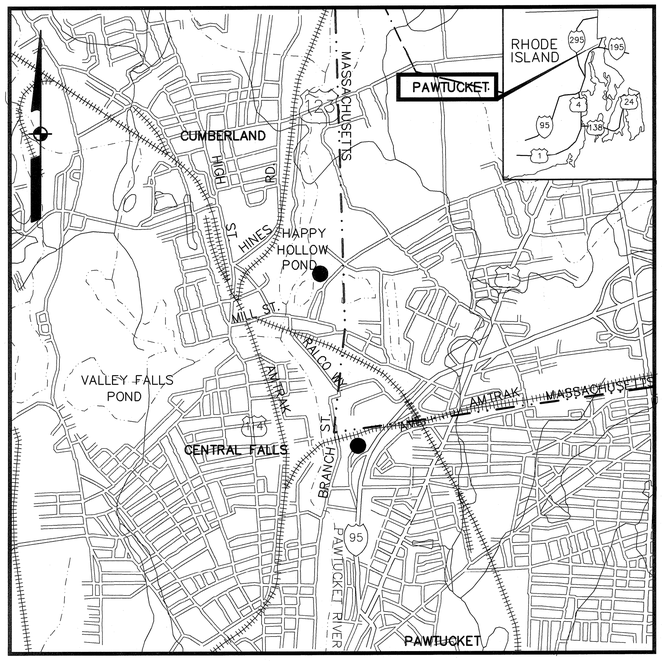
CONTRACT DRAWINGS
- FOR -
Pawtucket Regional Water Treatment Facility
Pkg 9 - Upper Concrete

Pawtucket, Rhode Island

OCTOBER 31, 2006



LOCUS
NOT TO SCALE

ROBERT H. SHELDON
No. 4103
REGISTERED PROFESSIONAL ENGINEER
3/5/09

EarthTech
A Tyco International Ltd. Company

300 Baker Avenue Suite 290 Concord, Mass.

GENERAL NOTES

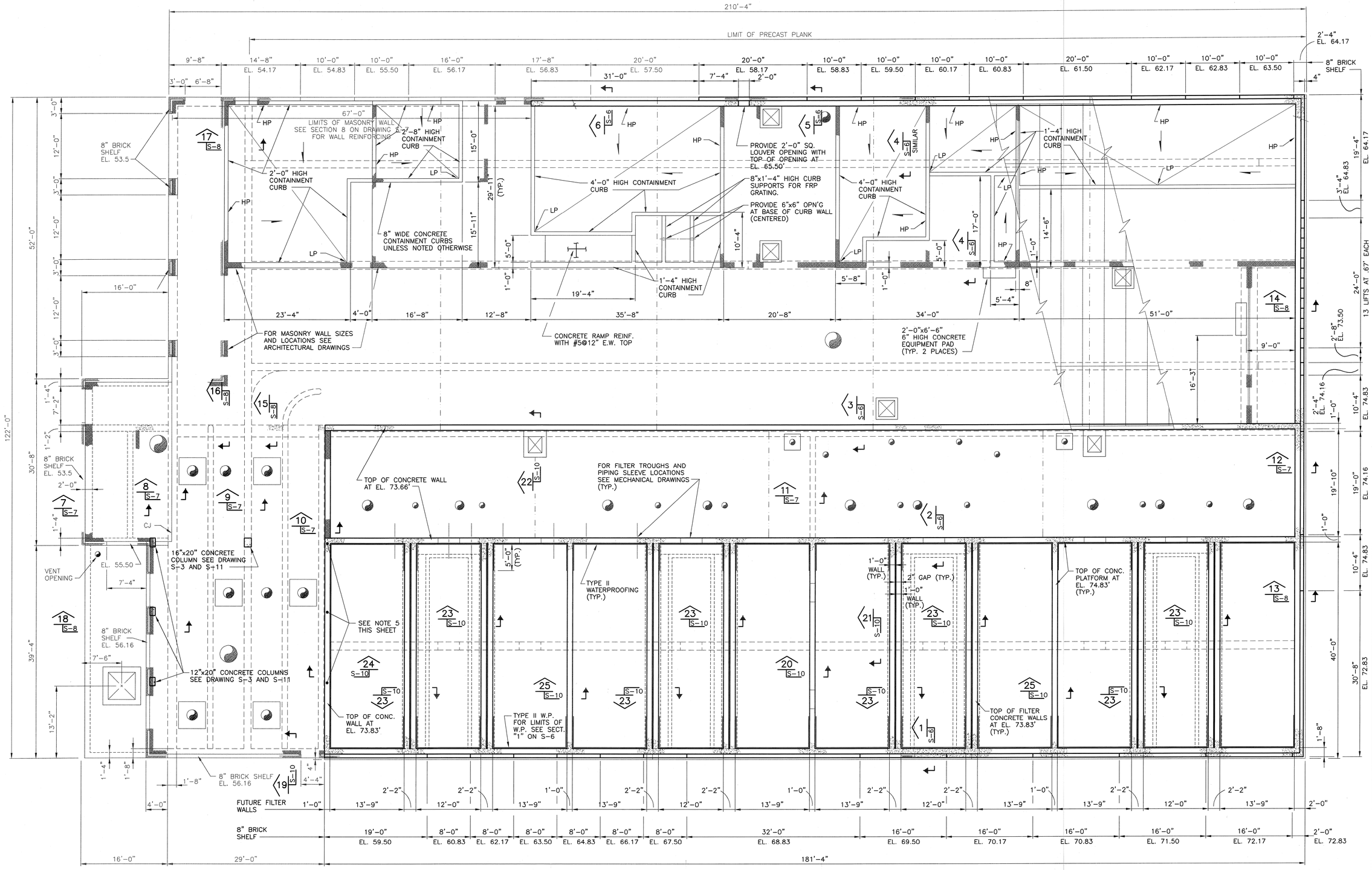
LOCATIONS OF ALL UTILITIES AND SUB-SURFACE STRUCTURES ARE FROM SURVEY AND RECORDS OF TOWN, CORPORATIONS, ETC., AND ARE CONSIDERED APPROXIMATE BOTH AS TO SIZE AND LOCATION AND ARE INDICATED ON THESE DRAWINGS TO GIVE BIDDERS A GENERAL IDEA OF EXISTING CONDITIONS TO BE INVESTIGATED BY THE BIDDER. IT IS UNDERSTOOD AND AGREED THAT EACH BIDDER WILL NOT RELY UPON THESE DRAWINGS FOR SUCH INFORMATION, BUT THAT EACH BIDDER SHALL MAKE EXAMINATIONS IN THE FIELD BY VARIOUS AVAILABLE METHODS AND SHALL OBTAIN INFORMATION FROM UTILITY CORPORATIONS AND INDIVIDUALS AS TO THE LOCATION OF ALL SUB-SURFACE STRUCTURES.

ALL ELEVATIONS REFER TO NATIONAL GEODETIC VERTICAL DATUM OF 1929.

INDEX

EARTH TECH AS-BUILT FILE JULY 2008

Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\69993COV9.DWG
Plot File Date Created: Aug/11/2008 3:58 PM



LOWER LEVEL PLAN AT ELEVATION 57.50

SCALE: 1/8" = 1'-0"

LEGEND

LP – INDICATES LOW POINT OF CONCRETE FILL OVER TOPPING = EL. 57.67

HP – INDICATES HIGH POINT OF CONCRETE FILL OVER TOPPING = EL. 57.88

—— INDICATES DIRECTION OF CONCRETE FILL SLOPE

NOTES:

1. SEE DRAWING M-2 FOR LOCATION OF RECESSED VALVE OPERATOR BOXES IN FLOOR SLAB.
2. COORDINATE ALL PIPE OPENINGS THROUGH CONCRETE WALLS AND SLABS WITH MECHANICAL DRAWINGS FOR THE PROPER LOCATION OF APPROPRIATE WALLPIPE AND FLANGED SLEEVE FITTINGS.
3. FOR PIPE OPENINGS LESS THAN 12" DIA. SEE MECHANICAL DRAWINGS.
4. ACCESS OPENINGS SHOWN TO NOMINAL SIZE. ACTUAL SIZE TO SUIT HATCH MANUFACTURER.
5. PROVIDE ADDITIONAL DOWELS FOR CONCRETE COLUMNS WITHIN CONCRETE WALL, SEE DRAWING S-11 OF PACKAGE 9
6. PROVIDE ADDITIONAL DOWELS FOR CONCRETE COLUMNS, SEE DRAWING S-11 OF PACKAGE 9.
7. NO ELECTRICAL CONDUITS TO BE EMBEDDED IN CONCRETE SLABS UNLESS NOTED OTHERWISE.

* – PLANK MANUFACTURER TO DESIGN TOPPING REINFORCING FOR COMPOSITE ACTION, SEE SPECIFICATIONS. CONCRETE FILL OVER TOPPING TO BE PLACED AFTER PLACEMENT OF CONCRETE CONTAINMENT CURBS. CONCRETE PLANK TO BE DESIGNED FOR WEIGHT OF CONCRETE FILL.

EARTH TECH AS-BUILT FILE JULY 2008

EarthTech
A Tyco International Ltd. Company
300 BAKER AVENUE SUITE 290 CONCORD MA 01742 (978) 371-4000

FULL SIZE DRAWING = 4"

NO.	REVISIONS	BY	DATE
2	AS-BUILT DRAWING FILE	DPB	JULY 2008
1	ISSUED FOR RFI POSTED SET	R.D.	10/31/06
0	ISSUED FOR CONSTRUCTION	R.D.	4/05

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER STATE OF RHODE ISLAND

PAWTUCKET, RHODE ISLAND

PAWTUCKET REGIONAL WATER TREATMENT FACILITY

PKG 9 - UPPER CONCRETE

LOWER LEVEL PLAN – EL. 57.50'

DESIGNED BY	DWG SCALE 1/8" = 1'-0"
DRAWN BY DPB	CONTRACT NO
CHECKED BY	DATE OCTOBER 31, 2006

S-2

SHEET OF

Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\STRUC\69993S-2.DWG
Plot File Date Created Aug/11/2008 3:59 PM

UPPER LEVEL FLOOR AND LOWER ROOF PLAN NOTES:

1. ALL INTERIOR CMU NON–LOAD–BEARING SHEAR WALLS ARE SHOWN. NOT ALL OTHER INTERIOR CMU NON–LOAD–BEARING WALLS ARE SHOWN. SEE ARCHITECTURAL DRAWINGS.

2. SEE MECHANICAL, HVAC, AND PLUMBING DRAWINGS FOR ALL PRECAST PLANK PENETRATIONS REQUIRED FOR EQUIPMENT, VENTS AND ROOF DRAINS. SEE ARCHITECTURAL DRAWINGS FOR PENETRATIONS AT ANY AND ALL ROOF SCUTTLES. DESIGN PRECAST MEMBERS TO ACCOUNT FOR ALL REQUIRED PENETRATIONS.

3. COORDINATE ALL OPENINGS IN CAST–IN–PLACE CONCRETE FLOOR AND ROOF SLABS WITH MECHANICAL, HVAC, PLUMBING, AND ARCHITECTURAL DRAWINGS.

4. STEEL MEMBERS SHALL BE AS FOLLOWS: W–SHAPES, ASTM A992 (50 KSI); TS COLUMNS, ASTM A500 GRADE B; ANGLES, ASTM A36.

5. SET BEARING PLATES ON ¾" N.S. GROUT, TYP.

6. CMU CONTROL JOINTS REQUIRED MAX 36'–0" O.C. AND W/ PROPER CONSIDERATION TO LOC'S OF WALL OP'NGS. BOND BEAM REINF. IS CONTINUOUS AT CONTROL JOINTS (SEE ARCH. DWG'S). ABOVE OP'NGS: LOCATE JOINT 8" FROM VERT. FACE OF OP'NG AT TOP OF OP'NG: JOG JOINT 8" INTO FACE OF OP'NG.

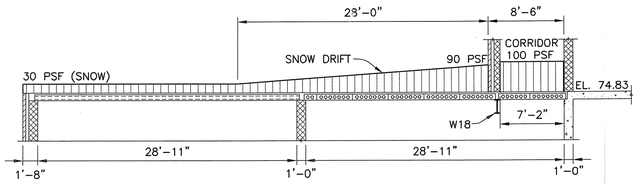
7. CMU CONTROL JOINTS NEED NOT BE LOCATED AT BRICK VENEER CONTROL JOINT LOCATIONS. DO NOT LOCATE CMU CONTROL JOINTS AT THE FOLLOWING OP'NGS: DOORS 104, 107 THROUGH 109, 114 THROUGH 121, 206 THROUGH 209, 211 THROUGH 215, 218, 219, AND 223 THROUGH 226.

DESIGN LOADS (PSF=PER SQ. FT. OF FLOOR AREA):

250 PSF = LIVE FLOOR LOAD
100 PSF = LIVE CORRIDOR LOAD
100 PSF = LIVE FILTER PLATFORM LOAD
50 PSF = DEAD LOAD (CMU WALL ALLOWANCE)
71 PSF = 8" THICK PRECAST PLANK ALLOWANCE
25 PSF = 2" CONCRETE (COMPOSITE) PLANK TOPPING

ROOF LIVE LOADS: SEE LOAD DIAGRAMS, THIS SHEET
100 PSF = ROOF LIVE LOAD AT LOW ROOF OVER PUMP ROOM (SOUTH WEST LOW ROOF).

CONCENTRATED EQUIPMENT LOAD: 7,000 LB. ON 5'–6" x 7'–6" FOOTPRINT LOCATED ANYWHERE WITHIN AREA DELINEATED ON PLAN (NOT TO BE APPLIED SIMULTANEOUSLY WITH SNOW LOAD).

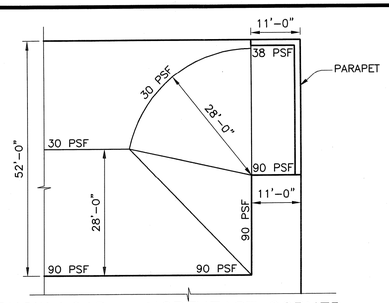


NOTES:

1. ADDITIONAL MECHANICAL LOAD = 10 PSF (EXCEPT AS NOTED OTHERWISE)
2. SEE DIAGRAM THIS SHEET FOR SNOW LOADING AT NORTHEAST CORNER OF BUILDING.

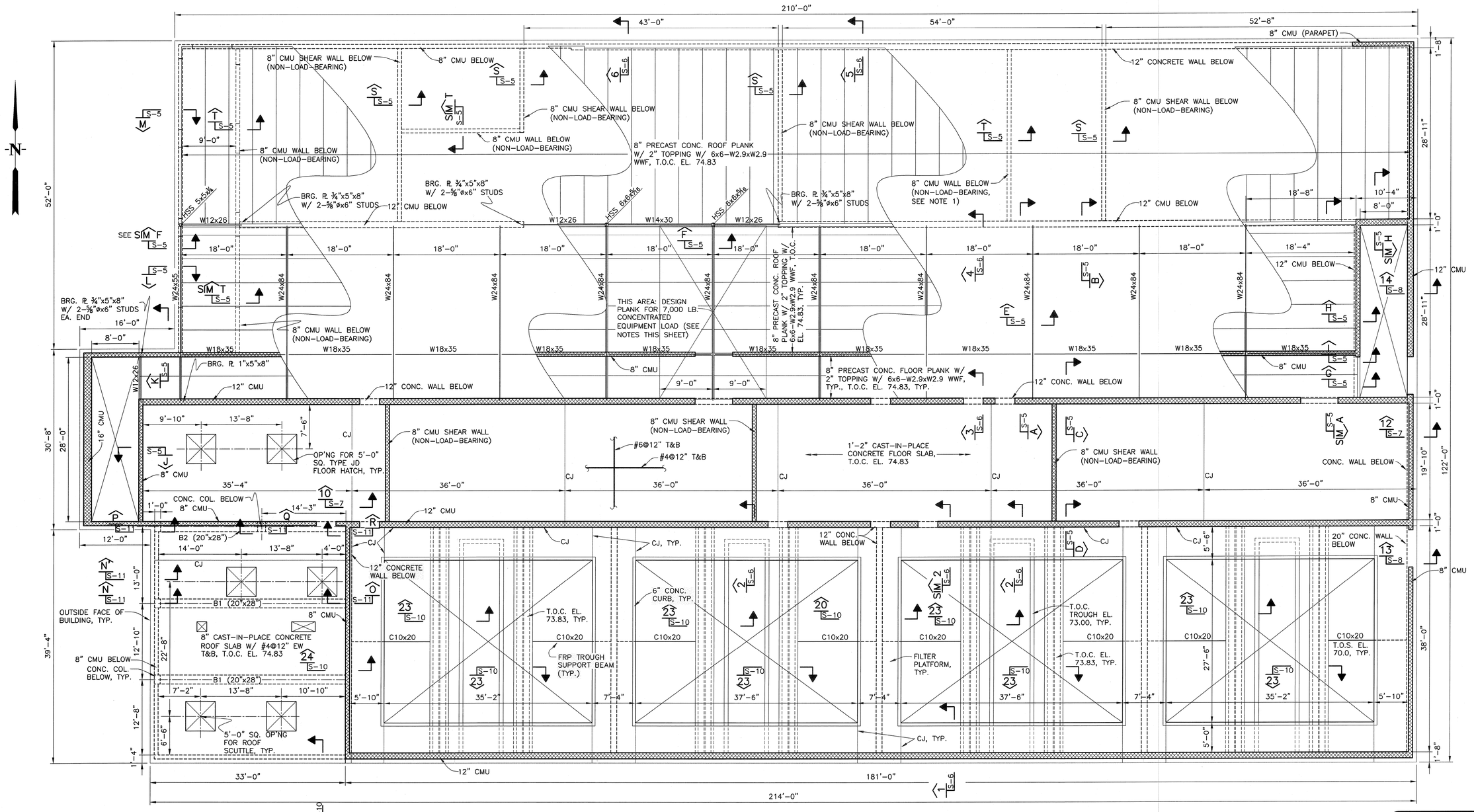
PRECAST PLANK LOADS

SCALE: 1/8" = 1'–0"



SNOW LOAD – NORTHEAST CORNER

SCALE: 1/16" = 1'–0"



UPPER LEVEL FLOOR AND LOWER ROOF PLAN

SCALE: 1/8" = 1'–0"

EARTH TECH AS-BUILT FILE JULY 2008

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FULL SIZE DRAWING = 4"

NO.	REVISIONS	BY	DATE
0	ISSUED FOR CONSTRUCTION	R.D.	4/05
1	ISSUED FOR RFI POSTED SET	R.D.	10/31/06
2	AS-BUILT DRAWING FILE	DPB	JULY 2008

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER STATE OF RHODE ISLAND 2/7/09

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL
WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
UPPER LEVEL FLOOR AND
LOWER ROOF PLAN – EL. 74.83

DESIGNED BY MWC	DWG SCALE 1/8" = 1'–0"
DRAWN BY MWC	CONTRACT NO
CHECKED BY RJD	DATE OCTOBER 31, 2006

S–3
SHEET OF

Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\STRUC\69993S3-5-11-12.DWG
Plot File Date Created: Aug/11/2008 4:00 PM

PIPE GALLERY COVER PLAN NOTES:

1. ALL SUPPORT FRAMING IS ALUMINUM.

2. ⅜" ALUM. TREAD PLATE PANELS SHALL NOT EXCEED 10 SQUARE FEET IN AREA.

3. REINFORCE PANELS WITH STIFFENERS TO SUPPORT 100 PSF LIVE LOAD WITH A MAXIMUM DEFLECTION OF $\frac{1}{360}$ TIMES THE SPAN OF THE PLATE.
4. PROVIDE TWO RECESSED LIFT HANDLES PER PLATE.

5. PRE-DRILL HOLES IN PLATES AND FASTEN TO SUPPORT FRAMING WITH 1/4" S.S. FLAT HEAD SCREWS 1'-0" O.C.. FIELD TAP HOLES IN SUPPORTS TO MATCH PLATE HOLE LOCATIONS.

6. SUPPORT L'S AT WALLS NOT SHOWN. SEE DRAWING S-10 FOR TYPICAL DETAILS.

7. COORD. OP'NGS REQUIRED FOR PIPING AND OTHER PENETRATIONS W/ MECHANICAL DRAWINGS AND FIELD-MEASURED LOCATIONS.

8. DESIGN LOADS:

200 PSF = MAXIMUM LIVE LOAD
100 PSF = LIVE LOAD WITH DEFL. LESS THAN SPAN/360

9. U.N.O. = UNLESS NOTED OTHERWISE

UPPER ROOF PLAN NOTES:

1. ALL INTERIOR CMU NON-LOAD-BEARING SHEAR WALLS ARE SHOWN. NOT ALL OTHER INTERIOR CMU NON-LOAD-BEARING WALLS ARE SHOWN. SEE ARCHITECTURAL DRAWINGS.

2. SEE MECHANICAL AND PLUMBING DRAWINGS FOR ALL PRECAST PLANK AND DOUBLE-TEE BEAM PENETRATIONS REQUIRED FOR MECHANICAL EQUIPMENT AND ROOF DRAINS. SEE ARCHITECTURAL DRAWINGS FOR PENETRATIONS AT ANY AND ALL ROOF SCUTTLES. DESIGN PRECAST MEMBERS TO ACCOUNT FOR ALL REQUIRED PENETRATIONS. (PENETRATIONS THROUGH DOUBLE-TEE BEAMS SHALL BE THROUGH FLANGES ONLY.)

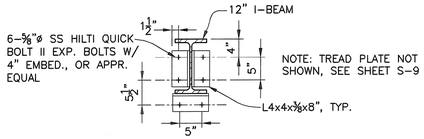
3. STEEL MEMBERS SHALL BE AS FOLLOWS: W-SHAPES, ASTM A992 (50 KSI); HSS COLUMNS, ASTM A500 GRADE B; ANGLES, ASTM A36.

4. SET BEARING PLATES ON ¾" N.S. GROUT, TYP.

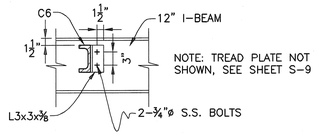
5. DESIGN LOADS:

30 PSF = SNOW LOAD (PLUS DRIFT, SEE SHEET S-12)
8 PSF = MECHANICAL LOAD
2 PSF = ROOFING (MEMBRANE/INSULATION) ALLOWANCE

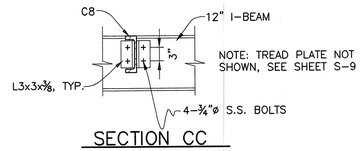
25 PSF = 2" CONCRETE (COMPOSITE) PLANK AND DOUBLE-TEE BEAM TOPPING



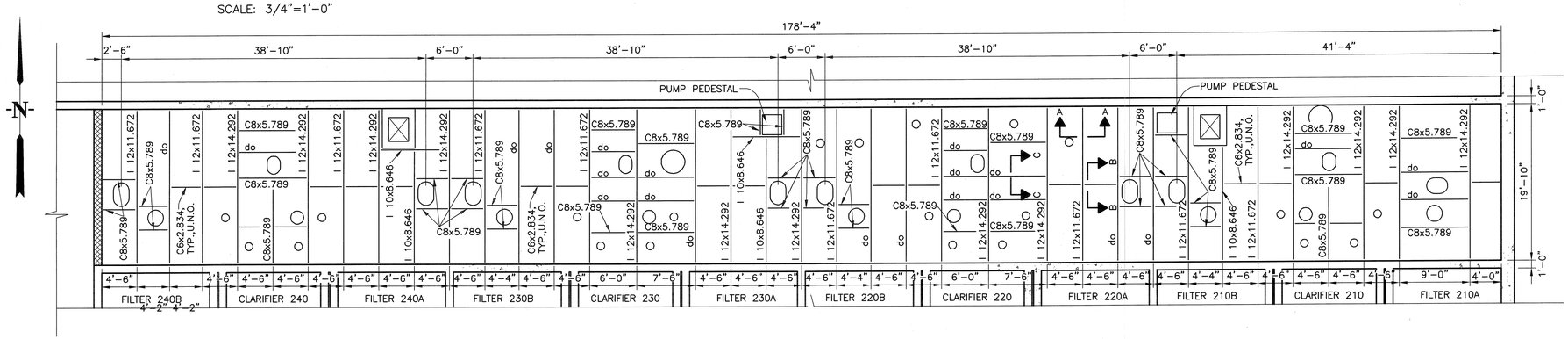
SECTION AA
BEAM TO CONC. WALL CONN.
SCALE: 3/4"=1'-0"



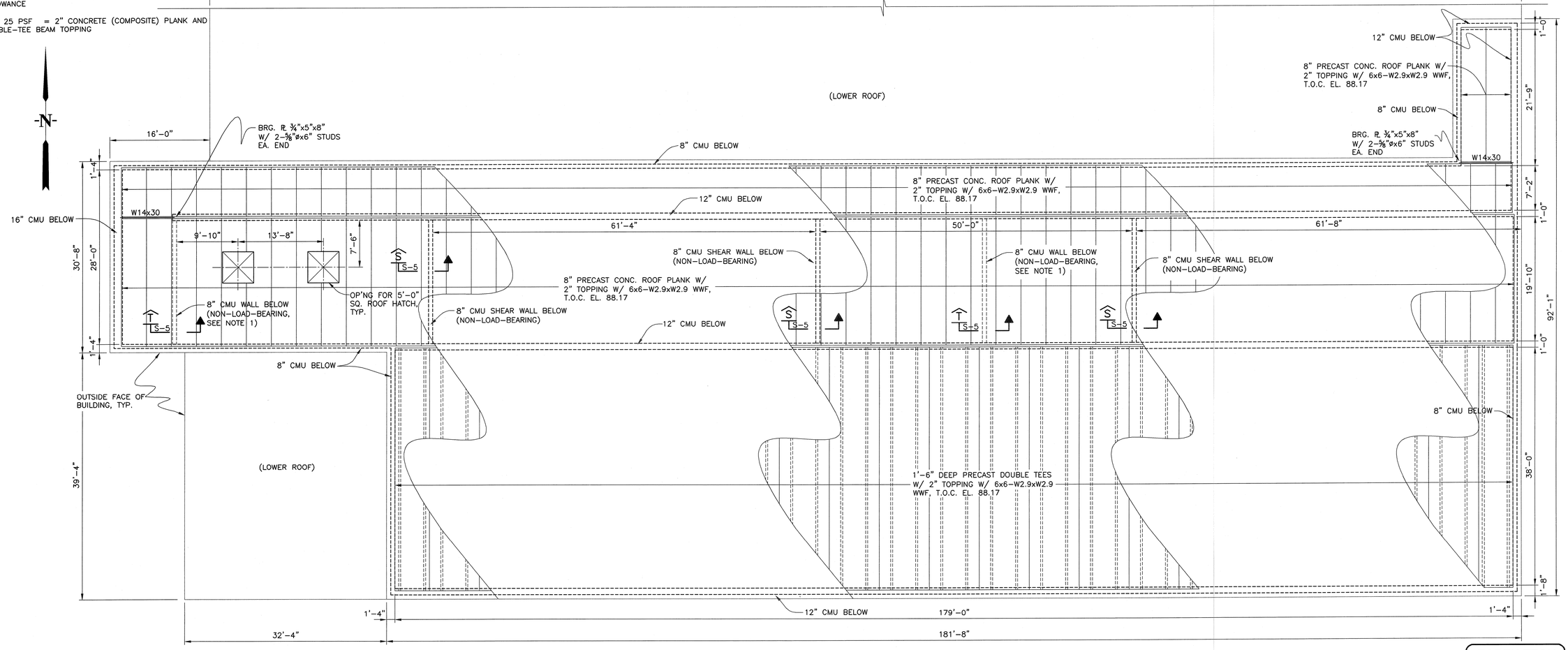
SECTION BB
SCALE: 3/4"=1'-0"



SECTION CC
SCALE: 3/4"=1'-0"



PLAN-PIPE GALLERY COVER - EL. 57.50
SCALE: 1/8" = 1'-0"



UPPER ROOF PLAN
SCALE: 1/8" = 1'-0"

EARTH TECH
AS-BUILT FILE
JULY 2008

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ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER STATE OF RHODE ISLAND

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL
WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
PIPE GALLERY COVER PLAN - EL. 57.50
AND UPPER ROOF PLAN - EL. 88.17

DESIGNED BY MWC	DWG SCALE 1/8" = 1'-0"
DRAWN BY MWC	CONTRACT NO
CHECKED BY RJD	DATE OCTOBER 31, 2006

S-4
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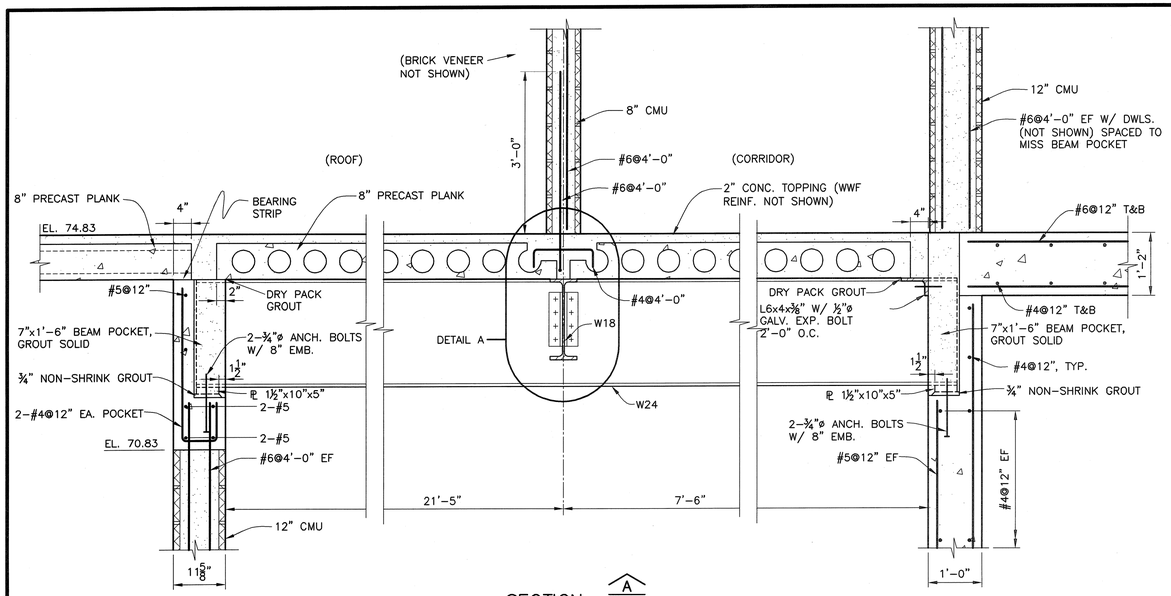
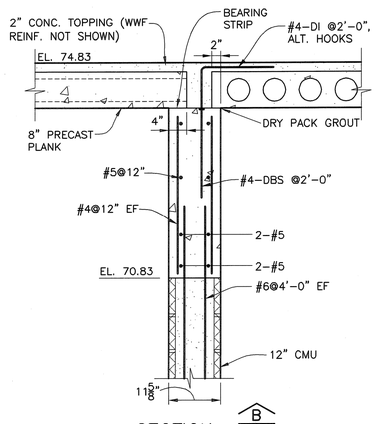


SECTION A S-3
SCALE: 3/4"=1'-0"



SECTION B S-3
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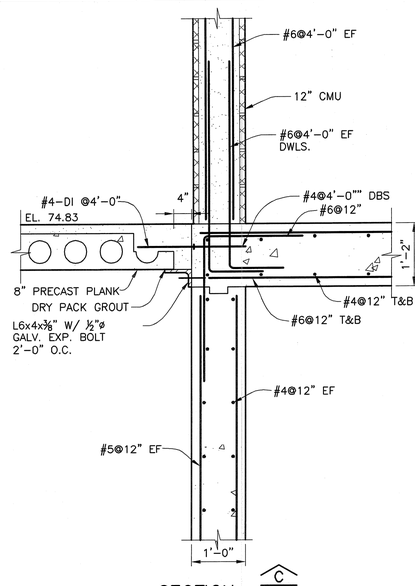

SECTION C S-3
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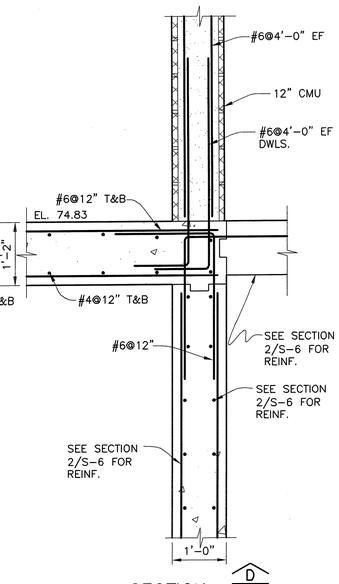
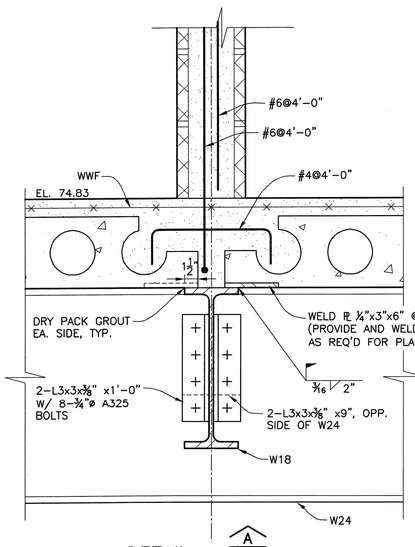
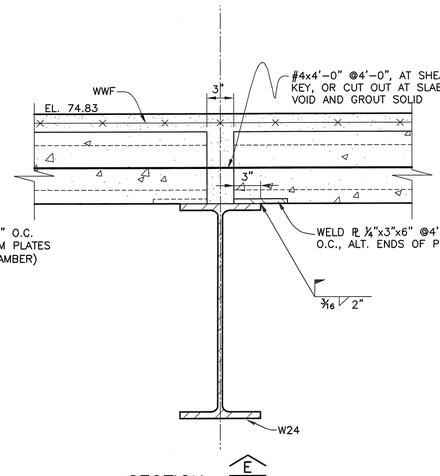


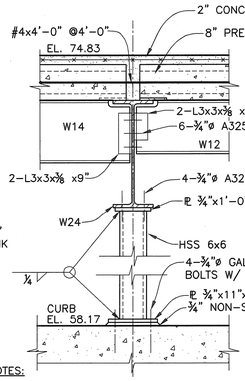
SECTION D S-3
SCALE: 3/4"=1'-0"



DETAIL A S-5
SCALE: 1 1/2"=1'-0"



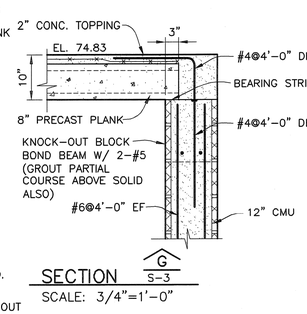
SECTION E S-3
SCALE: 1 1/2"=1'-0"



NOTES:

1. PROVIDE SIM. DETAILS AT ALL HSS COL'S.
2. AT HSS 5x5 COL., PROVIDE BASE PL. 1"x6"x11" W/ 4-3/4"ø GALV. ANCH. W/ 6" EMB., CURB EL. 58.50

SECTION F S-3
SCALE: 3/4"=1'-0"



SECTION G S-3
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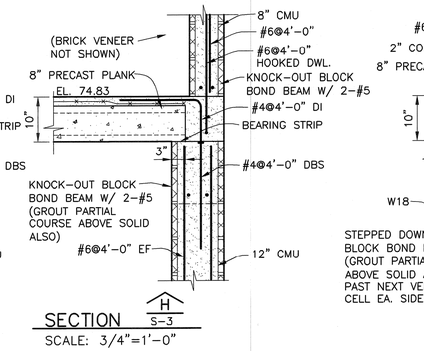

SECTION H S-3
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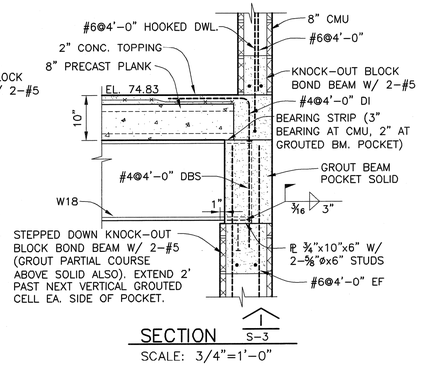

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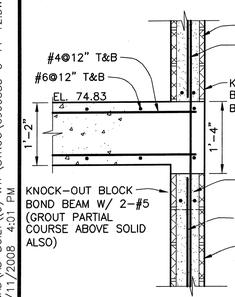

SECTION J S-3
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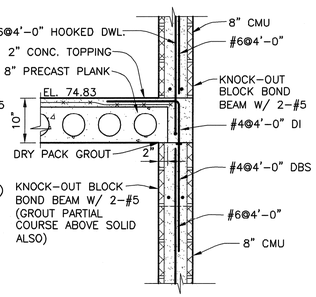

SECTION K S-3
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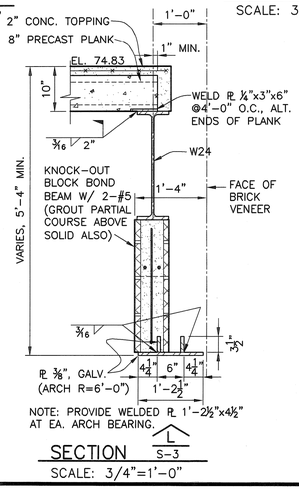
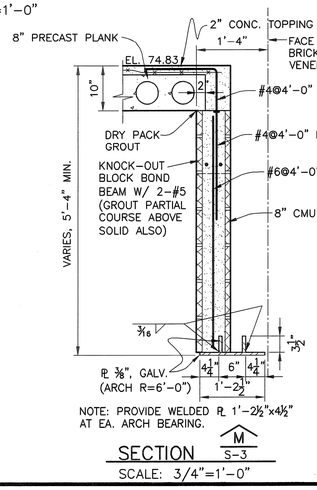


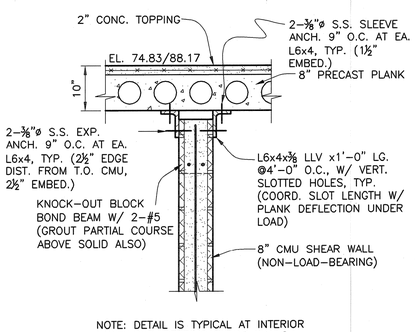
NOTE: PROVIDE WELDED PL 1'-2½"x4½" AT EA. ARCH BEARING.

SECTION L S-3
SCALE: 3/4"=1'-0"



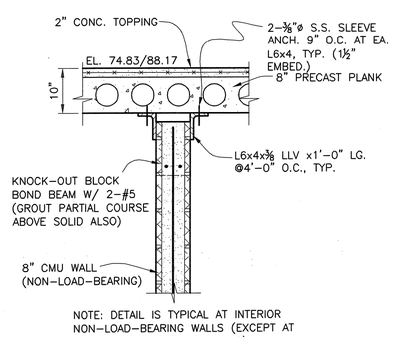
NOTE: PROVIDE WELDED PL 1'-2½"x4½" AT EA. ARCH BEARING.

SECTION M S-3
SCALE: 3/4"=1'-0"



NOTE: DETAIL IS TYPICAL AT INTERIOR NON-LOAD-BEARING SHEAR WALLS

SECTION S S-3
SCALE: 3/4"=1'-0"



NOTE: DETAIL IS TYPICAL AT INTERIOR NON-LOAD-BEARING WALLS (EXCEPT AT SHEAR WALLS, SEE SECTION S)

SECTION T S-3
SCALE: 3/4"=1'-0"

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300 BAKER AVENUE SUITE 290 CONCORD MA 01742 (978) 371-4000

FULL SIZE DRAWING = 4"

NO.	DATE	BY
2	JULY 2008	DPB
1	10/31/06	R.D.
0	4/05	R.D.

AS-BUILT DRAWING FILE
ISSUED FOR RFI POSTED SET
ISSUED FOR CONSTRUCTION
REVISIONS

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
SECTIONS AND DETAILS

DESIGNED BY MWC	DWG SCALE AS NOTED
DRAWN BY MWC	CONTRACT NO CONTRACT
CHECKED BY RJD	DATE OCTOBER 31, 2006

EARTH TECH AS-BUILT FILE JULY 2008

S-5
SHEET OF

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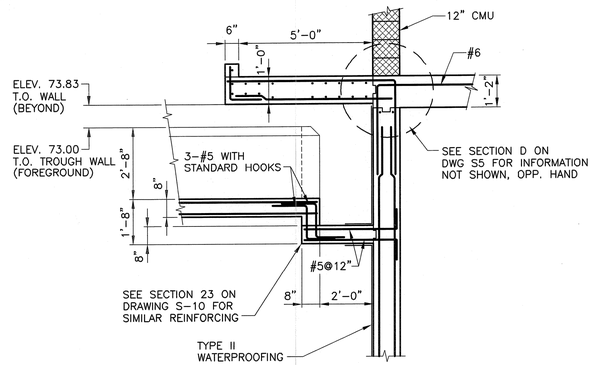
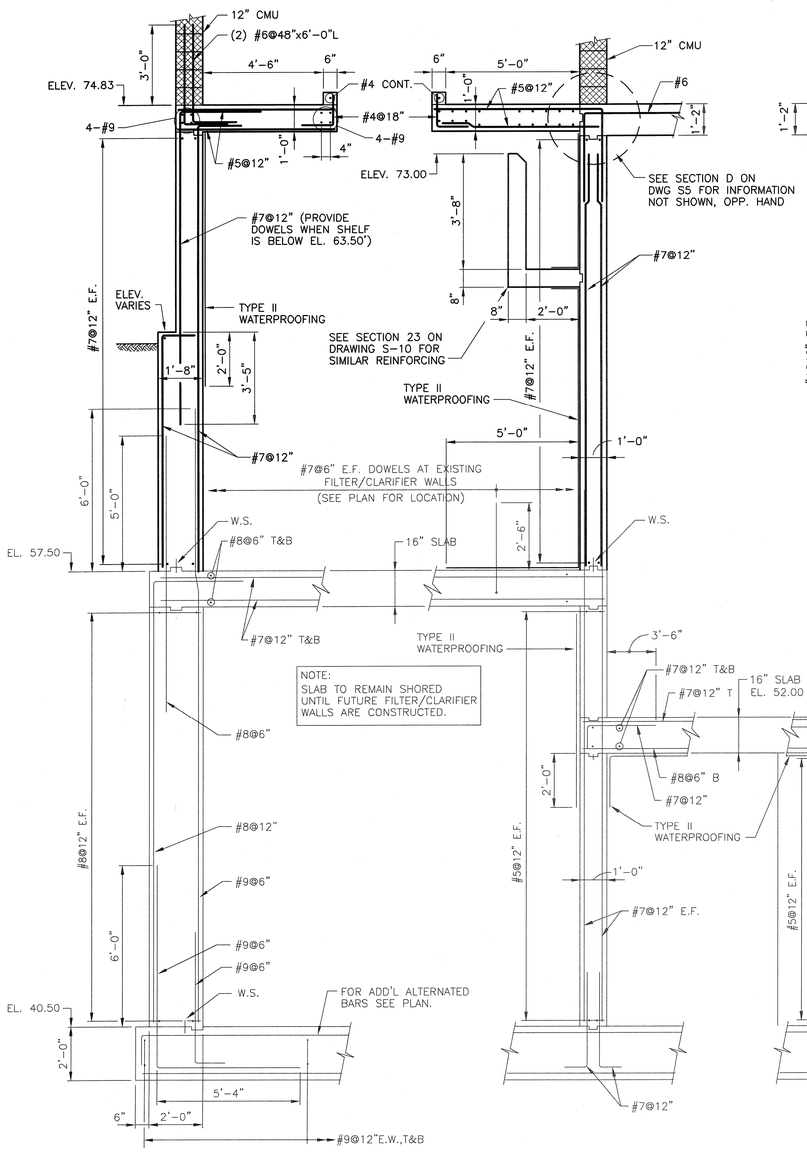


SECTION AT CLARIFIER TROUGH CORNER INTERSECTION

SCALE: 3/8" = 1'-0"



SECTION 1 S-2, S-3
SCALE: 3/8" = 1'-0"

SECTION 2 S-2, S-3
SCALE: 3/8" = 1'-0"

SECTION 3 S-2, S-3
SCALE: 3/8" = 1'-0"

SECTION 4 S-2, S-3
SCALE: 3/8" = 1'-0"

SECTION 5 S-2, S-3
SCALE: 3/8" = 1'-0"

SECTION 6 S-2,S-3
SCALE: 3/8" = 1'-0"

EARTH TECH AS-BUILT FILE JULY 2008

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A Tyco International Ltd. Company
300 BAKER AVENUE SUITE 290 CONCORD MA 01742 (978) 371-4000

FULL SIZE DRAWING = 4"

NO.	REVISIONS	BY	DATE
0	ISSUED FOR CONSTRUCTION	R.D.	4/05
1	ISSUED FOR RFI POSTED SET	R.D.	10/31/06
2	AS-BUILT DRAWING FILE	DPB	JULY 2008

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
SECTIONS AND DETAILS

DESIGNED BY	DWG SCALE 3/8" = 1'-0"
DRAWN BY DPB	CONTRACT NO
CHECKED BY	DATE OCTOBER 31, 2006

S-6
SHEET OF

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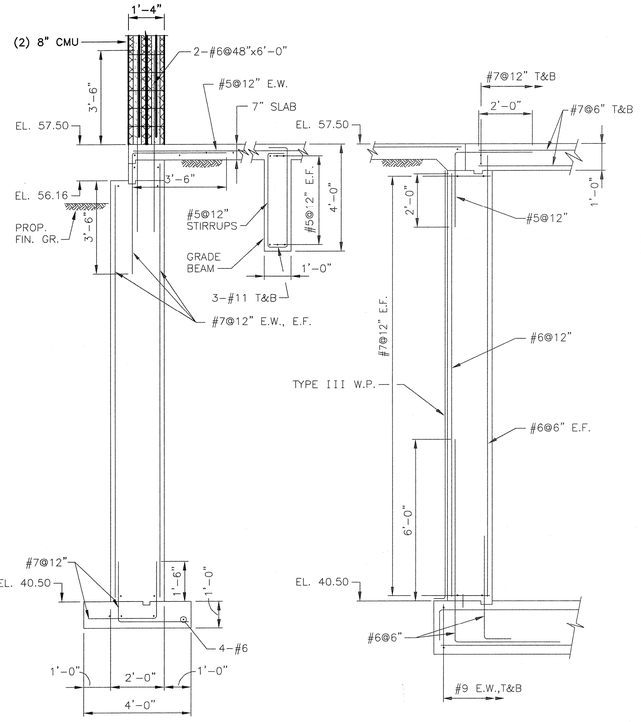
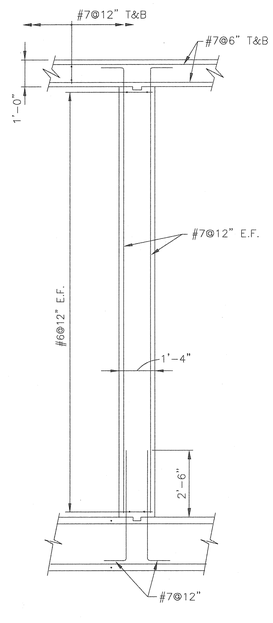
Plot File Date Created: Aug/11/2008 4:04 PM



SECTION 7/S-2
SCALE: 3/8" = 1'-0"

SECTION 8/S-2
SCALE: 3/8" = 1'-0"



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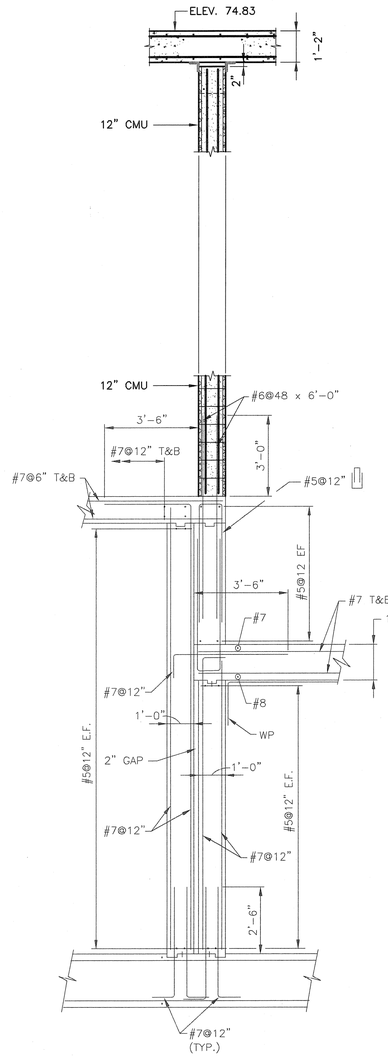

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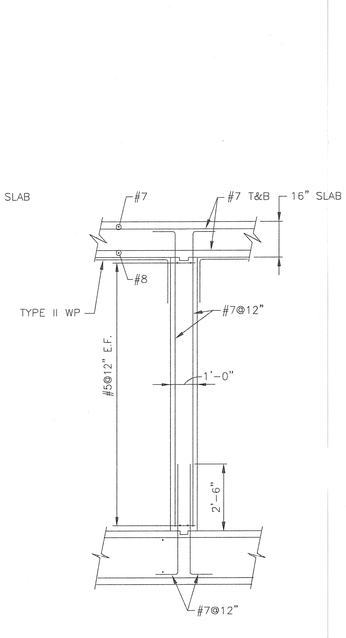

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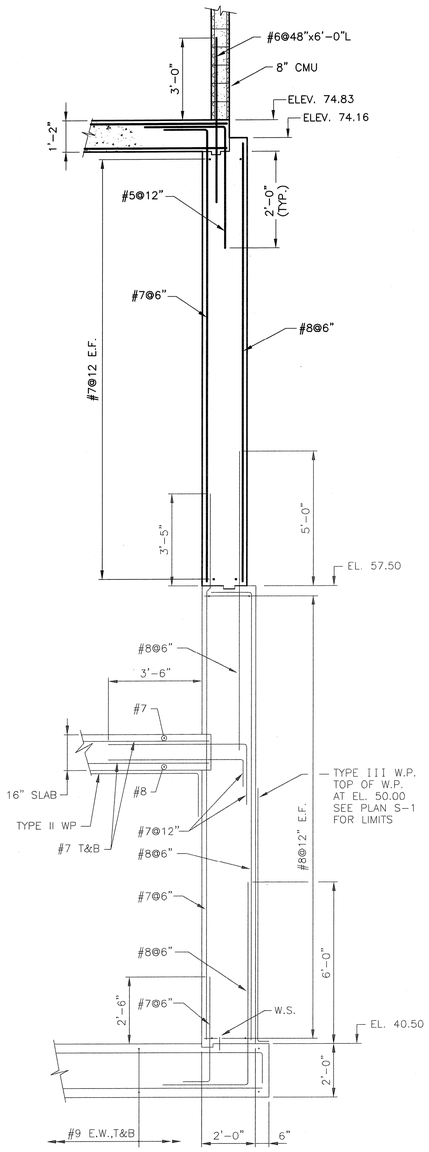

SECTION 12/S-2
SCALE: 3/8" = 1'-0"

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2	DPB	JULY 2008
AS-BUILT DRAWING FILE		
1	R.D.	10/31/06
ISSUED FOR RFI POSTED SET		
0	R.D.	4/05
ISSUED FOR CONSTRUCTION		
REVISIONS		

ROBERT H. SHELDON No. 4103 STATE OF RHODE ISLAND

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
SECTIONS AND DETAILS

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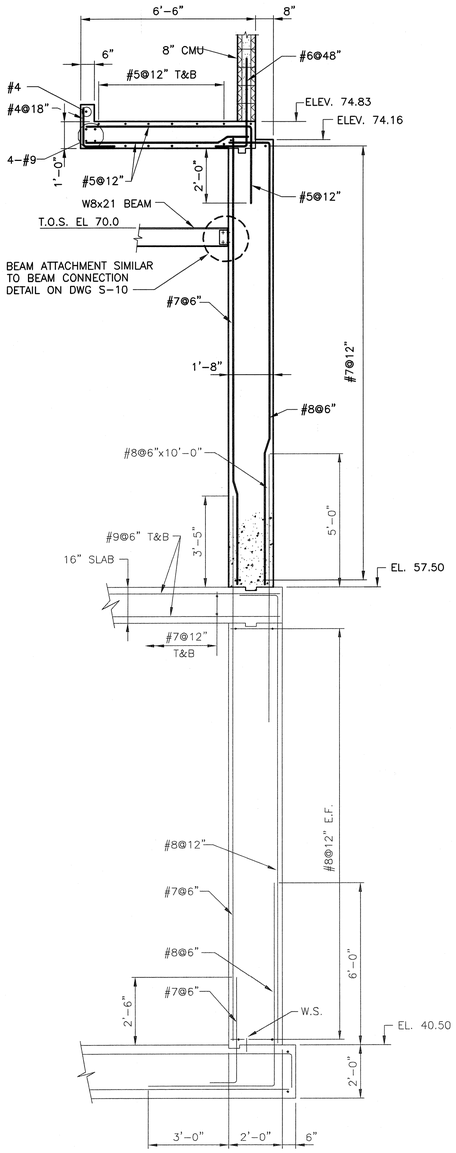
CHECKED BY	DATE OCTOBER 31, 2006

EARTH TECH AS-BUILT FILE JULY 2008

S-7
SHEET OF

Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\STRUC\69993S-7.DWG
Plot File Date Created: Aug/11/2008 4:05 PM



SECTION 13/S-2
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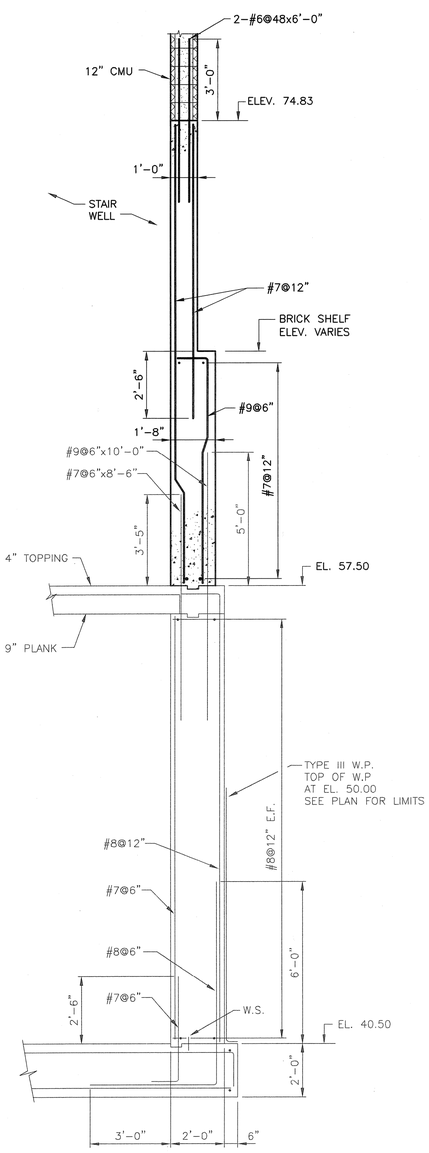

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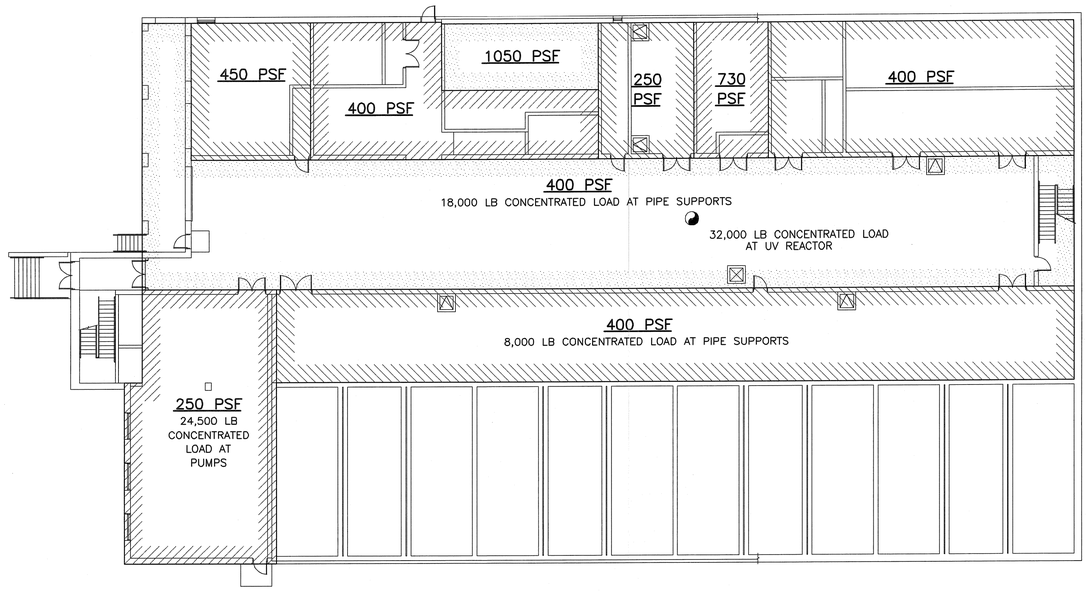
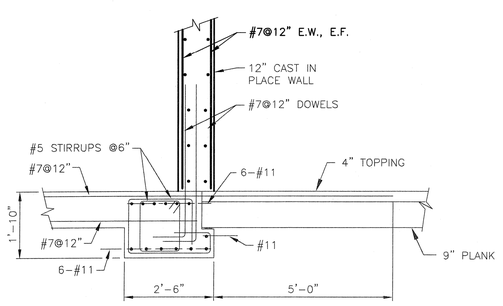


DESIGN LIVE LOAD DIAGRAM AT FLOOR EL. 57.50
SCALE: 1/16" = 1'-0"



SECTION 15/S-2
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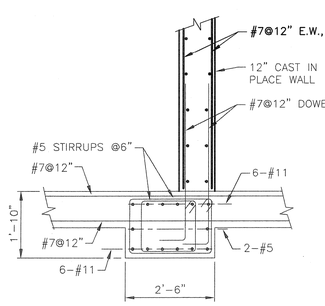

SECTION 16/S-2
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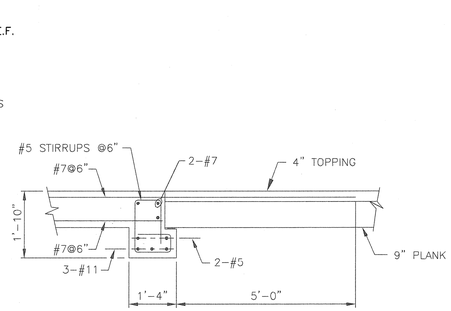

SECTION 17/S-2
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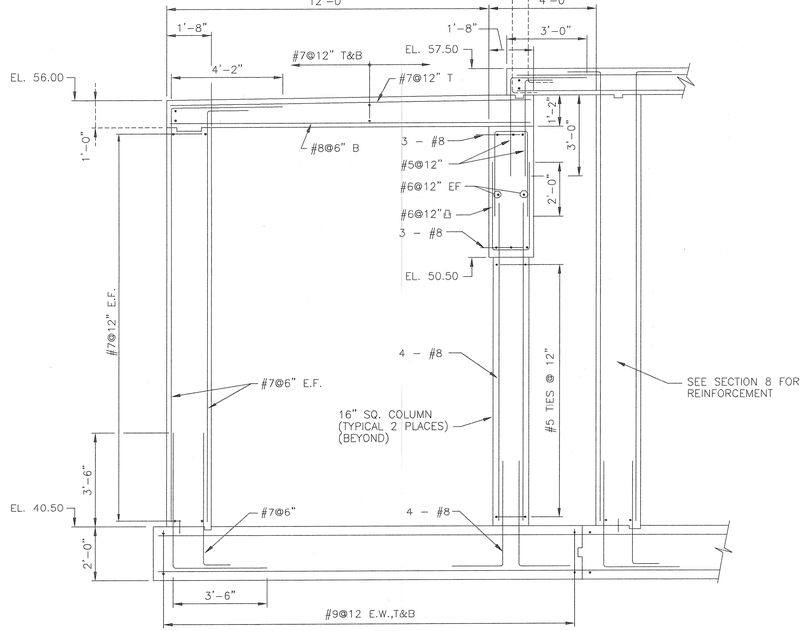

SECTION 18/S-2
SCALE: 3/8" = 1'-0"

EARTH TECH AS-BUILT FILE JULY 2008

Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\STRUC\69993S-8.DWG
Plot File Date Created: Aug/11/2008 4:06 PM

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		ISSUED FOR CONSTRUCTION
1	10/31/06	R.D.
		ISSUED FOR RFI POSTED SET
2	JULY 2008	DPB
		AS-BUILT DRAWING FILE

REVISIONS

ROBERT H. SHELDON No. 4003 REGISTERED PROFESSIONAL ENGINEER

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL
WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
SECTIONS AND DETAILS

DESIGNED BY	DWG SCALE 3/8" = 1'-0"
DRAWN BY DPB	CONTRACT NO
CHECKED BY	DATE OCTOBER 31, 2006

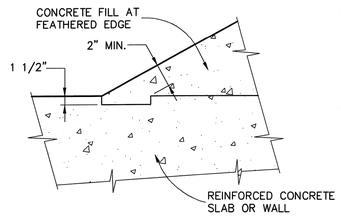
S-8
SHEET OF

CONCRETE PROTECTION FOR REINFORCEMENT(A)					
MEMBER		EXPOSED TO			
		AIR	WEATHER & AIR OVER LIQUID	EARTH & LIQUID	SALT WATER
FOOTING		—	—	2"(B)	4"
WALL COLUMN BEAM		1 1/2"	2"	2"(B)	3"(B)
SLAB	TOP	1 1/2"(C)	2"	2"	3"
	BOTTOM	3/4" (D)	2"	2"(B)	3"(B)

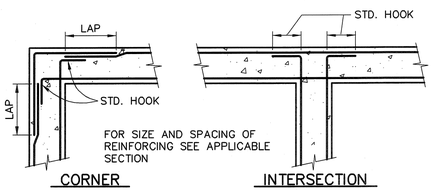
(A) APPLICABLE TO ALL CAST-IN-PLACE CONCRETE, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
(B) INCREASE 1" WHEN CAST AGAINST EARTH.
(C) 3/4" WHEN MEMBRANE OR WEARING SURFACE USED,
(D) 1 1/2" WHERE REQ'D TO CLEAR WATERSTOP.

MINIMUM RE-BAR SPLICE LENGTHS (in.)* fy=60,000 f'c=4,500		
BAR SIZE	TOP BARS**	OTHER BARS
4	20	16
5	24	18
6	26	20
7	39	30
8	46	35
9	52	40
10	57	44
11	64	49

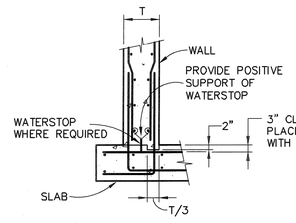
* THIS TABLE IS BASED ON NORMAL WEIGHT CONCRETE, UNCOATED BARS, CLEAR SPACING NOT LESS THAN FOUR BAR DIAMETERS, AND CLEAR COVER NOT LESS THAN TWO BAR DIAMETERS. WHERE SPACING BETWEEN BARS IS LESS THAN FOUR BAR DIAMETERS, OR CLEAR COVER IS LESS THAN TWO BAR DIAMETERS, INCREASE SPLICE LENGTHS SHOWN BY 67%.
** HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS AS DEFINED BY A.C.I. 318-95.

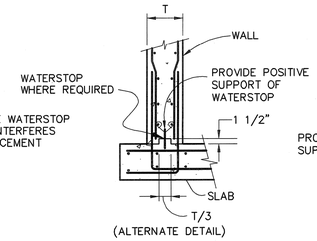


CONCRETE FILL AT SLAB OR WALL DETAIL

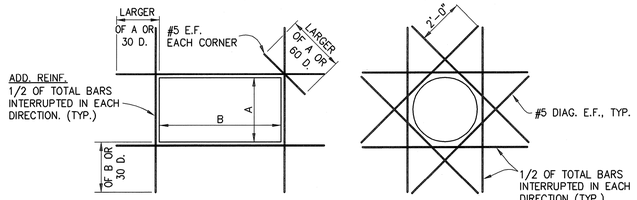


WALL REINFORCING DETAILS
(UNLESS OTHERWISE NOTED)
NOTE: VERTICAL REINFORCING NOT SHOWN.

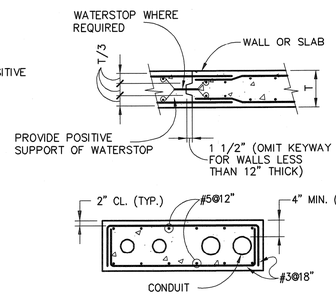




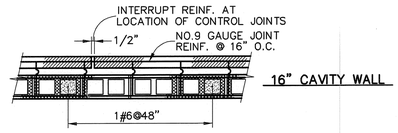
CONSTRUCTION JOINT DETAILS
(UNLESS OTHERWISE NOTED)

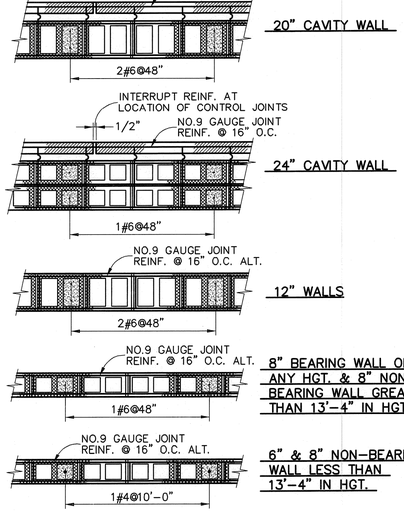


ADDITIONAL REINFORCING AROUND OPENINGS GREATER THAN 1'-0"
(UNLESS OTHERWISE NOTED)



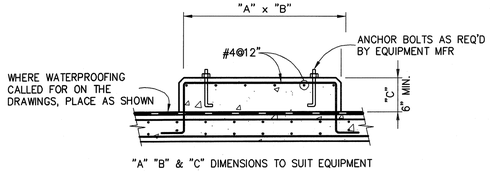
TYPICAL DUCTBANK REINFORCING DETAIL
FOR SIZE OF DUCTBANK AND CONDUITS SEE ELECTRICAL DRAWINGS



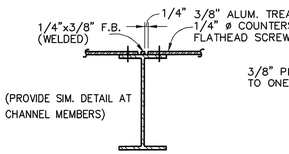


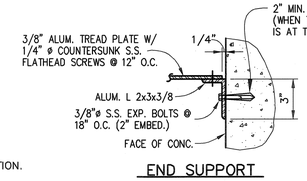
TYPICAL MASONRY REINFORCING DETAILS
NOT TO SCALE

NOTES:
1. VERTICAL REINFORCING SHALL BE LAID OUT SUCH THAT EACH SIDE OF OPENINGS, CORNERS, INTERSECTIONS AND ENDS OF WALLS ARE REINFORCED.
2. VERTICAL REINFORCING AT SIDE OF OPENINGS SHALL BE CONTINUOUS THROUGH LINTELS.
3. PROVIDE 2-#5 HORZ. BARS AT TOP AND BOTTOM OF OP'NGS (EXTEND 25" PAST FACE OF OP'NG), AND AT KNOCK-OUT BLOCK BOND BEAM AT TOP OF WALL.



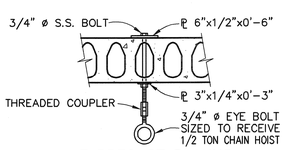
EQUIPMENT PAD DETAIL
NOT TO SCALE

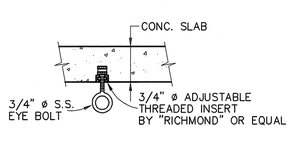


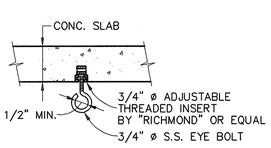


NOTES:
1. ALL ALUMINUM CONSTRUCTION.

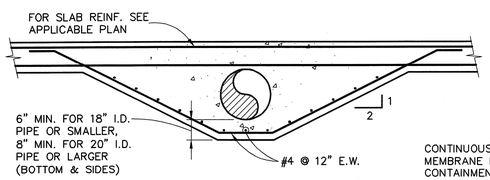
TYPICAL TREAD PLATE SUPPORT DETAILS
NOT TO SCALE



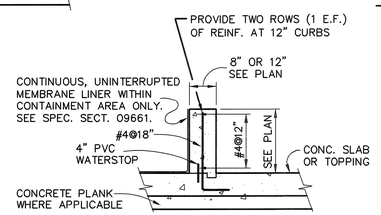




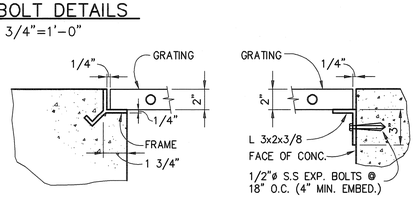
EYE BOLT DETAILS
SCALE: 3/4"=1'-0"



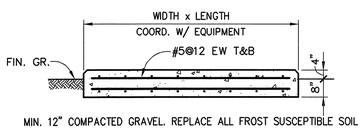
PIPE ENCASEMENT DETAIL
NOT TO SCALE



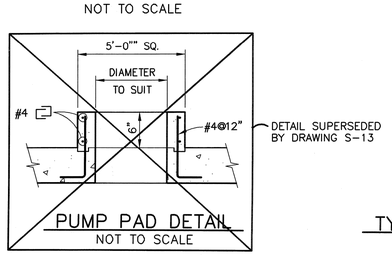
TYPICAL CONTAINMENT WALL DETAIL
NOT TO SCALE



TYPICAL FRP GRATING DETAILS
NOT TO SCALE



EXTERIOR EQUIPMENT PAD
NOT TO SCALE



PUMP PAD DETAIL
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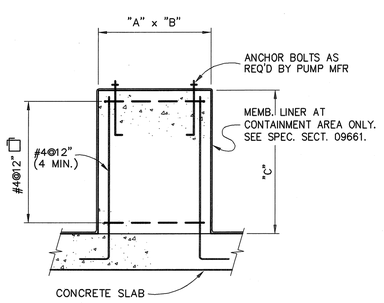
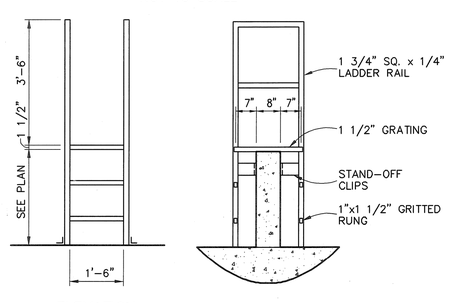
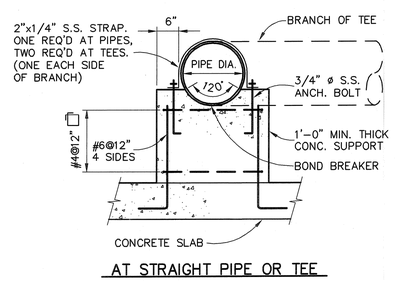


TYPICAL CHEMICAL PUMP PAD DETAIL
NOT TO SCALE



EXTENDED WALKTHRU FRP LADDER
SCALE: 1/2"=1'-0"



TYPICAL PIPE SUPPORT DETAIL
NOT TO SCALE

STRUCTURAL NOTES

GENERAL

1. THESE NOTES AND TYPICAL DETAILS SHALL APPLY TO ALL STRUCTURES IN THE PROJECT, AS APPLICABLE.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, HEATING AND VENTILATING DRAWINGS AND SPECIFICATIONS. DRAWINGS SHALL BE REFERRED TO FOR SIZE AND LOCATION OF OPENINGS FOR VENTS, PIPES, DUCTS, ETC.
3. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PORTION OF WORK.
4. BUILDING CODE: RHODE ISLAND STATE BUILDING CODE (1998) AND AMENDMENTS.
5. DESIGN LIVE LOADS
   ROOF -30 PSF PLUS SNOW DRIFT (SEE DIAGRAMS)
   -100 PSF - ROOF OVER PUMP ROOM
   FLOORS -AS INDICATED ON PLANS

EARTHQUAKE

SEISMIC HAZARD GROUP	II
SEISMIC PERFORMANCE CATEGORY	C
SOIL PROFILE TYPE	S1
BASIC STRUCTURAL SYSTEM	LOAD BEARING MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR (R)	3 1/2
DEFLECTION AMPLIFICATION FACTOR (Cd)	3
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

FOUNDATIONS

1. NO BACKFILL SHALL BE PLACED AGAINST FOUNDATION WALLS WHICH HAVE NOT BEEN CURED FOR AT LEAST 7 DAYS.
2. BACKFILL SHALL NOT BE PLACED AGAINST FOUNDATION WALLS UNTIL SUPPORTING FRAMED SLABS HAVE BEEN PLACED AND THE FORMS REMOVED. BACKFILL SHALL BE PLACED AND COMPACTED ON ALL SIDES OF STRUCTURE SIMULTANEOUSLY.
3. NO FOOTINGS SHALL BE PLACED ON LOOSE OR DISTURBED SOILS, IN WATER NOR ON FROZEN GROUND.
4. A MINIMUM OF 12 INCHES OF CRUSHED STONE SHALL BE PLACED BENEATH THE MAT FOR THE 5 MG WATER STORAGE TANK AND THE WETWELL IN THE FILTRATION BUILDING. A MINIMUM OF 12 INCHES OF COMPACTED GRAVEL SHALL BE PLACED BENEATH ALL OTHER FOUNDATION MATS, FOOTINGS, AND SLAB-ON-GRADE.
5. COMPACT ALL FILL UNDER THE SLAB-ON-GRADE AND ANY OTHER AREAS NOTED TO AT LEAST 95% OF MAXIMUM DENSITY AS SPECIFIED. VERIFY FIELD DENSITY AS SPECIFIED.
6. STRUCTURES MUST BE PROTECTED AGAINST BUOYANCY AT ALL TIMES DURING CONSTRUCTION.

CONCRETE

1. ALL CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI, UNLESS OTHERWISE NOTED.
2. REINFORCING STEEL SHALL COMPLY WITH THE FOLLOWING:
   A. ASTM DESIGNATION A615 GRADE 60.
   B. REINFORCEMENT SHALL COMPLY WITH THE TABLE, "CONCRETE PROTECTION FOR REINFORCEMENT", UNLESS OTHERWISE NOTED.
   C. FOR MINIMUM BAR SPLICE LENGTHS SEE TABLE SHOWN ON THIS DRAWING.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
4. CONTRACTOR SHALL COORDINATE LOCATIONS OF FLOOR DRAINS, PIPING, ELECTRICAL CONDUITS, GROUNDS, SLEEVES, INSERTS, ETC. WITH CONCRETE CONSTRUCTION.
5. CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE KEYED. USE OF CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THE DRAWINGS WILL REQUIRE APPROVAL OF THE ENGINEERS.
6. WATERSTOPS ARE NOT NECESSARILY SHOWN AT EVERY JOINT; BUT WHERE THEY ARE SHOWN, IT IS INTENDED THAT THEY BE COMPLETE AND CONTINUOUS THROUGHOUT THAT PARTICULAR STRUCTURE. WATERSTOPS IN VERTICAL JOINTS SHALL EXTEND TO THE ELEVATION OF FINISH GROUND GRADE, EXCEPT FOR TANKS THEY SHALL EXTEND FULL HEIGHT.
7. PROVIDE WALL SLEEVES WITH INTERMEDIATE WALL COLLARS AT ALL CAST/DUCTILE IRON AND PLASTIC PIPE PENETRATIONS, UNLESS OTHERWISE INDICATED.
8. PROVIDE ALLL NECESSARY CHAIRS, CHAIR BARS, SPACERS ETC. WIRED SECURELY TO HOLD REINFORCING IN POSITION. THESE ACCESSORIES SHALL BE PLASTIC BOOTED WHERE CONCRETE IS TO BE EXPOSED TO WEATHER OR MOISTURE.
9. BEAMS AND COLUMNS SHALL NOT BE PENETRATED UNLESS SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.
10. ALL EXPOSED CORNERS OF CONCRETE BEAMS AND WALLS SHALL HAVE A 3/4" CHAMFER UNLESS OTHERWISE NOTED.

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300 BAKER AVENUE SUITE 290 CONCORD MA 01742 (978) 371-4000

FULL SIZE DRAWING = 4"

NO.	DATE	BY	REVISIONS
2	JULY 2008	DPB	AS-BUILT DRAWING FILE
1	10/31/06	R.D.	ISSUED FOR RFI POSTED SET
0	4/06	R.D.	ISSUED FOR CONSTRUCTION

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER STATE OF RHODE ISLAND 5/31/08

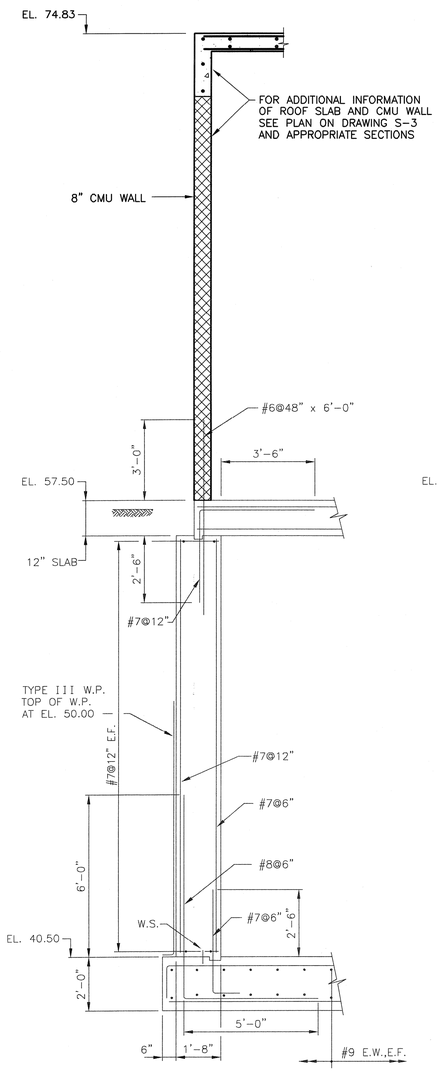
PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
STRUCTURAL DETAILS AND NOTES

DESIGNED BY	DWG SCALE AS NOTED
DRAWN BY DPB	CONTRACT NO
CHECKED BY	DATE OCTOBER 31, 2006

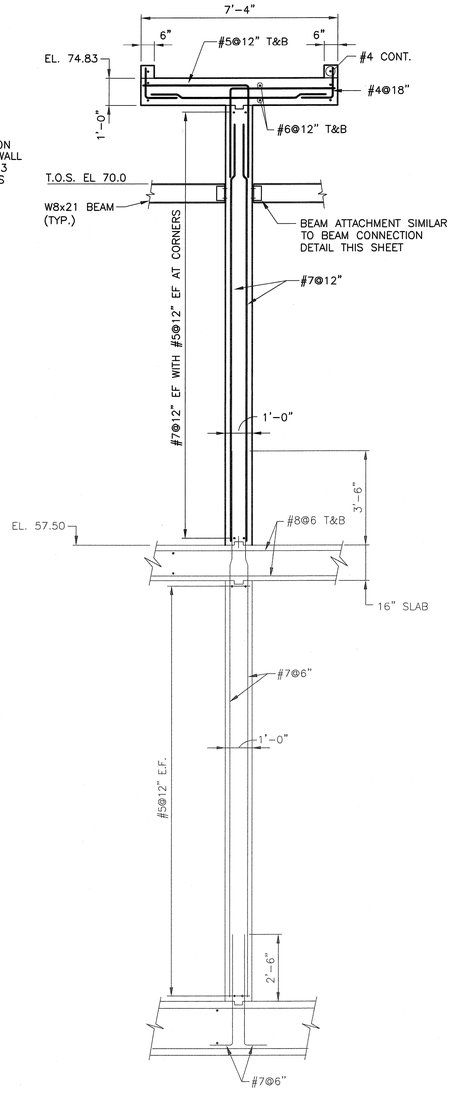
EARTH TECH AS-BUILT FILE JULY 2008

S-9
SHEET OF

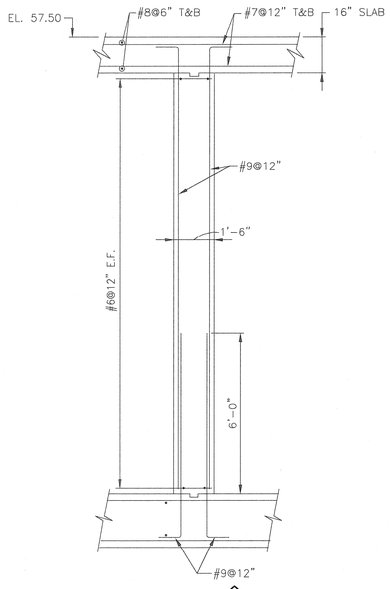
Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\STRUC\699935-9.DWG
Plot File Date Created: Aug 11, 2008 4:07 PM



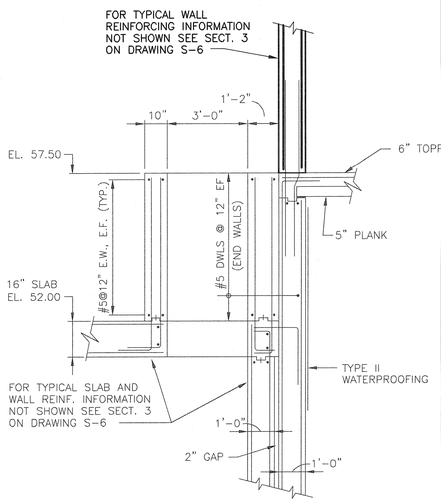
SECTION 19/S-1
SCALE: 3/8" = 1'-0"



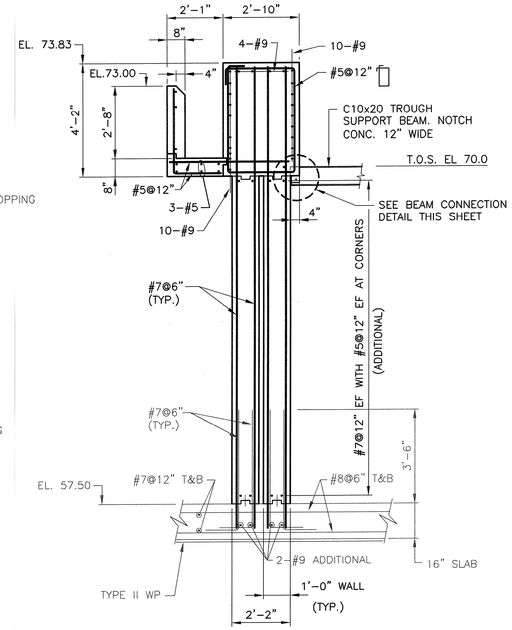
SECTION 20/S-1
SCALE: 3/8" = 1'-0"



SECTION 21/S-1
SCALE: 3/8" = 1'-0"



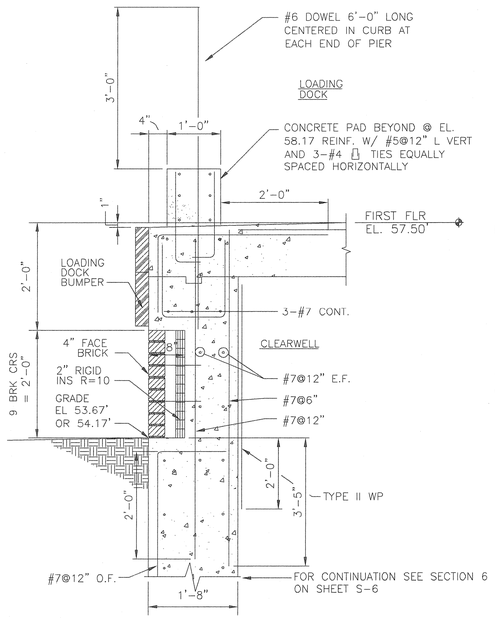
SECTION 22/S-2
SCALE: 3/8" = 1'-0"



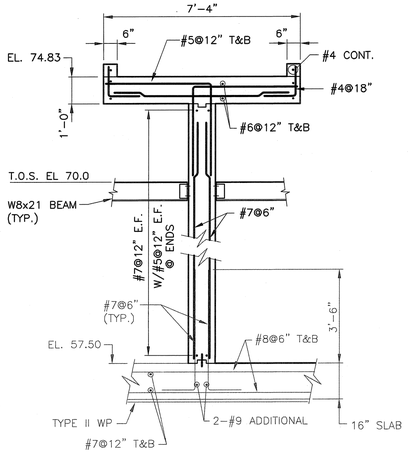
SECTION 23/S-2
SCALE: 3/8" = 1'-0"

BEAM CONNECTION DETAIL
SCALE: 3/4" = 1'-0"

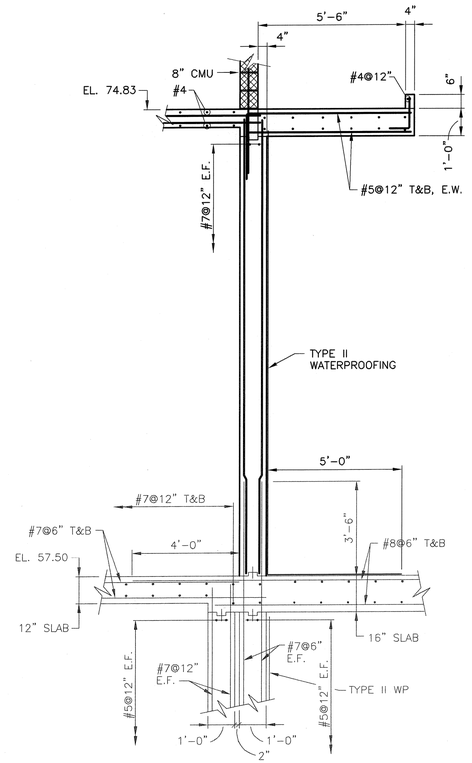
NOTE:
FOR MAIN ENTRANCE AND LOADING DOCK STAIR SECTIONS SEE DRAWING S-10 ON PACKAGE 3.



SECTION 26/S-2
SCALE: 3/4" = 1'-0"



SECTION 25/S-2
SCALE: 3/8" = 1'-0"



SECTION 24/S-2
SCALE: 3/8" = 1'-0"

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ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL
WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
SECTIONS AND DETAILS

DESIGNED BY	DWG SCALE 3/8" = 1'-0"
DRAWN BY DPB	CONTRACT NO
CHECKED BY	DATE OCTOBER 31, 2006

EARTH TECH AS-BUILT FILE JULY 2008

S-10
SHEET OF

Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\STRUC\699935-10.DWG
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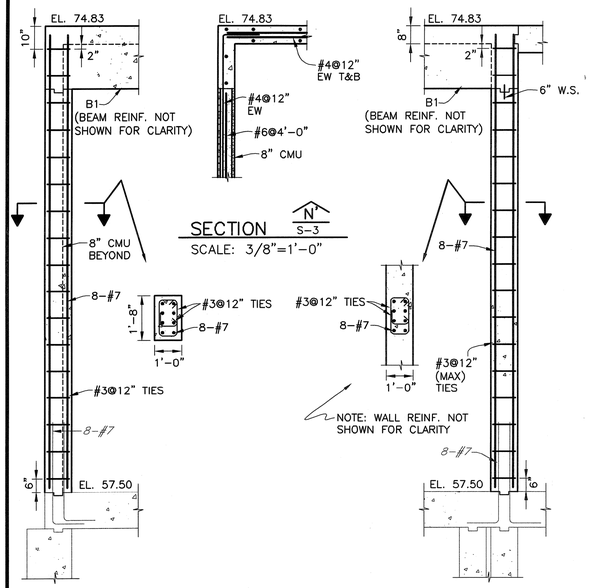
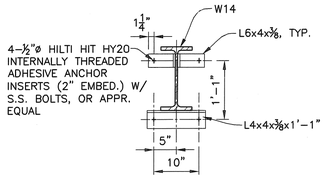


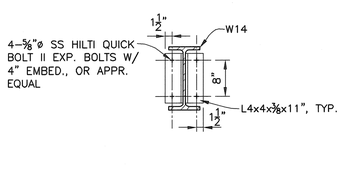
SECTION N S-3
SCALE: 3/8"=1'–0"

SECTION N S-3
SCALE: 3/8"=1'–0"

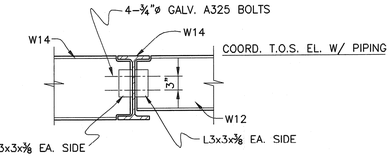
SECTION O S-3
SCALE: 3/8"=1'–0"



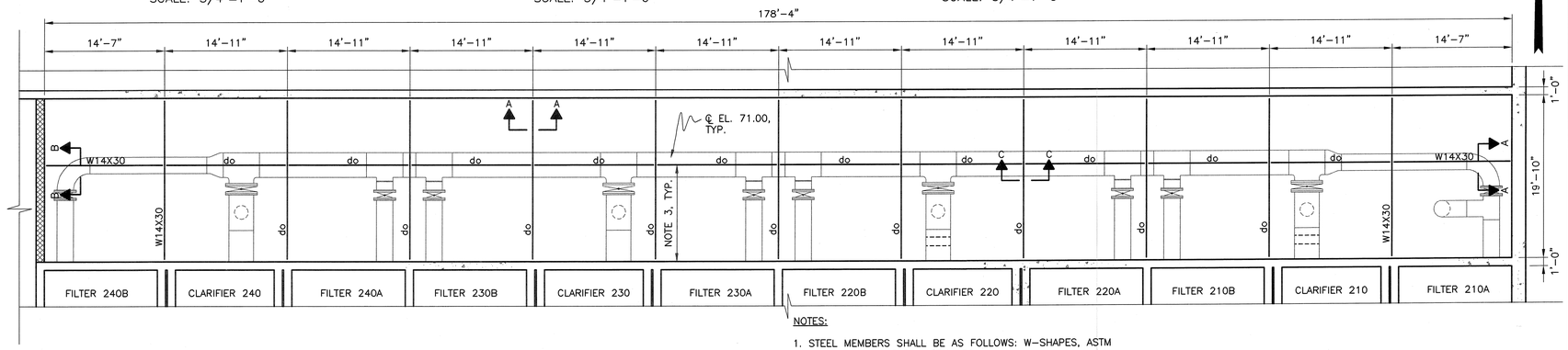
SECTION BB
BEAM TO CMU WALL CONN.
SCALE: 3/4"=1'–0"



SECTION AA
BEAM TO CONC. WALL CONN.
SCALE: 3/4"=1'–0"



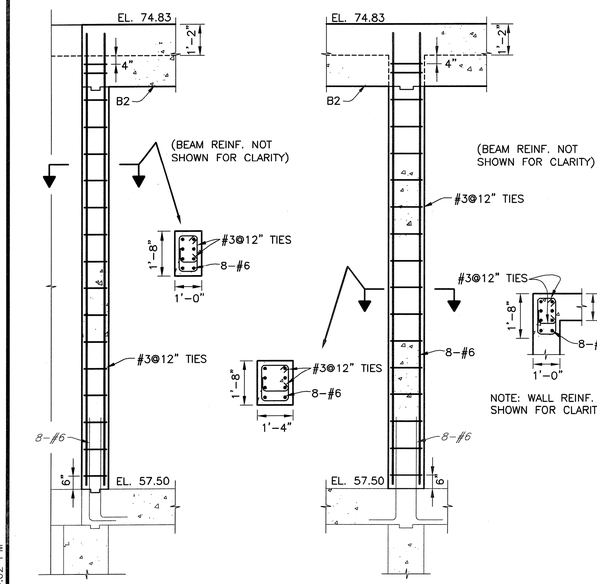
SECTION CC
TYP BEAM CONN.
SCALE: 3/4"=1'–0"



PLAN–GALLERY PIPE SUPPORT FRAMING
SCALE: 1/8" = 1'–0"

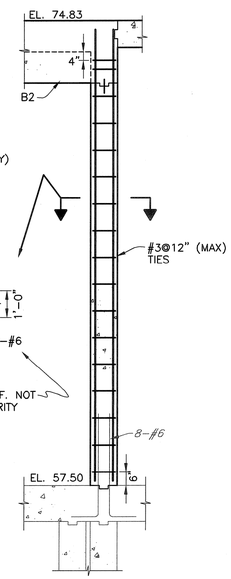
NOTES:

1. STEEL MEMBERS SHALL BE AS FOLLOWS: W–SHAPES, ASTM A992 (50 KSI); ANGLES, ASTM A36.
2. ALL STEEL SHALL BE HOT–DIP GALVANIZED.
3. COORD. EXACT LOCATION OF W14 BEAMS WITH PIPING LAYOUT.
4. T.O.S. EL. TO BE COORDINATED WITH PIPING.
5. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR PIPE SUPPORT REQUIREMENTS; PROVIDE SUPPORTS AT A MAXIMUM SPACING OF 15'–0" UNLESS A SHORTER MAXIMUM SUPPORT SPACING IS SPECIFIED ELSEWHERE.

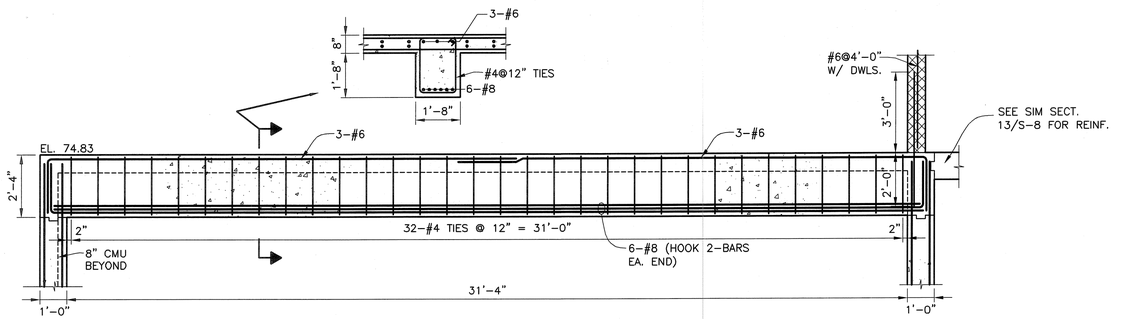


SECTION P S-3
SCALE: 3/8"=1'–0"

SECTION Q S-3
SCALE: 3/8"=1'–0"

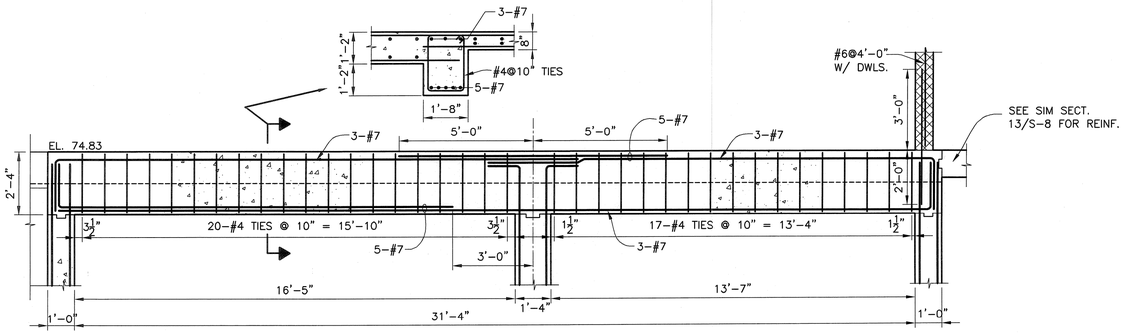


SECTION R S-3
SCALE: 3/8"=1'–0"



BEAM B1 (20"x28")
SCALE: 3/8" = 1'–0"

NOTE: COL. TIES NOT SHOWN FOR CLARITY



BEAM B2 (20"x28")
SCALE: 3/8" = 1'–0"

NOTE: COL. TIES NOT SHOWN FOR CLARITY

EARTH TECH AS-BUILT FILE JULY 2008

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FULL SIZE DRAWING = 4"

NO.	DATE	BY
0	4/05	R.D.
1	10/31/06	R.D.
2	JULY 2008	DPB

REVISIONS
ISSUED FOR CONSTRUCTION
ISSUED FOR RFI POSTED SET
AS-BUILT DRAWING FILE

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL
WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
PIPE GALLERY–PIPE SUPPORT FRAMING PLAN, AND SECTIONS AND DETAILS

DESIGNED BY MWC	DWG SCALE AS NOTED
DRAWN BY MWC	CONTRACT NO
CHECKED BY RJD	DATE OCTOBER 31, 2006

S–11
SHEET OF

Filename: L:\WORK\69993\CAD\AS-BUILT\(9) WTP\STRUC\6999353-S-11-12.DWG
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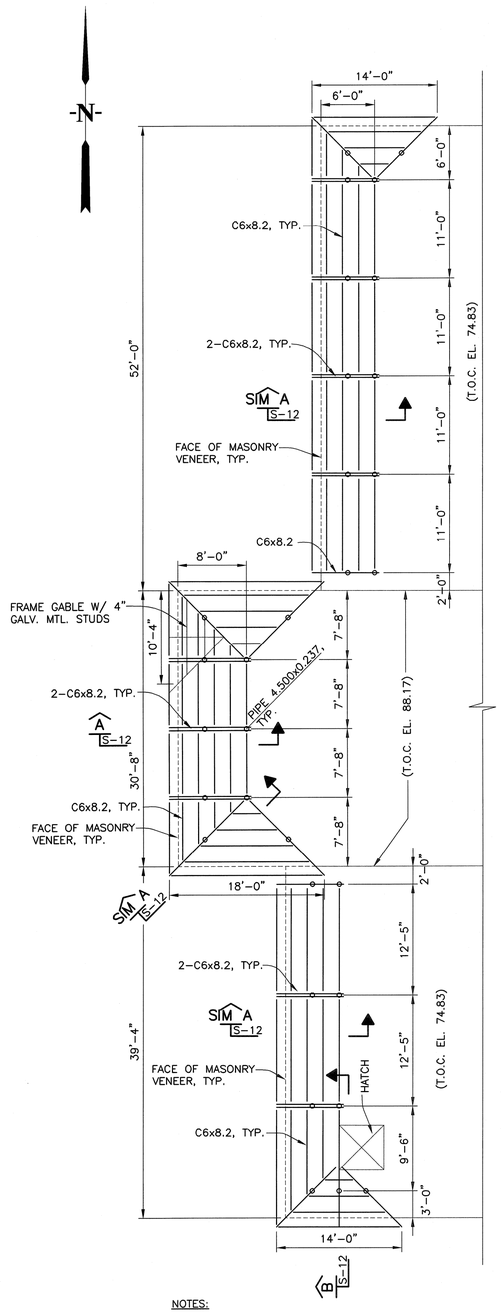


NOTES:

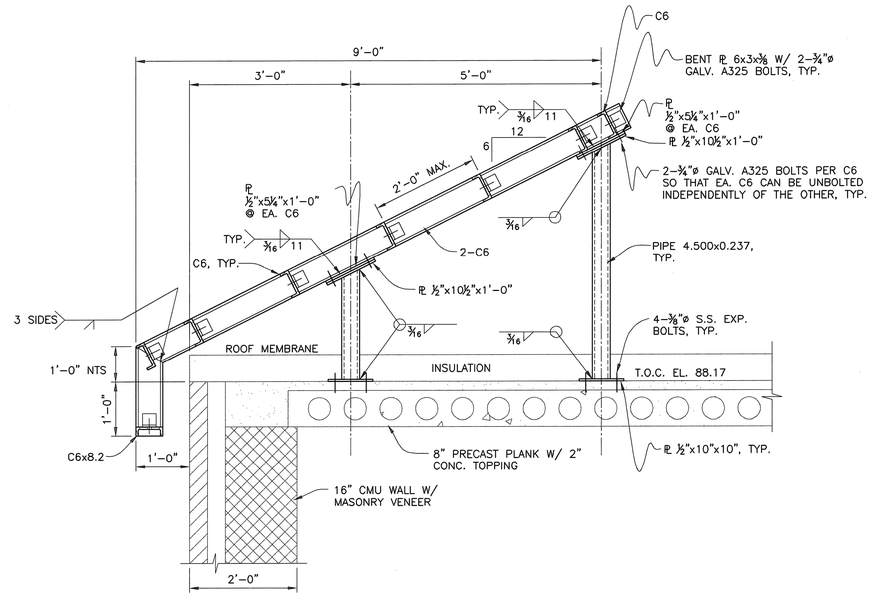
1. ALL FRAMING TO BE HOT DIP GALVANIZED.

2. CHANNELS SHALL BE ASTM A36 STEEL, PIPE SHALL BE ASTM A53, GRADE B STEEL.

3. FASCIA SEGMENTS (EXCEPT POSTS) ARE TO BE INDEPENDENTLY REMOVABLE IN FRAMED SEGMENTS AS SHOWN (W/ JOINTS LOCATED BETWEEN 2C-6, TYP.).

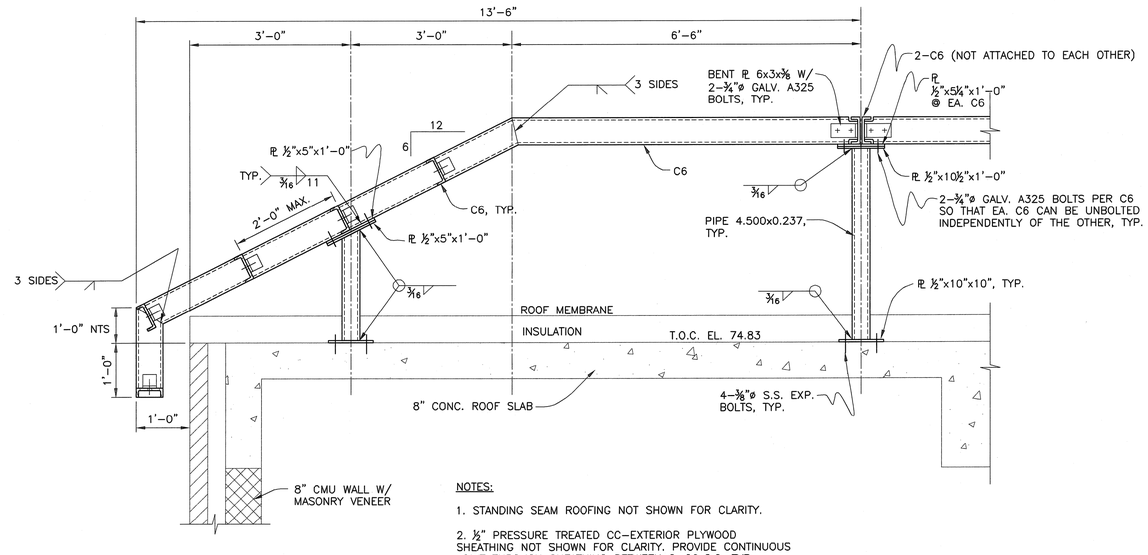
PLAN-ROOF FASCIA FRAMING

SCALE: 1/8" = 1'-0"



SECTION A S-12

SCALE: 3/4"=1'-0"



NOTES:

1. STANDING SEAM ROOFING NOT SHOWN FOR CLARITY.

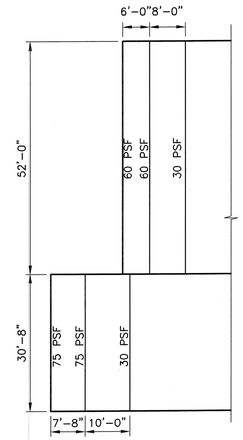
2. ½" PRESSURE TREATED CC-EXTERIOR PLYWOOD SHEATHING NOT SHOWN FOR CLARITY. PROVIDE CONTINUOUS JOINT THROUGH SHEATHING BETWEEN 2-C6x8.2, TYP.

3. ATTACH PLYWOOD SHEATHING TO FRAMING WITH GALV. SELF-TAPPING SCREWS 1'-0" O.C. AT ALL SUPPORTS.

4. ROOF SLAB REINFORCING AND ROOF HATCH NOT SHOWN.

SECTION B S-12

SCALE: 3/4"=1'-0"



ROOF SNOW LOAD - NORTHWEST END

SCALE: 1/16" = 1'-0"

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FULL SIZE DRAWING = 4"

NO.	DATE	BY
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AS-BUILT DRAWING FILE		
1	10/31/06	R.D.
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0	4/06	R.D.
ISSUED FOR CONSTRUCTION		
REVISIONS		

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER STATE OF RHODE ISLAND

PAWTUCKET, RHODE ISLAND

PAWTUCKET REGIONAL WATER TREATMENT FACILITY

PKG 9 - UPPER CONCRETE

ROOF FASCIA FRAMING PLAN & SECTIONS AND DETAILS

DESIGNED BY NWC	DWG SCALE AS NOTED
DRAWN BY NWC	CONTRACT NO
CHECKED BY RJD	DATE OCTOBER 31, 2006

EARTH TECH AS-BUILT FILE JULY 2008

S-12

SHEET OF

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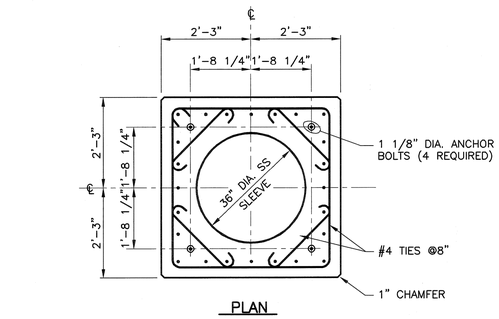
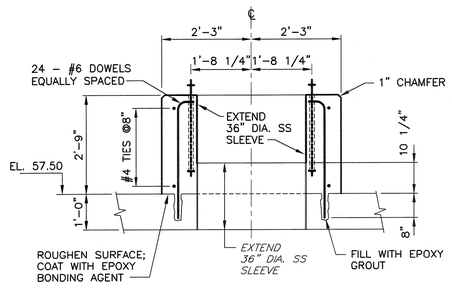


PLAN

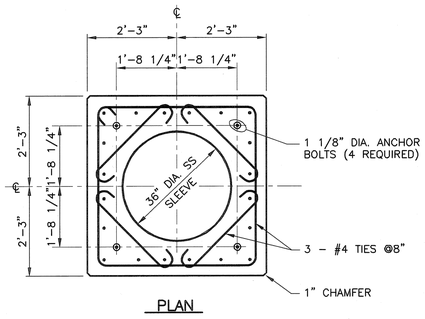


SECTION

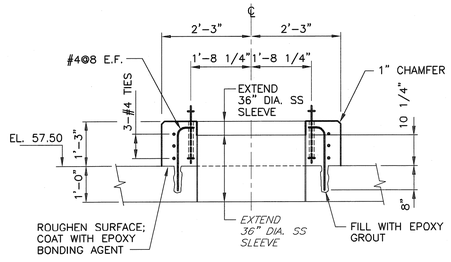
HS PUMPS

NOT TO SCALE

(REQUIRED 4 PLACES)



PLAN

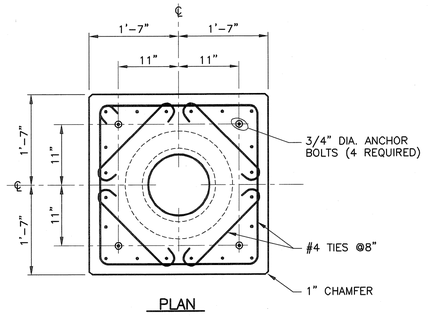


SECTION

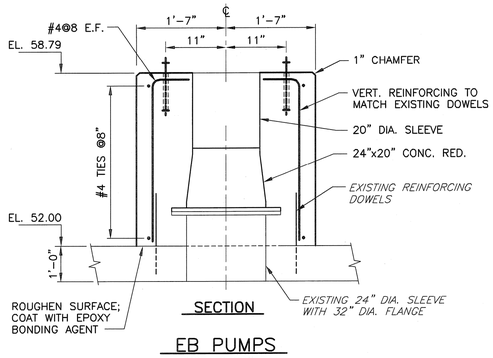
FBW PUMPS

NOT TO SCALE

(REQUIRED 2 PLACES)



PLAN

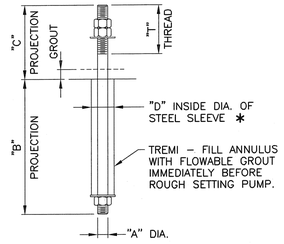


SECTION

EB PUMPS

NOT TO SCALE

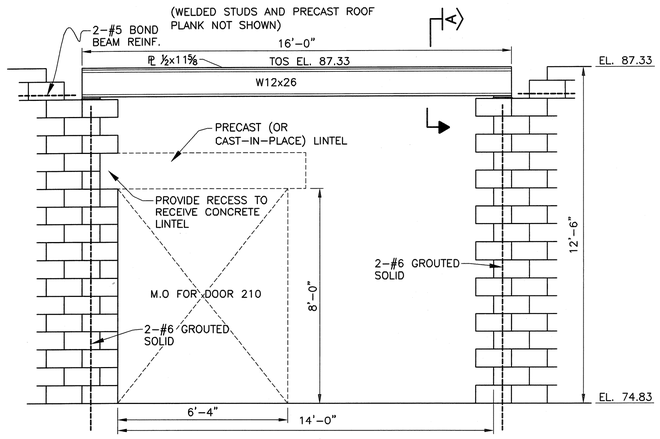
(REQUIRED 4 PLACES)



ANCHOR BOLT SCHEDULE

	"A"	"B"	"C"	"D"*	"T"
HS PUMPS	1 1/8"	24"	8"	3"	5"
FBW PUMPS	1 1/8"	12"	6 3/4"	3"	4"
EB PUMPS	3/4"	24"	8"	3"	5"

* - ANCHOR SLEEVE CAN BE REP[LACED WITH WILSON ANCHOR SLEEVE, APPROPRIATLY SIZED.

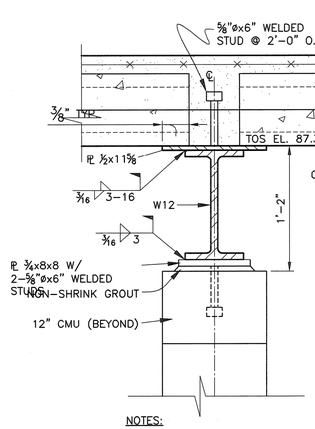


NOTES:

1. MASONRY CLOSURE TO BE REINFORCED W/ 2-#6 @ 4'-0" O.C., AS SPECIFIED.
2. W12 SHALL BE ENCASED IN CONCRETE AFTER CMU INFILL WALL IS CONSTRUCTED.

RFI 00295-TEMPORARY OP'NG AT DOOR 210 (ELEC. RM)

SCALE: 3/8" = 1'-0"

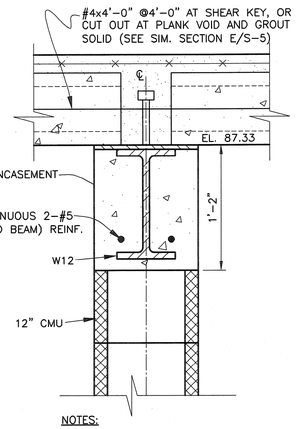


NOTES:

1. AS SHOWN FOR TEMPORARY OP'NG.
2. BEARING TYPICAL, EA. END.

SECTION A

SCALE: 1 1/2"=1'-0"



NOTES:

1. AS SHOWN FOR FINAL CLOSURE.

SECTION A

SCALE: 1 1/2"=1'-0"

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0	R.D.	4/05

AS-BUILT DRAWING FILE
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ISSUED FOR CONSTRUCTION
REVISIONS

ROBERT H. SHELDON No. 4103 REGISTERED PROFESSIONAL ENGINEER

PAWTUCKET, RHODE ISLAND
PAWTUCKET REGIONAL
WATER TREATMENT FACILITY
PKG 9 - UPPER CONCRETE
PUMP BASE DETAILS

DESIGNED BY	DWG SCALE 3/8" = 1'-0"
DRAWN BY DPB	CONTRACT NO
CHECKED BY	DATE OCTOBER 31, 2006

S-13

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EARTH TECH AS-BUILT FILE JULY 2008

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