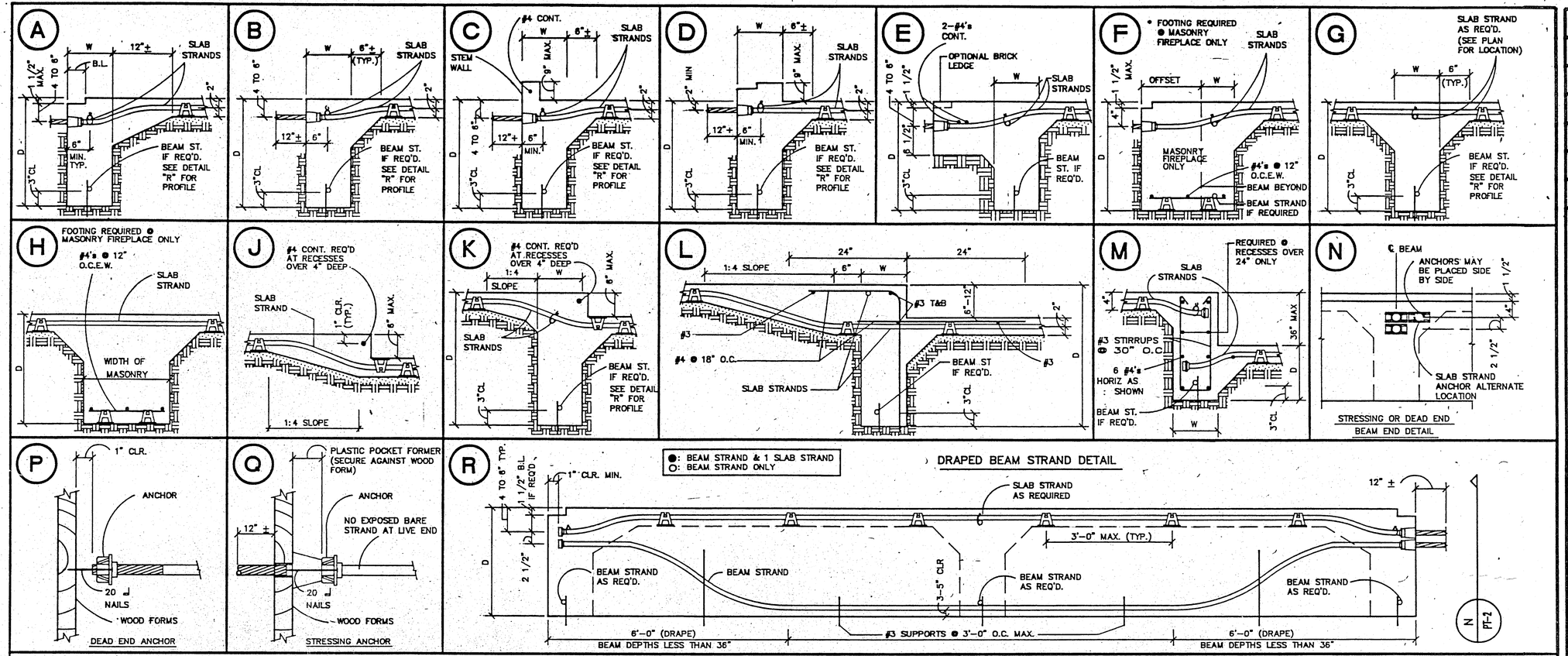


MATERIALS

(1) All concrete shall have a minimum compressive strength f'c = 3000 psi at 28 days. Compressive strength at time of stressing, f'ci, shall be at least 2500 psi, preferably within 7–10 days of concrete placement.
The concrete mix designs shall be proportioned to minimize the adverse affects of climate at the time of year the concrete is placed. Use of workability admixtures and air entrainment is permitted and must be noted on mix designs. Admixtures, if used, should impart the properties of low water content, good flowability, minimum bleed and expansion if desired. Its formulation should contain no chemicals that may have harmful effects on the prestressing steel or cement. Admixtures containing chlorides, fluorides, sulphites and nitrates are not permitted. Flyash permitted only with written approval of mix design by engineer of record.

(2) All reinforcing steel shall be new billet steel conforming to A.S.T.M. A–615 grade 60 except #3 bars may be grade 40. Reinforcement shall be free of rust and deleterious materials.

(3) The post–tensioning system and materials shall conform to the Post–Tensioning Institute (PTI) specifications for unbonded single strand tendons and shall also conform to ACI 318 Chapter 18 or ACI Report #423, 3R – 83.

All prestressing steel shall be 1/2" diameter, 270 ksi seven wire low–relaxation strand manufactured in accordance with ASTM A – 416, free from corrosion and coated with a corrosion protective coating (grease), and shall be sheathed in a high density polyethylene or poly propylene. Minimum sheathing thickness shall be 0.025".

All tendons shall be stressed to 80% GUTS and anchored at 70% GUTS as per ACI.

CONSTRUCTION

(1) Before proceeding with any work or ordering of materials, the contractor and/or sub–contractors shall verify all dimensions and location of building components. Coordinate with architectural drawings for any openings, drops etc.

(2) All fill material shall have a plasticity index of 20 or less and must be compacted as follows unless specified otherwise by a Geo–technical engineer:

A.) Cohesive soils (clay):
– "Slab on grade": compact to min. 95% of standard proctor density.
– "Piered": compact to min. 90% of standard proctor density.
Conform to ASTM D698 and FHA sheet 79G. Maintain moisture at 3% to 4% above optimum.

B.) Cohesionless soils (sand and silt): compact to a relative density between 75% and 85% at a moisture content above 7%

Compacted fill shall extend a minimum of 5'–0" beyond the foundation perimeter.

(3) Trenches for plumbing lines shall not be located directly under (parallel to) grade beams. Place plumbing lines perpendicular to beams. Place backfill in comformance with note 2.

(4) All beam soffits must be founded a minimum of 6 inches into undisturbed soil or properly compacted fill, unless specified otherwise by a Geo–technical engineer. Beam depths may be increased to a maximum of 34 in. to meet minimum depth requirements without additional reinforcement. Refer to detail "S" for beams over 34 inches in depth.

(5) If firm rock is encountered during trenching for beams, beam depth may be reduced. Beams need to penetrate rock only to achieve a minimum beam depth of 12 in. with a minimum rock embedment of 4 in. Depth to "solid rock" shall be determined by Geo–technical engineer.

(6) Piers may be used only when specifically designed and detailed on plans. Partial piering of foundation is strictly forbidden.

(7) Delivery of post–tensioning materials should be sheduled to insure that materials are not exposed to weather for an extended period.

(8) All strands shall be color or number coded to ensure easy placement in the field.

(9) All strand placement and stressing shall be under the supervision of an individual qualified and experienced in the post–tensioned industry. Dead ends and stressing ends may be reversed at contractor's option. Construction joints are not permitted unless specifically detailed on plans.

(10) If strand sheathing is damaged and the strand is exposed more than 2", it should be repaired to prevent bonding of concrete to strand. This does not apply within 18" of the dead end anchor. No exposed bare strand is permitted close to stressing anchor. (Refer to detail Q.)

(11) Sufficient support bars and chairs shall be provided to maintain proper strand profile during concrete placement. Strand and bars shall be supported on chairs and tied at all intersections at 3'–0" maximum spacing.

(12) Provide 1 1/2" clearance to strand at all plumbing stacks, blockouts, etc. Horizontal deviations shall be transitioned at a 1:6 minimum.

(13) Concrete placement shall be done in such a manner as to insure that the alignment of strands & reinforcing steel does not change.

(14) Strand placement shall conform to the following tolerances: 1/2" vertical, 12" horizontal (6:1 transition required) in slab and 1" vertical, 1" horizontal in beams.

(15) Insure proper vibration of concrete around all anchorages. Anchors and grommets must be securely fastened to form boards to prevent entry of cement paste into wedge seating area.

(16) All stressing shall be done with a hydraulic jack equipped with an accurate, calibrated pressure gauge. Strands shall be cut at 1" from the wedges and all stressing pockets shall be clean of grease and dirt and filled with grout within seven days after stressing operation.

(17) Graham – Martin, Inc. recommends tool joints in exterior brick veneer at approximately 20'–0" on center.

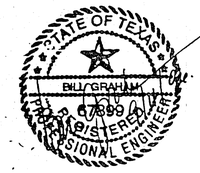
DESIGN

(1) The post–tensioned design of this foundation structure has been evaluated using the latest recommendations as set forth by the Post–Tensioning Institute in their publication: DESIGN AND CONSTRUCTION OF POST–TENSIONED SLAB ON GROUND, first edition, 1980 and standard engineering practices.

(2) The post–tensioned slab–on–grade design shown reflects the minimum requirements needed to allow this structural system to adequately perform in conjunction with the soil parameters provided by the Geo–technical engineer. The intent is not to eliminate, but instead, to limit excessive foundation flexure so that differential movements will not cause unreasonable distress.

(3) Framework above the foundation should be designed to resist differential movements associated with the existing plastic soils. This should include expansion joints in the brick veneer.

(4) Care should be taken to maintain an even soil moisture content around the foundation so that differential soil movements are limited. Grading and drainage should be provided so that water does not collect near or under the foundation. Heavy vegetation (such as trees) within 10 ft. of the perimeter of the foundation may cause excessive dessication of the surrounding soils.



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REVISIONS	BY

DATE:

SCALE:

DRAWN:

JOB:

SHEET 2

OF 2 SHEETS