALL LOOSE SPALLED CONCRETE TO A MINIMUM DEPTH OF 1". USE WATER BLAST, SCABBLER OR OTHER MECHANICAL MEANS TO OBTAIN AN EXPOSED AGGREGATE SURFACE WITH A MINIMUM SURFACE PROFILE OF +/- 1/4" TO CLEAN, SOUND CONCRETE. MECHANICALLY CLEAN ALL EXPOSED REINFORCING STEEL TO REMOVE ALL TRACES OF RUST AND SCALE. APPLY SIKA ARMATEC TO CLEAN REINFORCING STEEL. PRIME PREPARED SURFACES WITH BRUSH OR SPRAY APPLIED SIKA ARMATEC OR SIKADUR BONDING AGENTS. PLACE FORM AS REQUIRED. PREPARE SIKATOP-111 PLUS AS DIRECTED BY MANUFACTURER AND COMPLETE REPAIR WITHIN FORM.



1 ELEVATED SLAB CONCRETE DECK REPAIRS KEY PLAN



2 TYPICAL CONCRETE DECK REPAIR DETAIL



3 COMPLETE SLAB REPLACEMENT OPTION DETAILS

NOTE: IN AREAS WHERE REMOVAL OF SPALLED AND LOOSE CONCRETE RESULTS IN COMPLETE DEMOLITION OF EXISTING ELEVATED SLAB, USE THIS DETAIL FOR REPLACEMENT OF SLAB.

**STRUCTURAL SPECIFICATIONS & NOTES**

All sections and details are typical at similar locations and where applicable. Contractor to verify all dimensions, elevations, and details prior to fabrication of materials. Contractor to provide adequate bracing and shoring during construction until the structure is complete. Contractor is responsible for damages due to insufficient shoring and bracing. Design of temporary shoring is not by William T. Nance, P.E., P.C.

This drawing does not include necessary components for construction safety. All construction must be performed in compliance with the Occupational Safety and Health Act and all Rules and Regulations. This drawing does not include any design or analysis related to Code required Life Safety, Architectural, Mechanical or Electrical requirements or Code Summary Calculations relating to Occupancy and Fire Safety. See Documents of other disciplines and trades for any information other than Structural Repair Design shown on this drawing. Verify and coordinate with all Contractors the location of all Mechanical and Electrical components and openings including layout and sizes of actual equipment.

**DESIGN LOADS:** The structural components shown on this drawing have been designed for loads in accordance with the 2018 North Carolina Building Code.

THE EXISTING BUILDING STRUCTURE HAS NOT BEEN ANALYZED FOR CONFORMANCE TO CURRENT CODE. THE REPAIR DETAILS TO THE EXISTING STRUCTURE ARE INTENDED ONLY TO MAINTAIN THE EXISTING STRUCTURES PRESENT STRUCTURAL CAPACITY.

**STRUCTURAL CONCRETE:** Provide normal weight concrete. Minimum compressive strength of 4,000 psi at 28 days. Portland Cement: ASTM C150 Type II, Fly Ash up to 20% of weight of cement.

Aggregate: ASTM C33  
Waters: Potable  
Slump: Maximum 5 inches

Materials shall be mixed, transported, fabricated, placed, consolidated, and finished in accordance with the requirements of the current edition of the American Concrete Institute Building Code Requirements for Reinforced Concrete (ACI 318). Reinforcing steel shall conform to the requirements of ASTM A615, grade 60. Detailing of reinforcement shall be in accordance with the current edition of the American Concrete Institute Standard Details and Detailing of Concrete Reinforcement (ACI-315).

Unless noted otherwise, provide 2" clear to outermost reinforcing where exposed to earth and weather and 3" clear where placed against earth. Provide continuous reinforcement. Where splicing of reinforcement is required, lap bars 48 bar diameters.

**EPOXY REBAR DOWELLING:** Drill and epoxy reinforcing bars where shown on the drawings. Provide "Simpson-SET" and rebar as noted. Follow all manufacturers written instructions for the storage, mixing and installation of the reinforcing dowels.

IREDELL CO. P.O. #201093-00

CONCRETE DECK REPAIRS TO BACK DOCK  
IREDELL CO. GOVERNMENT CENTER SOUTH  
610 E. CENTER ST.  
MOORESVILLE, NORTH CAROLINA

WILLIAM T. NANCE, P.E., P.C. STRUCTURAL ENGINEER

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DATE	2-23-20	SHEET	51
DESIGN	WTN		
CHECKED	WTN		
REVISION			
REVISION	2017		

WILLIAM T. NANCE  
REGISTERED PROFESSIONAL ENGINEER  
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