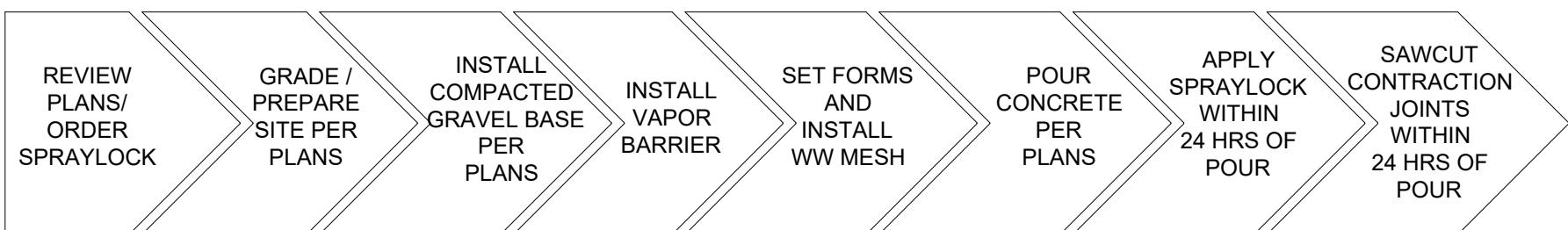


# NFC FITNESS COURT CONCRETE SLAB MINIMUM STANDARDS



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## SCOPE:

PROVIDE CONCRETE SLAB FOR USE WITH OUTDOOR FITNESS FLOORING AND EQUIPMENT. THIS CONCRETE SLAB WILL HAVE SPECIALTY FLOORING INSTALLED ON IT SO COMPLIANCE TO THE PROJECT PLANS AND SPECIFICATIONS ARE CRITICAL TO AVOID REWORK OR REPAIR PRIOR TO INSTALLATION OF THE FITNESS COURT (BY OTHERS). INSTALL CONCRETE PER THESE SPECIFICATIONS TO ENSURE COMPLIANCE WITH SPECIALTY FLOORING & ADHESIVE MANUFACTURER'S REQUIREMENTS.

PROVIDE A MINIMUM OF 4" THICK CONCRETE SLAB PER PLANS. MINIMUM DIMENSIONS ARE 38'-0" WIDE X 38'-0" LONG. SEE SITE SPECIFIC PLANS AND / OR ENGINEERING PROVIDED BY OTHERS IF DIFFERENT.

## SEQUENCE OF CONSTRUCTION:

1. REVIEW ALL DRAWINGS INCLUDING ALL NOTES TO BECOME FAMILIAR WITH SEQUENCE AND DETAILS.
2. DURING INSTALLATION SEQUENCE, REFER TO AND COMPLY WITH APPLICABLE NOTES.
3. PREPARE AREA BELOW SLAB WITH COMPACTED SOIL AND GRAVEL PER PLANS.
4. BUILD FORMS FOR OUTER PERIMETER OF THE SLAB WITH DIMENSIONS PER SLAB PLAN AND SELECTED WIDTH OF OUTER BAND AROUND FITNESS COURT AREA.
5. INSTALL REINFORCEMENT STEEL & WW MESH PER PLANS.
6. PLACE SPECIFIED CONCRETE PER PLANS (4" MINIMUM).
7. FINISH CONCRETE TO THE SLOPE SPECIFIED FOR DRAINAGE.
8. APPLY SPRAYLOCK PER MANUFACTURER'S SPECIFICATIONS WITHIN 24 HOURS OF CONCRETE POUR.
9. PROVIDE CONTRACTION JOINTS WITHIN 24 HOURS OF CONCRETE POUR.
10. INSTALLATION OF FITNESS WALL, ANCHORS, FITNESS FLOORING, AND ALL EQUIPMENT BY OTHERS.

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DRAWING NAME:  
FITNESS COURT

REV.: 9.0

Date: 2/13/25  
Drawn By: DH  
Checked By: DH  
Engineer of Record:  
Wells L. Holmes S.E.

SHEET #:

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# CONCRETE SLAB MINIMUM SPECIFICATIONS

NOTES: (FOR FLAT TOP SLAB / TILE FLOOR INSTALLATION)

## CONCRETE:

1. PROVIDE 4" TO 6" OF CRUSHER RUN GRAVEL AS SHOWN IN SECTION DETAIL.
2. SOIL TO BE COMPACTED TO MEET THE REQUIREMENTS OF 95% MODIFIED PROCTOR.
3. SLAB DESIGN BASED ON SOIL CLASS D - 1500 PSF CAPACITY.
4. ALL SLAB CONCRETE TO BE 4,000 PSI AT 28 DAYS (CONCRETE STRENGTH REQUIREMENT). A HIGH EARLY MIX MAY BE UTILIZED ONLY IF THE MIX DESIGN IS APPROVED BY THE ENGINEER.
5. CEMENT SHALL CONFORM TO ASTM C 150, TYPE II.
6. FINE AGGREGATE SHALL CONFORM TO ASTM C 33.
7. COARSE AGGREGATE SHALL BE GRAVEL OR CRUSHED STONE CONFORMING TO ASTM C 33. COARSE AGGREGATE FOR FLOOR SLAB SHALL NOT EXCEED 3/4" AT ITS MAXIMUM WIDTH.
8. WATER SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNTS OF OILS, ACIDS, ALKALIES, ORGANIC MATERIALS OR DELETERIOUS SUBSTANCES.
9. AIR ENTERTAINING ADMIXTURE SHALL CONFORM TO ASTM C 260.
10. CALCIUM CHLORIDE ADMIXTURES, THIOLYANATE ADMIXTURES OR ANY ADMIXTURES CONTAINING MORE THAN 0.5% CHLORIDE IONS ARE NOT PERMITTED.
11. REINFORCING STEEL AND CONCRETE TO BE PLACED IN ACCORDANCE WITH ACI 318 LATEST EDITION.
12. THE ALLOWABLE CONCRETE SLUMP SHALL BE 5" MAX UNLESS SUPERPLASTICIZERS ARE USED. THE ENGINEER SHALL APPROVE SUPERPLASTICIZER USE.
13. CONCRETE SHALL CONFORM TO THE FOLLOWING REQUIREMENTS
  - A. COMPRESSIVE STRENGTH AT AGE 28-DAYS: 4000 PSI
  - B. LARGE AGGREGATE: HARDROCK, 3/4" MAXIMUM SIZE CONFORMING TO ASTM C-53
  - C. CEMENT: ASTM C-150, TYPE II PORTLAND CEMENT
  - D. MAXIMUM WATER CEMENT RATIO: 0.5
  - E. NO ADMIXTURES EXCEPT FOR ENTRAINED AIR, AND AS APPROVED BY THE ENGINEER
14. AS REQUIRED BY OWNER, SLUMP TEST SHALL BE MADE IN ACCORDANCE WITH ASTM C 143.
15. NO CONCRETE SHALL BE PLACED WHEN THE ATMOSPHERIC TEMPERATURE IS BELOW 40° F WITHOUT PERMISSION OF THE ENGINEER.
16. AVOID HOT WEATHER CONCRETE PLACEMENT. CONCRETE PROVIDER TO PROVIDE HOT WEATHER CONCRETE PLACEMENT PLAN FOR CONCRETE PLACED IN TEMPERATURE IN EXCESS OF 90 DEGREES.
17. THE ENGINEER OR THE OWNER MAY ACCEPT OR REJECT ANY WORK THAT DOES NOT MEET THE REQUIREMENTS OF THESE NOTES OR THE PROJECT DRAWINGS.
18. IF REQUIRED BY OWNER, CONTRACTOR SHALL MAKE ARRANGEMENTS FOR TESTING THE SLUMP, AIR CONTENT, AND CONCRETE CYLINDERS (BY A THIRD PARTY).
19. IF REQUIRED BY THE OWNER, COMPRESSIVE STRENGTH OF THE CONCRETE CYLINDERS SHALL BE TESTED AT 3 DAYS, 7 DAYS, AND 28 DAYS. APPROPRIATE NUMBER OF CYLINDERS SHALL BE COLLECTED TO PERFORM THE TESTING. CYLINDERS SHALL BE TESTED IN ACCORDANCE WITH ASTM C 39.
20. PROVIDE 1/2" SAWCUT CONTRACTION JOINTS PER PLANS AT 15' MAXIMUM SPACING. SAWCUT JOINTS TO BE MADE AS SOON AS THE CONCRETE HAS CURED SUFFICIENTLY TO ALLOW THE WORK WITHOUT DAMAGING THE CONCRETE.
21. CONFIRM ANCHOR PLACEMENT PRIOR TO CUTTING JOINTS. ENSURE 3" CLEARANCE BETWEEN ANCHOR CENTERS AND JOINT AND CUT JOINTS AS SHOWN ON PLAN VIEW.

## REINFORCEMENT:

1. SLAB REINFORCING TO BE INSTALLED AT MID-DEPTH OF THE SLAB AND SHALL EXTEND THROUGH ENTIRE SLAB. UTILIZE SUFFICIENT NUMBER OF CHAIRS TO MAINTAIN REINFORCEMENT POSITION.
2. INSTALL ADDITIONAL / UPGRADED REINFORCEMENT AS REQUIRED BY LOCAL CODE. COORDINATE REBAR LOCATIONS TO AVOID ANCHORS.
3. PROVIDE VAPOR BARRIER BELOW THE SLAB. (10 MIL. MIN. W/ MIN. 12" OVERLAP AT VAPOR BARRIER JOINTS)

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## CONCRETE FINISHING NOTES:

1. THE FINISHED CONCRETE SURFACE SHALL BE SLOPED AWAY FROM THE WALL. THE SURFACE SLOPE SHALL BE 1/8" PER 12".
2. THE FINISHED CONCRETE SURFACE SHALL BE SMOOTH TO PREVENT IRREGULARITIES, ROUGHNESS, OR OTHER DEFECTS THAT WOULD AFFECT THE FINISHED FLOOR SURFACE. THE SURFACE SHALL BE FLAT TO THE EQUIVALENT OF 1/8" OVER 10'.
3. THE FINISHED CONCRETE SURFACE SHALL HAVE A LIGHT BROOM FINISH TO PROVIDE THE BEST SURFACE FOR COURT SURFACE ADHESION. THIS IS CRITICAL.
4. IMPORTANT: FLOORING INSTALLATIONS REQUIRE A 28 DAY CURE TIME AFTER CONCRETE PLACEMENT.
5. SPRAYLOCK P3 INDUSTRIAL CONCRETE SEALER IS REQUIRED (NO EQUAL). THE SPRAYLOCK PRODUCT WILL ALLOW FLOORING INSTALLATION AS SOON AS 14 DAYS AFTER CONCRETE PLACEMENT AND SPRAYLOCK APPLICATION. APPLY SPRAYLOCK PRODUCT THE DAY OF THE CONCRETE PLACEMENT PER MANUFACTURER'S INSTRUCTIONS.

## ANCHOR NOTES: (INSTALLATION OF FLOOR ANCHORS BY OTHERS)

### GENERAL:

1. SITE PREPARATION REQUIREMENTS AND CONCRETE SLAB DESIGN SHALL BE REVIEWED BY LOCAL CIVIL OR SOILS ENGINEER TO CONFIRM SUITABILITY BASED UPON SITE SPECIFIC NEEDS AND CONDITIONS. THIS DESIGN REPRESENTS THE MINIMUM STANDARD OF NFC.

# SPRAYLOCK SPECIFICATIONS

SPRAY-LOCK IS DESIGNED TO IMPROVE AND PROTECT THE CONCRETE SLAB THROUGHOUT THE CONCRETE'S LIFE DECREASING THE PERMEABILITY OF THE CONCRETE.

WATER VAPOR MOVING THROUGH A SLAB IS A PROBLEM FOR MANY ADHESIVES AND FLOORING MATERIALS. THE USE OF THE SPRAY-LOCK PRODUCT HELPS CONDITION THE CONCRETE IN PREPARATION FOR THE INSTALLATION OF OUTDOOR FLOORING TILES. SPRAY-LOCK IS USED TO HELP MANAGE WATER IN CONCRETE SLABS WHICH CAN HELP MINIMIZE THE RISK OF FLOOR SYSTEM FAILURES.

SPRAYLOCK IS APPLIED TO THE SURFACE OF THE CONCRETE SHORTLY AFTER FINISHING OPERATIONS ARE COMPLETED. WHEN USED AT TIME OF PLACEMENT, SPRAY-LOCK CONCRETE PROTECTION (SCP) PRODUCTS REDUCE WATER VAPOR TRANSMISSION TO THE POINT WHERE THE PERFORMANCE OF MOISTURE-SENSITIVE FLOORING, ADHESIVES, AND COATINGS ARE NOT Affected AFTER FOURTEEN (14) DAYS POST-TREATMENT.

FOR ADDITIONAL INFORMATION CONTACT YOUR NFC PROJECT MANAGER.

SPRAYLOCK CAN BE PURCHASED BY CONTACTING THE NFC PRODUCT REPRESENTATIVE AT:

NATIONAL FITNESS CAMPAIGN  
SPRAYLOCK@NFCHQ.COM

NOTE: ONLY SPRAY-LOCK P3 INDUSTRIAL IS APPROVED FOR THIS APPLICATION. NO EQUAL.

SPRAY-LOCK CONCRETE PROTECTION (SCP) PRODUCTS SHOULD BE KEPT FROM FREEZING DURING STORAGE AND SHOULD NOT BE APPLIED TO CONCRETE WITH TEMPERATURES LESS THAN 40° F (4.4° C).



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SAN FRANCISCO, CA

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NFC STANDARD SPECIFICATIONS

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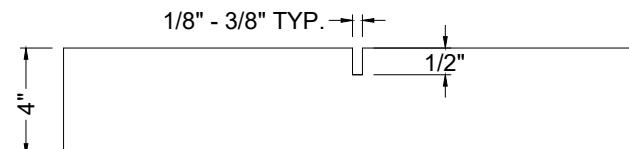
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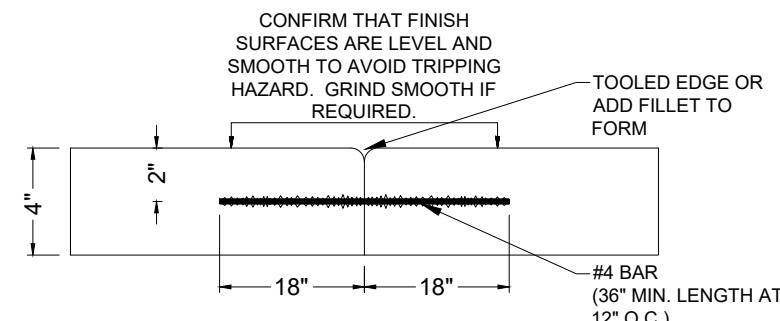
# STANDARD CONSTRUCTION DETAILS

SAWCUT CONTRACTION JOINTS PREFERRED.



JOINTS MAY BE CUT OR SCORED (TOOLED). MAX 1/4" RADIUS WHEN CONTRACTION JOINT IS TOOLED INSTEAD OF SAWCUT. SAWCUT JOINTS ARE PREFERRED.  
CUT CONCRETE AS SOON AS ABLE TO WALK ON CONCRETE - WITHIN 24 HOURS OF POUR.

AVOID CONSTRUCTION JOINTS WHEN POSSIBLE.  
WHEN USED, PLEASE FOLLOW THE REQUIREMENTS.

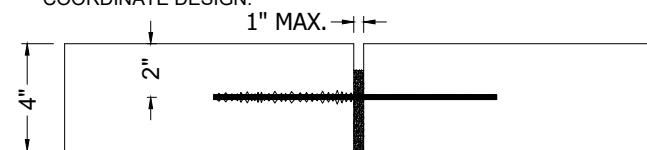


DO NOT USE SMOOTH ROUND BAR. USE DEFORMED TIE BAR EMBEDDED INTO BOTH SLABS.

DO NOT USE ISOLATION JOINTS UNDER FITNESS WALL OR TILE WITHOUT WRITTEN APPROVAL OF NFC.

THE EXPANSION AND CONTRACTION OF THE CONCRETE WILL CAUSE THE TILE ADHESIVE TO FAIL OR THE TILE TO BUCKLE OR SPLIT.

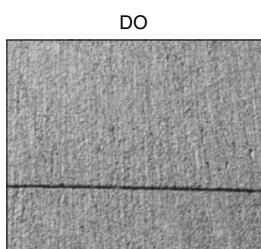
NFC REQUIRES A COORDINATE EFFORT TO DESIGN EXPANSION JOINTS INTO THE CONCRETE SLAB TO AVOID FAILURE OF THE TILE OR OTHER STRUCTURAL ELEMENTS. CONTACT YOUR NFC PM TO COORDINATE DESIGN.



WHEN APPROVED:  
USE SMOOTH DOWEL JOINT ON ONE END OR SIMILAR TO ALLOW FOR EXPANSION AND PROTECT FROM DIFFERENTIAL SETTLEMENT.

## 1 CONTRACTION JOINT

CONCRETE SUBSTRATE SHOULD NOT BE SMOOTH AND REFLECTIVE; IT MUST HAVE A CONCRETE SURFACE PROFILE OF CSP 1-3 (SIMILAR TO A LIGHT / FINE BROOMED FINISH).



## 2 CONSTRUCTION/COLD JOINT

## 4 CONCRETE SURFACE FINISH

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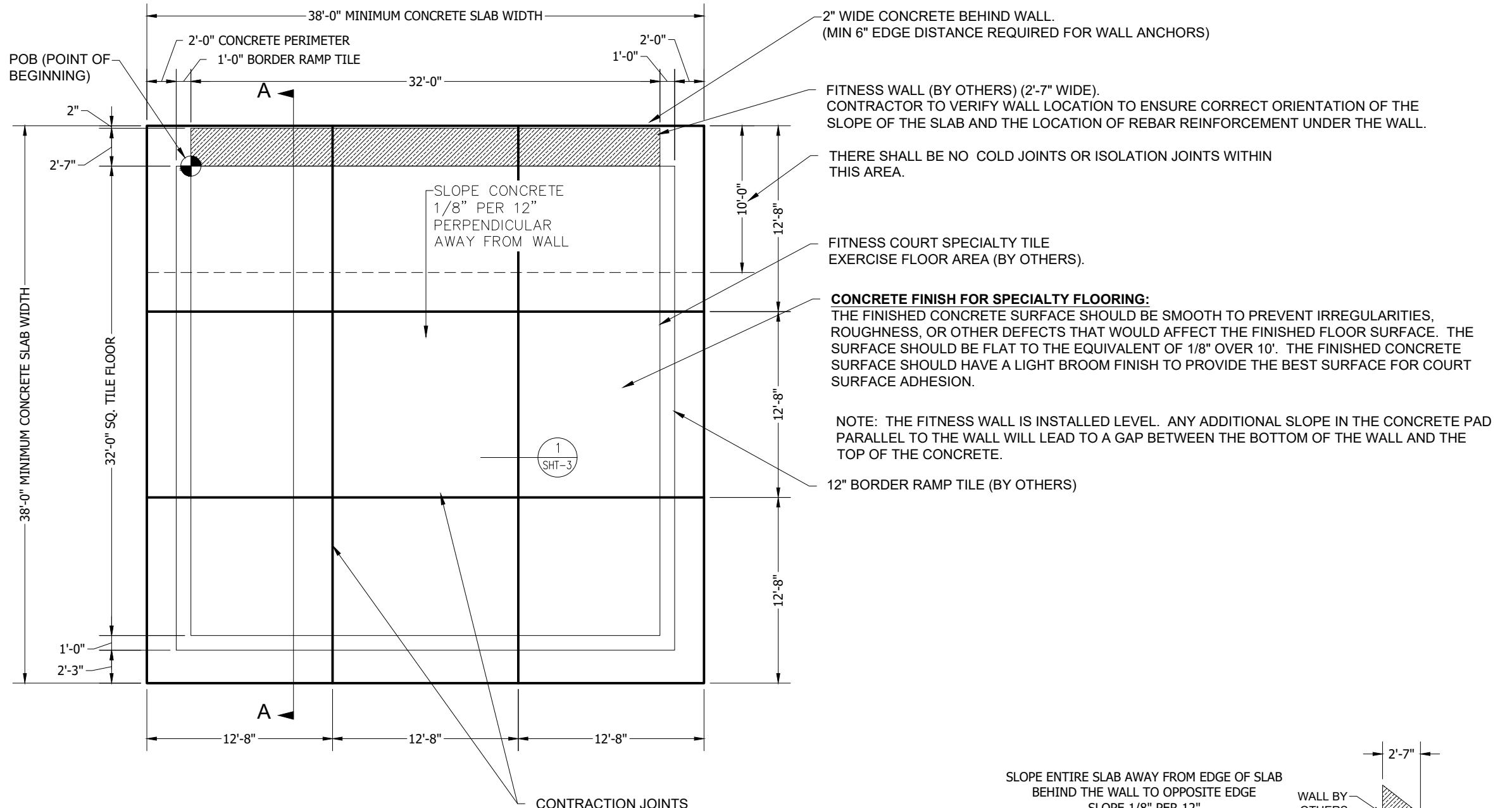
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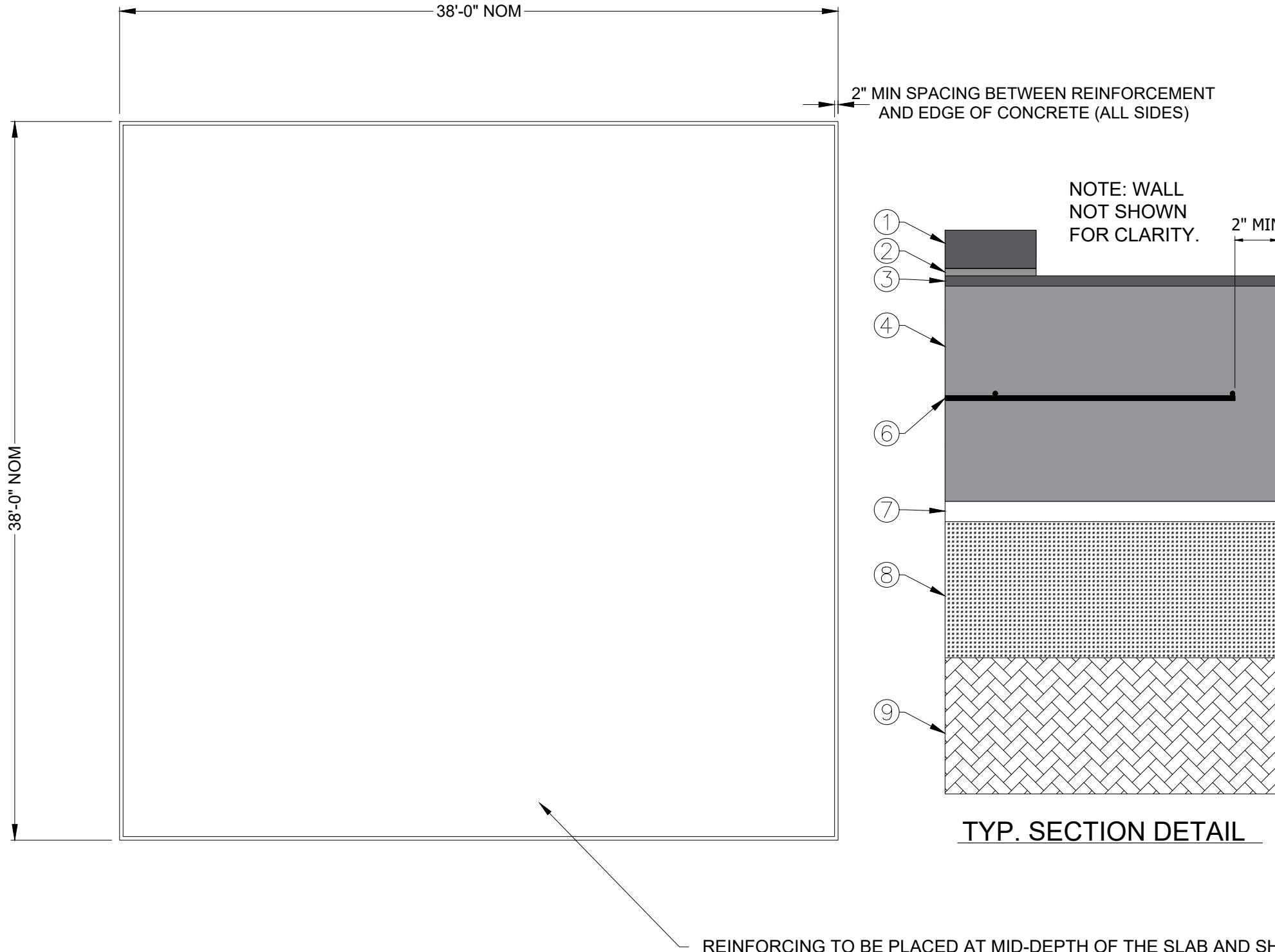
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SECTION A - A  
(ROTATED)

# REINFORCEMENT / PREP DETAIL

(FOR FLAT TOP SLAB / TILE FLOOR INSTALLATION)



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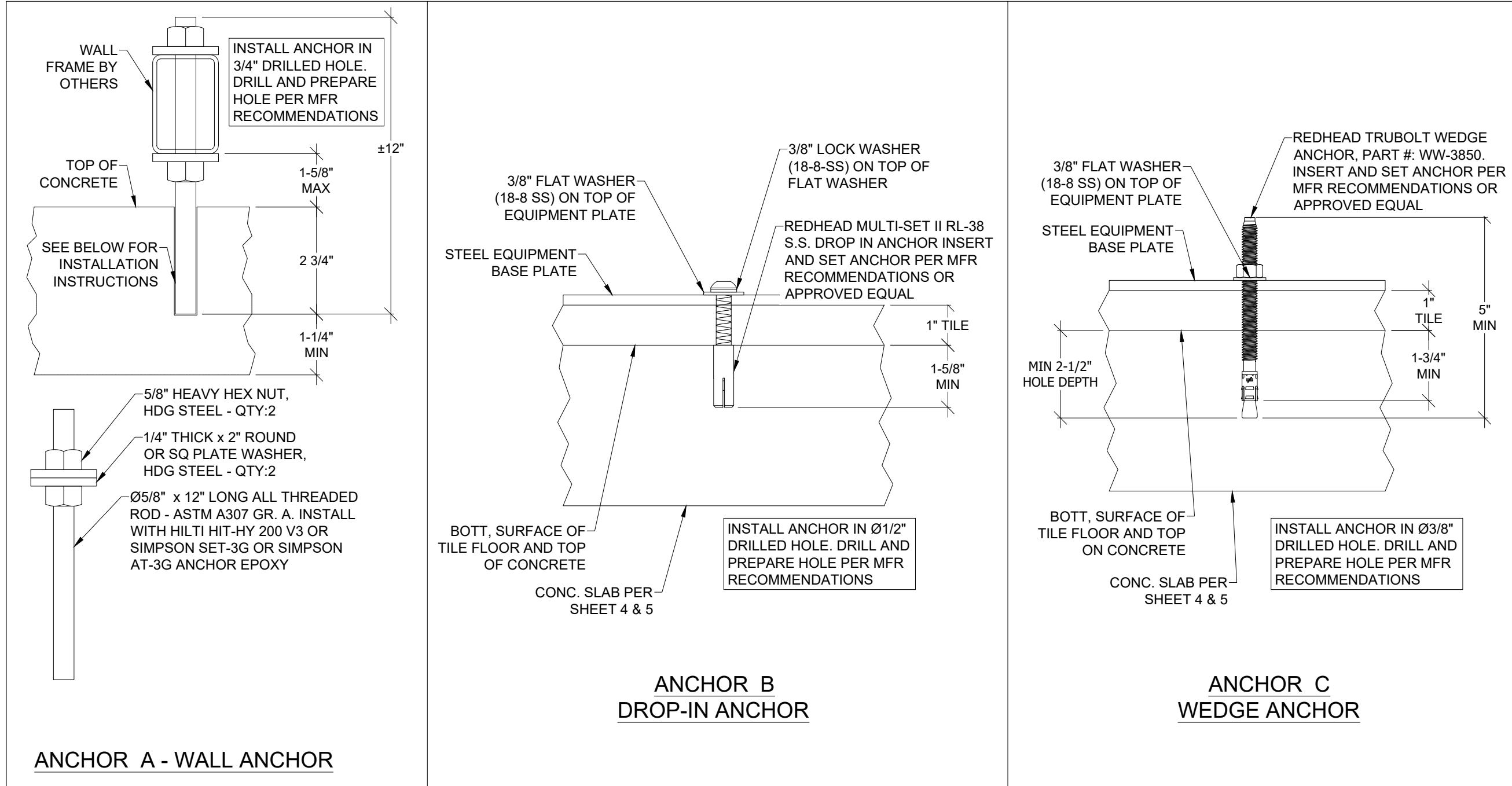
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NOTE: ANCHORS INSTALLED BY OTHERS

SEE NFC FITNESS COURT INSTALLATION  
MANUAL FOR ADDITIONAL ANCHOR  
SPECIFICATIONS AS NEEDED

# ANCHOR DETAILS FOR TILE

APPLIES TO THE TILE INSTALLATION ONLY.  
REQUEST ALTERNATE DRAWING FOR POUR-IN-PLACE.  
(ALSO SEE ANCHOR NOTES ON SLAB NOTES DRAWING)



**ANCHOR A EPOXY NOTE:**  
ANCHOR A MUST BE INSTALLED WITH THE ANCHOR EPOXY SPECIFIED OR ACCEPTABLE ALTERNATIVE. FOLLOW EPOXY MANUFACTURER'S INSTALLATION PROCEDURES.

#### ANCHOR HOLE INSTRUCTIONS FOR MECHANICAL ANCHOR

1. DRILL HOLES FOR ANCHORS TO SPECIFIED DIAMETER AND DEPTH.
2. USE COMPRESSED AIR TO REMOVE CONCRETE DUST AND DEBRIS FROM HOLES PRIOR TO ANCHOR INSTALLATION.
3. REFER TO FITNESS COURT INSTALLATION INSTRUCTIONS FOR ADDITIONAL ANCHOR INSTALLATION STEPS.

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# ANCHOR LOCATIONS

NOTE: ANCHORS INSTALLED BY OTHERS

IMPORTANT NOTE:  
ALL DIMENSIONS ORIGINATE FROM  
UPPER LEFT CORNER OF FITNESS  
COURT AREA POB (POINT OF  
BEGINNING).

LOCATION OF UPPER LEFT  
ANCHORS SHOWN FOR EACH  
PIECE OF EQUIPMENT. LOCATE  
UPPER LEFT HOLE AND USE  
TEMPLATES TO LOCATE REMAINING  
HOLES.

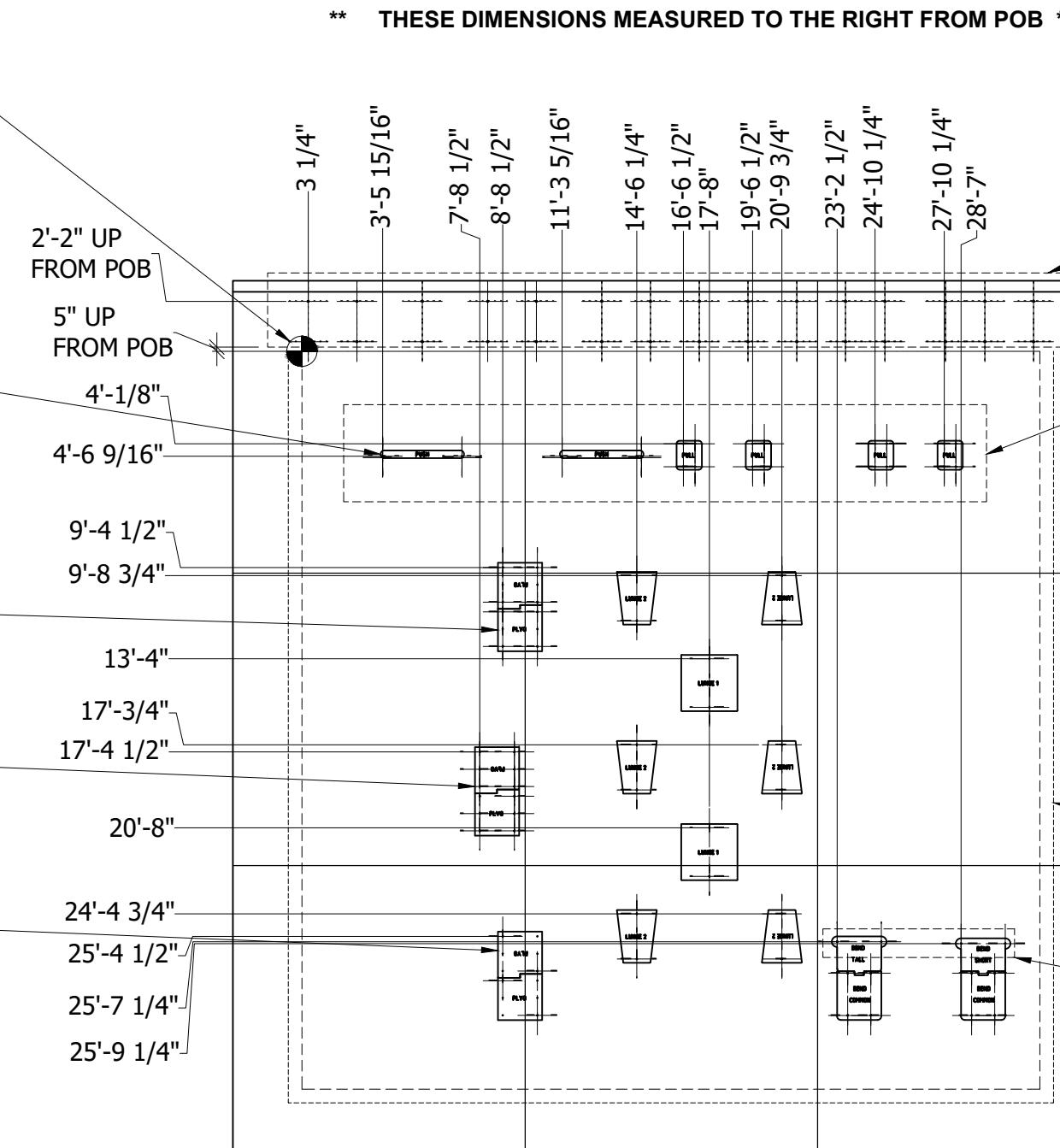
IMPORTANT NOTE:  
DIMENSIONS APPLY TO CUSHION FLOORS  
ONLY. FOR TILE FLOORS, PUSH STATION  
ANCHORS ARE TO BE LOCATED AFTER  
WALL PLACEMENT AND PUSH STATIONS  
ARE IN FINAL LOCATION.

PLYO BOX 1 AND 2  
4 ANCHORS PER BOX IN OUTSIDE  
CORNERS PER CENTER MARKS.

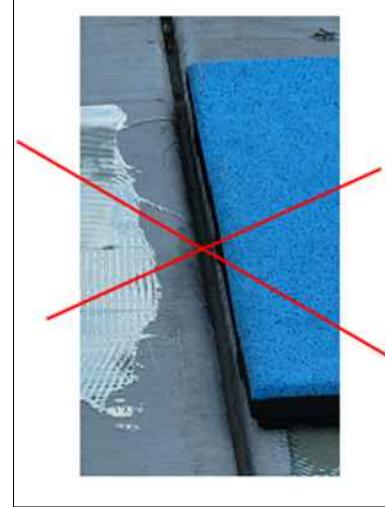
PLYO BOX 3 AND 4  
6 ANCHORS PER BOX IN ALL  
TEMPLATE HOLES PER CENTER  
MARKS.

PLYO BOX 5 AND 6  
2 ANCHORS PER BOX IN  
OPPOSITE CORNERS UPPER LEFT  
AND LOWER RIGHT PER CENTER  
MARKS.

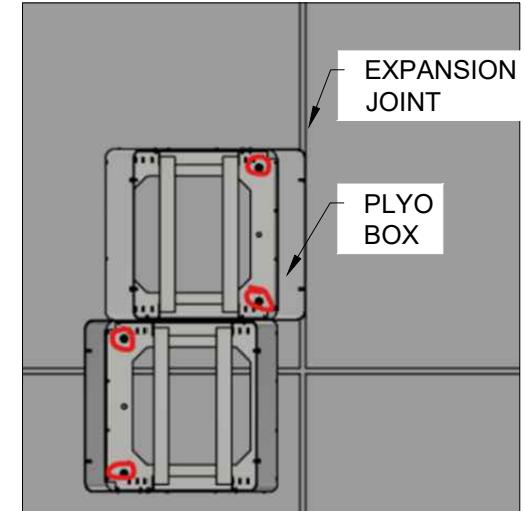
\*\* THESE DIMENSIONS MEASURED DOWN FROM POB (AWAY FROM WALL)



## DO's & DON'Ts



AVOID PUTTING CONTRACTION JOINTS AT TILE SEAM EDGES. USE ONE OF THREE APPROVED NFC JOINT LAYOUTS ONLY FOR PLACEMENT OF CONTRACTION AND CONSTRUCTION JOINTS.



WHEN APPROVED, DO NOT LET EXPANSION JOINTS RUN UNDER EQUIPMENT OR THE FITNESS WALL.



CRAZING IS MOST OFTEN CAUSED BY A HIGHER WATER TO CEMENT RATIO AT THE SURFACE OF THE CONCRETE AS A RESULT OF OVER-TROWELING, SPRINKLING WATER ON THE SURFACE OF THE CONCRETE DURING FINISHING OPERATIONS, OR FINISHING CONCRETE WHILE BLEED WATER IS STILL PRESENT.

### CONTRACTION JOINT LOCATIONS



AVOID PLACING CONCRETE DURING ADVERSE WEATHER CONDITIONS THAT WILL LEAD TO PLASTIC SHRINKAGE CRACKS. PLASTIC SHRINKAGE CRACKS CAN OCCUR WHEN WEATHER CONDITIONS CAUSE RAPID EVAPORATION OF BLEED WATER BEFORE IT CAN BE REPLACED NATURALLY BY SUBSURFACE CONCRETE. LOW RELATIVE HUMIDITY, HIGH WINDS, AND HIGH CONCRETE TEMPERATURE CAN ALL CONTRIBUTE TO PLASTIC SHRINKAGE CRACKING.

### CONTRACTION JOINT PLACEMENT



DO NOT USE OLD TENNIS COURTS FOR A FITNESS COURT FOUNDATION. COORDINATE AND CONSULT WITH YOUR NFC PROJECT MANAGER TO VALIDATE ANY EXISTING CONCRETE SLABS FOR USE UNDER A FITNESS COURT.

### PLASTIC SHRINKING CRACKING

### REUSE OF EXISTING FOUNDATIONS

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**DOS & DON'TS**

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