GENERAL SPECIFICATIONS

THIS WORK SHALL CONSIST OF FURNISHING ALL MATERIALS FOR, AND CONSTRUCTING MASONRY SOUND BARRIERS IN ACCORDANCE WITH PLAN DETAILS, THE APPLICABLE CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, THE APPLICABLE REQUIREMENTS OF THE ACI, BIA, AND NCMA, AND THE FOLLOWING:

1. ALL CONCRETE SHALL BE CLASS "A" IN CONFORMANCE WITH SECTION 6.01 OF THE D.O.T. STANDARD SPECIFICATIONS. SEE DETAIL FOR PRECAST SPECIFICATION.
2. ALL GROUT SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR GROUTED REINFORCED AND NON-REINFORCED MASONRY IN ACCORDANCE WITH ASTM C476, AND ACI 531.1-76 (REV. 1983), UNLESS OTHERWISE NOTED.
3. MASONRY MORTAR SHALL BE TYPE "S" CONFORMING TO ASTM C270. MORTAR SHALL ALSO CONTAIN AN INTEGRAL WATERPROOFING AMIXTURE.
4. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60.
5. JOINT REINFORCEMENT SHALL BE FABRICATED FROM STEEL WIRE CONFORMING TO ASTM A 82 AND SHALL BE 3/16"x 3/16" TRUSS TYPE (EXTRA HEAVY) HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153 CLASS B-2. STRAP TIES SHALL BE 3/16"x 1 1/4"x 12" LONG GALVANIZED STEEL CONFORMING TO ASTM A123 AND GROUTED SOLIDLY 16" O.C. VERTICALLY.
6. ALL BOLTS, ANCHORS, AND TIES SHALL BE GALVANIZED CONFORMING TO ASTM A153 CLASS B-2 AND SHALL BE SOLIDLY EMBEDDED IN MORTAR OR GROUT. DOWELS OR TIES IN CONNECTION WITH MASONRY COPINGS SHALL BE STAINLESS STEEL CONFORMING TO AISI 300 SERIES AND ASTM 167.
7. CONCRETE MASONRY UNITS SHALL CONFORM TO THE LATEST REQUIREMENTS OF ASTM C90, ASTM C145, ASTM C129, AND ASTM C331 FOR LIGHTWEIGHT AGGREGATES AND ASTM C744 FOR PRE-FACED UNITS. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ALL PROFILE AND CUSTOM MASONRY UNITS. INTEGRAL WATERPROOFING ADMIXTURE IS RECOMMENDED FOR ALL EXPOSED EXTERIOR UNITS. ALL MASONRY UNITS SHALL BE LAID IN RUNNING BOND WITH FULL HEAD AND BED JOINTS WITH A MAXIMUM THICKNESS OF 1/2". STACK BOND INDICATED FOR PIER CONSTRUCTION-RUNNING BOND AT DESIGNERS OPTION WHERE APPLICABLE.
8. ACOUSTICAL - SOUND ABSORBING MASONRY UNITS, IF REQUIRED, SHALL CONFORM TO THE APPLICABLE REQUIREMENTS FOR STANDARD CONCRETE MASONRY UNITS AS STATED ABOVE, MANUFACTURERS RECOMMENDATIONS, AND THE FOLLOWING:
   - SOUNDBLOX BY THE PROUDFOOT COMPANY INC.
   - ASTRA-GLAZE BY NABCO GLAZED PRODUCTS
   - ACOUSTA-WALL BY NABCO GLAZED PRODUCTS
   - CHECK LOCAL BLOCK SUPPLIERS FOR OTHERS
9. CLAY MASONRY (BRICK) SHALL CONFORM TO ASTM SPECIFICATIONS C216, C62, AND C126 FOR SOLID (75%) BUILDING BRICK, FACING BRICK AND CERAMIC GLAZED UNITS MADE FROM CLAY AND/OR SHALE. BRICK SHALL BE GRADE SW FOR EXTERIOR USE - TYPE FBS.

SOUND REFLECTIVE BARRIERS

DESIGN SUGGESTIONS

WALL TYPE 1 - 8" SINGLE WYTHE CONSTRUCTION

1A	STANDARD	- 8x8x16	LIGHT	WEIGHT	UNITS
1B	STANDARD	- 8x8x16	(8x8)	SCORED	BLOCK
1C	STANDARD	- 8x8x24	LIGHT	WEIGHT	UNITS
1D	STANDARD	- 8x8x24	(8x8)	SCORED	BLOCK
1E	STANDARD	- 8x8x16	SPLIT	RIBBED	BLOCK
1F	STANDARD	- 8x8x16	FLUTED	UNITS	
1G	STANDARD	- 8x8x16	PROFILE	BLOCK	
1H	STANDARD	- 8x8x16	SPLIT FACE	UNITS	
1I	STANDARD	- 8x8x16	GROUND FACE	BLOCK	
1J	MODULAR	- 8" UNIT	THRU - WALL	BRICK	

** DESIGN OPTIONS:
1) COLOR, TEXTURE, AND FINISH
2) COMBINATIONS OF ANY SUGGESTED
3) CONSULT YOUR LOCAL SUPPLIERS FOR OTHER PRODUCTS AVAILABLE

WALL TYPE 2 - 8" COMPOSITE WALL ASSEMBLIES

2A ANY COMBINATION OF BLOCK UNITS LISTED ABOVE USING 2 - 4" (3 5/8") WYTHES

(1E) STANDARD 4x8x24 AND 4x8xL6 SPLIT RIB
(1E) DOUBLE FACE WALL - 2 WYTHES SPLIT FACE
(1E) STRUCTURAL GLAZED TILE OR BLOCK WALLS

2B ANY BLOCK UNIT LISTED ABOVE (4") IN COMBINATION WITH BRICK

STANDARD BRICK, JUMBO, ECONOMY, UTILITY, ROMAN, 8x8, ETC.

2C ANY COMBINATION OF BLOCK UNITS AND STONE ANGEL STONE, LIMESTONE, ARCHITECTURAL PRECAST, MARBLE, GRANITE, ETC.

2D COMPOSITE WALL OPTIONS

BRICK, STONE, ETC. 2 - 4" WYTHES

* OPTIONAL FINISHES

STUCCO, PLASTER, EXTERIOR SYNTHETIC FINISH

F.H.W.A. REGION NO.	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
I	CONN.							

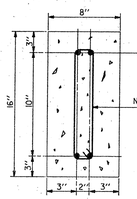
PIER AND CAISSON SCHEDULE

MAX. WALL HEIGHT	8'	10'	12'	14'	16'	18'	20'	22'
BLOCK PIER SIZE	12"x16"	16"x16"	12"x24"	12"x24"	16"x24"	24"x24"	24"x24"	24"x24"
BLOCK PIER REINFORCEMENT	4-#4	4-#5	4-#5	4-#6	4-#6	8-#5	8-#6	8-#6
VENEER PIER SIZE	12"x16"	16"x16"	12"x24"	12"x24"	16"x24"	24"x24"	24"x24"	24"x24"
VENEER PIER REINFORCEMENT	4-#5	4-#6	4-#5	4-#6	6-#6	6-#6	6-#7	6-#8
CAISSON DIAMETER	24"	24"	30"	30"	30"	30"	30"	30"
CAISSON EMBEDMENT (1)	6'-0"	7'-0"	7'-6"	8'-0"	9'-0"	9'-0"	10'-0"	10'-6"
CAISSON EMBEDMENT (2)	8'-0"	9'-0"	10'-0"	10'-0"	11'-0"	11'-0"	12'-0"	13'-0"
CAISSON EMBEDMENT (3)	8'-0"	9'-0"	10'-0"	10'-0"	11'-0"	11'-0"	12'-0"	13'-0"

(1) FLAT SURFACE WITH THE WATER TABLE LOWER THAN 10 FEET
(2) FLAT SURFACE WITH THE WATER TABLE AT THE SURFACE
(3) A SIDE SLOPE OF 2 TO 1 WITH A LOW WATER TABLE

NOTES:

A) Vertical Pier Reinforcement To Extend Into Concrete Caissons A Minimum Of 36 Bar Diameters.
B) Ties For All Piers To Be 1/4" Diameter At 8" O.C. Vertically.
C) Provide Horizontal Bond Beams With 2 No. 5 Bars (Continuous) At Top Of Wall.



NOTE:
Provide 1 Two Inch Diameter Vertical Sleeve At Each End Of Beam. Center Sleeve 3" From Each End.

TYPICAL PRECAST BEAM CROSS-SECTION

CONCRETE FOR PRECAST BEAMS SHALL BE 4,500 P.S.I. WITH 3/8" LARGEST STONE

GENERAL SPECIFICATIONS

10. CONTROL JOINTS SHALL BE 3/8" CLOSED CELL NEOPRENE AND LOCATED AT PIERS WITH A MAXIMUM OF 26'-0" O.C. WIRE REINFORCING OR STRAP TIES SHALL BE CONTINUOUS THRU CONTROL JOINTS. EXPANSION JOINTS SHALL BE 1/2" CLOSED CELL NEOPRENE AND LOCATED EVERY THIRD CONTROL JOINT. DO NOT CONTINUE WIRE REINFORCING THRU EXPANSION JOINTS. ANCHOR MASONRY WITH A PIN AND SLEEVE CONNECTION AT EXPANSION JOINTS. CLOSED CELL NEOPRENE SHALL CONFORM TO ASTM C509 AND ASTM D1056.
11. STONE FILL SHALL MEET GRADATION REQUIREMENTS OF ARTICLE M.01.01 OF THE D.O.T. STANDARD SPECIFICATIONS. GRADATION MAY MEET ANY TABLE SIZE FROM 3/8" TO 2" PLACED TO A MINIMUM DEPTH OF 2" ABOVE THE BOTTOM OF THE HIGHEST WALL, WITH A TOTAL DEPTH NO LESS THAN 4".
12. EXECUTION - FOLLOW APPLICABLE CODES FOR THE PROPER INSTALLATION OF ALL MASONRY UNITS INCLUDING SAMPLES. TESTS AND QUALITY ASSURANCE.
13. OTHER MASONRY MATERIALS SPECIFICATIONS FOR OTHER MASONRY MATERIALS SHALL CONFORM TO GENERAL REQUIREMENTS AS LISTED ABOVE AND RECOMMENDATIONS FROM APPLICABLE MANUFACTURERS AND ASSOCIATIONS REQUIREMENTS FOR THE FOLLOWING:
    1. STRUCTURAL GLAZE TILE AND GLAZED BLOCK
    2. GLASS BLOCK
    3. LIMESTONE
    4. GRANITE
    5. MARBLE
    6. SLATE
    7. FIELD STONE
    8. PRE-CAST ORNAMENTAL STONE
    9. CERAMIC - TILE
    10. TERRAZZO
    11. EXTERIOR SYNTHETIC FINISHES
    12. PLASTER
    13. TERRA-COTTA
    14. SURFACE BONDED MASONRY
    15. PAINTS, SEALANTS, AND DECORATIVE FINISHES
14. DESIGN DATA

WIND LOAD PRESSURE	28 P.S.F. (85 M.P.H.)
LATERAL SOIL BEARING	400P.S.F. / FT. DEPTH
SOIL UNIT WEIGHT	120 P.C.F. (GRANULAR SOIL)
ANGLE OF INTERNAL FRICTION	30 DEGREES
WIRE REINFORCEMENT	Fs = 30,000 P.S.I.
REBAR REINFORCEMENT	Fs = 24,000 P.S.I.
CONCRETE COMPRESSIVE STRENGTH	Fc' = 3,000 P.S.I. (CAISSONS)
CONCRETE OR GROUT COMPRESSIVE STRENGTH	Fc' = 4,000 P.S.I. (PIERS)
PRECAST CONCRETE BEAM	Fc' = 4,500 P.S.I.
MASONRY WITH INSPECTION	F'm = 1,400 P.S.I. F'm = 1,700 P.S.I. FOR PIER MASONRY OVER 20 FT. IN HEIGHT
MASONRY WITHOUT INSPECTION	F'm = 1,900 P.S.I. F'm = 2,500 P.S.I. FOR PIER MASONRY OVER 20 FT. IN HEIGHT

SOUND ABSORPTIVE BARRIERS

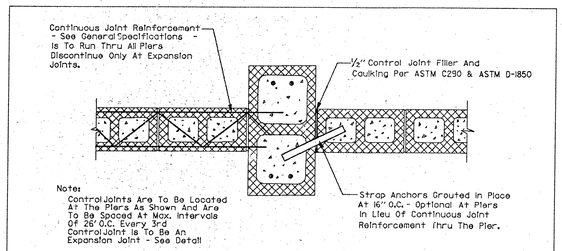
DESIGN SUGGESTIONS

WALL TYPE 3 - 8" SINGLE WYTHE CONSTRUCTION

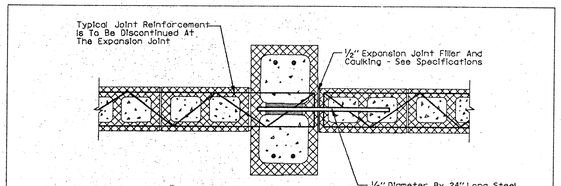
- 8x8x16 SOUND ABSORBING MASONRY UNITS ARE AVAILABLE IN A VARIETY OF FINISHES IN BOTH LOAD BEARING AND NON-LOAD BEARING UNITS.
- EXAMPLES OF SOUND ABSORBING MASONRY UNITS:
  - STANDARD LIGHTWEIGHT UNITS
  - GLAZED UNITS
  - GROUND FACE UNITS
  - SPLIT RIB UNITS
  - PROFILE UNITS
- THESE UNITS ARE AVAILABLE IN A VARIETY OF TYPES DEPENDING ON THE SOUND ABSORBING REQUIREMENTS. REFERENCE STANDARDS ARE:
  - SOUNDBLOX BY THE PROUDFOOT COMPANY INC.
  - ASTRA-GLAZE BY NABCO GLAZED PRODUCTS
  - ACOUSTA-WALL BY NABCO GLAZED PRODUCTS
  - CHECK LOCAL BLOCK SUPPLIERS FOR OTHERS

WALL TYPE 4 - 8" COMPOSITE WALL ASSEMBLIES

- SOUND ABSORBING MASONRY UNITS ARE AVAILABLE IN 4", 6", 8", AND 12" WIDTHS AND MAY BE USED IN COMBINATION WITH EACH OTHER OR ANY OTHER MASONRY MATERIALS. REFER TO THE STANDARDS LISTED ABOVE.



TYPICAL CONTROL JOINT DETAIL



TYPICAL EXPANSION JOINT DETAIL

AT EVERY 3RD CONTROL JOINT (MAXIMUM SPACING - 80 FEET)

MANUAL REVISIONS TO THIS DOCUMENT ARE PROHIBITED. ALL REVISIONS MUST BE PERFORMED ON
Cadd File: 05A0200.200196F2.DGN

CONNECTICUT DEPT. OF TRANSPORTATION OFFICE OF ENGINEERING

STANDARD SHEET
CONN. DEPT. OF TRANSPORTATION

MASONRY NOISE BARRIER WALL

REVISIONS		
NO.	DATE	DESCRIPTION

Designed by: Stegmar Knebl & Assoc. Date: 10-85
Drafted by: M. Satagaj Date: 12-30-88
Reviewed by: T. McMahon Date: 6-89
Approval Rec: J. Jensen Date: 7-89
Approved: [signature] Date: 7-90
F.H.W.A. Approval: [signature] Date: 12/3/90

Scale: NOT TO SCALE

STANDARD NUMBER
916-F2