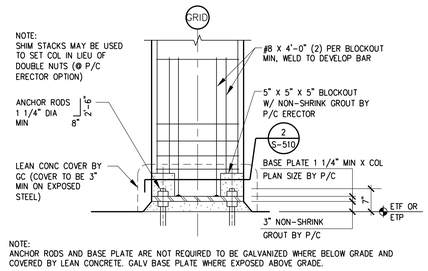
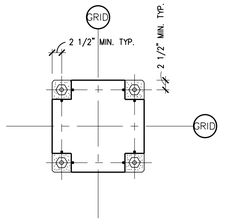
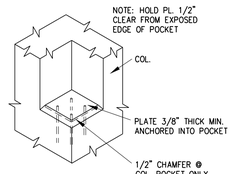


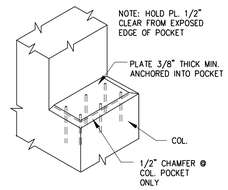
1 COLUMN BASE DETAIL
NOT TO SCALE



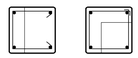
2 COLUMN PLAN DETAIL
NOT TO SCALE



3 P/C COLUMN POCKET
NOT TO SCALE

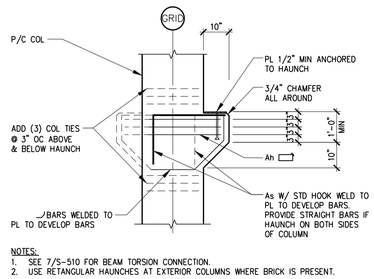


4 P/C COLUMN POCKET
NOT TO SCALE



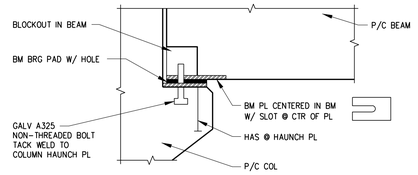
NOTE:
MAIN REINF NOT SHOWN FOR CLARITY.

5 DIAGRAM FOR ADDED TIES BETWEEN POCKETS AND AT BRICK LEDGES
NOT TO SCALE

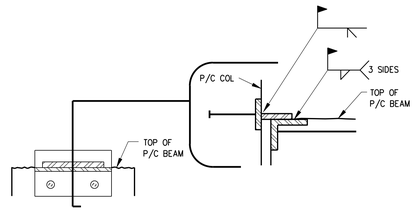


NOTES:
1. SEE 7/S-510 FOR BEAM TORSION CONNECTION.
2. USE RETANGULAR HAUNCHES AT EXTERIOR COLUMNS WHERE BRICK IS PRESENT.

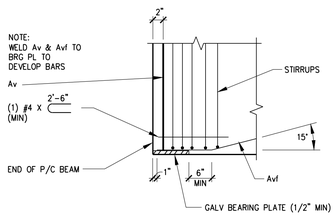
6 HAUNCH DETAIL
NOT TO SCALE



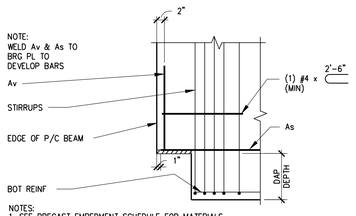
7 CONNECTION DETAIL
NOT TO SCALE



8 CONNECTION DETAIL
NOT TO SCALE

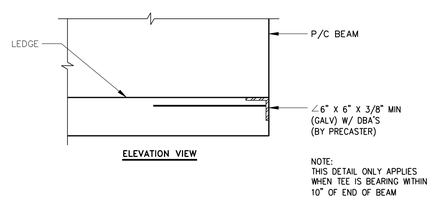


9 END OF BEAM REINFORCEMENT DETAIL
NOT TO SCALE



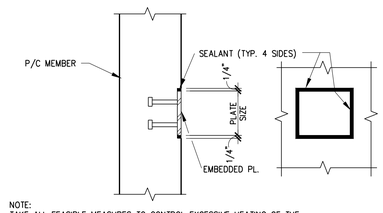
NOTES:
1. SEE PRECAST EMBEDMENT SCHEDULE FOR MATERIALS
2. EQUIVALENT PREFABRICATED WWR ACCEPTABLE

10 END OF BEAM REINF DETAIL
NOT TO SCALE



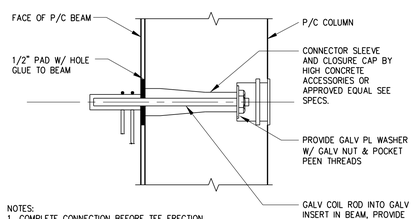
NOTE:
THIS DETAIL ONLY APPLIES WHEN TEE IS BEARING WITHIN 10" OF END OF BEAM

11 REINFORCED BEAM LEDGE DETAIL
NOT TO SCALE



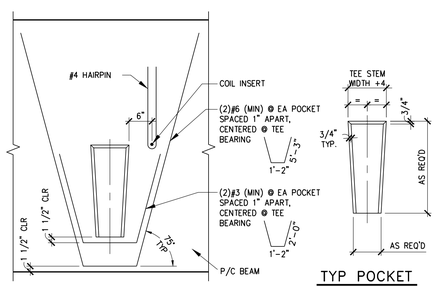
NOTE:
TAKE ALL FEASIBLE MEASURES TO CONTROL EXCESSIVE HEATING OF THE EMBEDDED PLATE(S) BY LIMITING WELD LENGTHS-SKIP WELDS WILL HELP. USE LAYERED SMALLER WELDS INSTEAD OF A SINGLE LARGE WELD.

12 EMBEDDED PLATE DETAIL
NOT TO SCALE

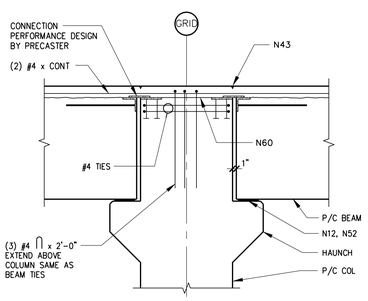


NOTES:
1. COMPLETE CONNECTION BEFORE TEE ERECTION.
2. CAUTION, THIS DETAIL REQUIRES CAREFUL ATTENTION TO ERECTION TOLERANCE. CONSIDER USING SLOTTED INSERT, AS REQUIRED.

13 CONNECTION DETAIL
NOT TO SCALE

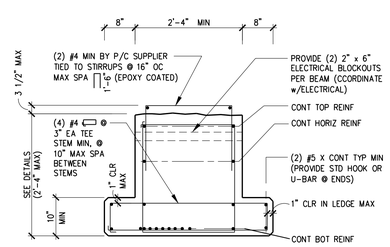


14 P/C BEAM DETAIL
NOT TO SCALE

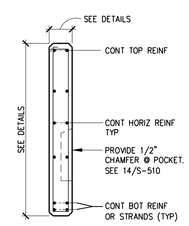


NOTE: SEE S-520 KEYNOTES

15 BEAM/COLUMN CONNECTION DETAIL
NOT TO SCALE



BEAM TYPE C



BEAM TYPE B

P/C COLUMN NOTES:

1. FOR GENERAL NOTES SEE DRAWING S-001.
2. COLUMN DESIGN IS PERFORMANCE DESIGN AND SHALL INCLUDE SIZE, NUMBER AND LOCATION OF VERTICAL REINFORCEMENT AND TIES. DESIGN SHALL ALSO INCLUDE COLUMN BASE, POCKET AND HAUNCH REINFORCEMENT. SEE SPECIFICATION SECTION 034133 FOR PRECAST CONCRETE.
3. PERFORMANCE DESIGN SHALL INCLUDE EFFECTS DUE TO VOLUME CHANGE OF THE STRUCTURE. COLUMNS SHALL BE DESIGNED ASSUMING PINNED BASE CONDITIONS.
4. ALL COLUMNS ARE 28" x 28" U.N.O..
5. FOR COLUMN BASE, POCKET AND HAUNCH DETAILS SEE 1/S-510, 3 & 4/S-510 AND 6/S-510 RESPECTIVELY.
6. SEE ARCHITECTURAL DRAWINGS FOR TOP OF COLUMN AT EXTERIOR. TOP OF COLUMNS EXTEND 4'-0" ABOVE FINISHED FLOOR AT INTERIOR. SEE 15/S-510 FOR INTERIOR COLUMNS HELD DOWN AT FLOOR LEVEL.
7. PROVIDE #5 MINIMUM VERTICAL AT EACH CORNER BETWEEN POCKETS TYPICAL SEE 5/S-510.
8. MINIMUM COLUMN TIES SHALL BE #4 GRADE 60 CLOSED TIES AS FOLLOWS:
   a. AT 12" OC (MAXIMUM SPACING) TYPICAL AND FOR ADDED TIES AT REINFORCEMENT BELOW AND BETWEEN POCKETS
   b. ADD (4) TIES AT 3" OC BELOW EACH POCKET
   c. ADD (2) TIES AT 3" OC ABOVE EACH POCKET
   d. ADD (4) TIES AT 3" OC AT TOP & BOTTOM OF COLUMN
   e. ADD (3) TIES AT 3" OC ABOVE & BELOW HAUNCHES
   f. ADD (1) TIE ABOVE & BELOW COIL ROD INSERTS
9. FOR EMBEDDED PLATES TO RECEIVE WELDS AS PART OF WELDED CONNECTIONS SEE 12/S-510.
10. FIELD VERIFY ELEVATIONS AT TOP OF EXISTING COLUMNS ALONG WITH CONNECTIONS FOR EXPANSION AND THEIR LOCATIONS.
11. CONNECTIONS FOR FUTURE EXPANSION ARE NOT REQUIRED IN TOPS OF COLUMNS FOR THIS CONSTRUCTION PHASE.

P/C BEAM NOTES:

1. FOR GENERAL NOTES SEE DRAWING S-001.
2. BEAM DESIGN IS PERFORMANCE DESIGN AND SHALL INCLUDE TYPE, NUMBER, AND LOCATION OF STRANDS AND/OR CONVENTIONAL REINFORCEMENT AS WELL AS LEDGE, SHEAR/TORSION, POCKET, AND END OF BEAM REINFORCEMENT. DESIGN SHALL ALSO INCLUDE ALL BEAM TO COLUMN (OR OTHER SUPPORT) CONNECTIONS. SEE SPECIFICATION SECTION 034133 FOR PRECAST CONCRETE.
3. APPLY MASTIC TO EACH STRAND AT ENDS OF BEAM. RECESS STRAND ENDS IN ARCHITECTURAL CONCRETE AND PATCH WITH 1" MINIMUM GROUT.
4. FOR MEMBER SIZES AND OTHER INFORMATION SEE STRUCTURAL AND ARCHITECTURAL DETAILS AND BEAM TYPES THIS SHEET.
5. SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR ANY REQUIRED PENETRATIONS.
6. POCKETED BEAMS SHALL BE PRESTRESSED TO A MINIMUM P/A OF 150 psi.
7. FOR EMBEDDED PLATES TO RECEIVE WELDS AS PART OF WELDED CONNECTIONS SEE 12/S-510.
8. FOR SEALANT REQUIREMENTS AT BEAM/COLUMN INTERFACES SEE DETAILS ON SHEET S-521.
9. STIRRUPS SHALL BE #4 BARS WITH MAXIMUM SPACING 2 @ 2", 4 @ 6", AND REMAINDER @ 12" EACH END. CLOSER SPACING SHALL BE USED AS REQUIRED BY DESIGN.
10. PROVIDE 90° HOOK ENDS OR U-BARS, AT ALL CONTINUOUS TOP AND SIDE MILD REINFORCEMENT.
11. FOR BEAM LEDGES SUPPORTING A TEE STEM 10" OR LESS FROM END OF LEDGE, PROVIDE REINFORCED LEDGE PER DETAIL 11/S-510.
12. CAMBER BEARING PLATE PRIOR TO WELDING "AS" REINFORCEMENT SO AFTER THE WELDING IS COMPLETE, THE PLATE IS FLAT.
13. BEAMS OF DIFFERENT SHAPES MAY BE ENCOUNTERED, BASIC REINFORCING REQUIREMENTS SHOWN IN THE BEAM TYPE DRAWINGS SHALL BE USED.

Revisions	Date
100% FINAL BID DOCUMENTS	08-18-2017
100% BID DOCUMENTS-NOT FOR CONSTRUCTION	07-24-2017
95% CONSTRUCTION DOCUMENTS SUBMISSION	06-15-2017
65% DESIGN DEVELOPMENT SUBMISSION	04-19-2017
35% SCHEMATIC DESIGN SUBMISSION	03-06-2017

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VA CONTRACT NO. VA250-17-C-0008

Drawing Title: COLUMN AND BEAM DETAILS

Approved: Project Director

Project Title: CONSTRUCT NORTH PARKING STRUCTURE

Location: ANN ARBOR, MICHIGAN

Date: 08-18-2017 | Checked: JBM | Drawn: KJW

Project Number: 506-331

Building Number: 29

Drawing Number: S-510

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

100% FINAL BID DOCUMENTS