Inspections Division
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NATHAN R. MERRILL, P.E.
171 ATWOOD ROAD
NEW GLOUCESTER, ME
207-299-2248
nathanmerrillpe@gmail.com

Project DILLWORTH RES - PORTLAND, ME
W.O. _____ Sheet 1.2 of 4
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STATE OF MAINE
NATHAN R. MERRILL
No. 12279
LICENSED
PROFESSIONAL ENGINEER
9-11-15

**CONCRETE NOTES**

1. CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318 LATEST)," AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301–LATEST)". THESE PUBLICATIONS ARE AVAILABLE THROUGH THE AMERICAN CONCRETE INSTITUTE (248) 848–3800.

2. GENERAL CONTRACTOR, CONSTRUCTION MANAGER AND/OR OWNER'S CLERK OF THE WORKS SHALL HAVE AVAILABLE ON SITE AT ALL TIMES A COPY OF ACI "FIELD REFERENCE MANUAL SP–15 (LATEST)". THIS PUBLICATION IS AVAILABLE THROUGH THE AMERICAN CONCRETE INSTITUTE (248) 848–3800.

3. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ACI 318–LATEST.

4. CONCRETE MIX DESIGN:

   FOOTINGS AND FOUNDATION WALLS:
   - A. STRENGTH: 3000 PSI @ 28 DAYS
   - B. AGGREGATE: 3/4"
   - C. W/C RATIO: 0.55 MAX
   - D. ENTRAINED AIR: 5% TO 7%
   - E. SLUMP: 4" MAX

   INTERIOR SLABS ON GRADE:
   - A. STRENGTH: 3000 PSI @ 28 DAYS
   - B. AGGREGATE: 3/4"
   - C. W/C RATIO: 0.55 MAX
   - D. ENTRAPPED AIR ONLY (NO ENTRAINMENT)
   - E. SLUMP: 4" MAX

   NOTE:
   - A. ADD AIR ENTRAINING ADMIXTURE AT MANUFACTURER'S PRESCRIBED RATE TO RESULT IN CONCRETE AT POINT OF PLACEMENT HAVING THE ABOVE NOTED AIR CONTENT.
   - B. ADDITIONAL SLUMP MAY BE ACHIEVED BY THE ADDITION OF A MIDRANGE OR HIGH RANGE WATER REDUCING ADMIXTURE. MAXIMUM SLUMP AFTER ADDITION OF ADMIXTURE SHALL BE 6 INCHES AND 8 INCHES RESPECTIVELY.

5. ADJUSTMENT TO CONCRETE MIXES: MIX ADJUSTMENTS MAY BE REQUESTED BY THE CONTRACTOR, WHEN CHARACTERISTICS OF THE MATERIALS, JOB CONDITIONS, WEATHER OR OTHER CIRCUMSTANCES WARRANT, AT NO ADDITIONAL COST TO THE OWNER AS ACCEPTED BY THE ARCHITECT. LABORATORY TEST DATA FOR THE REVISED MIX DESIGN AND STRENGTH DATA MUST BE SUBMITTED AND ACCEPTED BY THE ARCHITECT BEFORE INCORPORATING INTO THE WORK.

   NOTE:
   - A. WATER MAY BE ADDED AT THE PROJECT ONLY IF THE MAXIMUM SPECIFIED WATER–CEMENT RATIO AND SLUMP ARE NOT EXCEEDED. CONTRACTOR SHALL HAVE BATCH TICKET INDICATING WATER AND CEMENT MIXED IN THE PLANT, AND SHALL RECORD THE WATER ADDED AS EVIDENCE THAT THE WATER–CEMENT RATIO HAS NOT BEEN EXCEEDED.
   - B. ADDITIONAL DOSES OF SUPER PLASTICIZER SHOULD BE USED WHEN DELAYS OCCUR AND REQUIRED SLUMP HAS NOT BEEN MAINTAINED. A MAXIMUM OF TWO ADDITIONAL DOSAGES ARE PERMITTED PER ACI 212.3R RECOMMENDATIONS.

6. CONCRETE MIXING:
   - A. JOB–SITE MIXING OF CONCRETE WILL NOT BE PERMITTED.
   - B. READY–MIX CONCRETE MUST COMPLY WITH THE REQUIREMENTS OF ASTM C94, AND AS SPECIFIED HEREIN. PROVIDE BATCH TICKET FOR EACH BATCH DISCHARGED AND USED IN WORK, INDICATING PROJECT NAME, MIX TYPE, MIX TIME, BATCH QUANTITY, AND PROPORTIONS OF INGREDIENTS.

7. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.

8. PROVIDE PVC SLEEVES WHERE PIPES PASS THROUGH EXTERIOR CONCRETE OR SLABS CAST ON GRADE. ADJACENT SLEEVES SHALL BE SPACED A MINIMUM OF THREE DIAMETERS APART. NO PENETRATIONS SHALL BE MADE THROUGH FOOTINGS WITHOUT WRITTEN PERMISSION FROM ENGINEER.

9. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION.

10. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS. LAP TWO SQUARES AT ALL JOINTS AND TIE AT 3'–0" ON CENTER.

11. MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
    - A. SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH, 3.0"
    - B. FORMED SURFACES IN CONTACT WITH EARTH OF EXPOSED TO WEATHER
      - #5 BARS, 5/8" DIAMETER WIRE, AND SMALLER, 1.5"
      - #6 THROUGH #11 BARS, 2.0"
    - C. SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER WALLS, SLABS, JOISTS #11 AND SMALLER, 1.0"

12. REINFORCEMENT SHALL BE CONTINUOUS AROUND CORNERS AND AT INTERSECTIONS. PROVIDE LAPPED BARS AT NECESSARY SPLICES OR HOOKED BARS AT DISCONTINUOUS ENDS.

13. WELDING OF REINFORCEMENT IS NOT PERMITTED.

14. PROVIDE A MIN. 15 MIL, POLYOLEFIN GEOMEMBRANE TYPE VAPOR BARRIER UNDER INTERIOR SLABS CAST ON GRADE. SEE TYPICAL DETAILS FOR SPECIFIC UNDERSLAB PREPARATION REQUIREMENTS.

15. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTIONS JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE WORK SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.