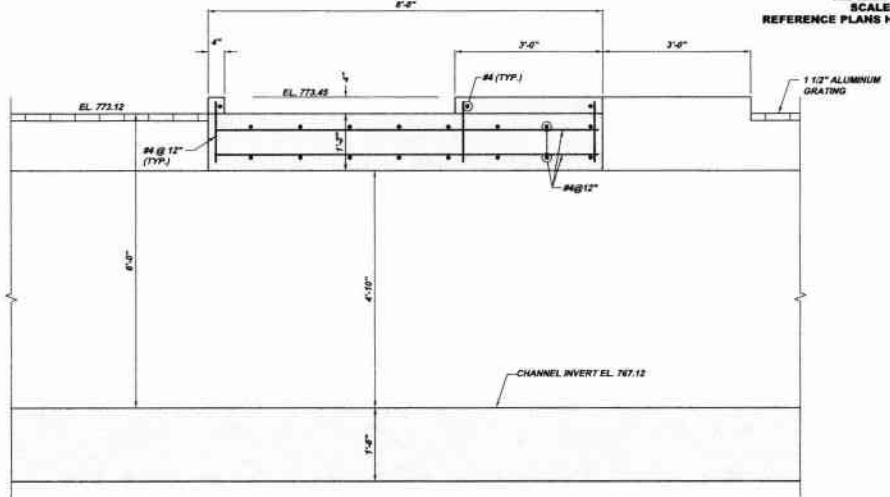
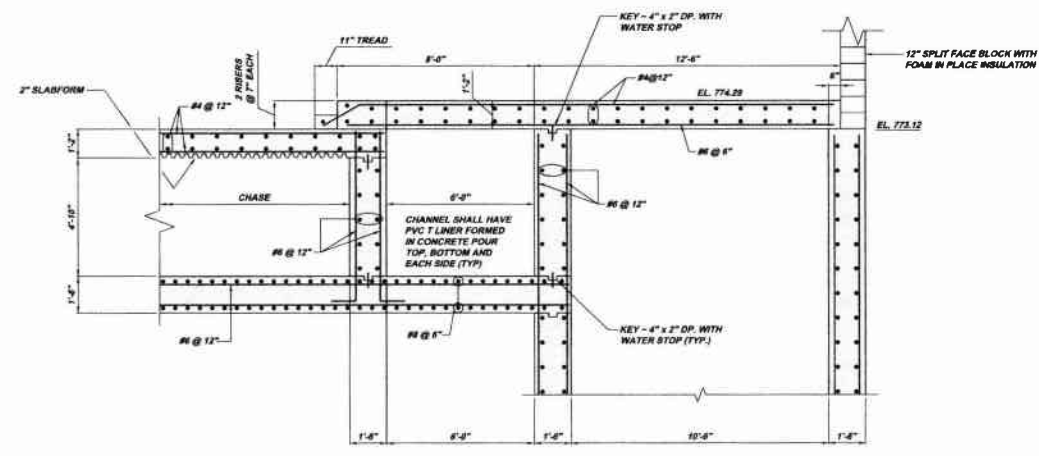


**SECTION HW17-A**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLANS HW16-A, HW16-A & HW19-A

**NOTE:**  
 CONTRACTOR SHALL FURNISH AND INSTALL TENSILFORM 200 WHEELING FORM DECK (18 GA.) OR EQUAL AT ALL LOCATIONS IDENTIFYING 2" SLABFORM AND TENSILFORM 160 WHEELING FORM DECK (20 GA.) OR EQUAL AT ALL LOCATIONS IDENTIFYING 1 1/2" SLABFORM. ALL SLABFORM SHALL BE GALVANIZED.



**SECTION HW17-B**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN HW20-A



**SECTION HW17-C**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN HW20-A

**NOTE:**  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items identified with Mixed Case Text are Existing.

Revisions	Date	By/Title
1	07/20/20	DMB
2	07/20/20	DMB
3	07/20/20	DMB
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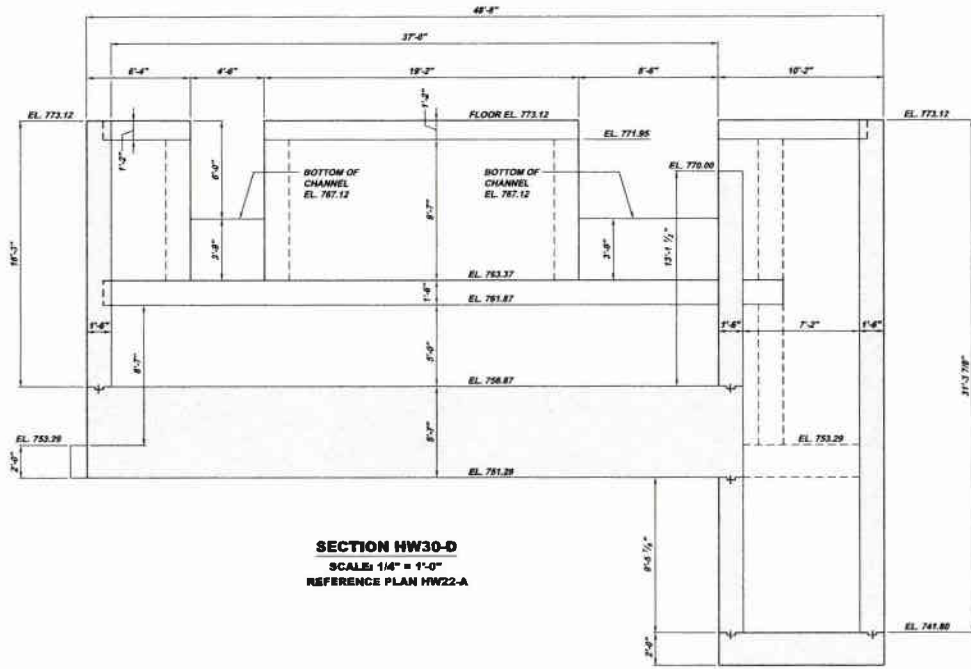
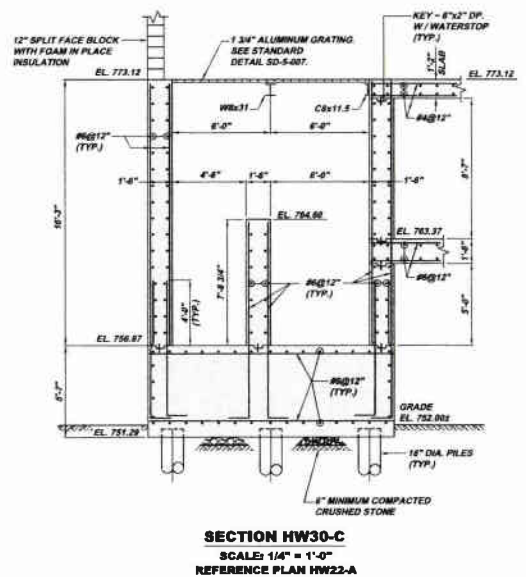
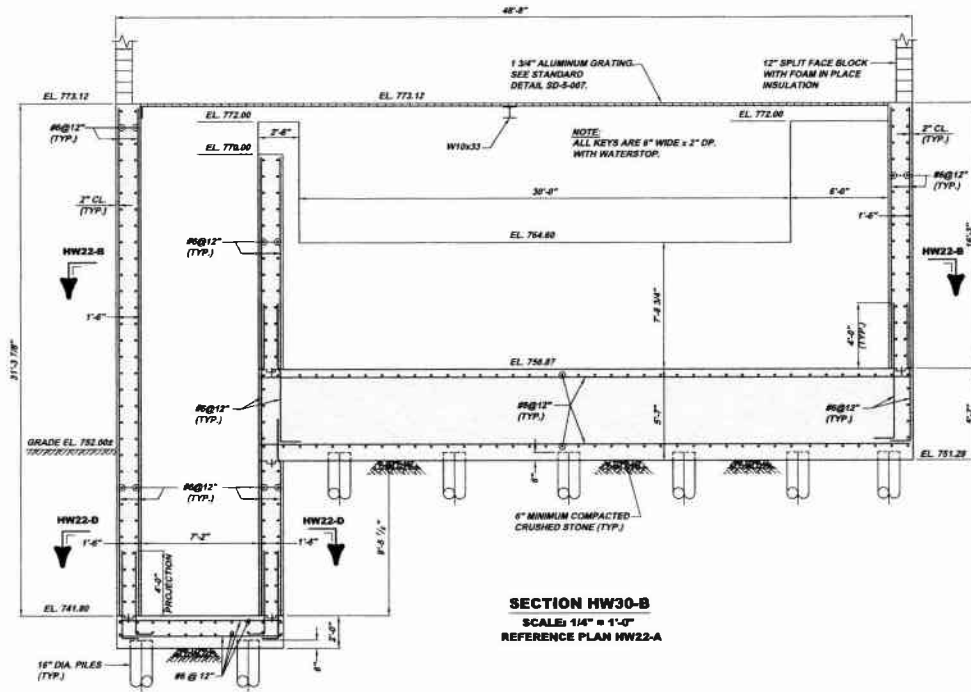
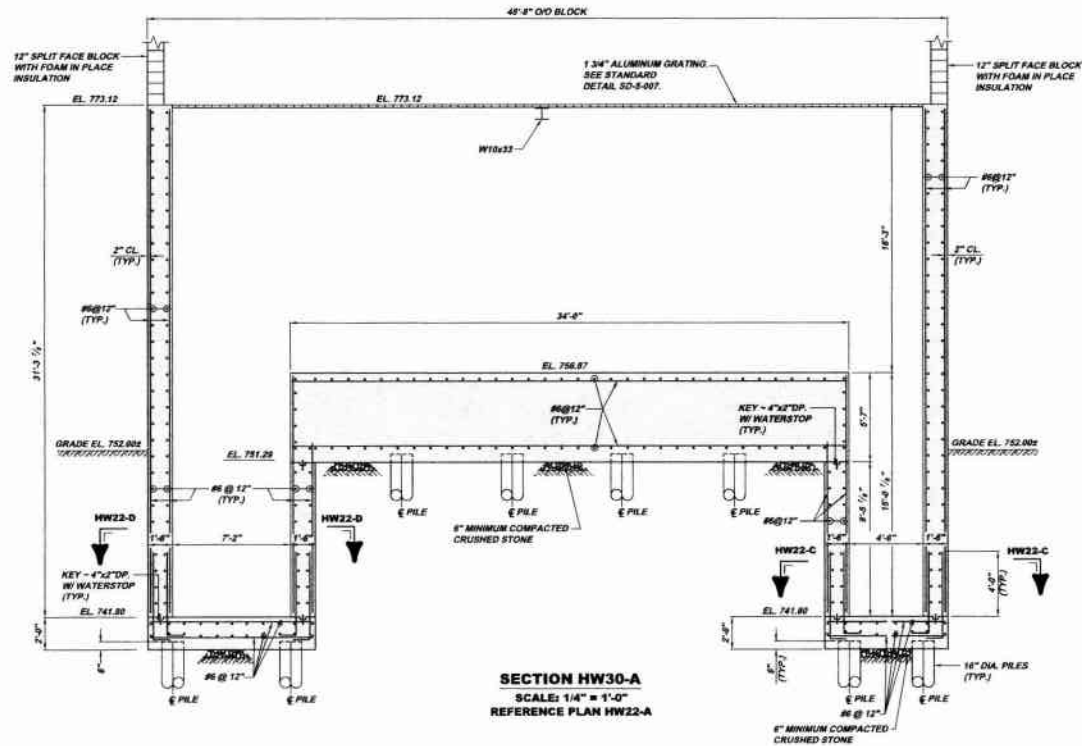
**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
**ALLEGHENY COUNTY, PENNSYLVANIA**  
 CONTRACT NUMBER 2010-01 AND 2010-02  
**WASTEWATER TREATMENT PLANT EXPANSION**  
**HEADWORK BUILDING STRUCTURAL SECTIONS**

Scale: As Shown  
 Date: July 2020  
 Drawn By: DMB  
 Checked By: RFP  
 Approved By: BUC

Sheet No. 27  
 Drawing No. 220-HW17



5173 CAMERON'S RUN ROAD  
 PITTSBURGH, PA 15206  
 Phone: 412-445-0516  
 Fax: 412-445-0517  
 info@klh-engineers.com



NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items identified with Mixed Case Text are Existing.

Revisions		Date	Revisions
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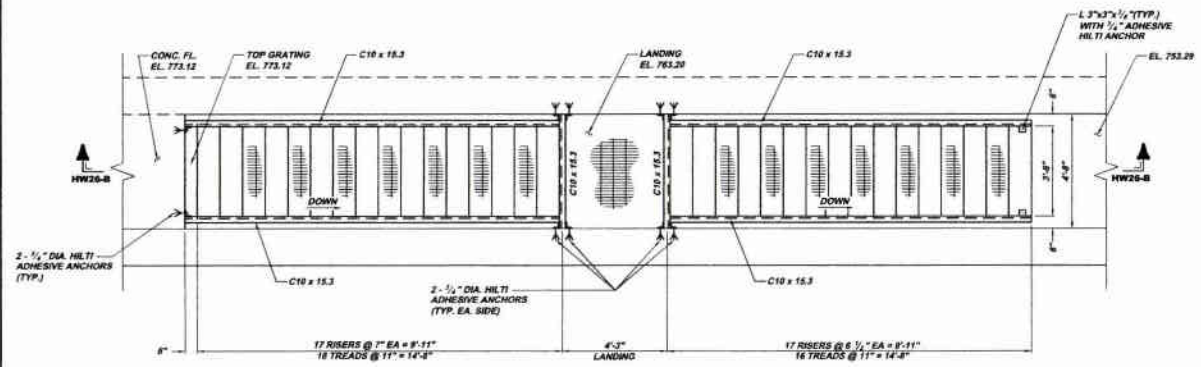
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
HEADWORKS BUILDING STRUCTURAL SECTIONS

Scale:	As Shown
Date:	July 2009
Drawn By:	OMS
Checked By:	HOE
Approved By:	SHG
Sheet No.	28
Drawing No.	220-HW30

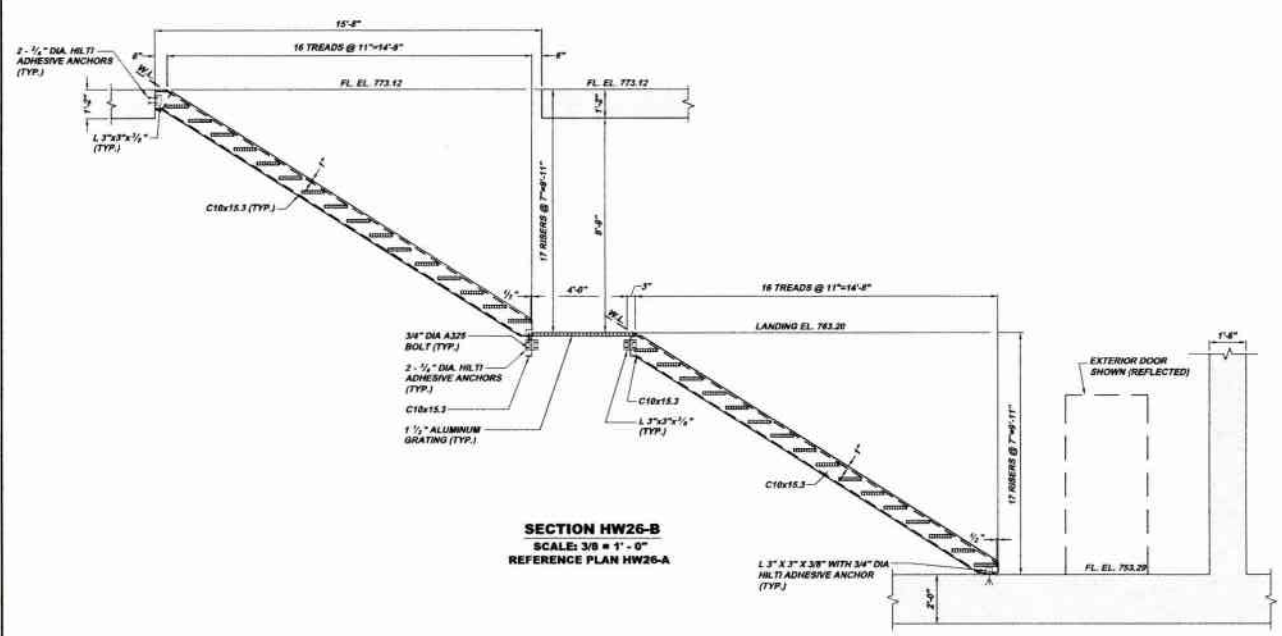




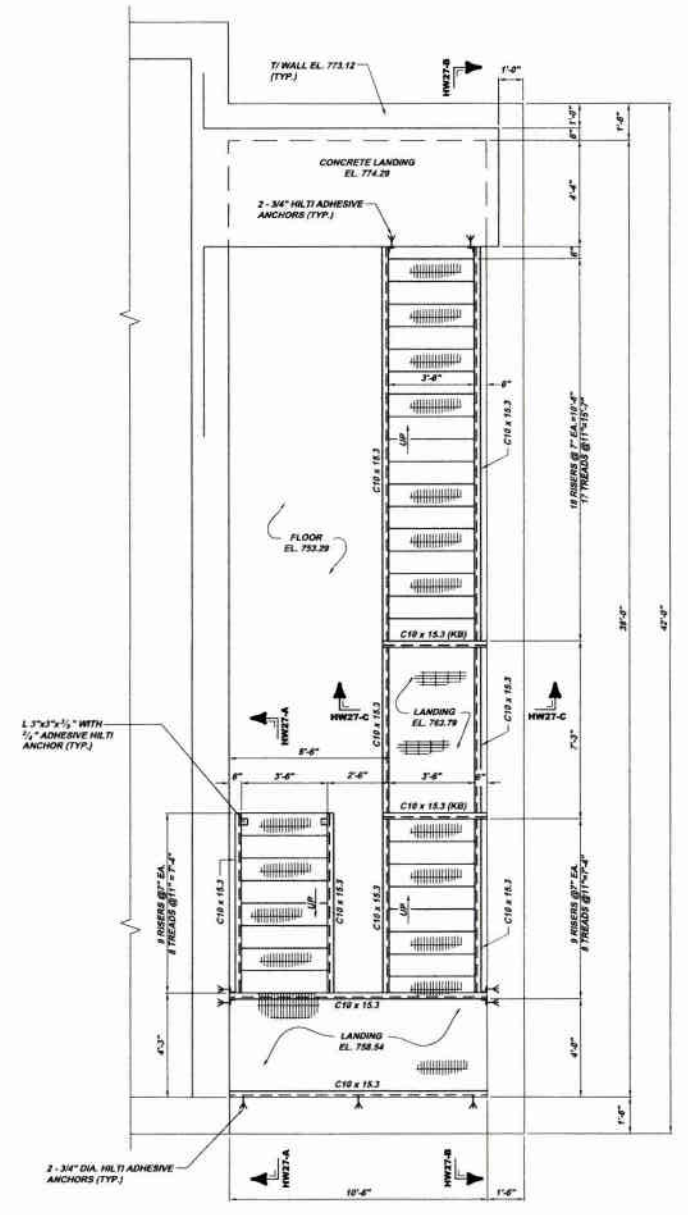




**STAIR PLAN HW26-A**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN HW14, HW16-A & HW19-A



**SECTION HW26-B**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN HW26-A



**STAIR PLAN HW26-C**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN HW14, HW16-A & HW19-A

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

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8172 CAMPBELL'S RUN ROAD  
 PITTSBURGH, PA 15205  
 PH: 412-244-4444  
 FAX: 412-244-4444  
 INFO@KLHENGINEERS.COM

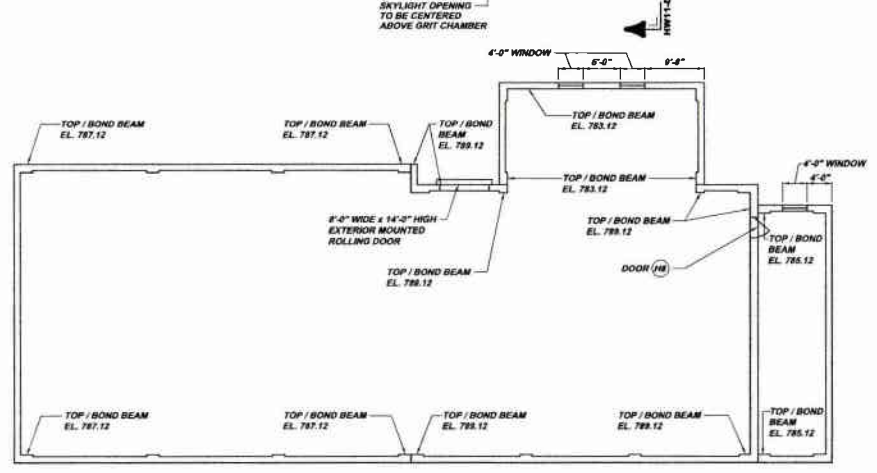
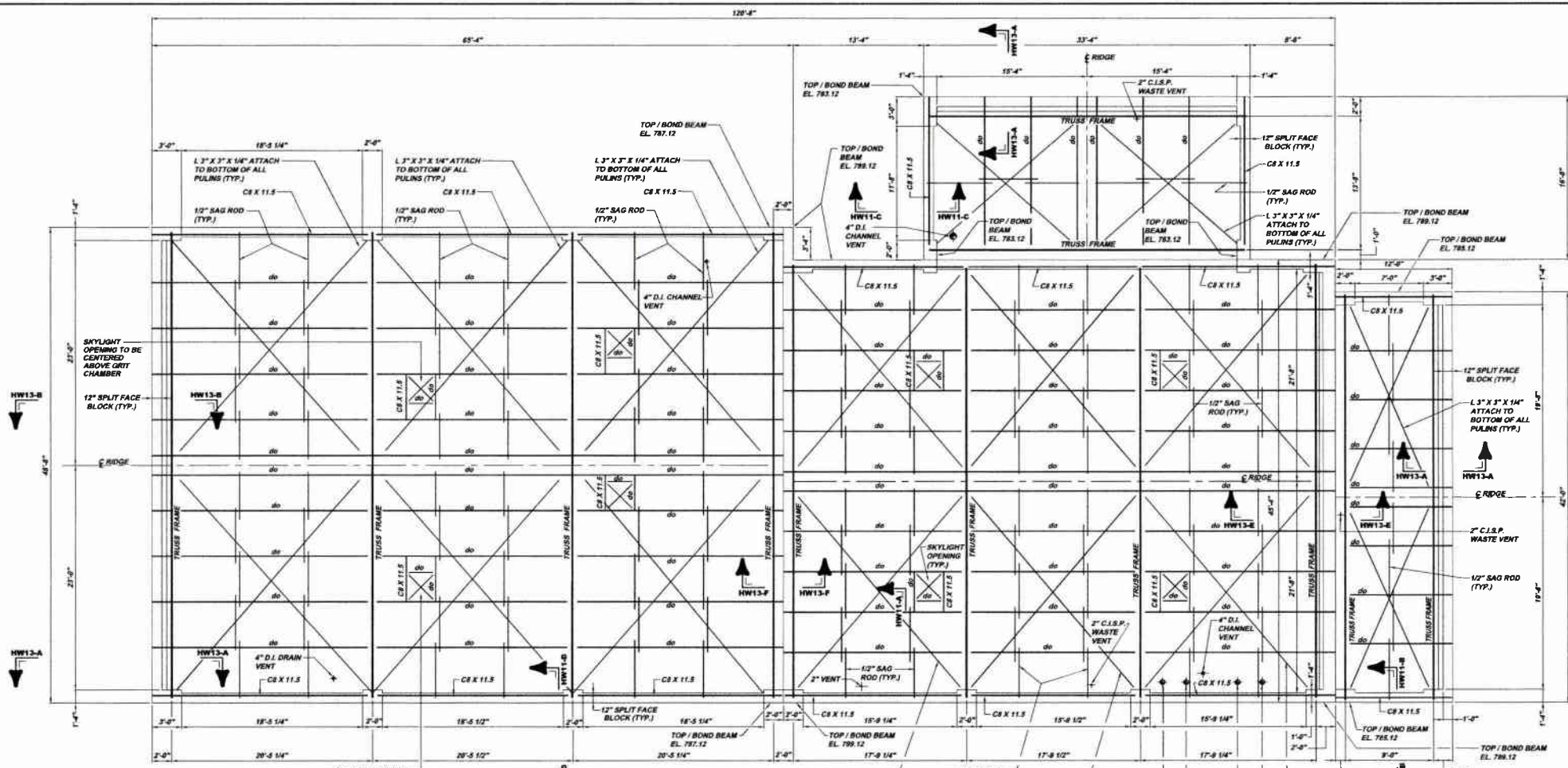


**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 HEADWORKS BUILDING STRUCTURAL PLAN AND SECTIONS

Scale:	As Shown
Date:	July 2010
Drawn By:	DMB
Checked By:	HCF
Approved By:	SHG

Sheet No. 30  
 Drawing No. 220-HW26

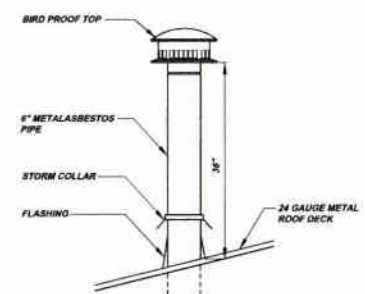




**BOND BEAM TOP ELEVATION KEY HW12-B**  
N.T.S.  
REFERENCE PLAN HW12-A



**BOILER COMBUSTION AIR DETAIL HW12-C**  
SCALE: 1" = 1'-0"



**BOILER FLUE PIPE DETAIL HW12-D**  
SCALE: 1" = 1'-0"

NOTE:  
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CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
HEADWORKS BUILDING MASONRY & ROOF PLANS

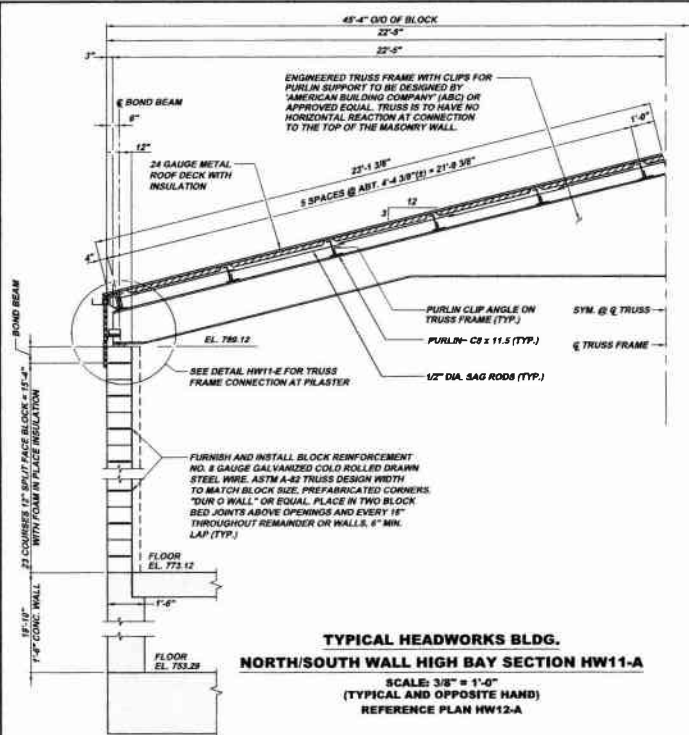


5173 CAMPBELL RUN ROAD  
PITTSBURGH, PA 15205  
PHONE: 412-944-0200  
FAX: 412-944-0202  
INFO@KLHENGINEERS.COM

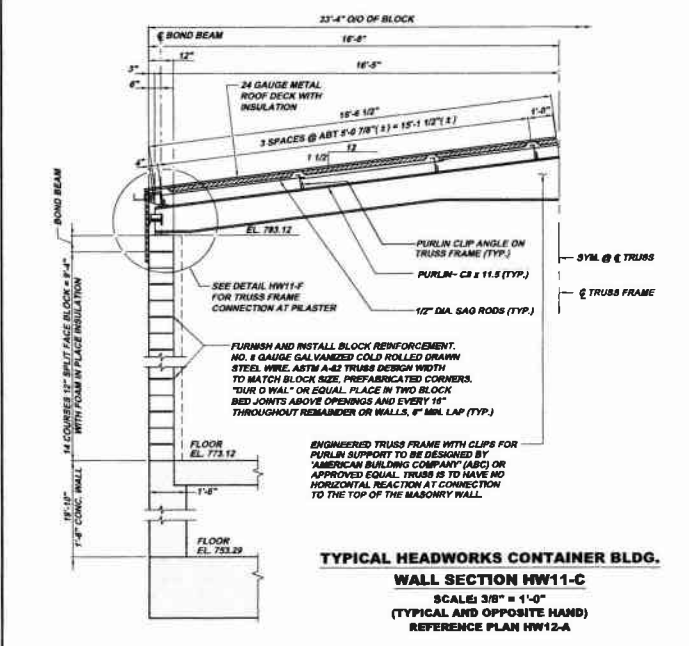
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7/2/09	DCP SUBMITTAL		
8/7/09	REVIEWED		
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1/20/11	RELEASE FOR BID		

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Drawn By:	DND
Checked By:	HCP
Approved By:	BIG
Sheet No.	32
Drawing No.	220-HW12

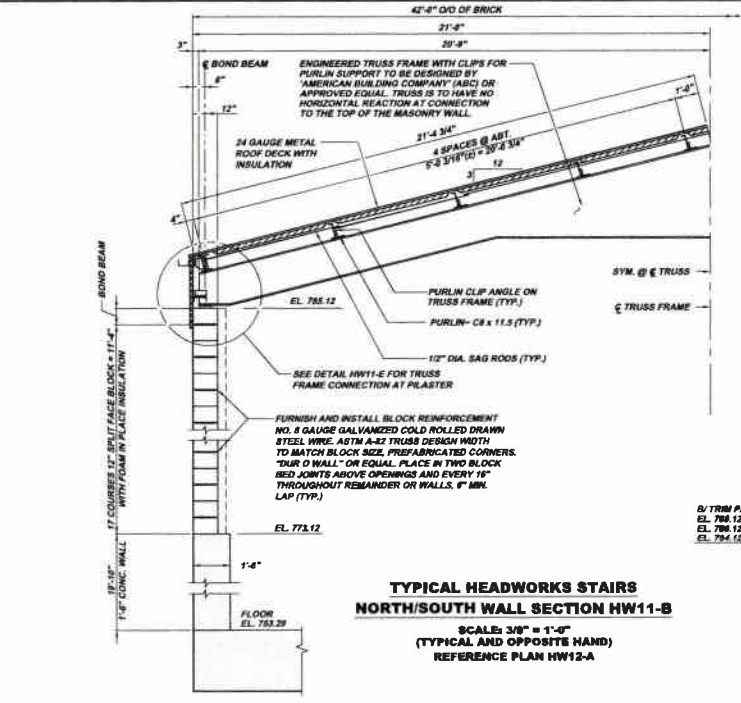




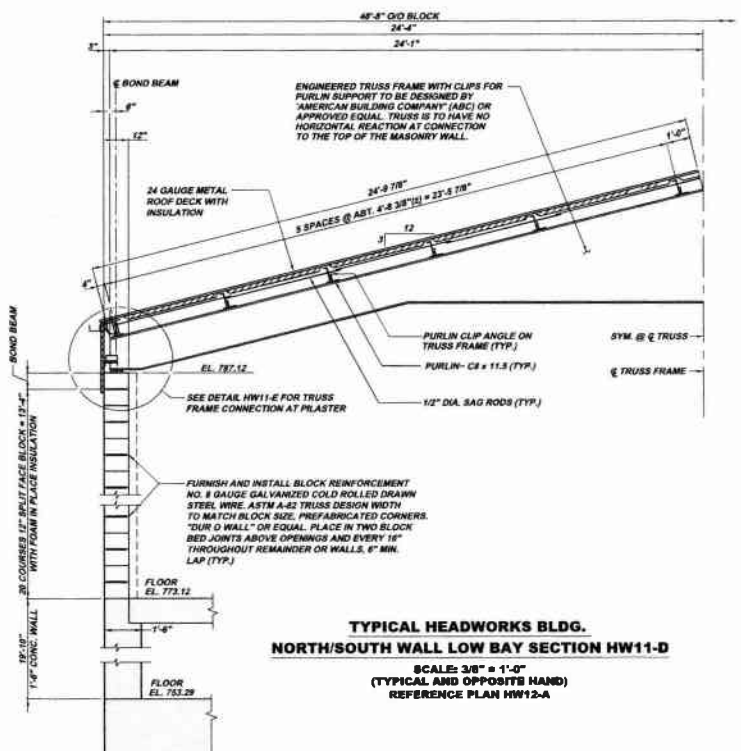
**TYPICAL HEADWORKS BLDG.  
NORTH/SOUTH WALL HIGH BAY SECTION HW11-A**  
SCALE: 3/8" = 1'-0"  
(TYPICAL AND OPPOSITE HAND)  
REFERENCE PLAN HW12-A



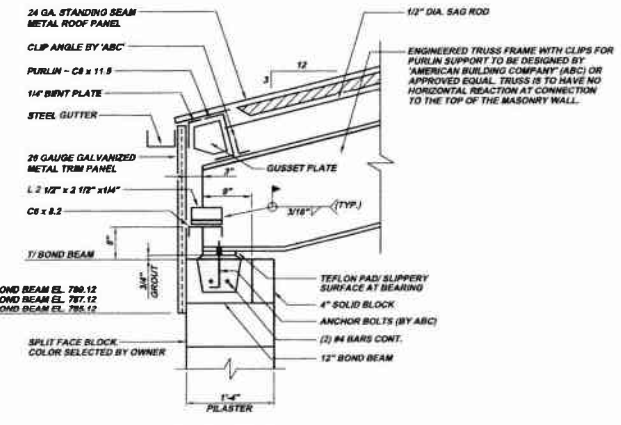
**TYPICAL HEADWORKS CONTAINER BLDG.  
WALL SECTION HW11-C**  
SCALE: 3/8" = 1'-0"  
(TYPICAL AND OPPOSITE HAND)  
REFERENCE PLAN HW12-A



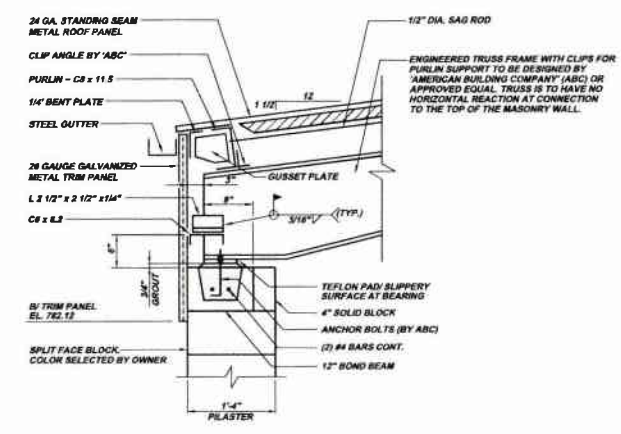
**TYPICAL HEADWORKS STAIRS  
NORTH/SOUTH WALL SECTION HW11-B**  
SCALE: 3/8" = 1'-0"  
(TYPICAL AND OPPOSITE HAND)  
REFERENCE PLAN HW12-A



**TYPICAL HEADWORKS BLDG.  
NORTH/SOUTH WALL LOW BAY SECTION HW11-D**  
SCALE: 3/8" = 1'-0"  
(TYPICAL AND OPPOSITE HAND)  
REFERENCE PLAN HW12-A



**DETAIL HW11-E**  
SCALE: 1" = 1'-0"  
(TYPICAL AND OPPOSITE HAND)  
REFERENCE SECTION HW11-A, HW11-B, AND HW11-D



**DETAIL SECTION HW11-F**  
SCALE: 1" = 1'-0"  
(TYPICAL AND OPPOSITE HAND)  
REFERENCE SECTION HW11-C

Revisions	Date	By	Check	Appr.
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81	07-20-09	SKG	SKG	SKG
82	07-20-09	SKG	SKG	SKG
83	07-20-09	SKG	SKG	SKG
84	07-20-09	SKG	SKG	SKG
85	07-20-09	SKG	SKG	SKG
86	07-20-09	SKG	SKG	SKG
87	07-20-09	SKG	SKG	SKG
88	07-20-09	SKG	SKG	SKG
89	07-20-09	SKG	SKG	SKG
90	07-20-09	SKG	SKG	SKG
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92	07-20-09	SKG	SKG	SKG
93	07-20-09	SKG	SKG	SKG
94	07-20-09	SKG	SKG	SKG
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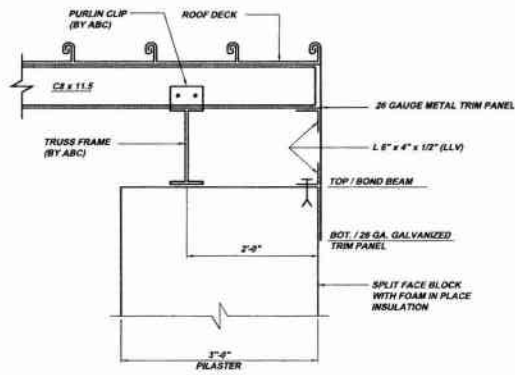
**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
HEADWORKS BUILDING ROOF SECTIONS AND DETAILS**

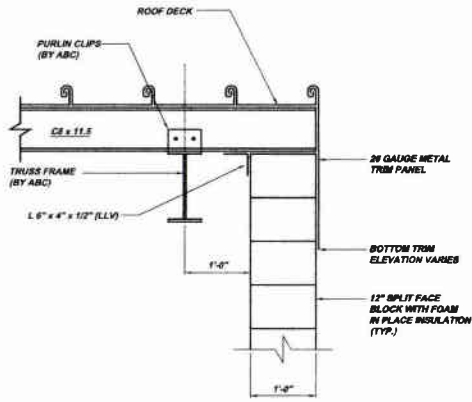
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Date: July 2009  
Drawn By: SKG  
Checked By: SKG  
Approved By: SKG

Sheet No. 33  
Drawing No. 220-HW11

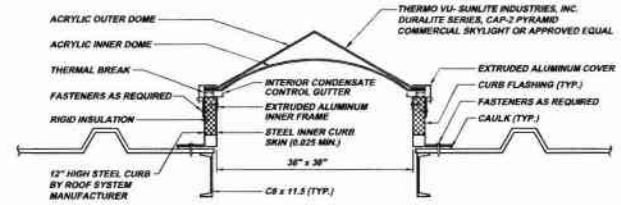
NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED  
ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.



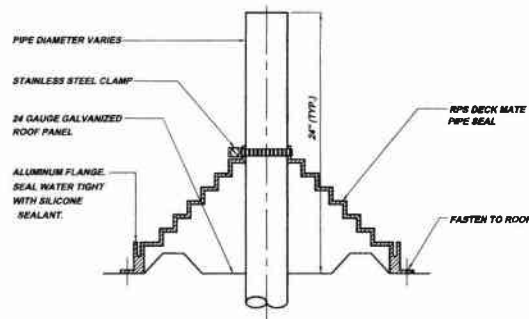
**SECTION HW13-A**  
SCALE: 1" = 1'-0"  
REFERENCE PLAN HW12-A



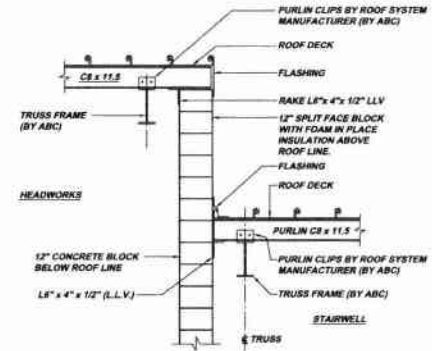
**SECTION HW13-B**  
SCALE: 1" = 1'-0"  
REFERENCE PLAN HW12-A



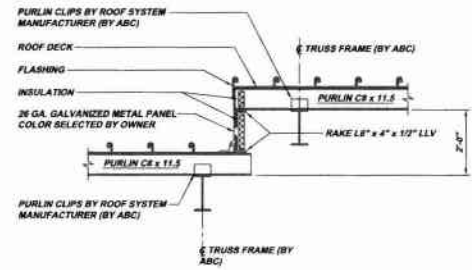
**SKYLIGHT DETAIL HW13-C**  
SCALE: 1" = 1'-0"  
REFERENCE PLAN HW12-A



**METAL ROOF PIPE PENETRATION DETAIL HW13-D**  
NOT TO SCALE  
REFERENCE PLAN HW12-A



**SECTION HW13-E**  
SCALE: 1/2" = 1'-0"  
REFERENCE PLAN HW12-A



**SECTION HW13-F**  
SCALE: 1/2" = 1'-0"  
REFERENCE PLAN HW12-A

Revisions	Date	Revisions	Date	Revisions	Date
1	7/1/08	1	7/1/08	1	7/1/08
2	7/28/08	2	7/28/08	2	7/28/08
3	8/1/08	3	8/1/08	3	8/1/08
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50	8/1/08	50	8/1/08	50	8/1/08

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
HEADWORKS BUILDING STRUCTURAL ROOF SECTIONS AND DETAILS

As Shown  
Date: July 2008  
Drawn By: DRG  
Checked By: HOF  
Approved By: SHG

Sheet No.  
**34**

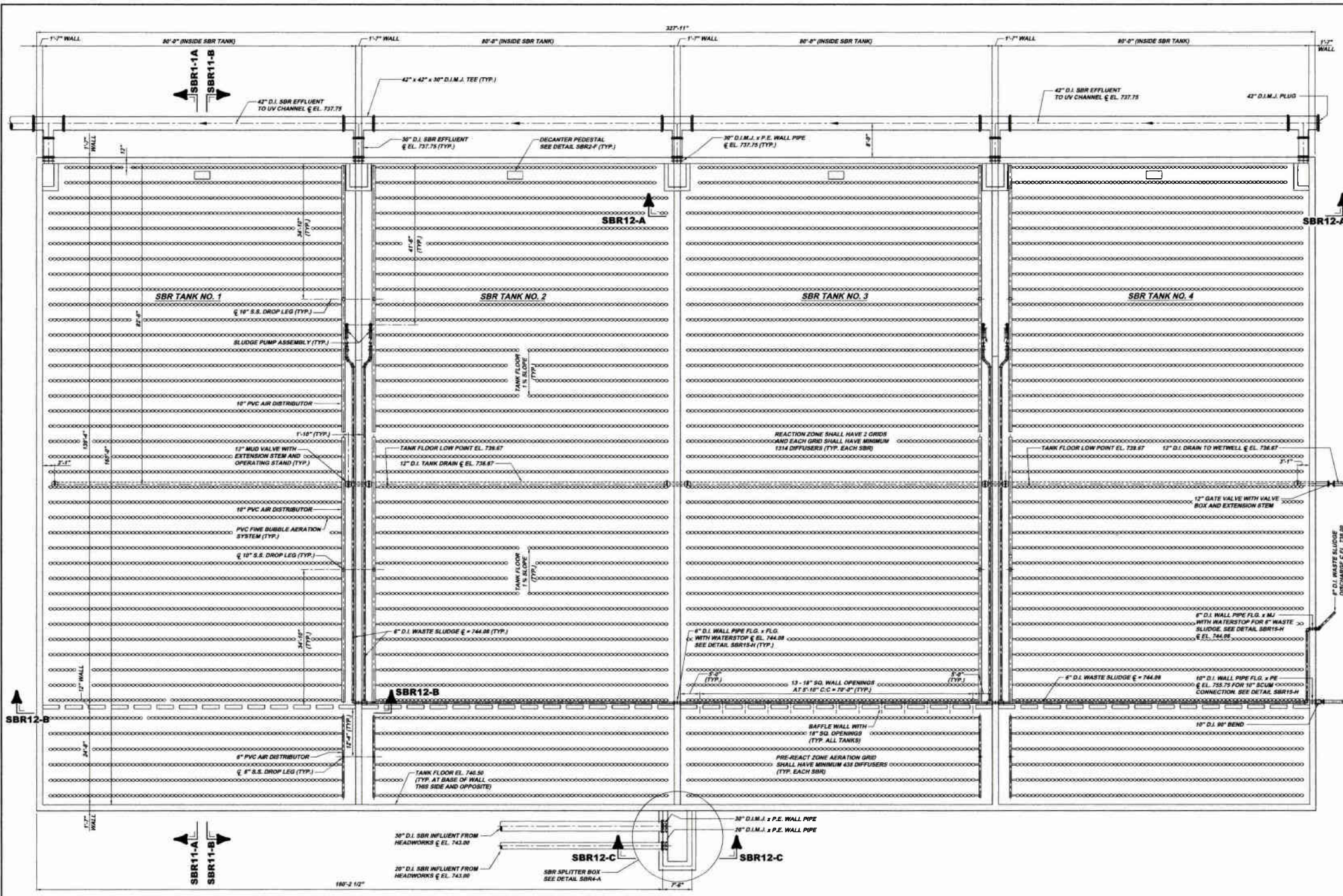
Drawing No.  
**220-HW13**

**NOTE:**  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items identified with Mixed Case Text are Existing.









Revisions	Date	By	Check	Appr.
1-UB11	7-2009	EJD	NOF	BHG
2-UB11	7-2009	EJD	NOF	BHG
3-UB11	7-2009	EJD	NOF	BHG
4-UB11	7-2009	EJD	NOF	BHG
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6-UB11	7-2009	EJD	NOF	BHG
7-UB11	7-2009	EJD	NOF	BHG
8-UB11	7-2009	EJD	NOF	BHG
9-UB11	7-2009	EJD	NOF	BHG
10-UB11	7-2009	EJD	NOF	BHG
11-UB11	7-2009	EJD	NOF	BHG
12-UB11	7-2009	EJD	NOF	BHG
13-UB11	7-2009	EJD	NOF	BHG
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47-UB11	7-2009	EJD	NOF	BHG
48-UB11	7-2009	EJD	NOF	BHG
49-UB11	7-2009	EJD	NOF	BHG
50-UB11	7-2009	EJD	NOF	BHG

**SBR TANKS BOTTOM PLAN SBR10-A**  
 SCALE: 3/32" = 1'-0"  
 REFERENCE PLAN SBR-A, SBR1-A & S3-A

**NOTE:**  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

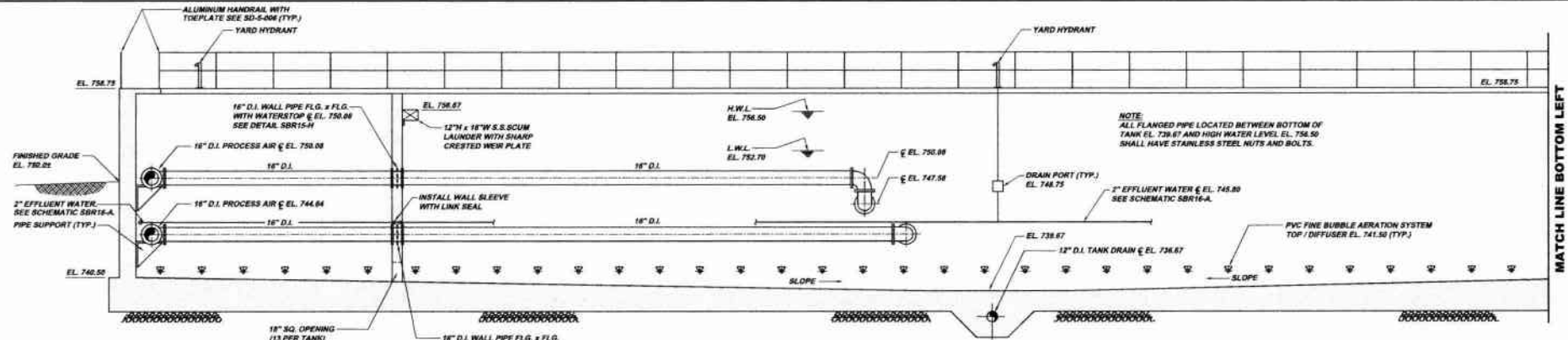
**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
**ALLEGHENY COUNTY, PENNSYLVANIA**  
**CONTRACT NUMBER 2010-01 AND 2010-02**  
**WASTEWATER TREATMENT PLANT EXPANSION**  
**SEQUENTIAL BATCH REACTOR (SBR) BOTTOM PLAN**

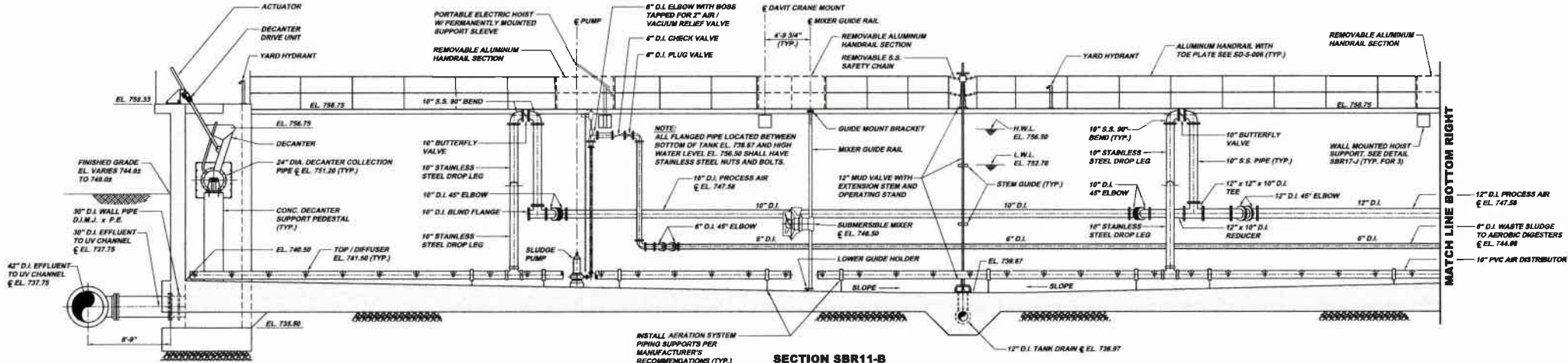
As Shown	July 2009	EJD	NOF	BHG
Scale:	3/32" = 1'-0"			
Drawn By:	EJD			
Checked By:	NOF			
Approved By:	BHG			

Drawing No. **220-SBR10**

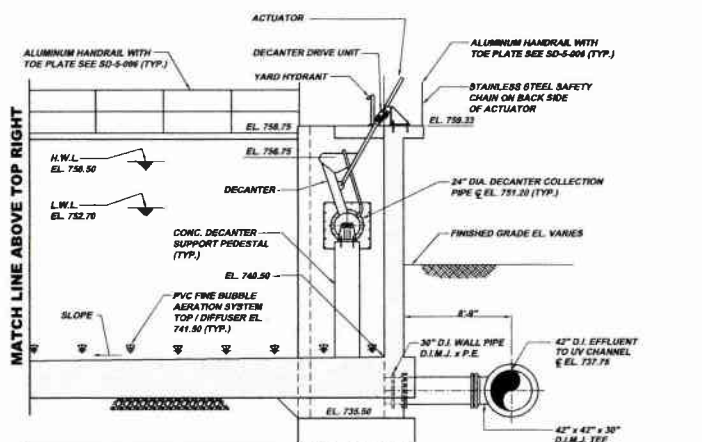




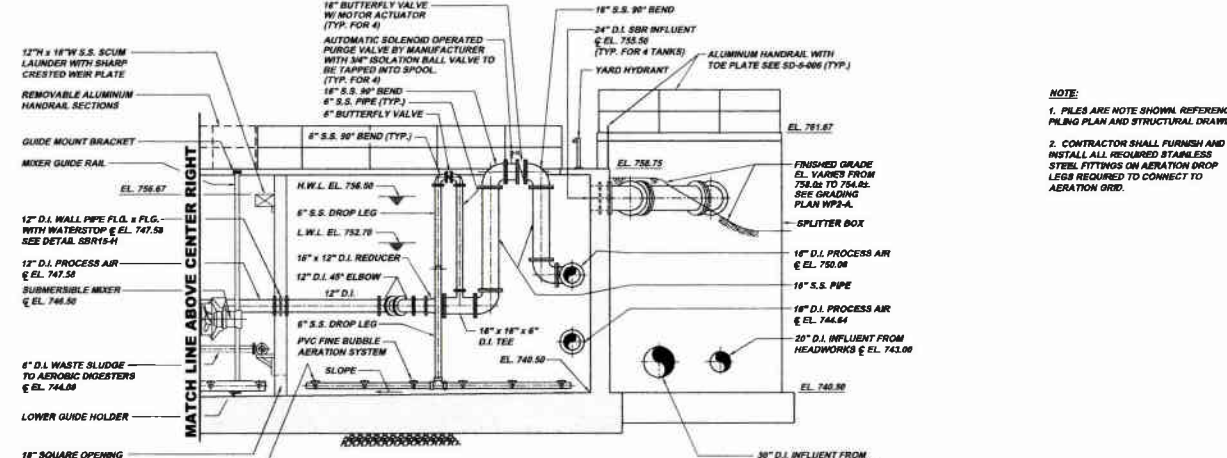
**SECTION SBR11-A**  
SCALE: 3/16" = 1'-0"  
REFERENCE PLAN SBR9-A & SBR10-A



**SECTION SBR11-B**  
SCALE: 3/16" = 1'-0"  
REFERENCE PLAN SBR9-A & SBR10-A



**SECTION SBR11-A CONTINUED**  
SCALE: 3/16" = 1'-0"  
REFERENCE PLAN SBR9-A & SBR10-A



**SECTION SBR11-B CONTINUED**  
SCALE: 3/16" = 1'-0"  
REFERENCE PLAN SBR9-A & SBR10-A

**NOTE:**  
1. PILES ARE NOT SHOWN REFERENCE PILING PLAN AND STRUCTURAL DRAWINGS.  
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED STAINLESS STEEL FITTINGS ON AERATION DROP LEGS REQUIRED TO CONNECT TO AERATION GRID.

**NOTE:**  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
ITEMS IDENTIFIED WITH MIXED CASE TEXT ARE EXISTING.

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
SEQUENTIAL BATCH REACTOR (SBR) MECHANICAL SECTIONS

Revision	Date	By	Check	Appr.
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2	7/20/09	AD	RF	RF
3	11/08	AD	RF	RF
4	1/20/11	AD	RF	RF

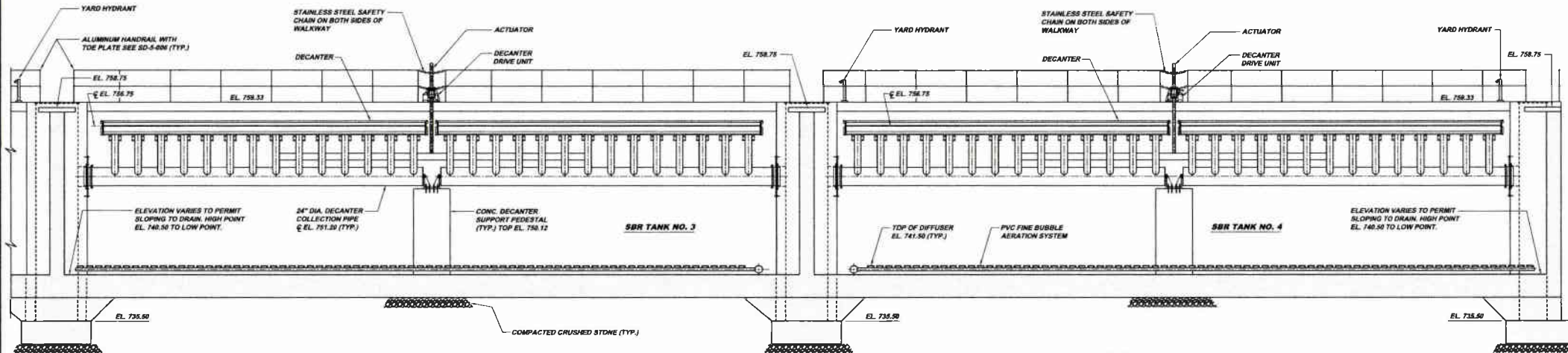
5172 CAMPBELL RUN ROAD  
PITTSBURGH, PA 15209  
PHONE: 412-244-5233  
FAX: 412-244-5233  
WWW.KLHENGINEERS.COM

**KLH ENGINEERS, INC.**

Scale: As Shown  
Date: July 2009  
Drawn By: HFD  
Checked By: HFD  
Approved By: SHG

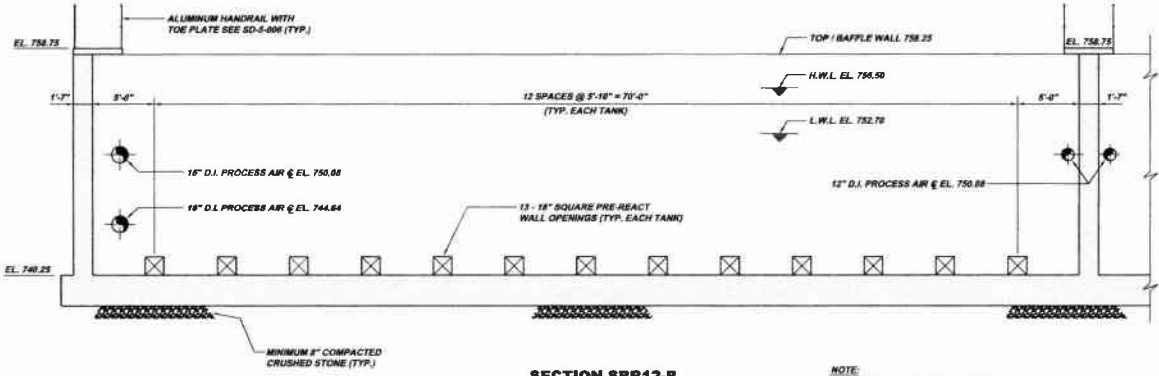
Sheet No. 3

Drawing No. 220-SBR11



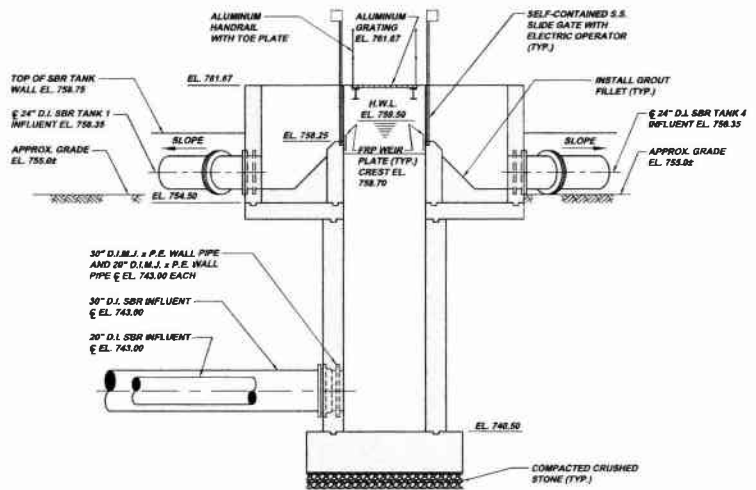
**SECTION SBR12-A**  
 SCALE: 3/16" = 1'-0"  
 REFERENCE PLAN SBR9-A & SBR10-A

NOTE:  
 PILES NOT SHOWN FOR CLARITY. REFERENCE  
 PLUNG PLAN AND STRUCTURAL DRAWINGS.



**SECTION SBR12-B**  
 SCALE: 3/16" = 1'-0"  
 (TYP. FOR 4)  
 REFERENCE PLAN SBR9-A & SBR10-A

NOTE:  
 DIFFUSERS NOT SHOWN FOR CLARITY.



**SECTION SBR12-C**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE PLANS SBR4-A, SBR9-A & SBR10-A

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

Scale:	As Shown:	Scale:	As Shown:
1/4" = 1'-0"	July 2009	3/16" = 1'-0"	July 2009
Drawn By:	END	Drawn By:	END
Checked By:	BOF	Checked By:	BOF
Approved By:	BOF	Approved By:	BOF
Sheet No.:	4	Sheet No.:	4
Drawing No.:	220-SBR12	Drawing No.:	220-SBR12

Date	Revisions	Date	Revisions
7-1-09	DSP SUBMITTAL	7-1-09	DSP SUBMITTAL
8-1-09	REVISED	8-1-09	REVISED
10-01	REVISED	10-01	REVISED
1-28-11	RELEASE FOR BID	1-28-11	RELEASE FOR BID

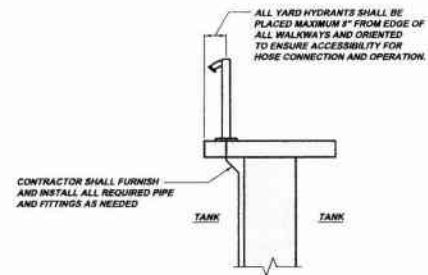
  

5177 DAMPELLS RUN ROAD  
 PITTSBURGH, PA 15203  
 PHONE: 412-440-0230  
 FAX: 412-440-0230  
 WWW.KLHENGINEERS.COM

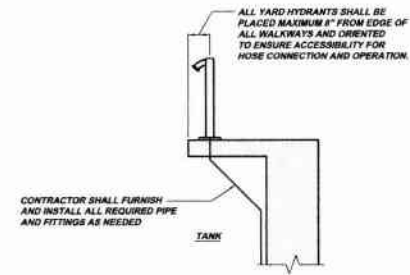
**KLH ENGINEERS, INC.**

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 SEQUENTIAL BATCH REACTOR (SBR) MECHANICAL SECTIONS

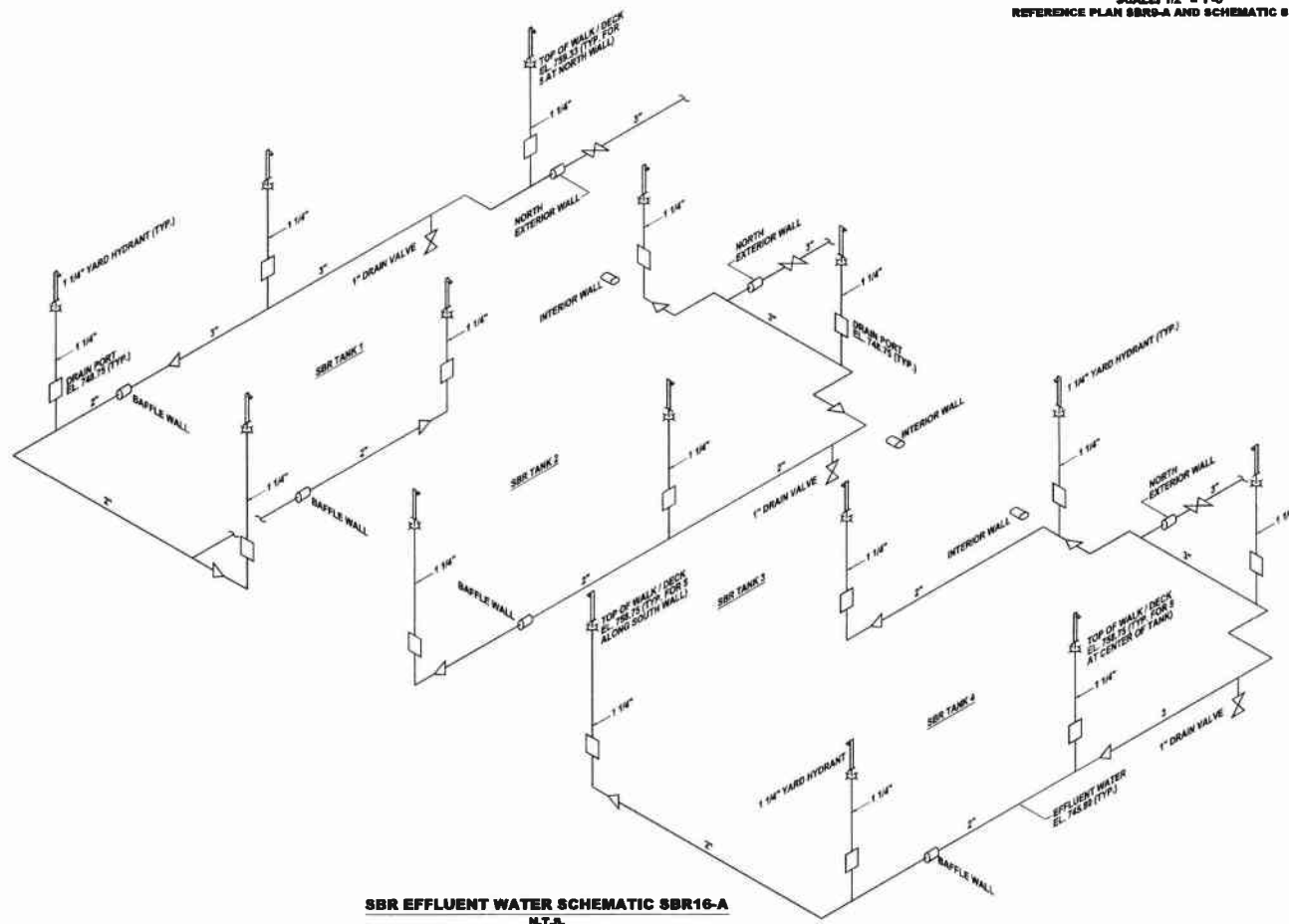




**YARD HYDRANT/INTERIOR WALL DETAIL SBR16-B**  
 SCALE: 1/2" = 1'-0"  
 REFERENCE PLAN SBR16-A AND SCHEMATIC SBR16-A



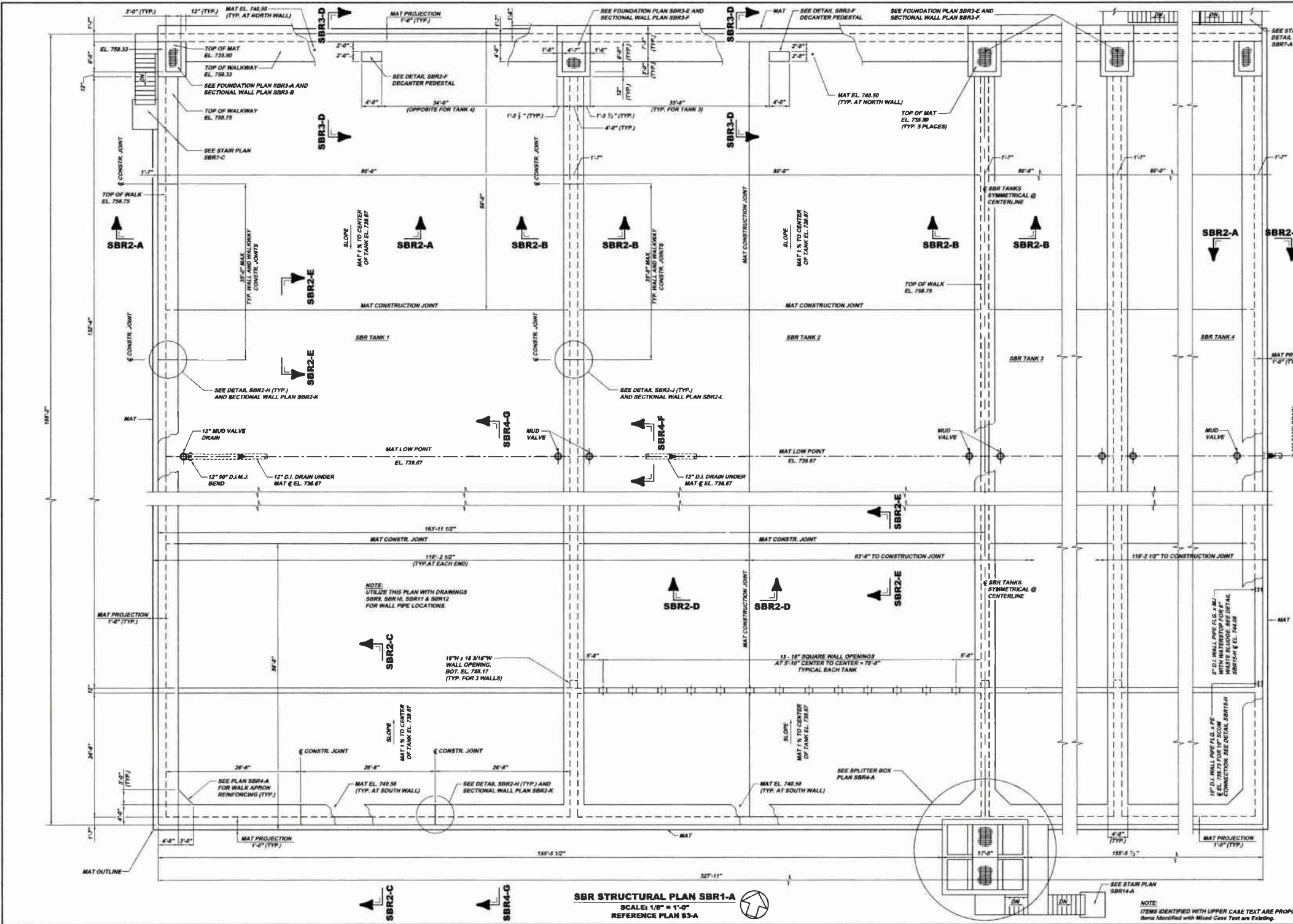
**YARD HYDRANT/EXTERIOR WALL DETAIL SBR16-C**  
 SCALE: 1/2" = 1'-0"  
 REFERENCE PLAN SBR16-A AND SCHEMATIC SBR16-A



**SBR EFFLUENT WATER SCHEMATIC SBR16-A**  
 N.T.S.

Revisions	Date	Revision	Date
		RELEASE FOR BID	1-2011
5175 CAMERON RUN ROAD PITTSBURGH, PA 15206 PHONE: 412-644-0248 INFO@KLHENGINEERS.COM			
<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> <b>ALLEGHENY COUNTY, PENNSYLVANIA</b> <b>CONTRACT NUMBER 2010-01 AND 2010-02</b> <b>WASTEWATER TREATMENT PLANT EXPANSION</b> <b>SEQUENTIAL BATCH REACTOR (SBR) EFFLUENT WATER SCHEMATIC DIAGRAMS</b>			
As Shown	October 2009	Drawn By:	DHO
Checked By:	HGF	Approved By:	BHS
Sheet No.	5		
Drawing No.	220-SBR16		

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items identified with Mixed Case Text are Existing.



**SBR STRUCTURAL PLAN SBR1-A**  
 SCALE: 1/8" = 1'-0"  
 REFERENCE PLAN 83-A

Revisions	
Date	Description
7-31-08	DEP SUBMITTAL
8-2-08	REVISED
10-09	REVISED
1-30-11	RELEASE FOR BID

9172 CAMPBELL BLVD PITTSBURGH, PA 15205 PHONE: 412-944-9210 FAX: 412-944-9210 INFO@KLENGR.COM	 <b>KLH ENGINEERS, INC.</b>
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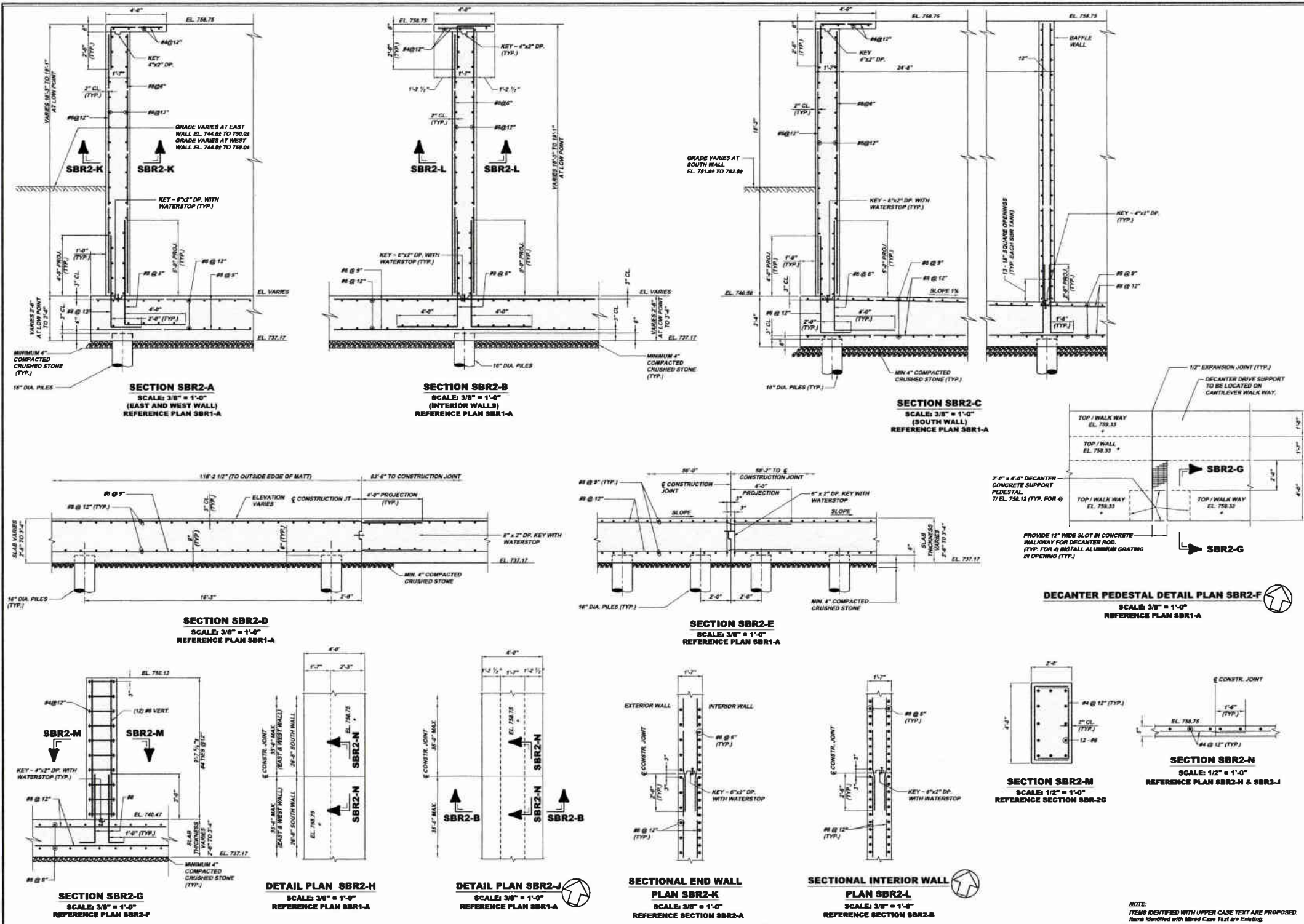
  

<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> ALLEGHENY COUNTY, PENNSYLVANIA CONTRACT NUMBER 2010-01 AND 2010-02 WASTEWATER TREATMENT PLANT EXPANSION SEQUENTIAL BATCH REACTOR (SBR) STRUCTURAL PLAN	AS SHOWN DATE: July 2009 DRAWN BY: EHO CHECKED BY: HOF APPROVED BY: MHG
---	---

Sheet No.	6
Drawing No.	220-SBR1

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items identified with Mixed Case Text are Existing.



NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

Scale:	As Shown	Revisions
Drawn By:	July 2008	DESUBMITTAL
Checked By:	END	REVISED
Approved By:	NOF	REVISED
Sheet No.:	7	RELEASE FOR BID
Drawing No.:	220-SBR2	

Date	Revisions
7/31/08	DESUBMITTAL
8/1/08	REVISED
8/20/08	REVISED
1/20/11	RELEASE FOR BID

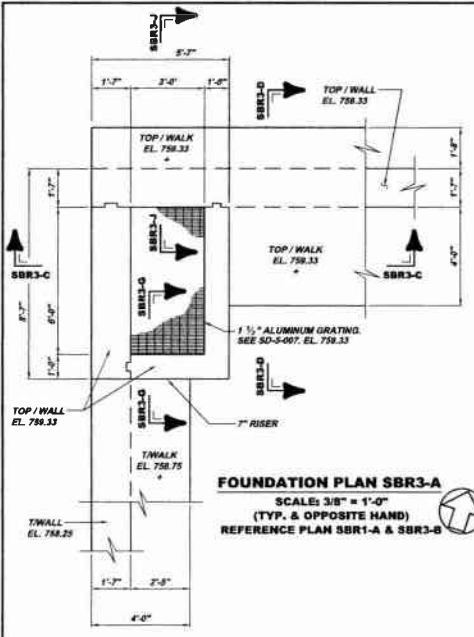
  

5173 DANIELLE BLVD. SUITE 200  
 PITTSBURGH, PA 15208  
 PHONE: 412-484-0220  
 FAX: 412-484-0220  
 INFO@KLHENGINEERS.COM

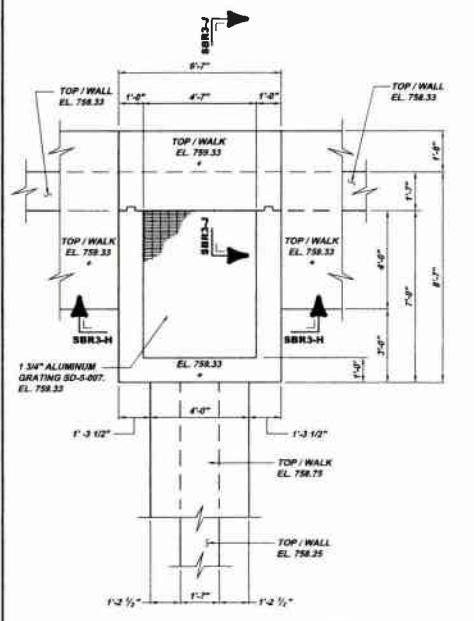
**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 SEQUENTIAL BATCH REACTOR (SBR) STRUCTURAL PLANS AND SECTIONS

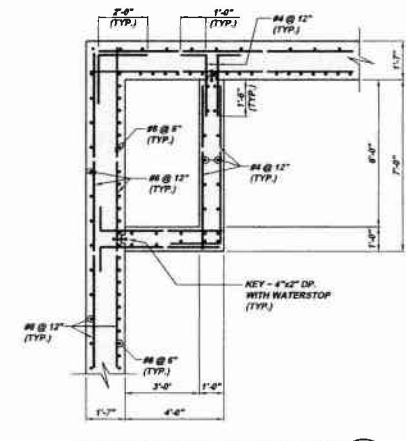




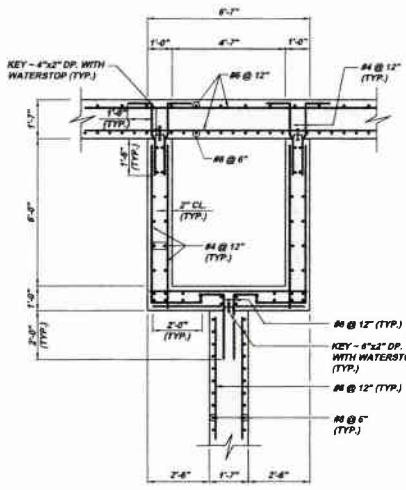
**FOUNDATION PLAN SBR3-A**  
SCALE: 3/8" = 1'-0"  
(TYP. & OPPOSITE HAND)  
REFERENCE PLAN SBR1-A & SBR3-B



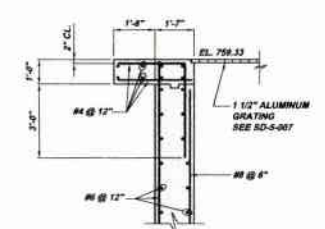
**FOUNDATION PLAN SBR3-E**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN SBR1-A & SBR3-F



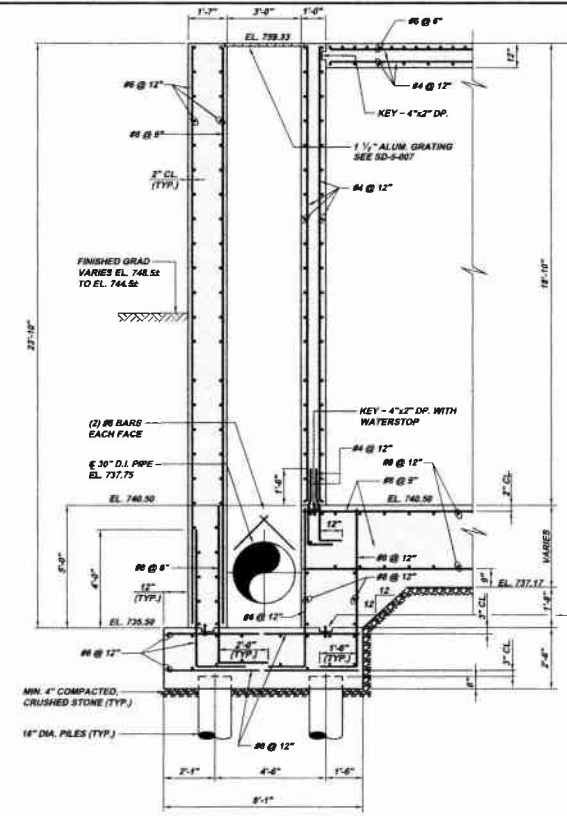
**SECTIONAL WALL PLAN SBR3-B**  
SCALE: 3/8" = 1'-0"  
(TYP. & OPPOSITE HAND)  
REFERENCE PLAN SBR1-A & SBR3-A



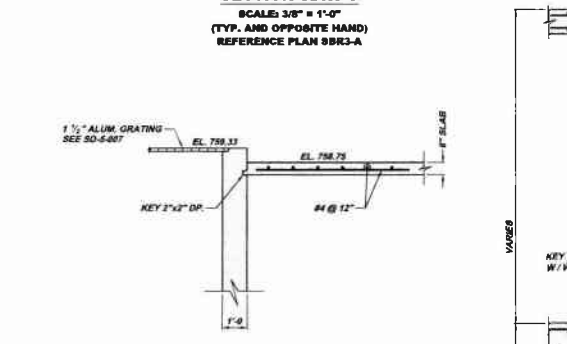
**SECTIONAL WALL PLAN SBR3-F**  
SCALE: 3/8" = 1'-0"  
(TYP. FOR 3 PLACES)  
REFERENCE PLAN SBR1-A & SBR3-E



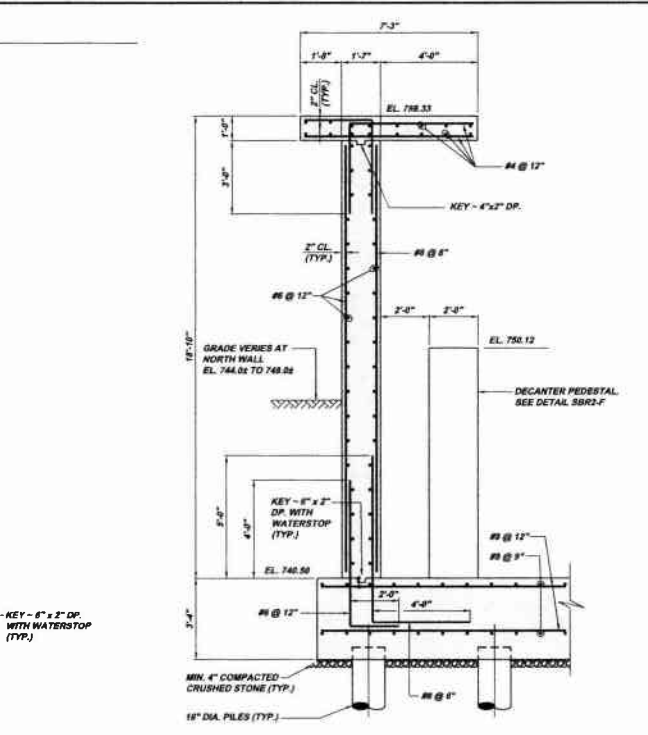
**SECTION SBR3-J**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN SBR3-A



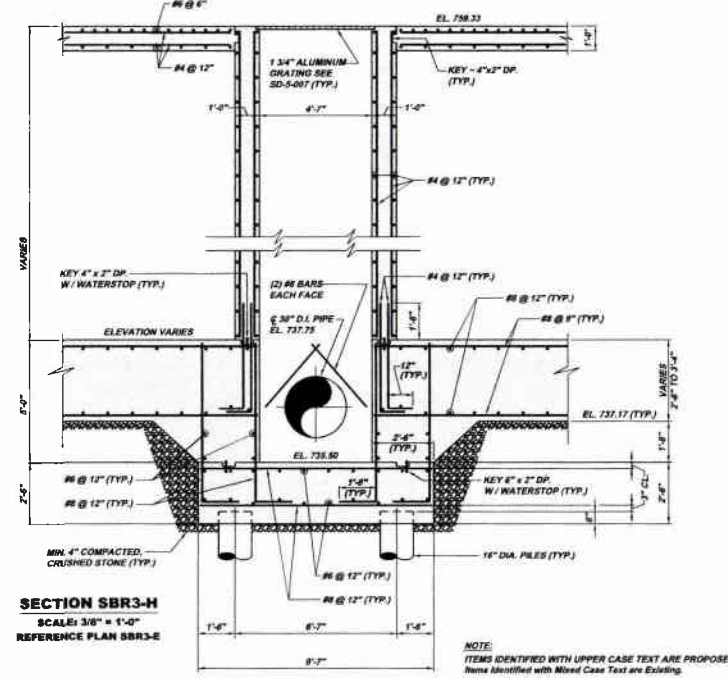
**SECTION SBR3-C**  
SCALE: 3/8" = 1'-0"  
(TYP. AND OPPOSITE HAND)  
REFERENCE PLAN SBR3-A



**SECTION SBR3-G**  
SCALE: 3/8" = 1'-0"  
REFERENCE SECTION SBR3-A



**SECTION SBR3-D**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN SBR3-A



**SECTION SBR3-H**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN SBR3-E

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

Scale:	AI Storm	Revisions	Date
July 2009	July 2009	DEP SUBMITTAL	
Drawn By:	ERD	REVISED	
Checked By:	HPF	REVISED	
Approved By:	SHD	RELEASE FOR BID	

Scale:	Revisions	Date
July 2009	DEP SUBMITTAL	
Drawn By:	ERD	
Checked By:	HPF	
Approved By:	SHD	

5172 CAMPBELL BLVD  
PITTSBURGH, PA 15208  
PHONE: 412-942-0420  
FAX: 412-942-0420  
INFO@KLHENGINEERS.COM

**KLH ENGINEERS, INC.**

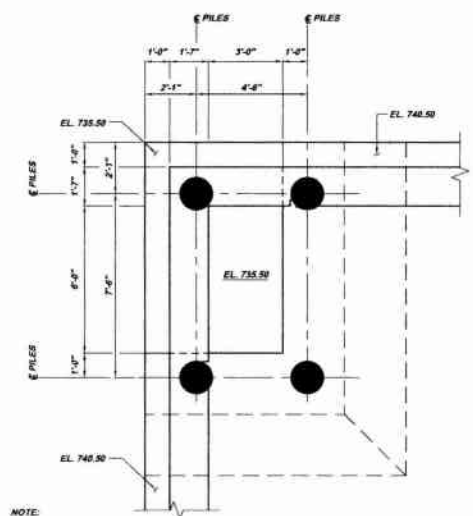
**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
SEQUENTIAL BATCH REACTOR (SBR) STRUCTURAL PLANS AND SECTIONS

Sheet No. 8

Drawing No. 220-SBR3

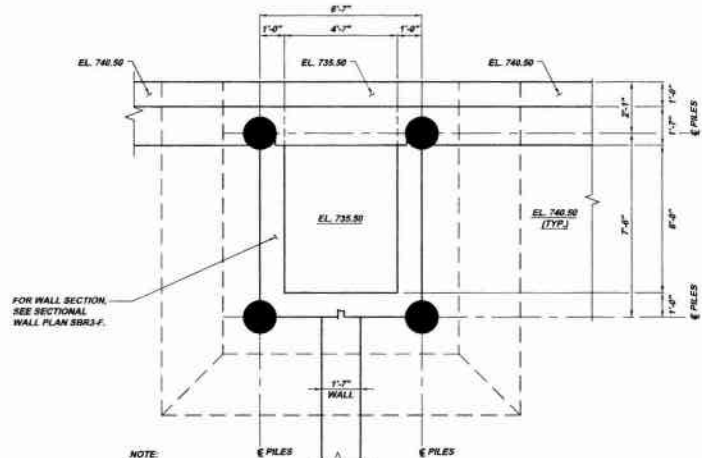






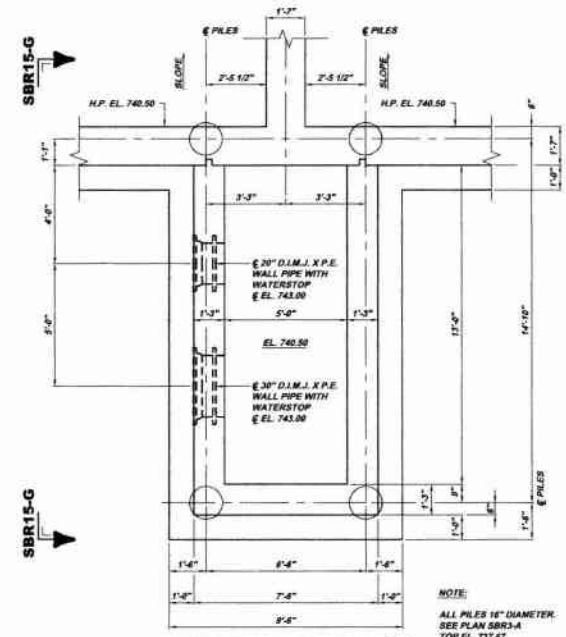
NOTE:  
ALL PILES 16" DIAMETER.  
SEE PLAN SBR3-A  
TOP EL. 733.50

**PILE PLAN SBR15-A**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLANS SBR3-A AND SBR3-B  
(TYP. AND OPPOSITE HAND)



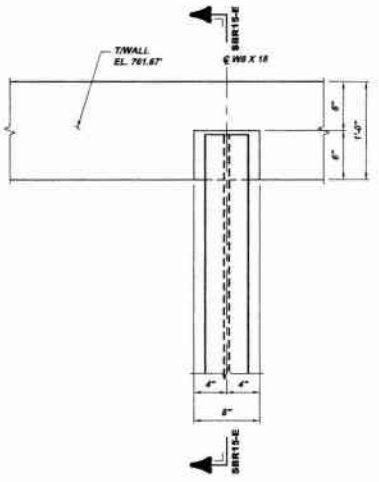
NOTE:  
ALL PILES 16" DIAMETER.  
SEE PLAN SBR3-A  
TOP EL. 733.50

**PILE PLAN SBR15-B**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLANS SBR3-E AND SBR3-F  
(TYP. FOR 3)

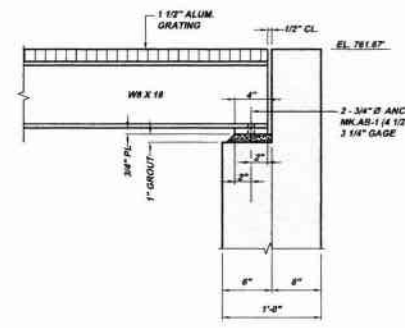


NOTE:  
ALL PILES 16" DIAMETER.  
SEE PLAN SBR3-A  
TOP EL. 733.50

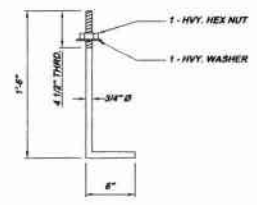
**SPLITTER BOX SBR15-C**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN SBR4-A  
AND SECTION SBR4-D



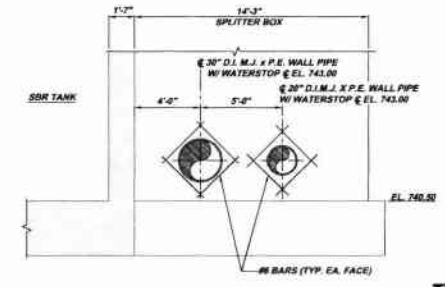
**DETAIL SBR15-D**  
SCALE: 1 1/2" = 1'-0"  
REFERENCE PLAN SBR4-A



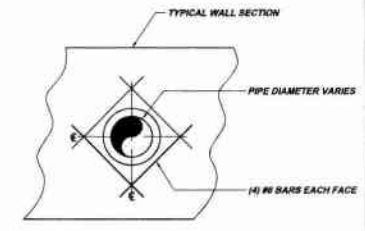
**SECTION SBR15-E**  
SCALE: 1 1/2" = 1'-0"  
REFERENCE DETAIL SBR15-D



**ANCHOR BOLT DETAIL SBR15-F (MK. AB-1)**  
SCALE: 1 1/2" = 1'-0"  
REFERENCE SECTION SBR15-E



**SECTION SBR15-G**  
SCALE: 1/4" = 1'-0"  
REFERENCE PLAN SBR15-C

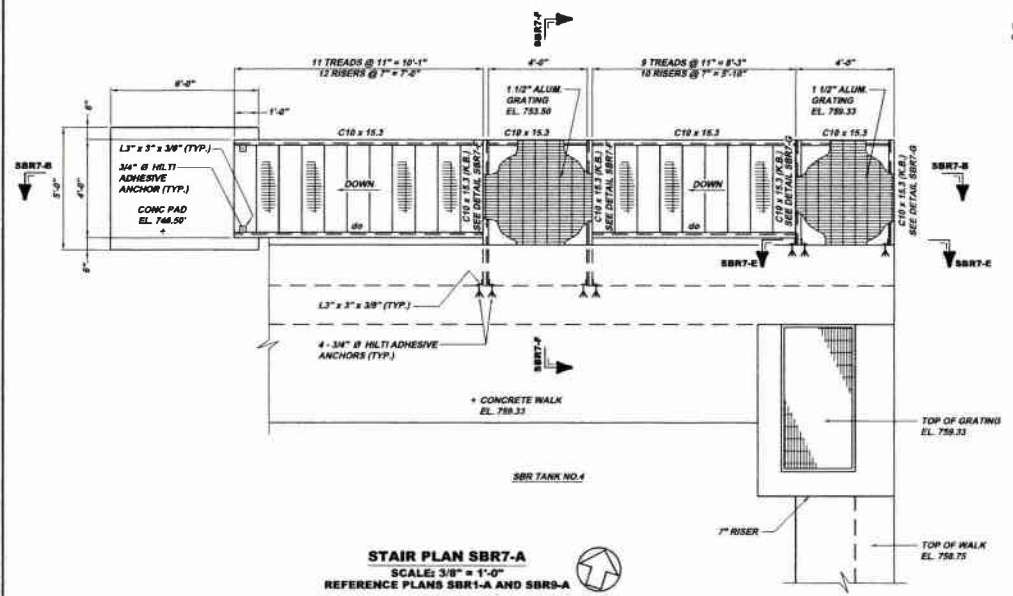


**TYPICAL PIPE PENETRATION DETAIL SBR15-H**  
N.T.S.

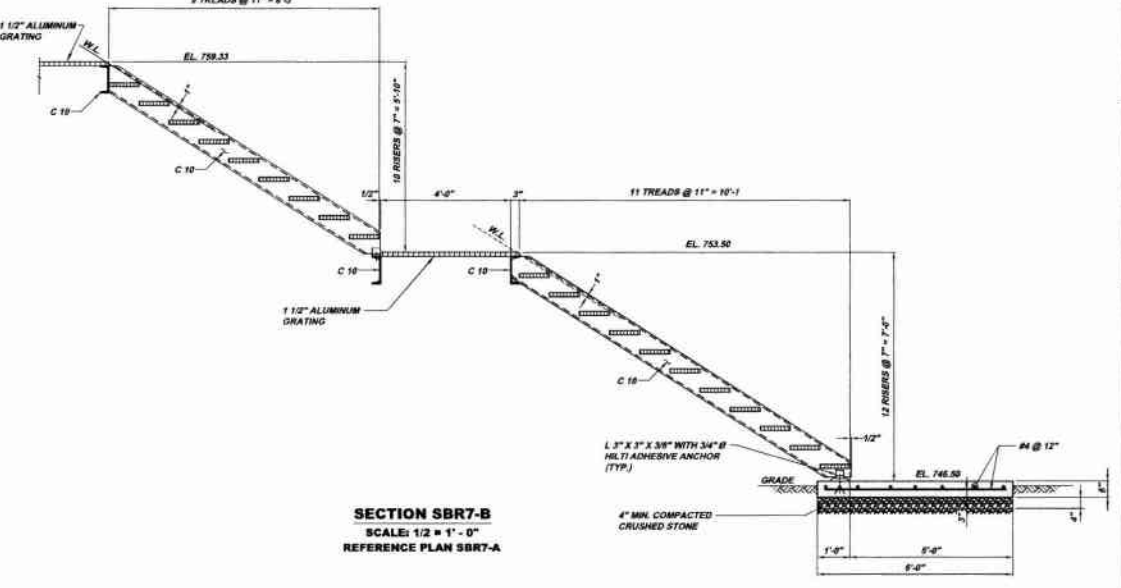
NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items Identified with Mixed Case Text are Existing.

<b>KLH ENGINEERS, INC.</b> 8173 CAMPBELL RUN ROAD PITTSBURGH, PA 15205 PHONE: 412-424-0220 FAX: 412-424-0220 INFO@KLHENGINEERS.COM		Date: 7/1/08 Design: [ ] Check: [ ] Approved: [ ]	Revisions: 01 SUBMITTAL 02 REVISED 03 REVISED 1/08 1/08 1/08	Function: Date: 1/08
<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> ALLEGHENY COUNTY, PENNSYLVANIA CONTRACT NUMBER 2010-01 AND 2010-02 WASTEWATER TREATMENT PLANT EXPANSION SEQUENTIAL BATCH REACTOR (SBR) STRUCTURAL PLANS, SECTIONS AND DETAILS		Sheet No.: 10 Drawing No.: 220-SBR15		

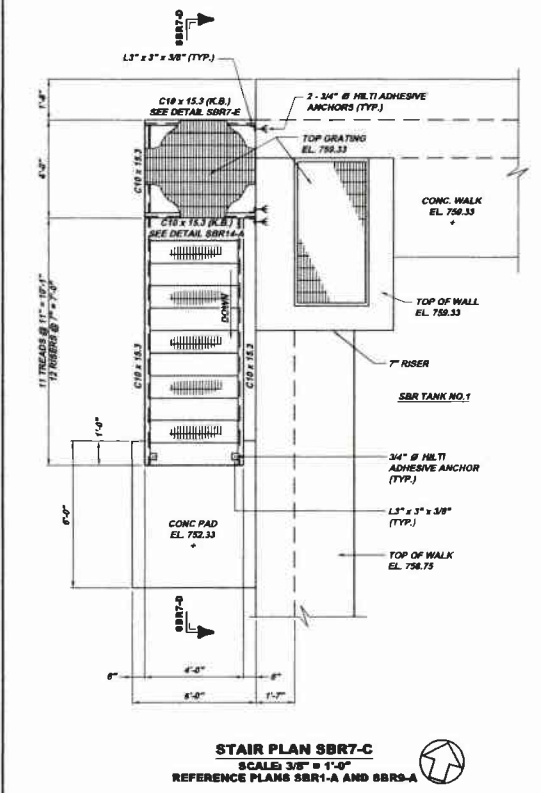




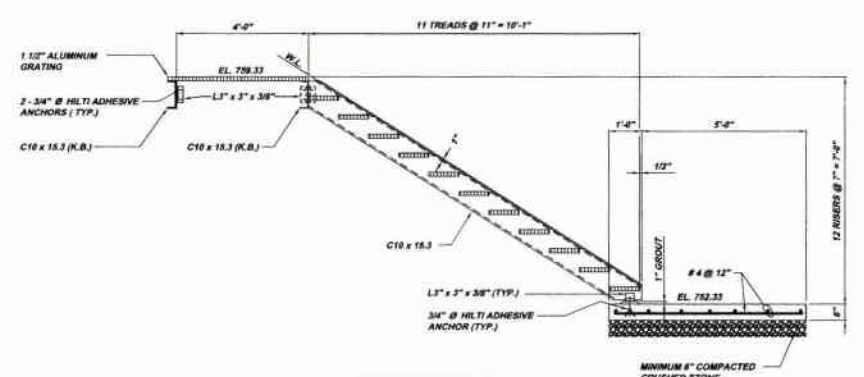
**STAIR PLAN SBR7-A**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLANS SBR1-A AND SBR3-A



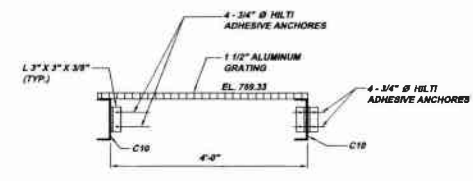
**SECTION SBR7-B**  
 SCALE: 1/2" = 1'-0"  
 REFERENCE PLAN SBR7-A



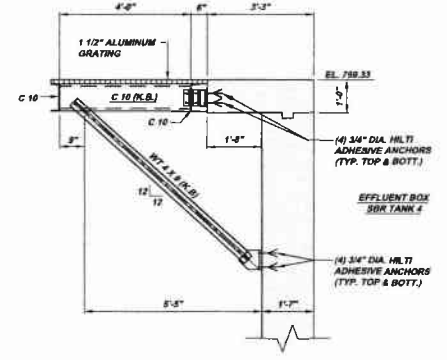
**STAIR PLAN SBR7-C**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLANS SBR1-A AND SBR3-A



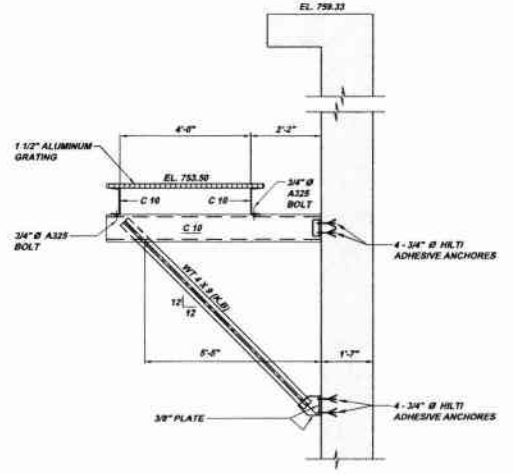
**SECTION SBR7-D**  
 SCALE: 1/2" = 1'-0"  
 REFERENCE PLAN SBR7-C



**DETAIL SECTION SBR7-E**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN SBR7-A AND PLAN SBR7-C



**DETAIL SBR7-G**  
 SCALE: 1/2" = 1'-0"  
 REFERENCE PLAN SBR7-A



**DETAIL SBR7-F**  
 SCALE: 1/2" = 1'-0"  
 REFERENCE PLAN SBR7-A

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

Scale:	As Shown	Revision:	
Date:	July 2009	Date:	
Drawn By:	EJD	Rev:	
Checked By:	HOF	Rev:	
Approved By:	SHG	Rev:	
Sheet No.:	11	Rev:	
Drawing No.:	220-SBR7	Rev:	

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 SEQUENTIAL BATCH REACTOR (SBR) STRUCTURAL PLANS, SECTIONS AND DETAILS

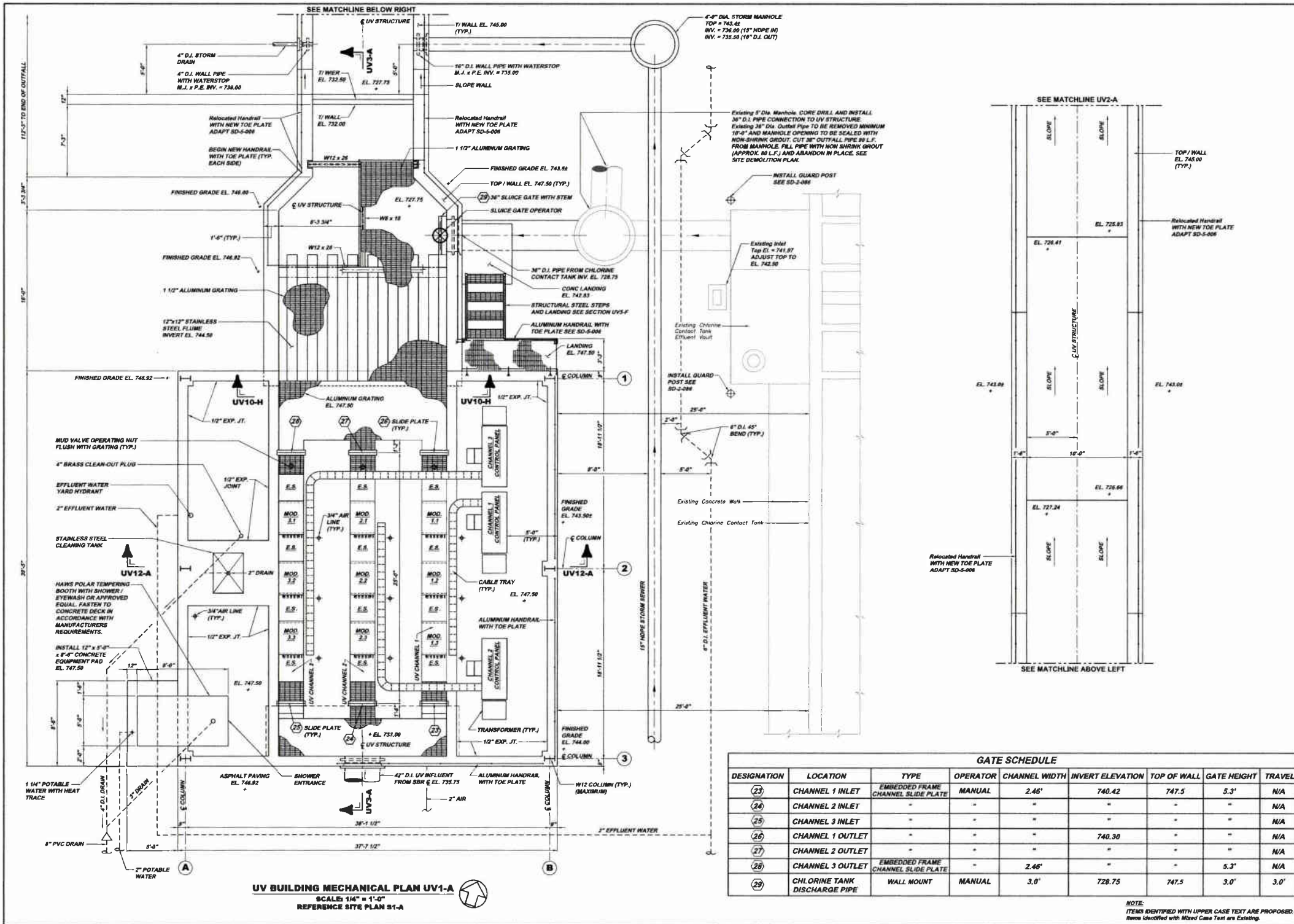
KLH ENGINEERS, INC.  
 5175 CAMPBELL'S RUN ROAD  
 PITTSBURGH, PA 15206  
 PHONE: 412-261-1100  
 FAX: 412-261-1102  
 WWW.KLHENGINEERS.COM











**UV BUILDING MECHANICAL PLAN UV1-A**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE SITE PLAN S1-A

**GATE SCHEDULE**

DESIGNATION	LOCATION	TYPE	OPERATOR	CHANNEL WIDTH	INVERT ELEVATION	TOP OF WALL	GATE HEIGHT	TRAVEL
23	CHANNEL 1 INLET	EMBEDDED FRAME CHANNEL SLIDE PLATE	MANUAL	2.46'	740.42	747.5	5.3'	N/A
24	CHANNEL 2 INLET	"	"	"	"	"	"	N/A
25	CHANNEL 3 INLET	"	"	"	"	"	"	N/A
26	CHANNEL 1 OUTLET	"	"	"	740.30	"	"	N/A
27	CHANNEL 2 OUTLET	"	"	"	"	"	"	N/A
28	CHANNEL 3 OUTLET	EMBEDDED FRAME CHANNEL SLIDE PLATE	"	2.46'	"	"	5.3'	N/A
29	CHLORINE TANK DISCHARGE PIPE	WALL MOUNT	MANUAL	3.0'	728.75	747.5	3.0'	3.0'

NOTE:  
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 ITEMS IDENTIFIED WITH Mixed Case Text are Existing

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MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 UV BUILDING MECHANICAL PLAN

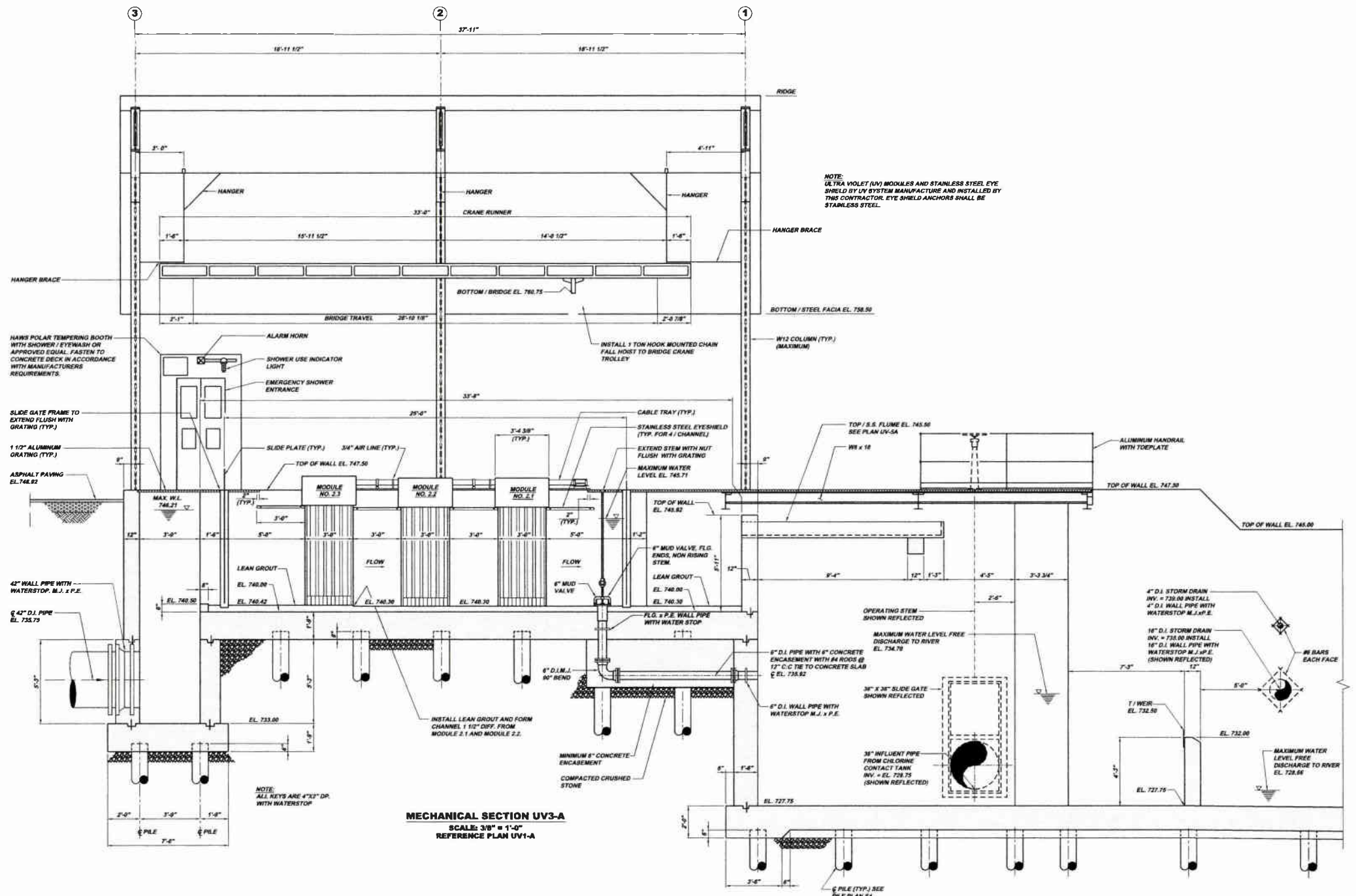
Revision	Date	By	Check	Appr
1-2011	1-2011	INFO@KLHENGINEERS.COM		
10-2010	10-2010	KLH	KLH	KLH
8-10-2010	8-10-2010	KLH	KLH	KLH
7-21-2010	7-21-2010	KLH	KLH	KLH

Scale: As Shown  
 Date: July 2009  
 Drawn By: TCD  
 Checked By: HCF  
 Approved By: SHG

Sheet No. 2  
 Drawing No. 220-UV1







NOTE:  
 ULTRA VIOLET (UV) MODULES AND STAINLESS STEEL EYE SHIELD BY UV SYSTEM MANUFACTURE AND INSTALLED BY THIS CONTRACTOR. EYE SHIELD ANCHORS SHALL BE STAINLESS STEEL.

NOTE:  
 ALL KEYS ARE 4"x3" DP. WITH WATERSTOP

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED. Items Identified with Lower Case Text are Existing.

Revision	Date	By	Check	Appr
1-2911	10-09	HW	HW	HW
1-2912	10-09	HW	HW	HW
1-2913	10-09	HW	HW	HW
1-2914	10-09	HW	HW	HW
1-2915	10-09	HW	HW	HW
1-2916	10-09	HW	HW	HW
1-2917	10-09	HW	HW	HW
1-2918	10-09	HW	HW	HW
1-2919	10-09	HW	HW	HW
1-2920	10-09	HW	HW	HW
1-2921	10-09	HW	HW	HW

6/17/13	CLARENCE R. BOGGS	DATE	7/21/09
6/17/13	PITTSBURGH, PA 15209	DATE	8/14/09
6/17/13	PHONE: 412-944-9400	DATE	10-09
6/17/13	FAX: 412-944-9400	DATE	1-2911
6/17/13	WWW.KLHENGINEERS.COM	DATE	1-2911

As Shown	July 2009	TCD	HW
Drawn By:		HW	
Checked By:		HW	
Approved By:		HW	

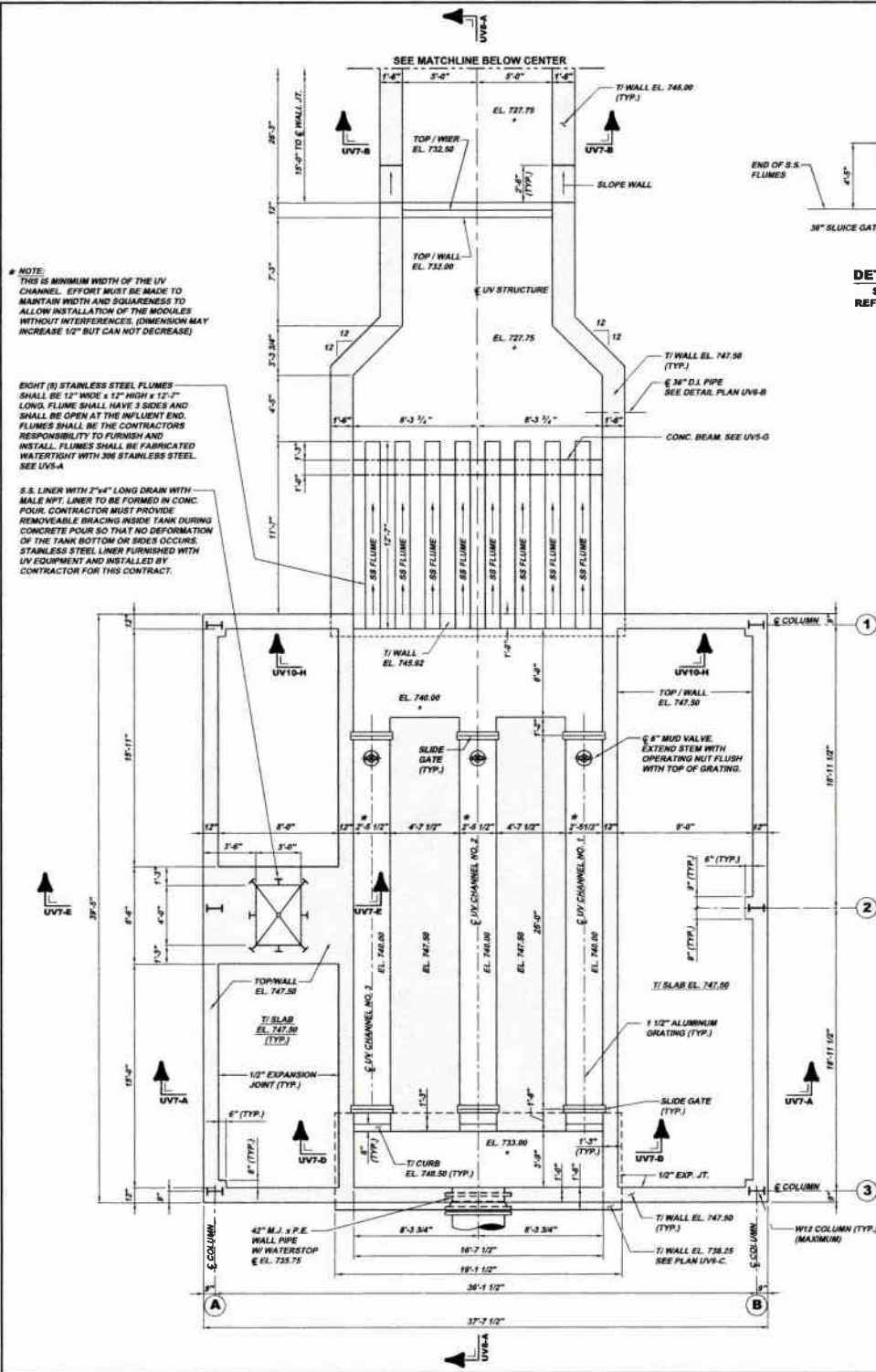
Sheet No.	4
Drawing No.	220-UV3



MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 UV BUILDING SECTION







Revisions

Date	Revisions
07-20-08	REVISED PER SUBMITTAL
08-05-08	REVISED PER COMMENTS
10-06-08	REVISED PER COMMENTS
11-20-08	RELEASE FOR BID

5173 GARRETT BLVD  
PITTSBURGH, PA 15206  
TEL: 412-942-0200  
FAX: 412-942-0200  
INFO@KLHENGINEERS.COM

**KLH ENGINEERS, INC.**

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**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
UV BUILDING STRUCTURAL PLAN

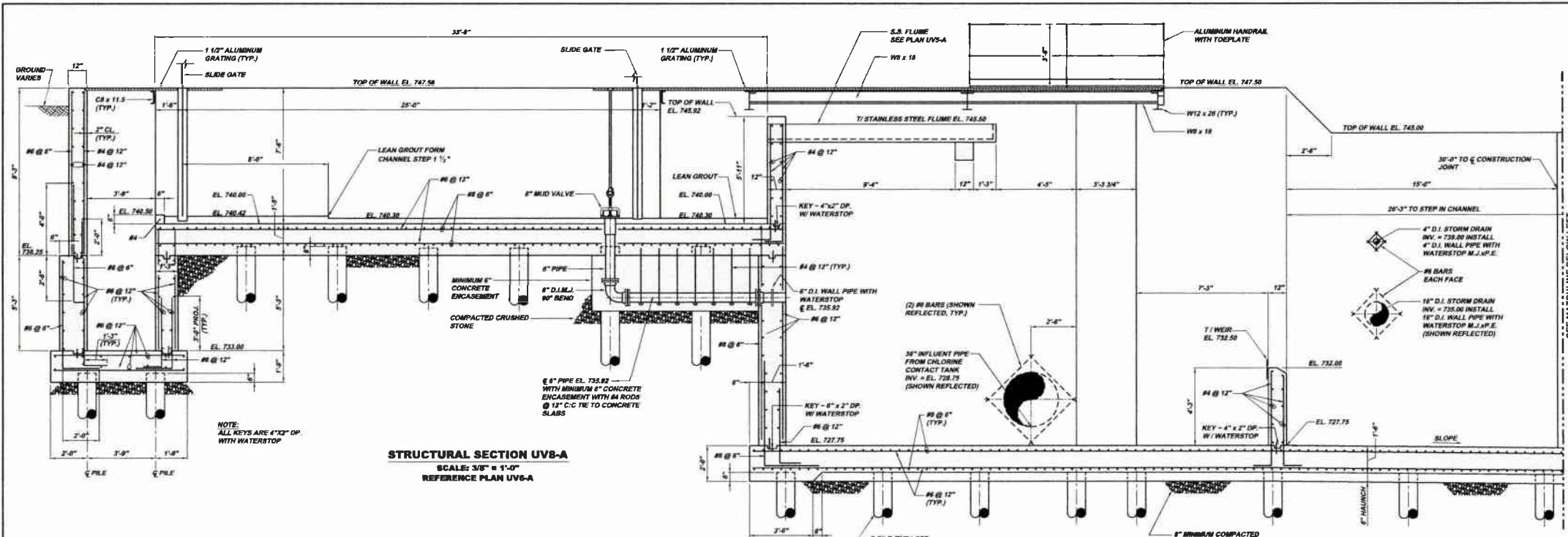
As Shown: July 2008  
 Date: July 2008  
 Drawn By: TCD  
 Checked By: HOF  
 Approved By: BSG

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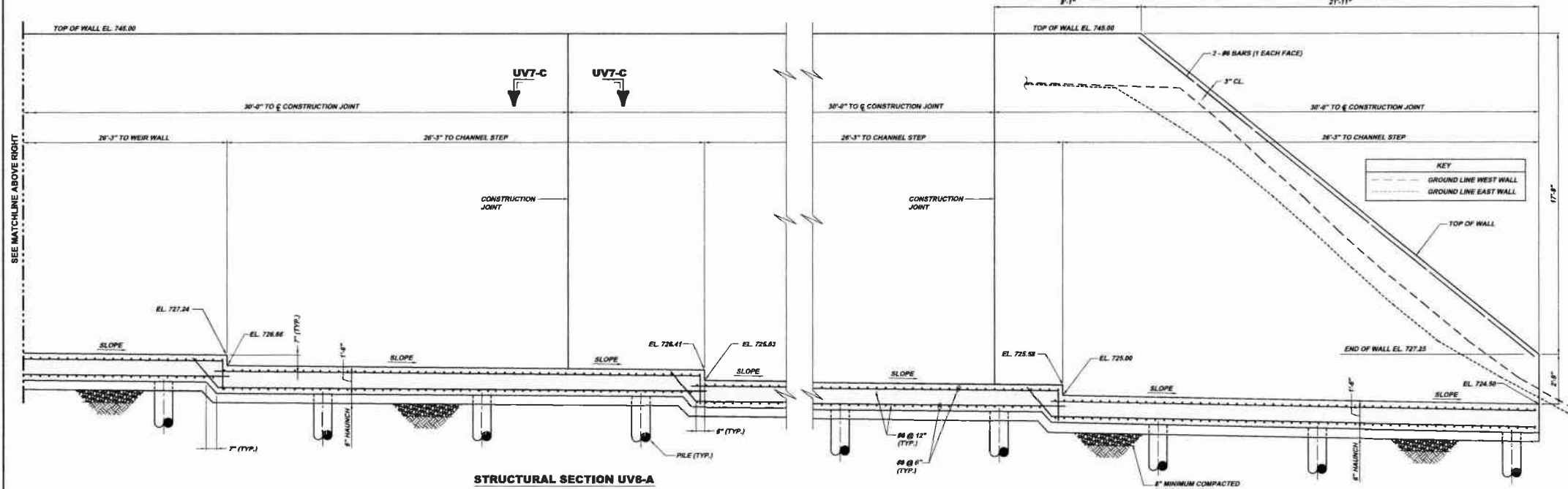
Sheet No. 8

Drawing No. 220-UV6

**NOTE:**  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items Identified with Mixed Case Text are Existing.



**STRUCTURAL SECTION UV8-A**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN UV6-A



**STRUCTURAL SECTION UV8-A**  
 SCALE: 3/8" = 1'-0"  
 (CONTINUED FROM ABOVE)

Revisions	Date	By	Check	Appr.
REV 001	12/14/20	JTC	JTC	JTC
REV 002	1/15/21	JTC	JTC	JTC
REV 003	1/15/21	JTC	JTC	JTC
REV 004	1/15/21	JTC	JTC	JTC
REV 005	1/15/21	JTC	JTC	JTC
REV 006	1/15/21	JTC	JTC	JTC
REV 007	1/15/21	JTC	JTC	JTC
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REV 009	1/15/21	JTC	JTC	JTC
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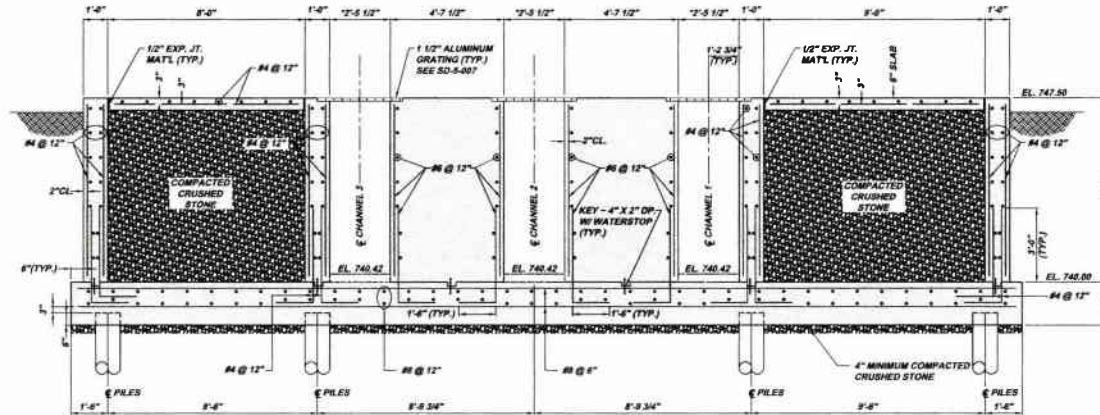


MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONSTRUCT A WASTEWATER PLANT EXPANSION  
 UV BUILDING STRUCTURAL SECTION

As Shown	July 2008	JTC	JTC	JTC
Drawn By:	JTC	JTC	JTC	JTC
Checked By:	JTC	JTC	JTC	JTC
Approved By:	JTC	JTC	JTC	JTC
Sheet No.	7			
Drawing No.	220-UV8			

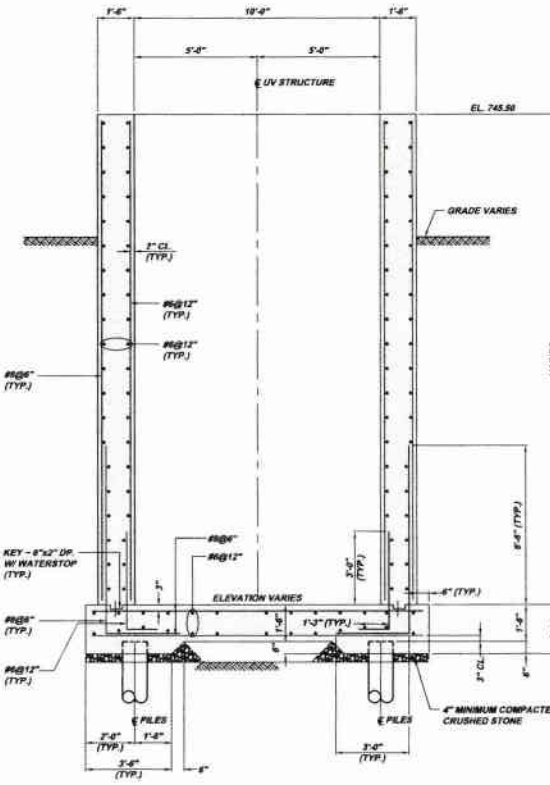
NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.



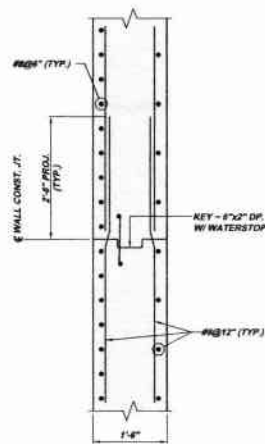


**SECTION UV7-A**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN UV6-A

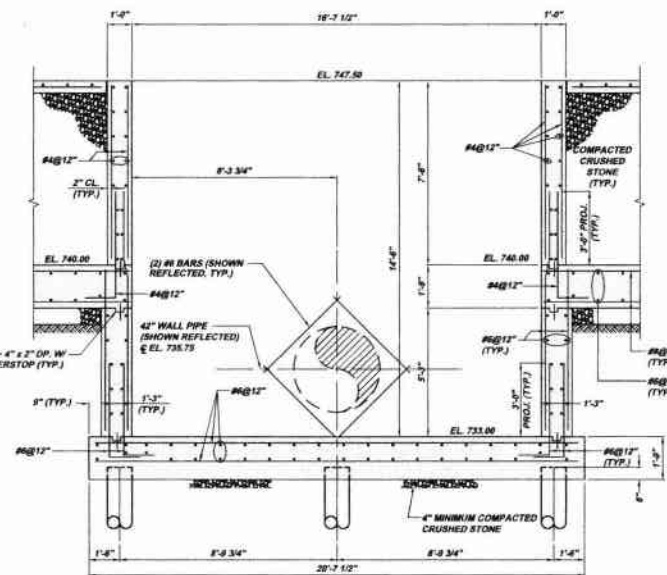
**NOTE:**  
\*2'-5 1/2" - THIS IS THE MINIMUM WIDTH OF THE UV CHANNEL. EFFORT MUST BE MADE TO MAINTAIN WIDTH AND SQUARENESS TO ALLOW INSTALLATION OF THE UV MODULES WITHOUT INTERFERENCES (DIMENSION MAY INCREASE 1/2" BUT CAN NOT DECREASE.)



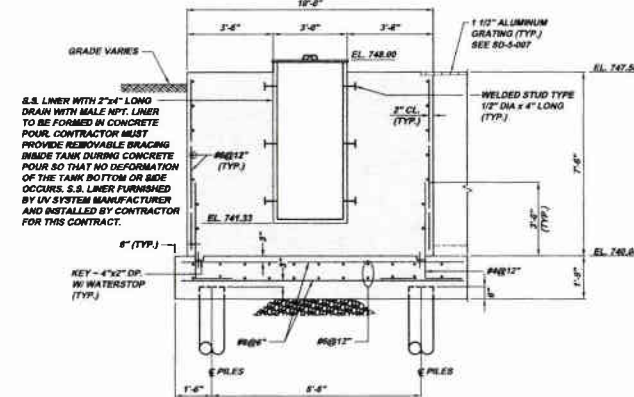
**SECTION UV7-B**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN UV6-A



**SECTION UV7-C**  
SCALE: 3/4" = 1'-0"



**SECTION UV7-D**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN UV6-A



**SECTION UV7-E**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN UV6-A

**NOTE:**  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items Identified with Mixed Case Text are Existing.

Revision	Date	By	Check	Appr.
01	07-09	TCD	NOF	SHD
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**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
UV BUILDING STRUCTURAL SECTIONS

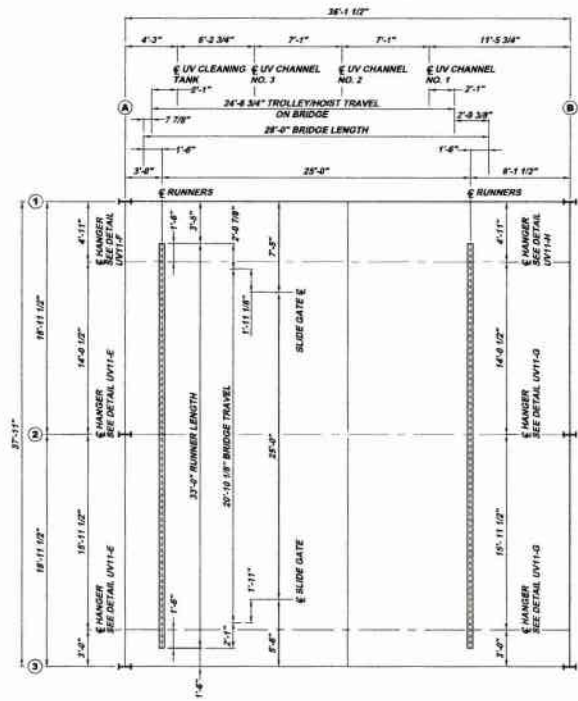
**KLH ENGINEERS, INC.**

5173 CAMPBELL BLVD  
PITTSBURGH, PA 15206  
PH: 412-261-4000  
FAX: 412-261-4000  
WWW.KLHENGINEERS.COM

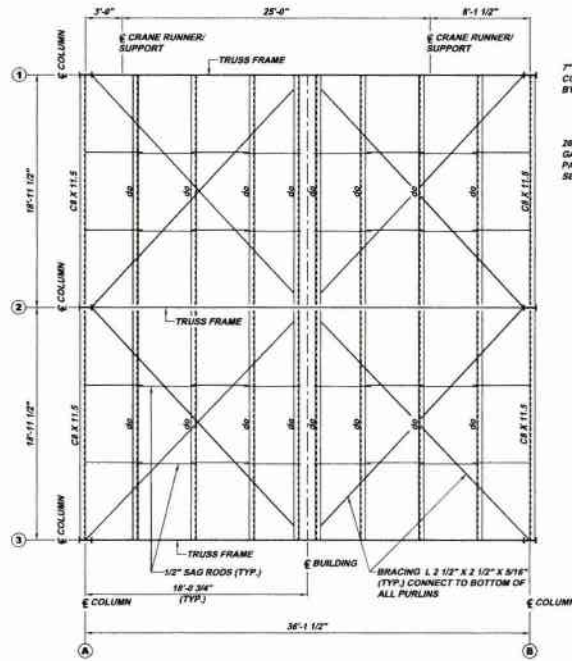
As Shown  
Date: July 2009  
Drawn By: TCD  
Checked By: NOF  
Approved By: SHD

Sheet No. 8

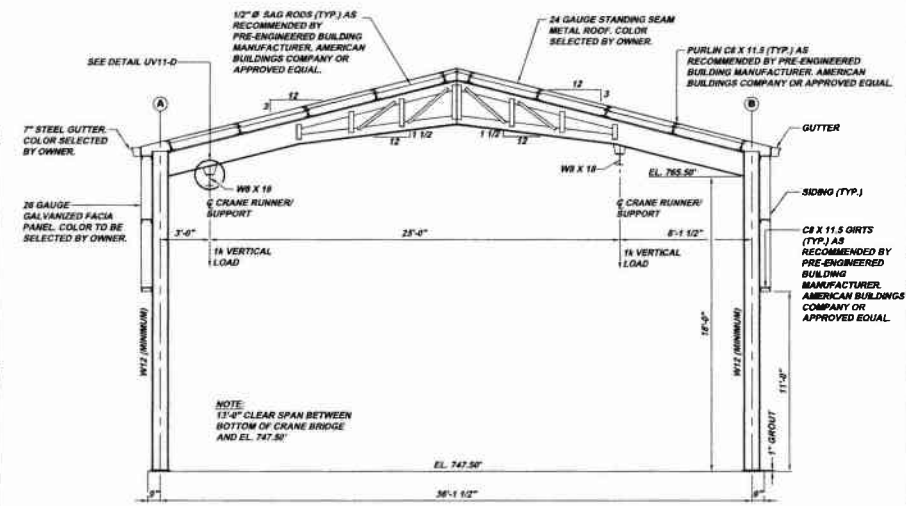
Drawing No. 220-UV7



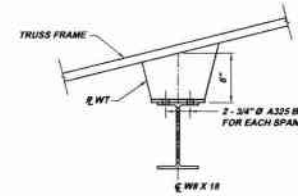
**1000 LB BRIDGE CRANE RUNWAY AND TRAVEL PLAN UV11-A**  
 SCALE: 3/16" = 1'-0"  
 REFERENCE PLAN UV11-B



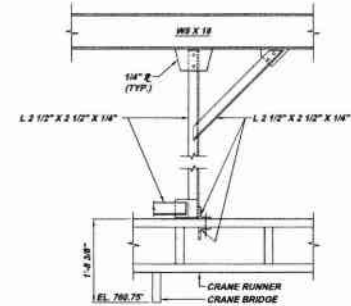
**ROOF PLAN UV11-B (PRE-ENGINEERED BUILDING)**  
 SCALE: 3/16" = 1'-0"  
 REFERENCE PLAN UV1-A



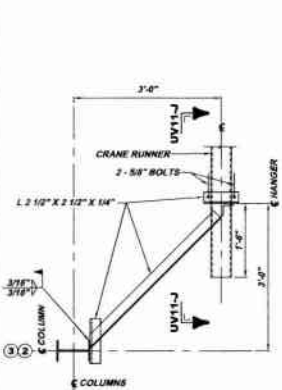
**TYPICAL CROSS SECTION UV11-C (PRE-ENGINEERED BUILDING)**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE PLAN UV11-B



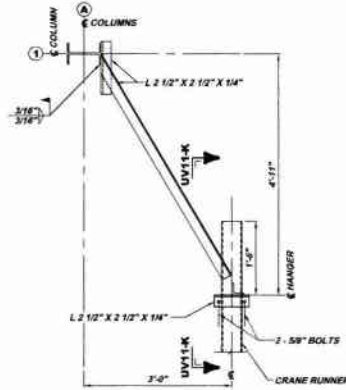
**DETAIL UV11-D (TYP. AND OPPOSITE HAND)**  
 SCALE: 1-1/2" = 1'-0"



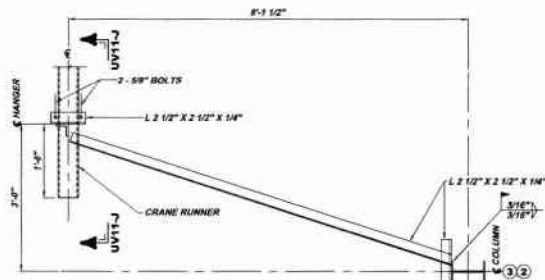
**SECTION UV11-J (TYP.)**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE DETAIL UV11-E AND UV11-G



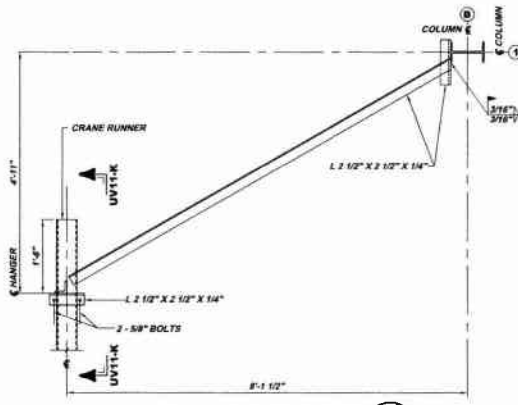
**HANGER DETAIL UV11-E**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN UV11-A



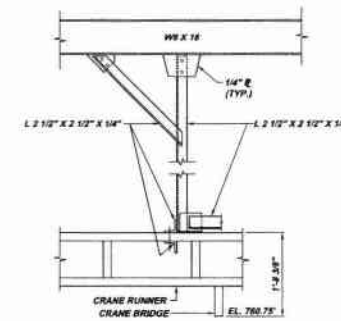
**HANGER DETAIL UV11-F**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN UV11-A



**HANGER DETAIL UV11-G**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN UV11-A



**HANGER DETAIL UV11-H**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN UV11-A



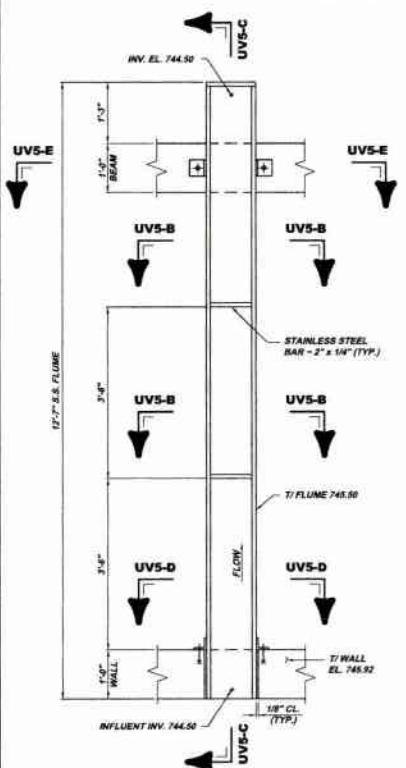
**SECTION UV11-K (TYP.)**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE DETAIL UV11-F AND UV11-H

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 ITEMS IDENTIFIED WITH MIXED CASE TEXT ARE EXISTING.

<b>KLH ENGINEERS, INC.</b> 8177 CAMPBELL BLVD. BLDG. 200 PITTSBURGH, PA 15229 PH: 412-244-4400 FAX: 412-244-4401 INFO@KLHENGINEERS.COM		Date: _____ Revisions: 1-2011 RELEASE FOR BID 10-09 REVISIONS 8-10-09 REVISIONS 7-21-09 SUBMITTAL 7-21-09
<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> ALLEGHENY COUNTY, PENNSYLVANIA CONTRACT NUMBER 2010-01 AND 2010-02 WASTEWATER TREATMENT PLANT EXPANSION UV BUILDING BRIDGE CRANE PLAN, SECTIONS AND DETAILS		As Shown: _____ Scale: _____ Date: July 2009 Drawn By: TCD Checked By: HOF Approved By: BHG
Sheet No. 9		Drawing No. 220-UV11

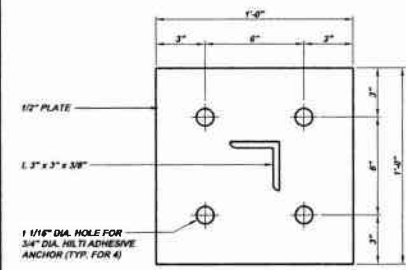




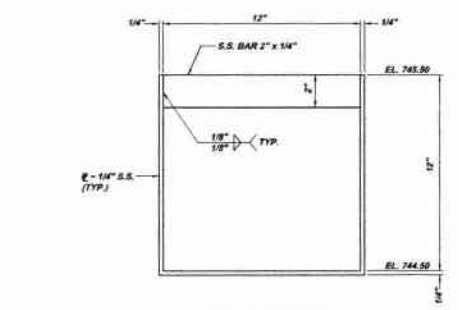


**S.S. FLUME PLAN UV5-A (8 REQ.)**  
SCALE: 3/4" = 1'-0"  
REFERENCE PLAN UV6-A

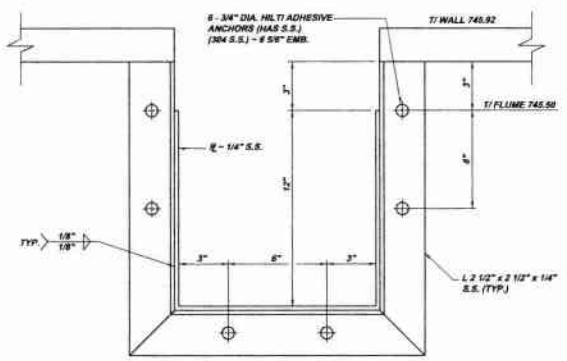
**NOTE:**  
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FURNISH, FABRICATE AND INSTALL EIGHT STAINLESS STEEL FLUMES. FLUMES SHALL BE FABRICATED OF 304 STAINLESS STEEL. EACH FLUME SHALL BE 12 INCHES WIDE INSIDE X 12 INCHES HIGH INSIDE X 12'-7" LONG. FLUMES SHALL HAVE 3" SLOPE AND SHALL BE OPEN AT THE INFLUENT END. ALL SUPPORT STEEL AND FASTENERS SHALL BE STAINLESS STEEL.



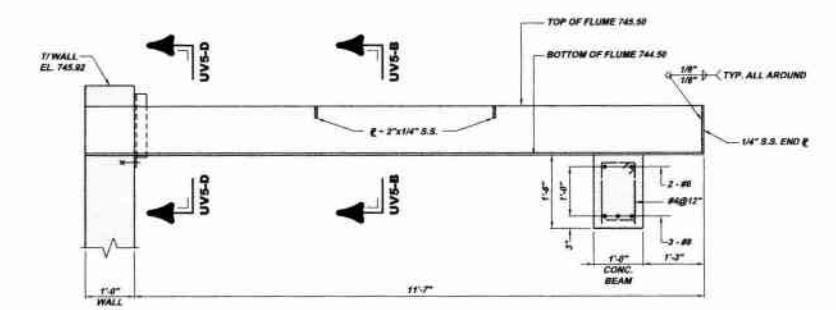
**SECTION UV5-K**  
SCALE: 3" = 1'-0"  
REFERENCE SECTION UV5-J



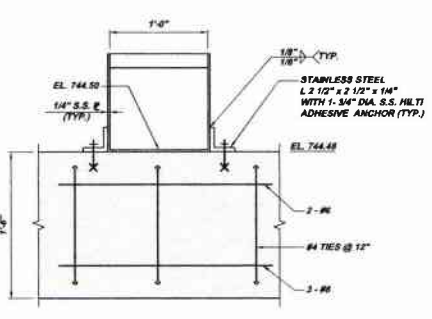
**SECTION UV5-B**  
SCALE: 3" = 1'-0"  
REFERENCE PLAN UV5-A



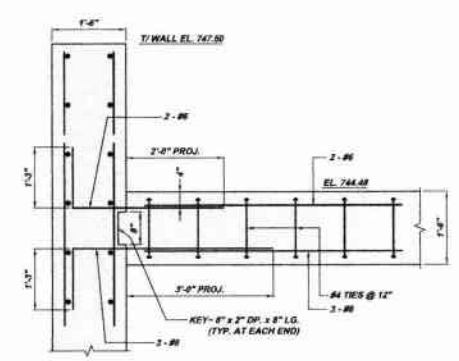
**SECTION UV5-D**  
SCALE: 3" = 1'-0"  
REFERENCE PLAN UV5-A



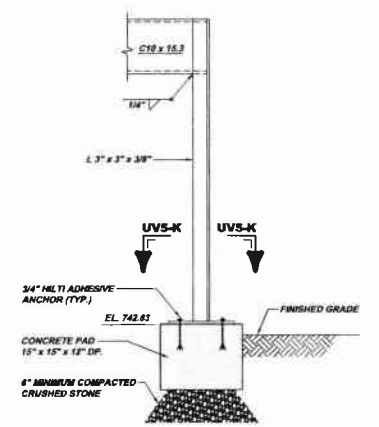
**SECTION UV5-C**  
SCALE: 3/4" = 1'-0"  
REFERENCE PLAN UV5-A



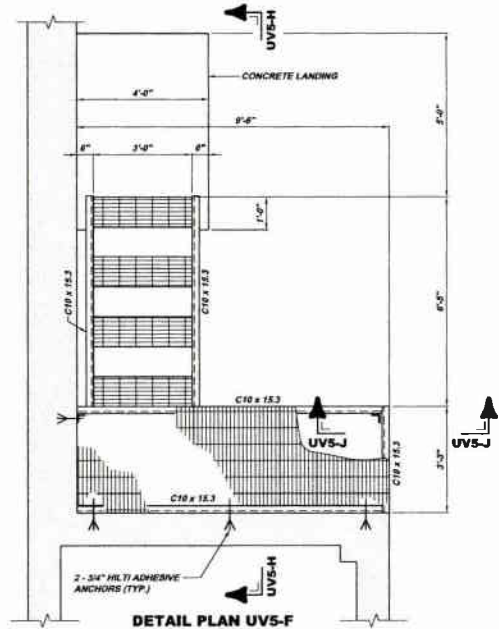
**SECTION UV5-E**  
SCALE: 1/2" = 1'-0"  
REFERENCE PLAN UV5-A



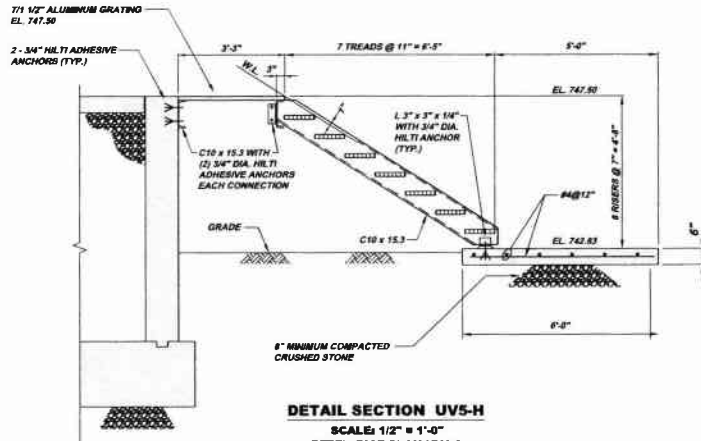
**SECTION UV5-G**  
SCALE: 3/4" = 1'-0"  
REFERENCE PLAN UV5-A



**SECTION UV5-J**  
SCALE: 1" = 1'-0"  
REFERENCE PLAN UV5-F



**DETAIL PLAN UV5-F**  
SCALE: 1/2" = 1'-0"  
REFERENCE PLAN UV1-A



**DETAIL SECTION UV5-H**  
SCALE: 1/2" = 1'-0"  
REFERENCE PLAN UV1-A

**NOTE:**  
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ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

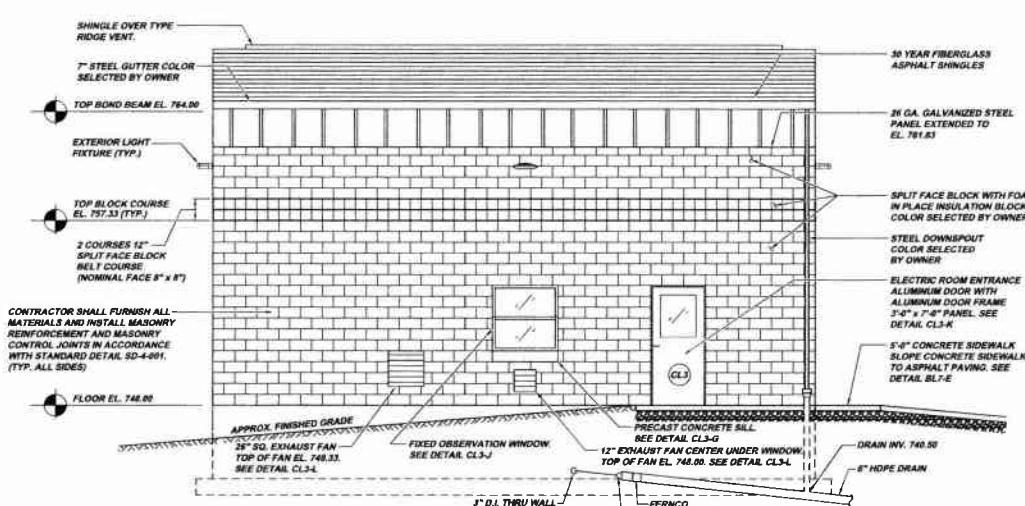
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1	ISSUE FOR BIDDING	7/21/09	TC	TC	TC
2	REVISION	8/14/09	TC	TC	TC
3	REVISION	10/08	TC	TC	TC
4	RELEASE FOR BID	1/20/11	TC	TC	TC

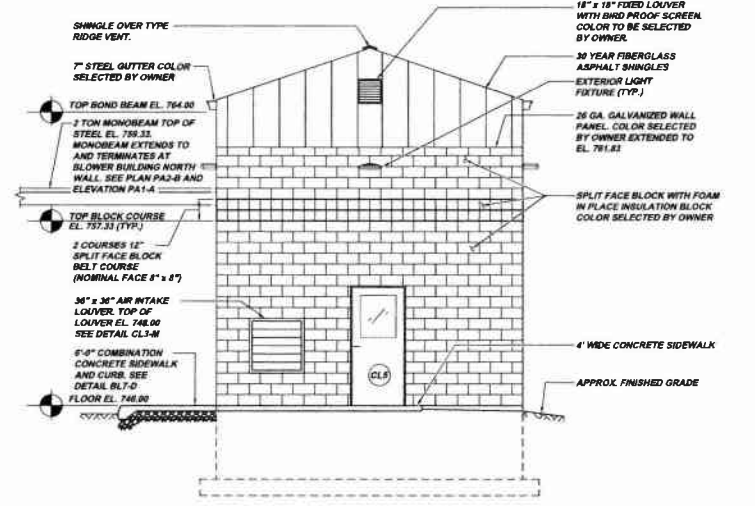
173 CAMPBELL BLVD PITTSBURGH, PA 15203 PHONE: 412-291-0200 FAX: 412-291-0200 WWW.KLHEENGINEERS.COM		<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> <b>ALLEGHENY COUNTY, PENNSYLVANIA</b> <b>CONTRACT NUMBER 2010-01 AND 2010-02</b> <b>WASTEWATER TREATMENT PLANT EXPANSION</b> <b>UV BUILDING STRUCTURAL PLANS AND SECTIONS</b>	
At Shown: July 2009 Draft: TCD Drawn By: HOF Checked By: HOF Approved By: BHD			
Sheet No.	11	Drawing No.	220-UV5

CHLORINE BUILDING DOOR SCHEDULE (ALL HARDWARE US 32 FINISH)									
MARK	LOCATION	DOOR DESCRIPTION	DIMENSIONS (ROUGH OPENING)	LOCKSET (SARGENT) (FINISH US 32)	HINGE (FINISH US 32)	CLOSER (LCN)	THRESHOLD (NATIONAL GUARD)	KICKPLATE (ROCK WOOD)	WEATHER-STRIP (NATIONAL GUARD)
CL1	EXTERIOR SOUTH WALL CHLORINE STORAGE ROOM ENTRANCE	CLINE INSULATED ALUMINUM DOUBLE DUTCH DOOR WITH ALUMINUM FRAME. BOTTOM DOOR PANELS EACH 4'-0" x 8'-0" HALF GLASS. TOP DOOR PANELS 4'-0" x 5'-0" FLUSH PANEL EACH WITH MONORAIL OPENING.	8'-4" x 13'-4"	VERTICAL ROD EXIT DEVICE SERIES 8700 WITH ETL TRIM BOTTOM PAIR - TOP PAIR WITH HEAVY DUTY SPRING LOADED FLUSH BOLTS WITH CHAIN	MCKINNEY STAINLESS STEEL CONTINUOUS TYPE (HEAVY DUTY RATED)	1480 ADA COMPLIMENT	425	1" HIGH x .050" EACH BOTTOM PAIR	160 SDKB PERIMETER SEAL (EACH PAIR) 101 VDKS SWEEP (BOTTOM PAIR) 140 MDRB ASTRAGAL EACH PAIR
CL2	EXTERIOR SOUTH WALL CHLORINE ROOM ENTRANCE	CLINE INSULATED ALUMINUM DOUBLE DOOR WITH ALUMINUM FRAME. 3'-0" x 7'-0" EACH PANEL HALF GLASS.	6'-4" x 7'-4"	VERTICAL ROD EXIT DEVICE SERIES 8700 WITH ETL TRIM EACH PANEL	MCKINNEY STAINLESS STEEL CONTINUOUS TYPE (HEAVY DUTY RATED)	1480 ADA COMPLIMENT	425	1" HIGH x .050" EACH PANEL	160 SDKB PERIMETER SEAL 101 VDKS SWEEP 140 MDRB ASTRAGAL

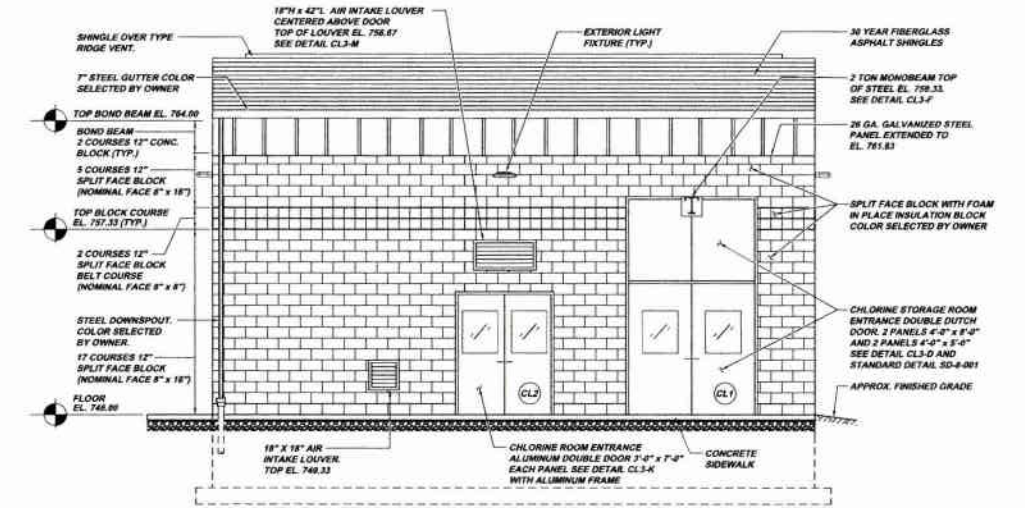
CHLORINE BUILDING DOOR SCHEDULE (ALL HARDWARE US 32 FINISH)									
MARK	LOCATION	DOOR DESCRIPTION	DIMENSIONS (ROUGH OPENING)	LOCKSET (SARGENT) (FINISH US 32)	HINGE (FINISH US 32)	CLOSER (LCN)	THRESHOLD (NATIONAL GUARD)	KICKPLATE (ROCK WOOD)	WEATHER-STRIP (NATIONAL GUARD)
CL3	EXTERIOR NORTH WALL ELECTRICAL ROOM ENTRANCE	CLINE INSULATED ALUMINUM DOOR WITH ALUMINUM FRAME. 3'-0" x 7'-0" PANEL HALF GLASS.	3'-4" x 7'-4"	MORTISE PANIC TYPE EXIT DEVICE SERIES 9900 WITH ETL TRIM	MCKINNEY STAINLESS STEEL CONTINUOUS TYPE (HEAVY DUTY RATED)	1480 ADA COMPLIMENT	425	1" HIGH x .050"	160 SDKB PERIMETER SEAL 101 VDKS SWEEP
CL4	ATTIC ACCESS	CECO CORP INSULATED METAL DOOR FLUSH PANEL 3'-0" x 4'-0" WITH 4 SIDED FRAME 1 - UR FIRE RATED	3'-4" x 3'-4"	PASSAGE LOCKSET 8215 CENTER STROKE 8V FRAME ESCUTCHEON AND LEVER TRIM SERIES 8200 (L.H.)	HAGER 1200 4 1/2" x 12" (2 REQ'D) SPRING TYPE PRIME COATED	1480 ADA COMPLIMENT	425		160 SA PERIMETER SEAL (4 SIDES)
CL5	EXTERIOR EAST WALL CHLORINE ROOM ACCESS	CLINE INSULATED ALUMINUM DOOR WITH ALUMINUM FRAME. 3'-0" x 7'-0" PANEL HALF GLASS.	3'-4" x 7'-4"	MORTISE PANIC TYPE EXIT DEVICE SERIES 9900 WITH ETL TRIM	MCKINNEY STAINLESS STEEL CONTINUOUS TYPE (HEAVY DUTY RATED)	1480 ADA COMPLIMENT	425	1" HIGH x .050"	160 SDKB PERIMETER SEAL 101 VDKS SWEEP



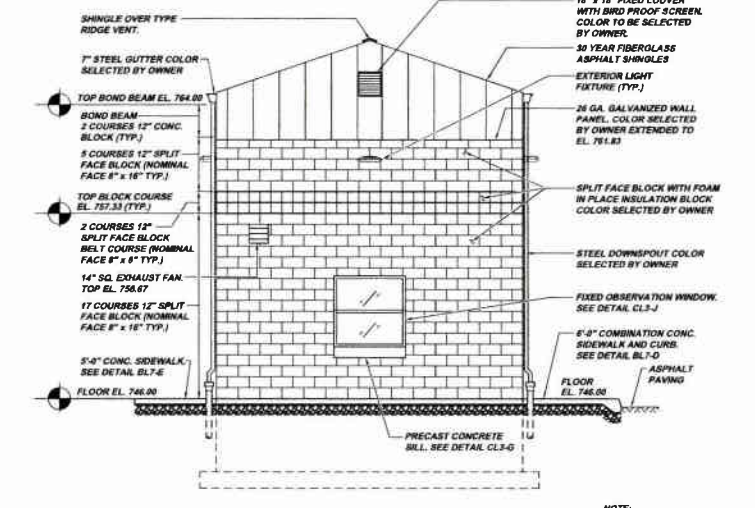
**CHLORINE BUILDING NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**CHLORINE BUILDING EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



**CHLORINE BUILDING SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**CHLORINE BUILDING WEST ELEVATION**  
SCALE: 1/4" = 1'-0"

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items identified with Mixed Case Text are Existing.

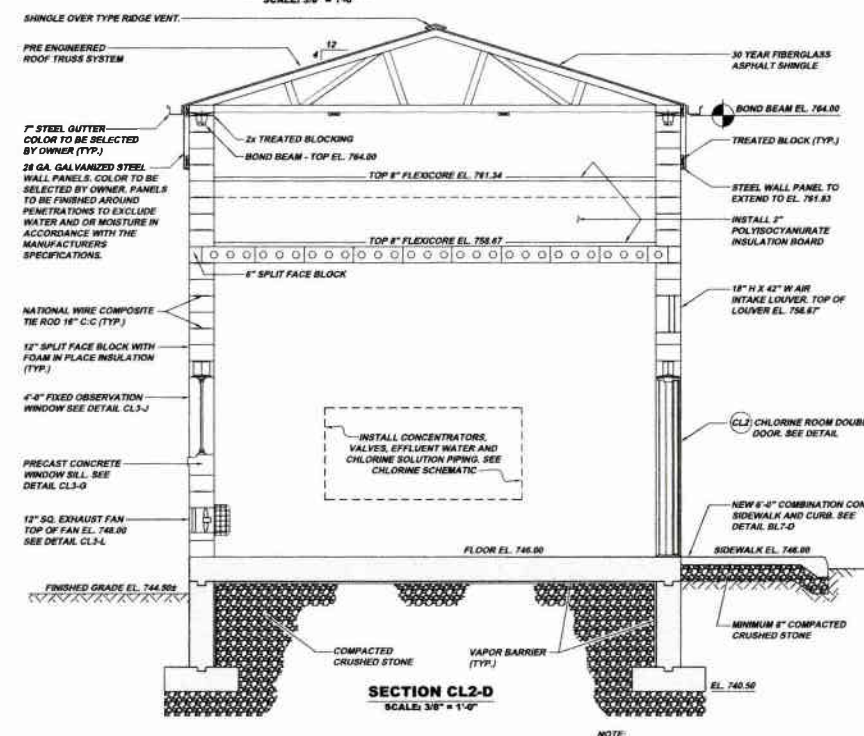
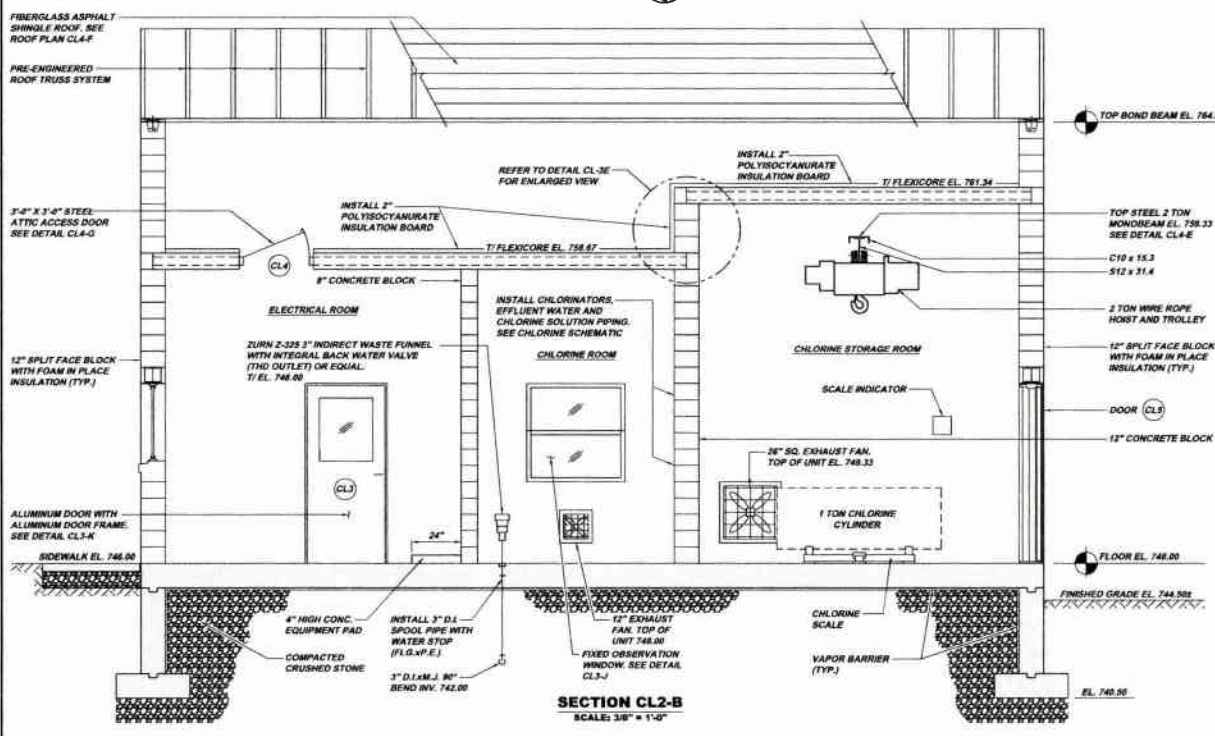
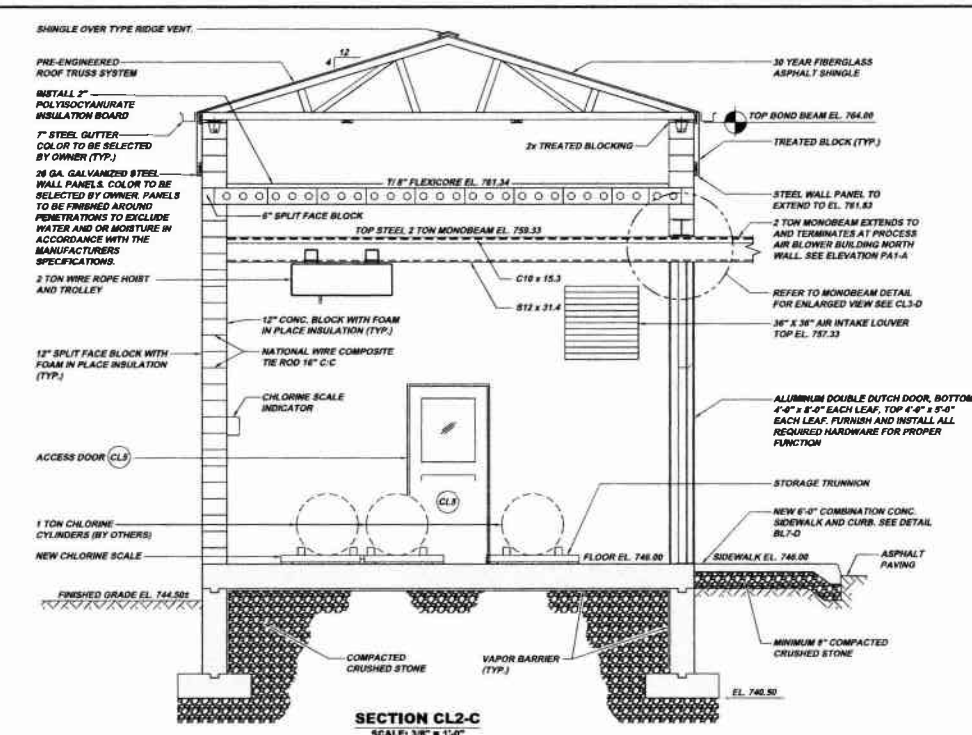
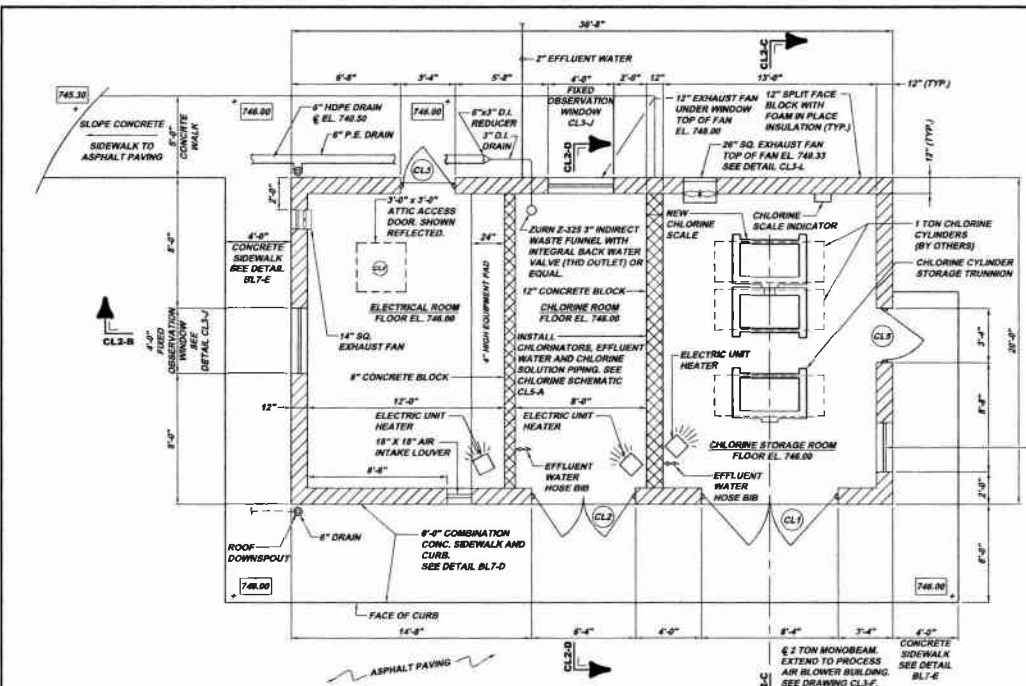
**KLH ENGINEERS, INC.**

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
CHLORINE BUILDING ELEVATIONS

Scale:	As Shown
Date:	July 2009
Drawn By:	TCD
Checked By:	HOE
Approved By:	BSG

Drawing No:  
**220-CL1**





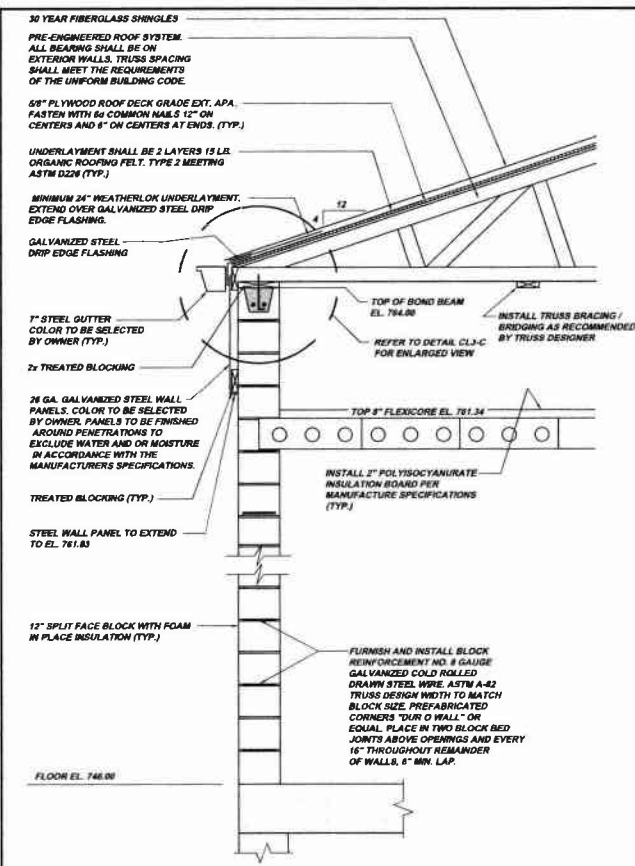
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**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
**ALLEGHENY COUNTY, PENNSYLVANIA**  
**CONTRACT NUMBER 2010-01 AND 2010-02**  
**WASTEWATER TREATMENT PLANT EXPANSION**  
**CHLORINE BUILDING PLANS AND SECTIONS**

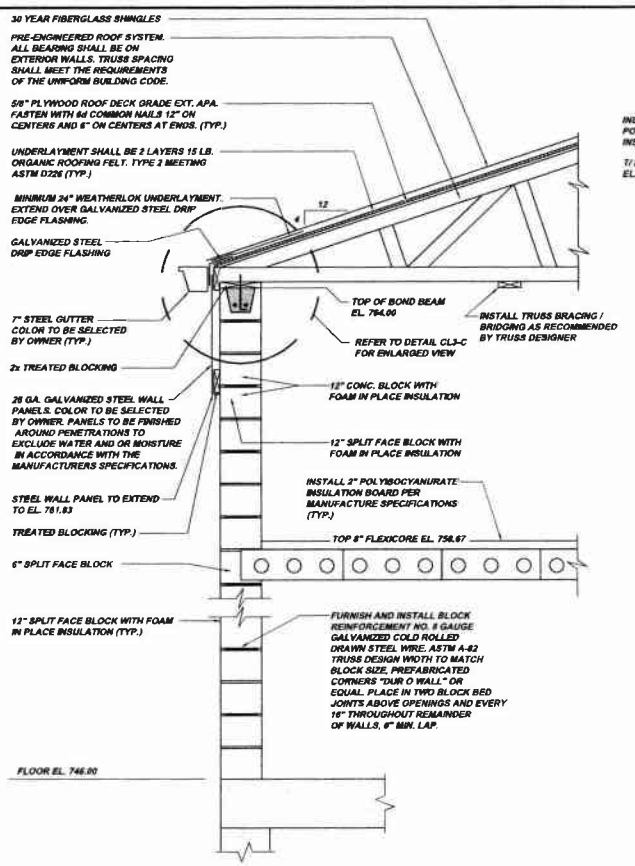
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 Date: July 2009  
 Drawn By: TCD  
 Checked By: HOF  
 Approved By: SUC

Sheet No. 2  
 Drawing No. 220-CL2

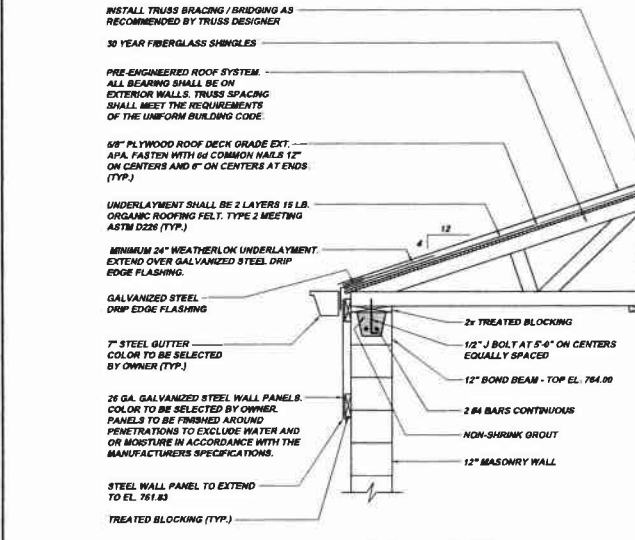




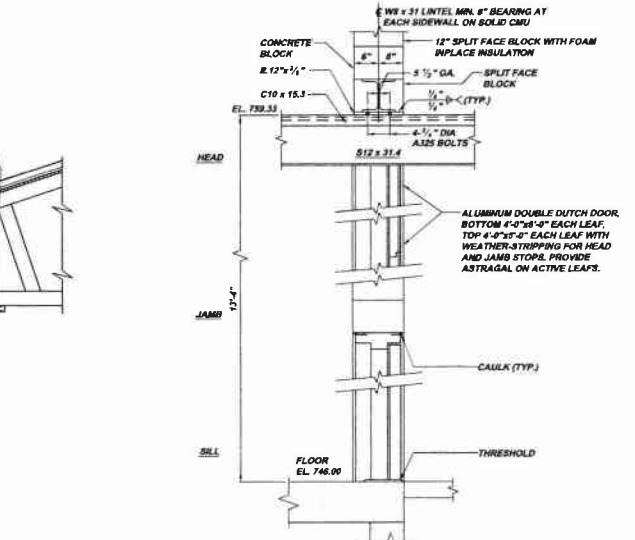
**WALL SECTION CL3-A (CHLORINE STORAGE ROOM)**  
SCALE: 3/4" = 1'-0"



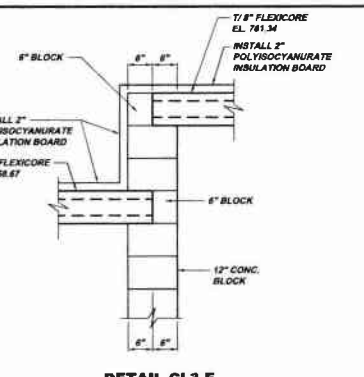
**WALL SECTION CL3-B (CHLORINE ROOM / ELECTRIC ROOM)**  
SCALE: 3/4" = 1'-0"



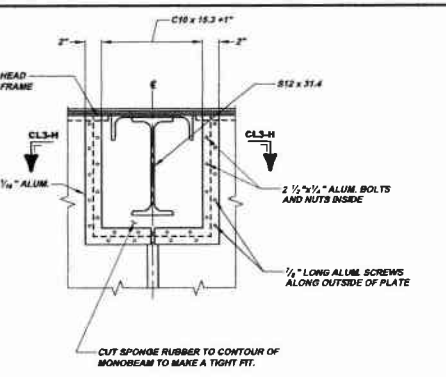
**ROOF DETAIL CL3-C**  
SCALE: 3/4" = 1'-0"



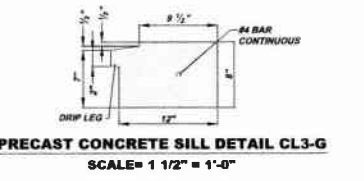
**MONOBEAM / DOOR DETAIL CL3-D**  
SCALE: 3/4" = 1'-0"



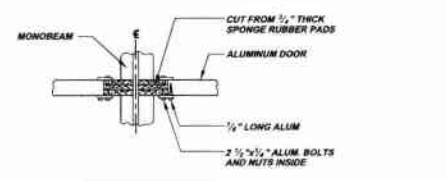
**DETAIL CL3-E**  
SCALE: 3/4" = 1'-0"



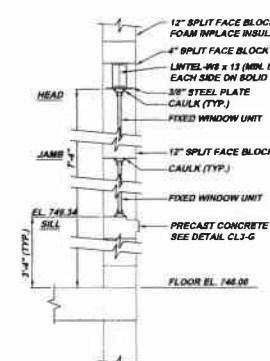
**DETAIL CL3-F**  
SCALE: 1 1/2" = 1'-0"



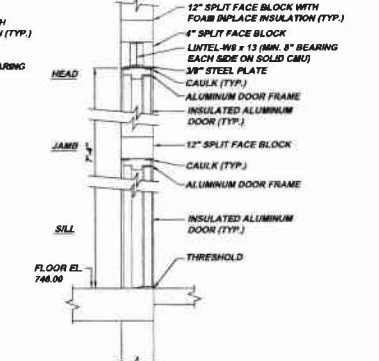
**PRECAST CONCRETE SILL DETAIL CL3-G**  
SCALE: 1 1/2" = 1'-0"



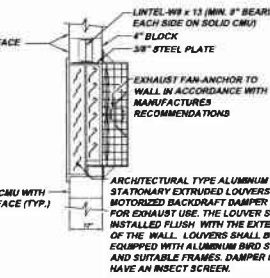
**SECTION CL3-H**  
SCALE: 1 1/2" = 1'-0"



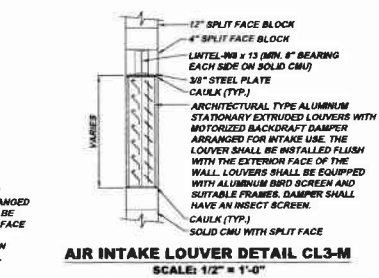
**FIXED WINDOW DETAIL CL3-J**  
SCALE: 1/2" = 1'-0"



**EXTERIOR DOOR DETAIL CL3-K**  
SCALE: 1/2" = 1'-0"



**EXHAUST FAN DETAIL CL3-L**  
SCALE: 1/2" = 1'-0"



**AIR INTAKE LOUVER DETAIL CL3-M**  
SCALE: 1/2" = 1'-0"

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

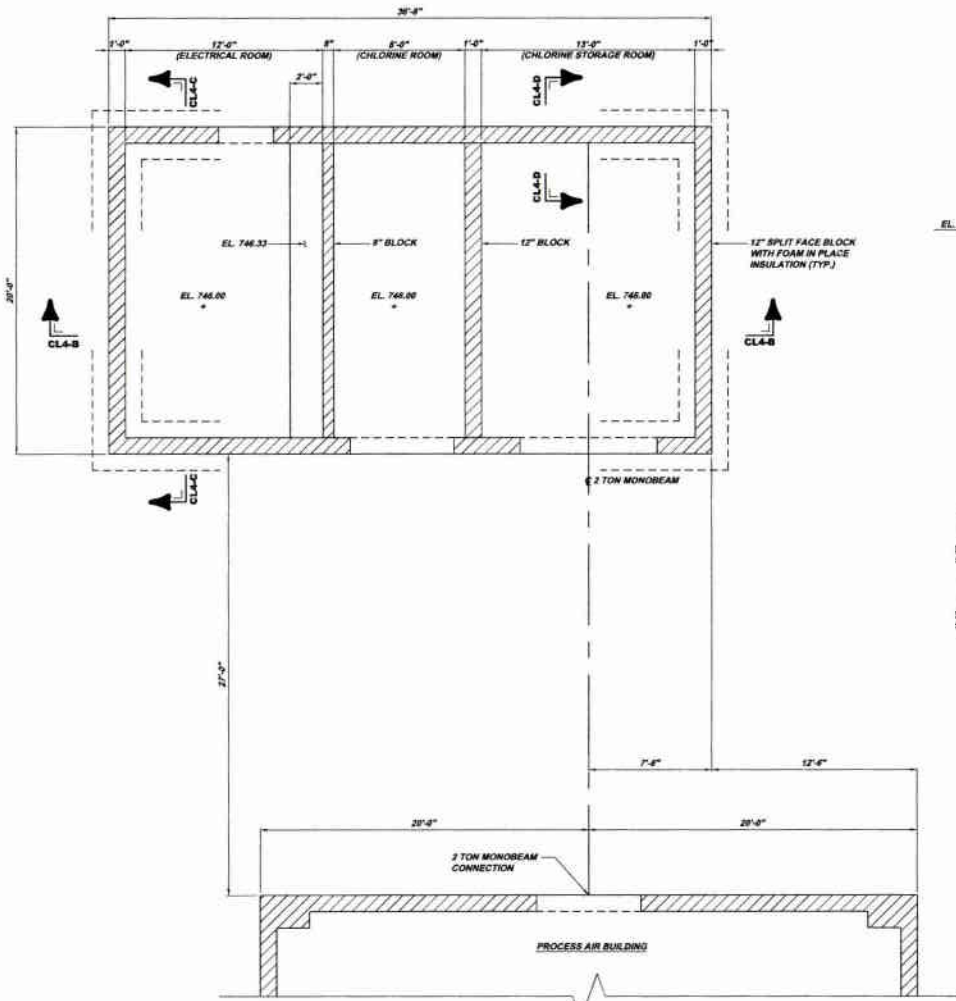
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Revision	97	DATE	7/20/09	BY	AS
Revision	98	DATE	7/20/09	BY	AS
Revision	99	DATE	7/20/09	BY	AS
Revision	100	DATE	7/20/09	BY	AS

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
CHLORINE BUILDING SECTIONS AND DETAILS

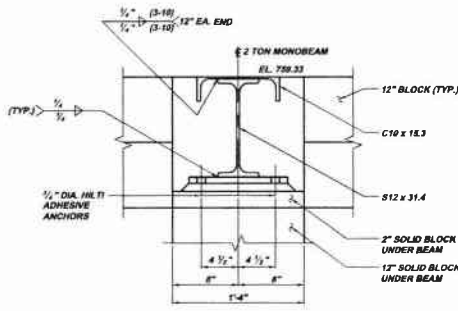
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Date: July 2009  
Drawn By: TCD  
Checked By: HOF  
Approved By: SWS  
Sheet No. 3  
Drawing No. 220-CL3



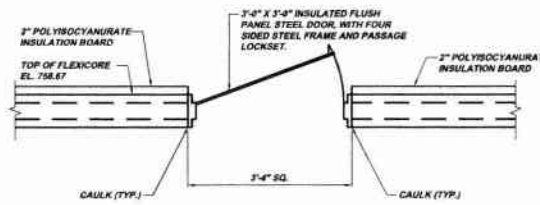
5172 CAMPBELL RUN ROAD  
PITTSBURGH, PA 15203  
Phone: 412-484-0228  
Fax: 412-484-0229  
info@klhengineers.com



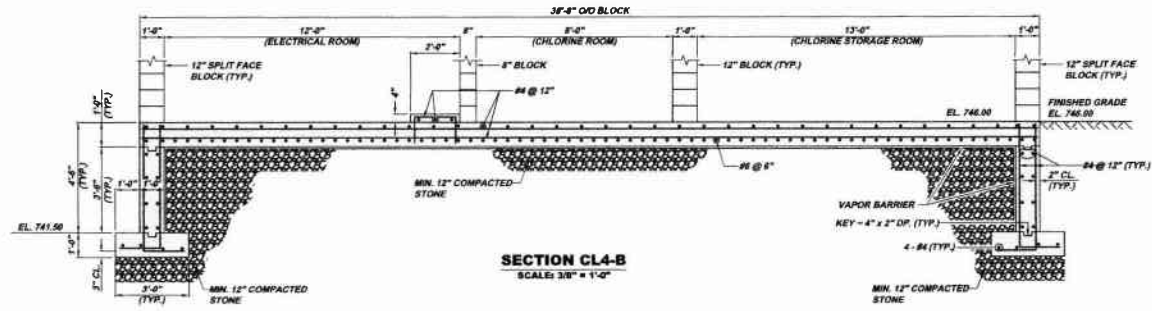
**CHLORINE BUILDING FOUNDATION PLAN CL4-A**  
SCALE: 1/4" = 1'-0"



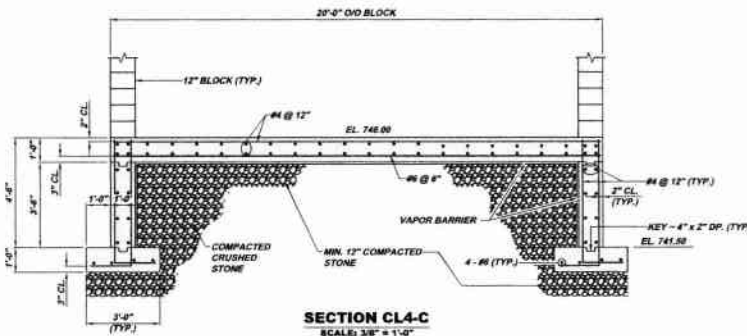
**SECTION CL4-E**  
SCALE: 1 1/2" = 1'-0"



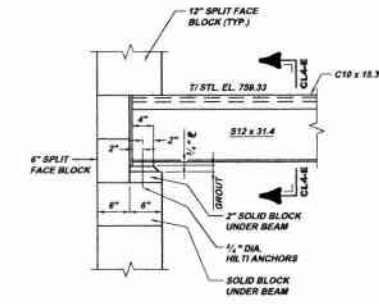
**ATTIC ACCESS DETAIL CL4-G**  
SCALE: 3/4" = 1'-0"



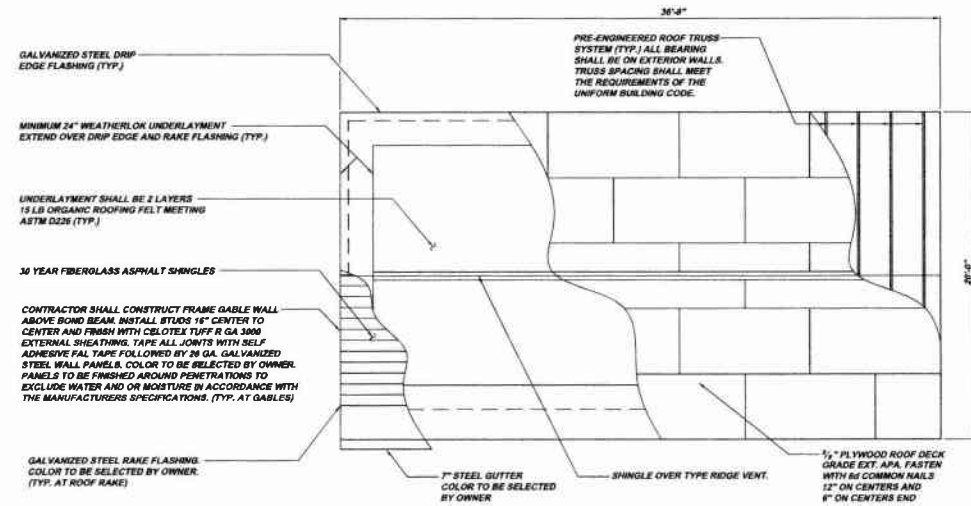
**SECTION CL4-B**  
SCALE: 3/8" = 1'-0"



**SECTION CL4-C**  
SCALE: 3/8" = 1'-0"



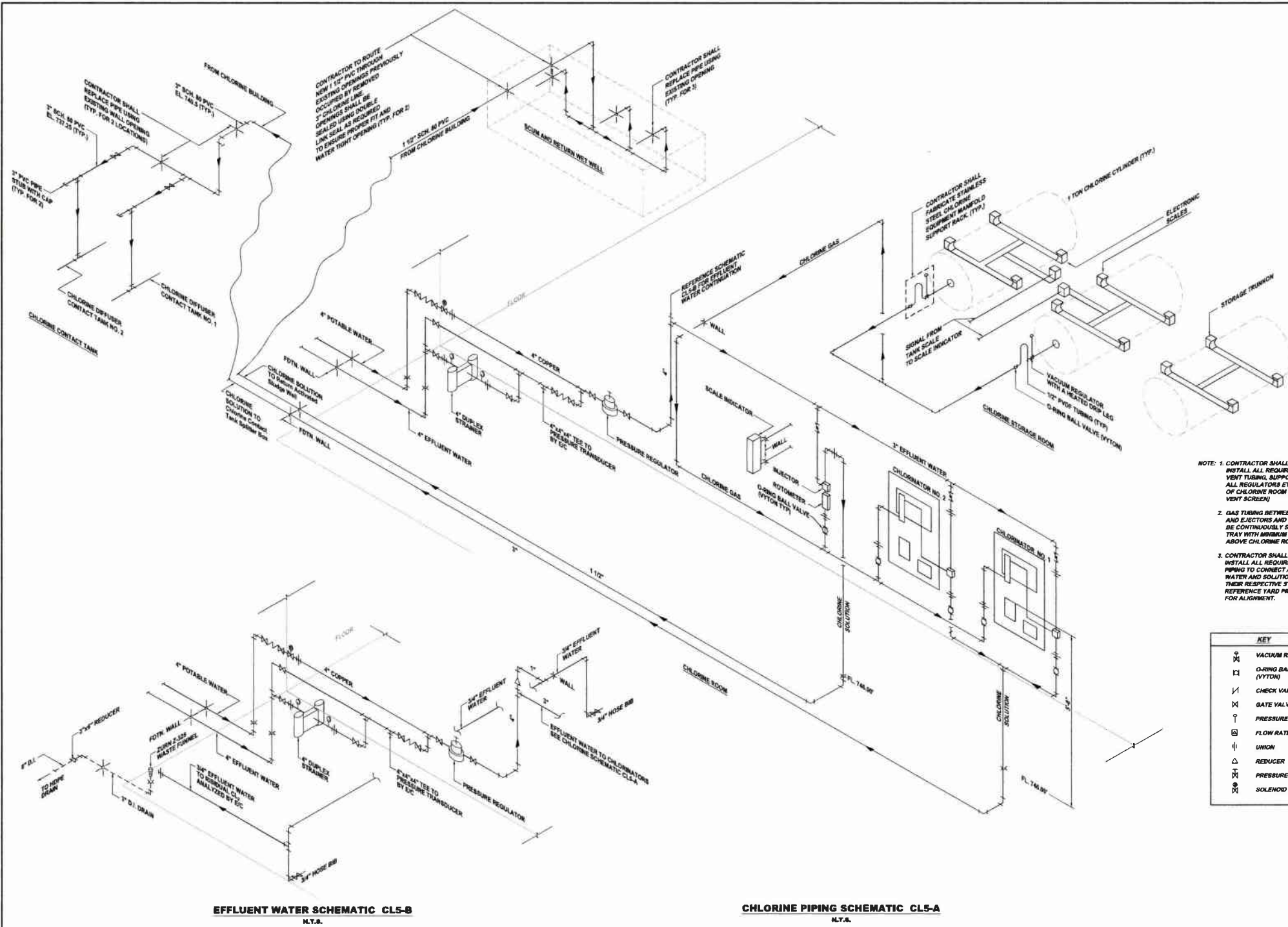
**SECTION CL4-D**  
SCALE: 1" = 1'-0"



**CHLORINE BUILDING ROOF PLAN CL4-F**  
SCALE: 1/4" = 1'-0"

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items identified with Mixed Case Text are Existing.

Revision	Date	Revised By
DP SUBMITTAL		
DP SUBMITTAL		
RELEASE FOR MD		
Date	Drawn By	Checked By
7/1/09	TCD	ROF
1/30/08		
1/28/11		
5173 CAMPBELL BLVD PITTSBURGH, PA 15205 1500 412-940-5200 FAX: 412-940-5200 INFO@KLHENGINEERS.COM		
<b>KLH ENGINEERS, INC.</b>		
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT ALLEGHENY COUNTY, PENNSYLVANIA CONTRACT NUMBER 2010-01 AND 2010-02 WASTEWATER TREATMENT PLANT EXPANSION CHLORINE BUILDING PLANS, SECTIONS AND DETAILS		
Scale:	As Shown:	Sheet No.
Date:	July 2009	4
Drawn By:	TCD	
Checked By:	ROF	
Approved By:	SHS	
Drawing No. <b>220-CL4</b>		



**EFFLUENT WATER SCHEMATIC CL5-B**  
N.T.S.

**CHLORINE PIPING SCHEMATIC CL5-A**  
N.T.S.

- NOTE:**
1. CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED MATERIALS, VENT TUBING, SUPPORTS AND VENT ALL REGULATORS ETC TO OUTSIDE OF CHLORINE ROOM WALL. (BA WITH VENT SCREEN)
  2. GAS TUBING BETWEEN REGULATORS AND INJECTORS AND VENT TUBING TO BE CONTINUOUSLY SUPPORTED IN TRAY WITH MINIMUM 7'-0" HEADROOM ABOVE CHLORINE ROOM FLOOR.
  3. CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED YARD PIPING TO CONNECT ALL SUPPLY WATER AND SOLUTION LINES TO THEIR RESPECTIVE SYSTEM. REFERENCE YARD PIPING PLANS FOR ALIGNMENT.

KEY	
	VACUUM REGULATOR
	O-RING BALL VALVE (VYTDN)
	CHECK VALVE
	GATE VALVE
	PRESSURE GAUGE
	FLOW RATE INDICATOR
	UNION
	REDUCER
	PRESSURE REGULATOR
	SOLENOID VALVE

**NOTE:**  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

Scale:	As Shown
Date:	July 2009
Drawn By:	MKE
Checked By:	RFK
Approved By:	SHG
Sheet No.:	5
Drawing No.:	220-CL5

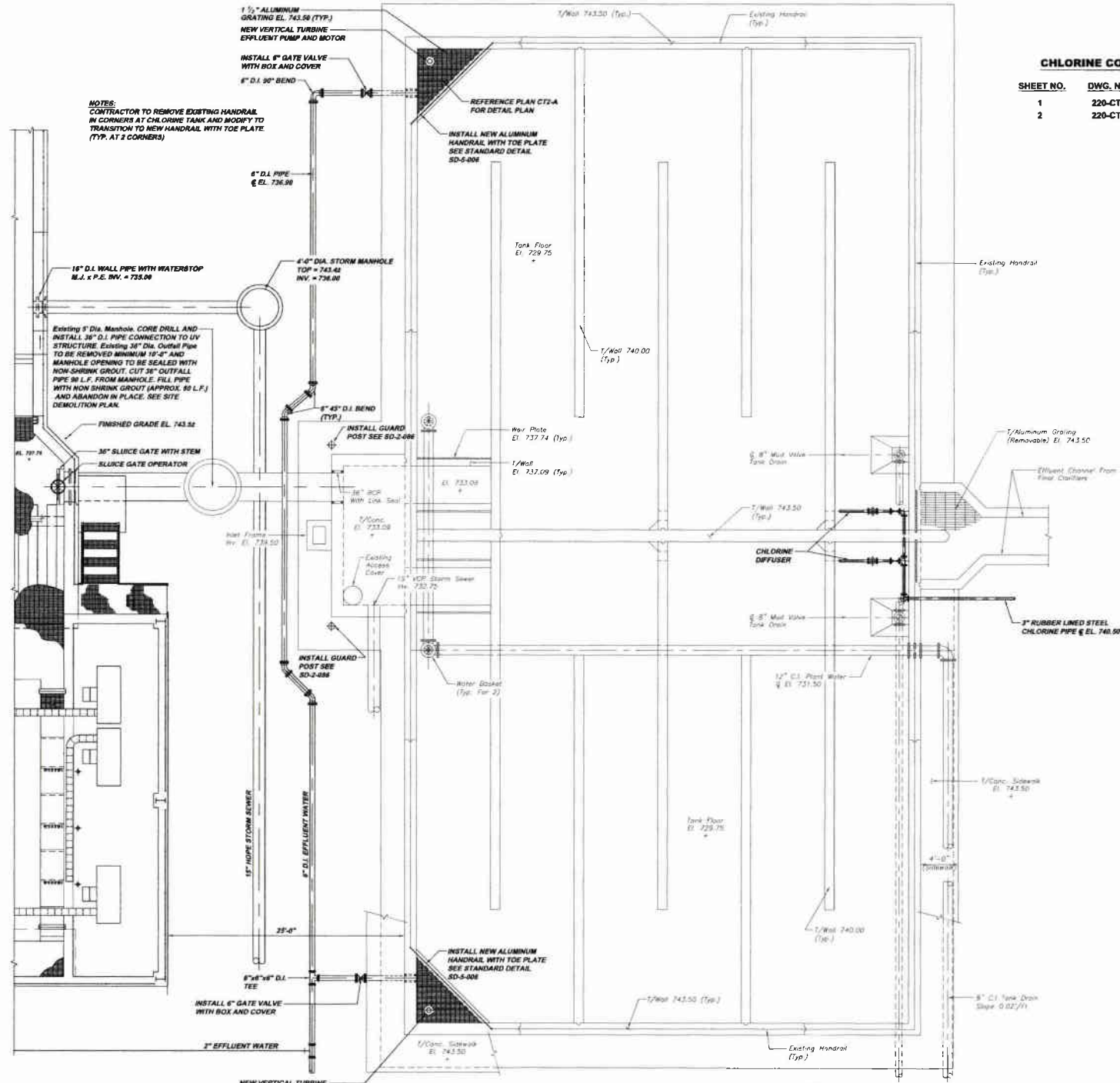
**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
SCHEMATIC DIAGRAMS

**KLH ENGINEERS, INC.**

5173 CAMPBELL BLVD. ROAD  
PITTSBURGH, PA 15205  
PHONE: 412-944-0388  
FAX: 412-944-0388  
INFO@KLHENGINEERS.COM

Date:	12-14-07	Revisions:	
Date:	12-14-08	Revised:	
Date:	10-08	Revised:	
Date:	12-01-11	Revised:	





**CHLORINE CONTACT TANKS DRAWING REFERENCE**

SHEET NO.	DWG. NO.	DESCRIPTION
1	220-CT1	CHLORINE CONTACT TANK PLAN
2	220-CT2	PLANS & SECTIONS

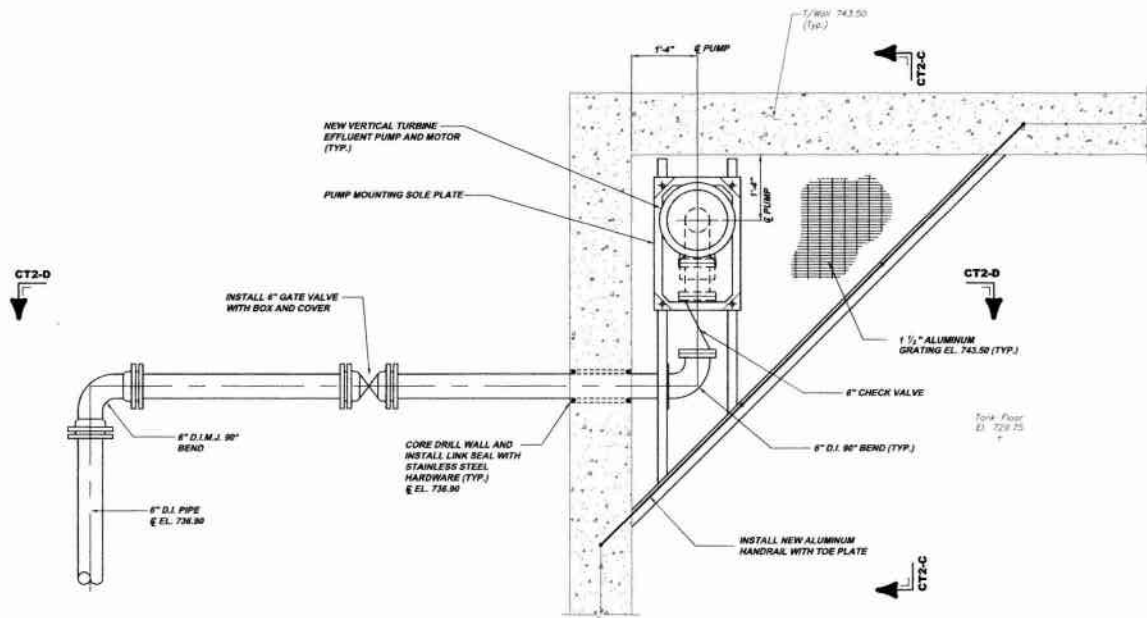
**NOTES:**  
 CONTRACTOR TO REMOVE EXISTING HANDRAIL IN CORNERS AT CHLORINE TANK AND BODY TO TRANSITION TO NEW HANDRAIL WITH TOE PLATE (TYP. AT 2 CORNERS)

**EXISTING CHLORINE CONTACT TANK PLAN CT1-A**  
 SCALE 3/16" = 1'-0"

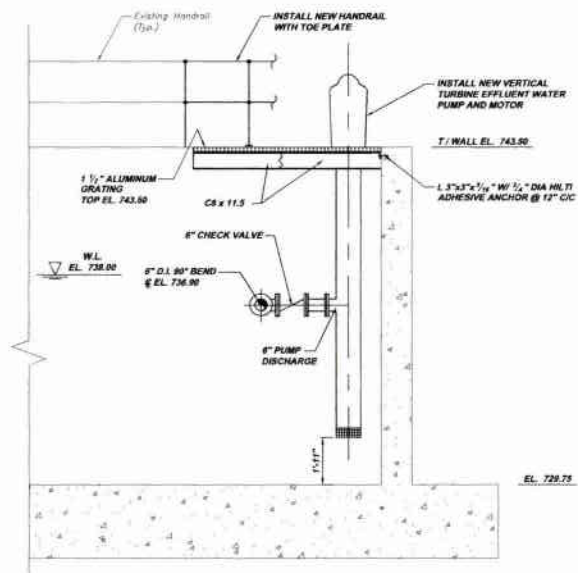
**NOTE:**  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

Revisions					
Date	Description	By	Checked	Approved	Scale
1/28/11	RELEASE FOR BID				
<p>8175 CAMPBELL RIV. RD. #3        PITTSBURGH, PA 15203        PHONE: 412-444-0338        INFO@KLHENGINEERS.COM</p> <p><b>KLH ENGINEERS, INC.</b></p>					
<p><b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b>        ALLEGHENY COUNTY, PENNSYLVANIA        CONTRACT NUMBER 2010-01 AND 2010-02        WASTEWATER TREATMENT PLANT EXPANSION        CHLORINE CONTACT TANK PLAN</p>					
As Shown	October 2009	DRG	HCF	SHO	Sheet No.
Scale:	Date:	Drawn By:	Checked By:	Approved By:	1
					Drawing No.
					<b>220-CT1</b>

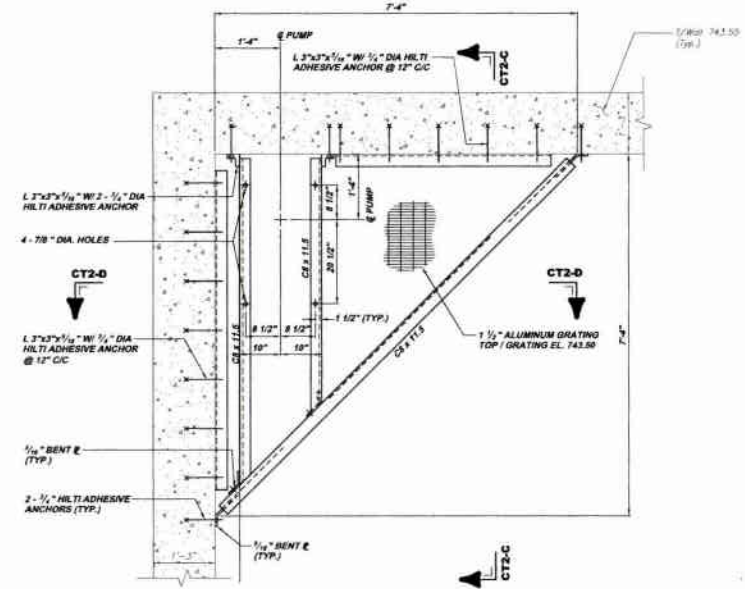
NOTES:  
 VIEWS REPRESENT INSTALLATION OF PUMP ON  
 NORTH WALL OF BASIN AND SHALL BE OPPOSITE  
 HAND FOR SOUTH WALL INSTALLATION.



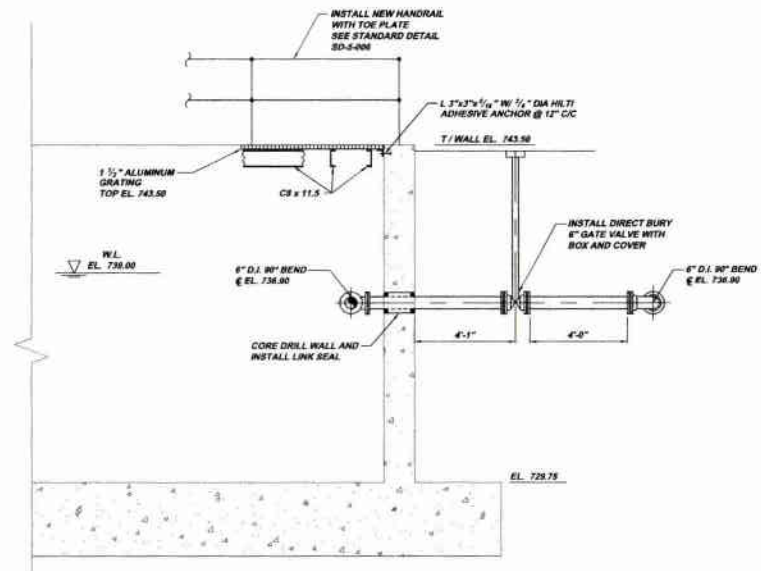
**EFFLUENT PUMP PLAN CT2-A**  
 SCALE 3/4" = 1'-0"  
 REFERENCE PLAN CT1-A  
 (TYP. AND OPPOSITE HAND)



**SECTION CT2-C**  
 SCALE 3/8" = 1'-0"  
 REFERENCE PLAN CT1-A, CT2-A & CT2-B



**STRUCTURAL PLAN CT2-B**  
 SCALE 3/4" = 1'-0"  
 REFERENCE PLAN CT1-A  
 (TYP. AND OPPOSITE HAND)



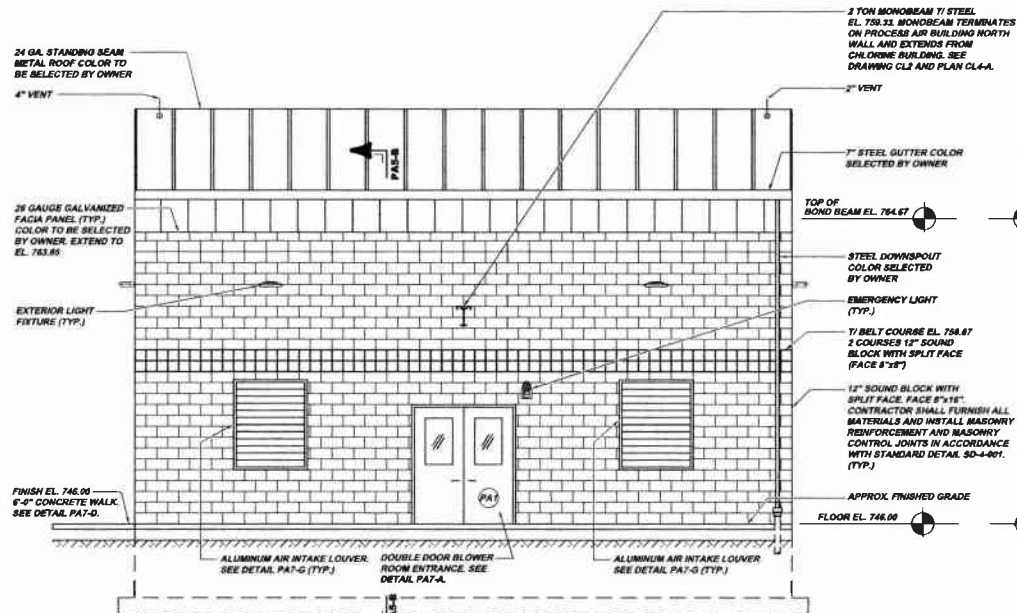
**SECTION CT2-D**  
 SCALE 3/8" = 1'-0"  
 REFERENCE PLAN CT1-A, CT2-A & CT2-B

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

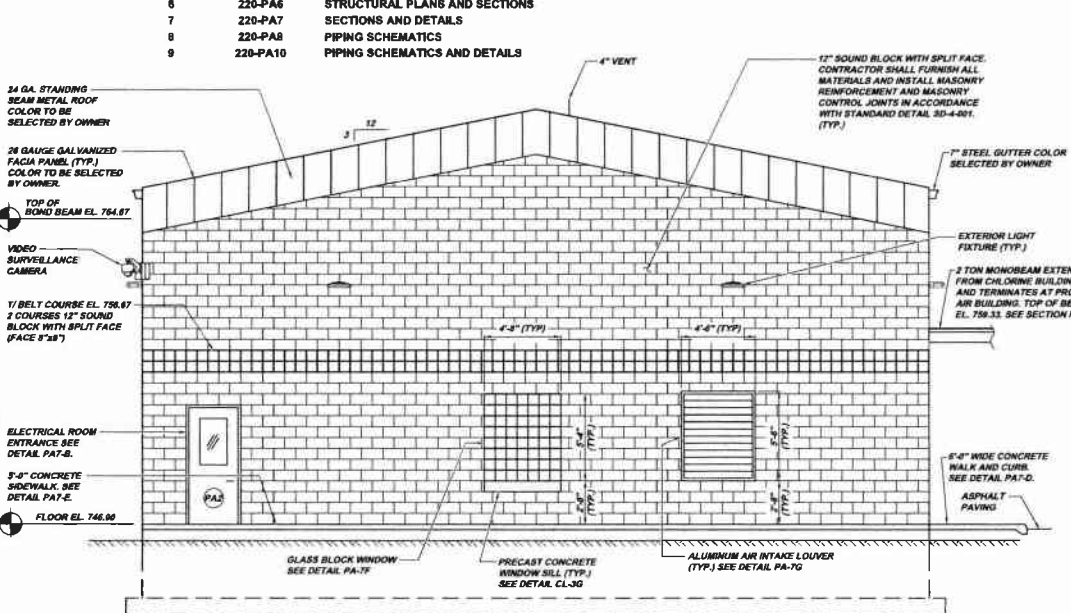
Revisions	Revisions	Revisions	Revisions
Date	Date	Date	Date
RELEASE FOR BID			
12/2011			
5173 CAMPBELL BLVD. ROAD PITTSBURGH, PA 15206 Phone: 412-944-0333 Fax: 412-944-0338 info@klhengineers.com			
<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> ALLEGHENY COUNTY, PENNSYLVANIA CONTRACT NUMBER 2010-01 AND 2010-02 WASTEWATER TREATMENT PLANT EXPANSION CHLORINE CONTACT TANK PLAN AND SECTIONS			
As Shown	October 2009	DRG	
Drawn By:		NOF	
Checked By:			
Approved By:			
Sheet No.	2		
Drawing No.	220-CT2		

**PROCESS AIR BUILDING DRAWING REFERENCE**

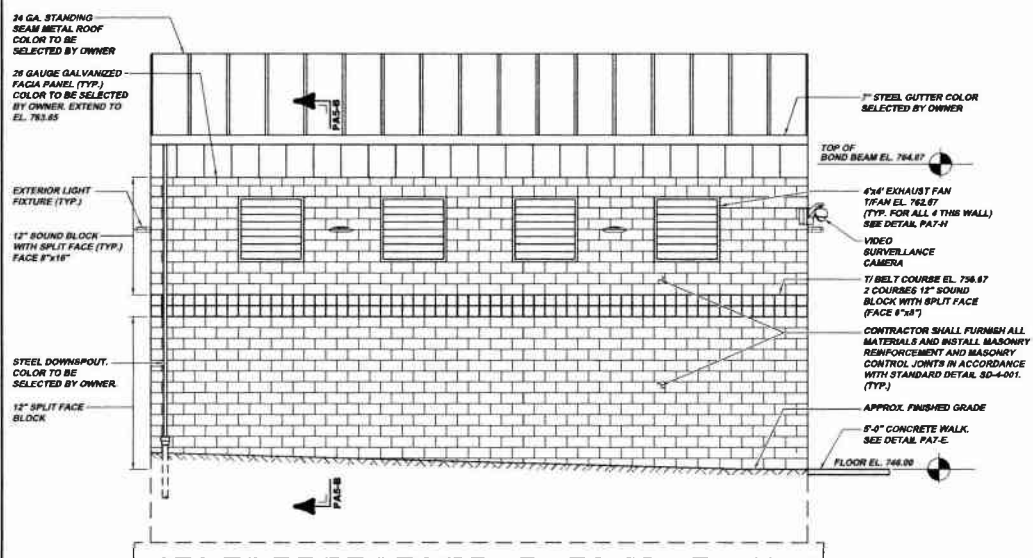
SHEET NO.	DWG. NO.	DESCRIPTION
1	220-PA1	BUILDING ELEVATIONS
2	220-PA2	BUILDING PLANS AND DETAILS
3	220-PA3	BUILDING SECTIONS
4	220-PA4	BUILDING SECTIONS AND DETAILS
5	220-PA5	ROOF PLAN, SETIONS AND DETAILS
6	220-PA6	STRUCTURAL PLANS AND SECTIONS
7	220-PA7	SECTIONS AND DETAILS
8	220-PA8	PIPING SCHEMATICS
9	220-PA10	PIPING SCHEMATICS AND DETAILS



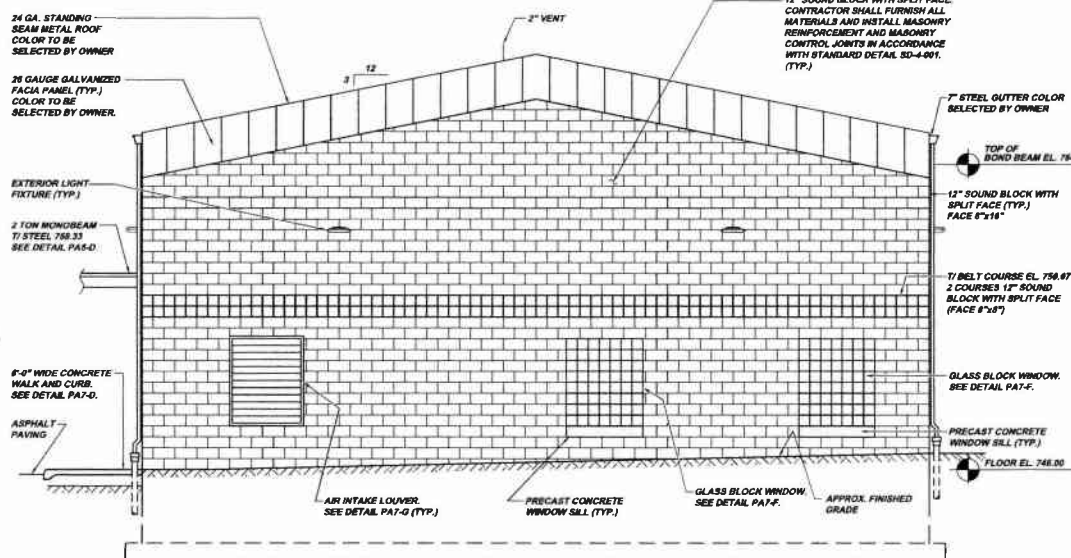
**PROCESS AIR BUILDING NORTH ELEVATION PA1-A**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE PLAN PA2-A & PA2-B



**PROCESS AIR BUILDING EAST ELEVATION PA1-B**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE PLAN PA2-A & PA2-B



**PROCESS AIR BUILDING SOUTH ELEVATION PA1-C**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE PLAN PA2-A & PA2-B



**PROCESS AIR BUILDING WEST ELEVATION PA1-D**  
 SCALE: 1/4" = 1'-0"  
 REFERENCE PLAN PA2-A & PA2-B

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 ITEMS IDENTIFIED WITH MIXED CASE TEXT ARE EXISTING.

Revision	Date	Revised By
1	7-27-09	DSP
2	10-08	REVIEWED
3	12-01	RELEASE FOR BID

5177 CARROLLLEIGH PL. SUITE 200  
 PITTSBURGH, PA 15109  
 PHONE: 412-444-0030  
 FAX: 412-444-0031  
 INFO@KLHENGINEERS.COM

**KLH ENGINEERS, INC.**

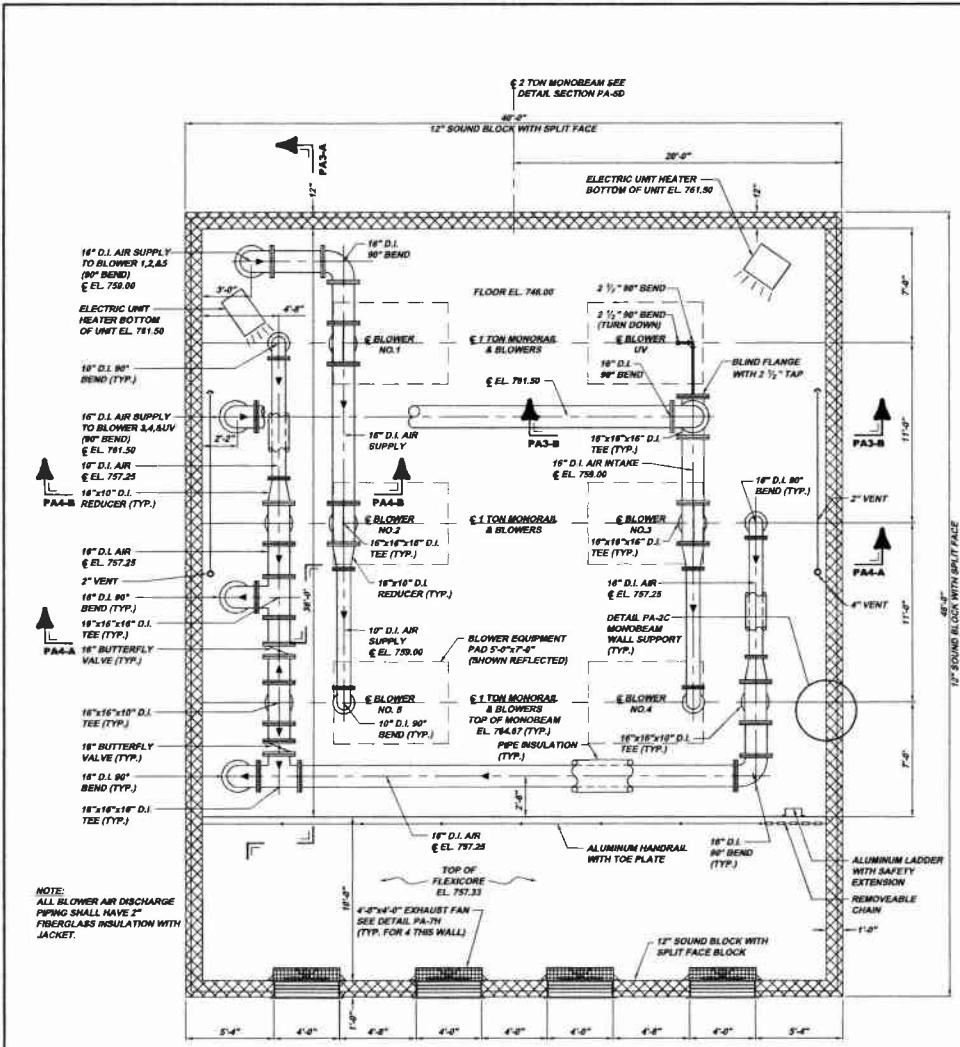
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 PROCESS AIR BUILDING ELEVATIONS

Scale:	As Shown
Date:	July 2009
Drawn By:	DMB
Checked By:	HCP
Approved By:	SHG

Sheet No. 1

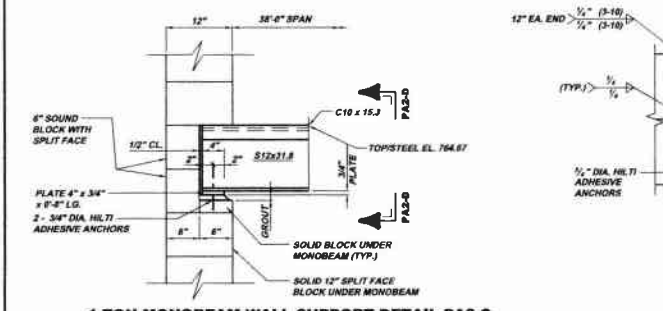
Drawing No. 220-PA1





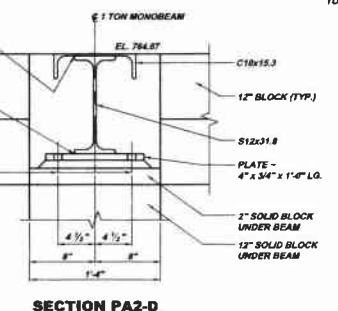
**PROCESS AIR BUILDING UPPER PIPING PLAN PA2-A**

SCALE: 1/4" = 1'-0"  
REFERENCE PLAN PA2-B



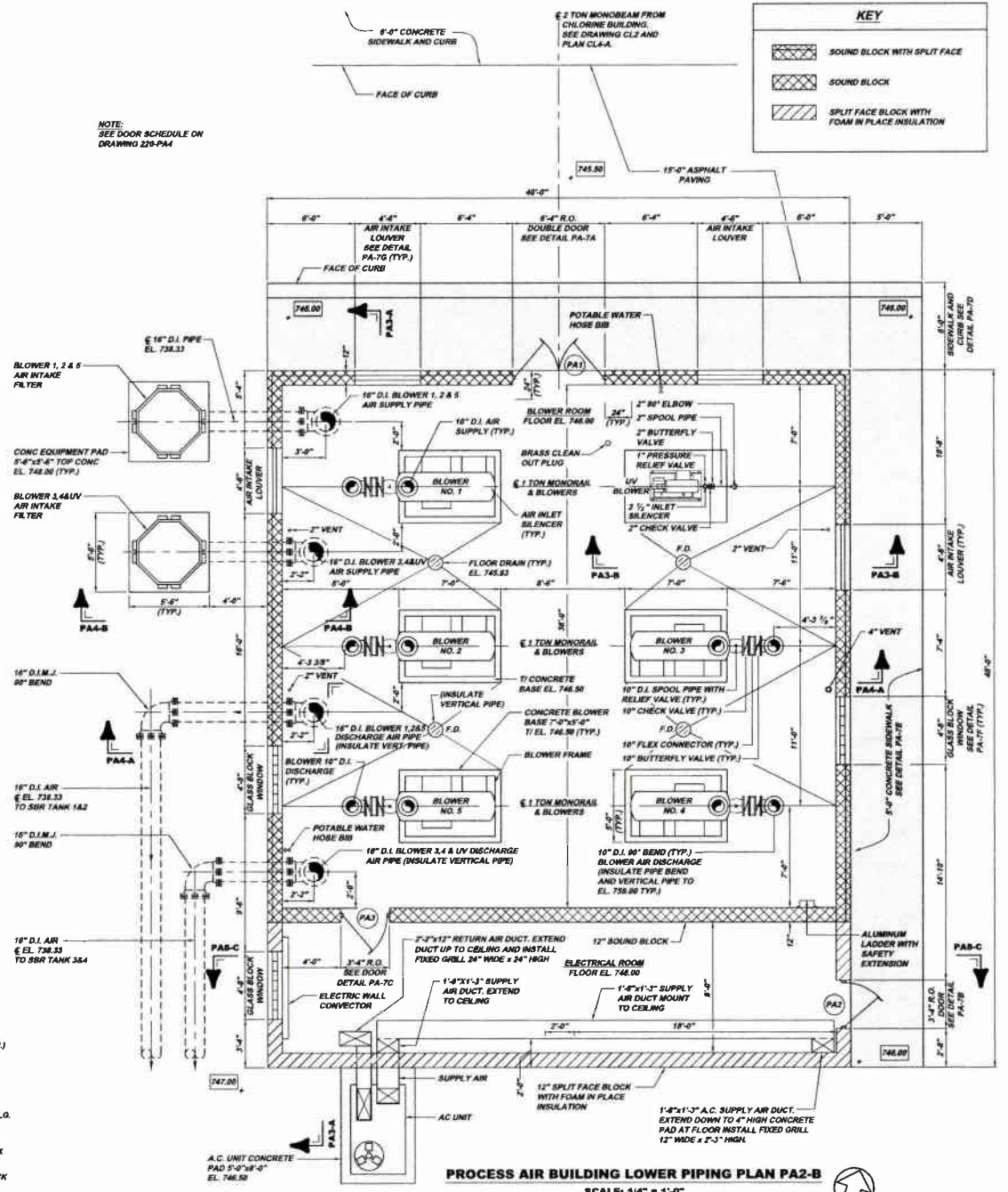
**1 TON MONOBEAM WALL SUPPORT DETAIL PA2-C**

SCALE: 1" = 1'-0"  
(TYP. AND OPPOSITE HAND)  
REFERENCE SECTION PA2-A



**SECTION PA2-D**

SCALE: 1/2" = 1'-0"  
REFERENCE SECTION PA2-C



**PROCESS AIR BUILDING LOWER PIPING PLAN PA2-B**

SCALE: 1/4" = 1'-0"  
REFERENCE PLAN PA2-A

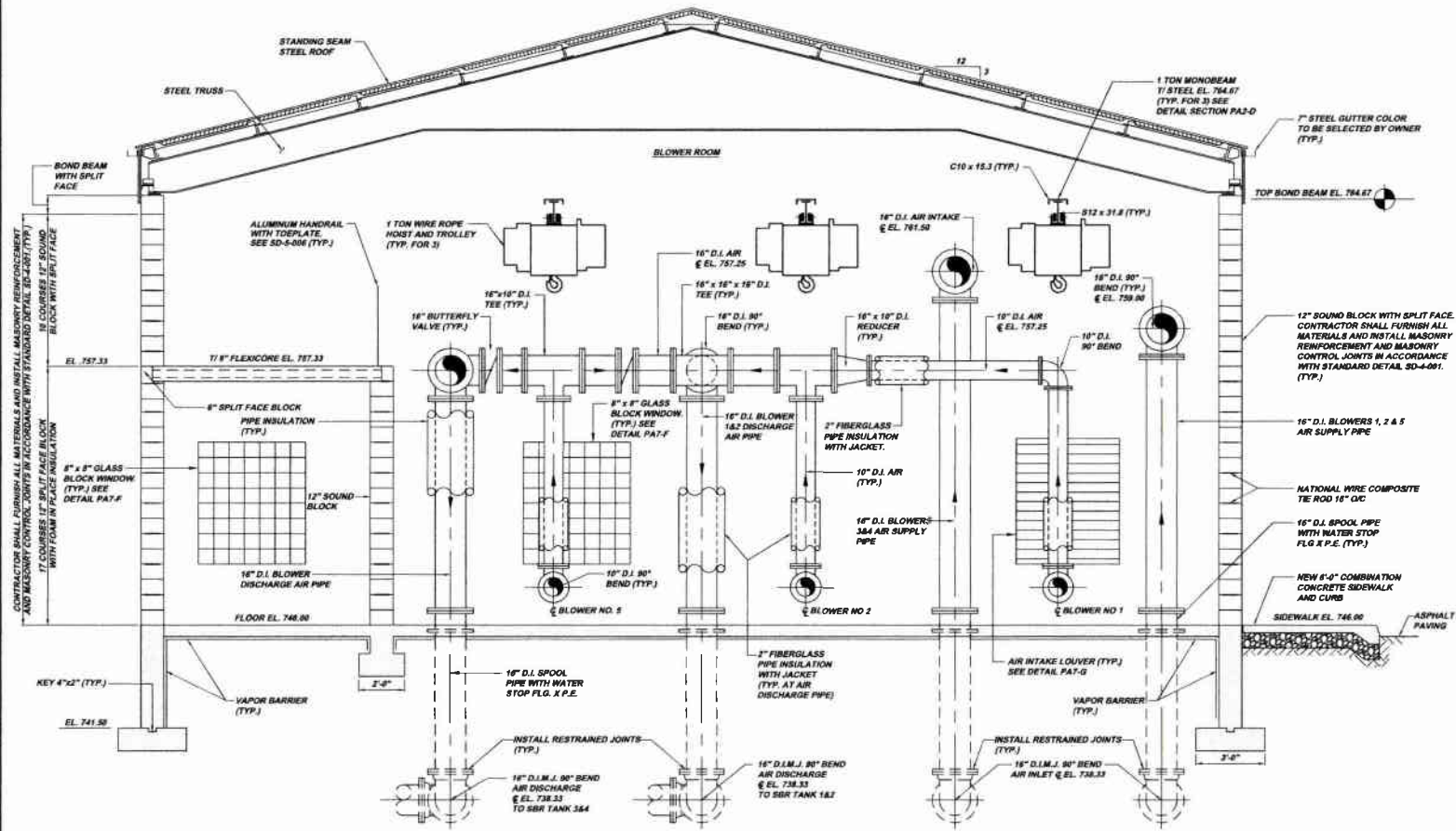
NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED  
Items Identified with Lower Case Text are Existing.

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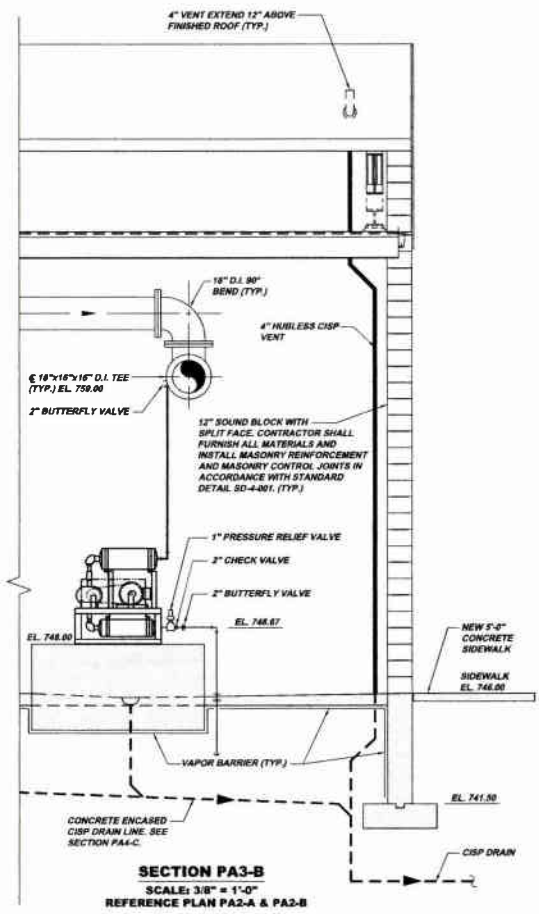


MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
PROCESS AIR BUILDING PLANS AND DETAILS

Scale:	As Shown
Date:	July 2008
Drawn By:	DMB
Checked By:	HCF
Approved By:	smg
Sheet No.:	2
Drawing No.:	220-PA2



**SECTION PA3-A**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN PA2-A & PA2-B



**SECTION PA3-B**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN PA2-A & PA2-B

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items identified with Mixed Case Text are Existing.

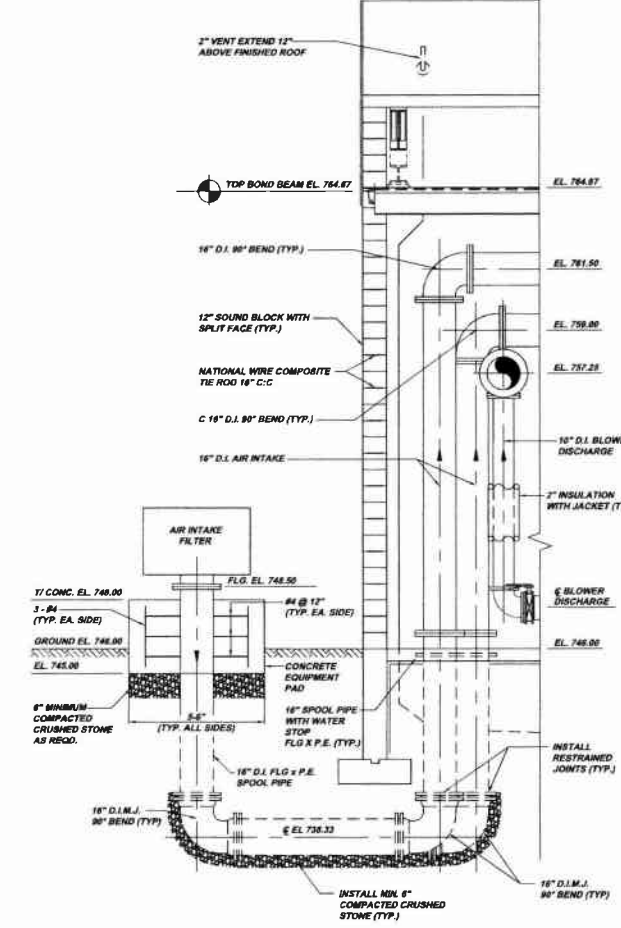
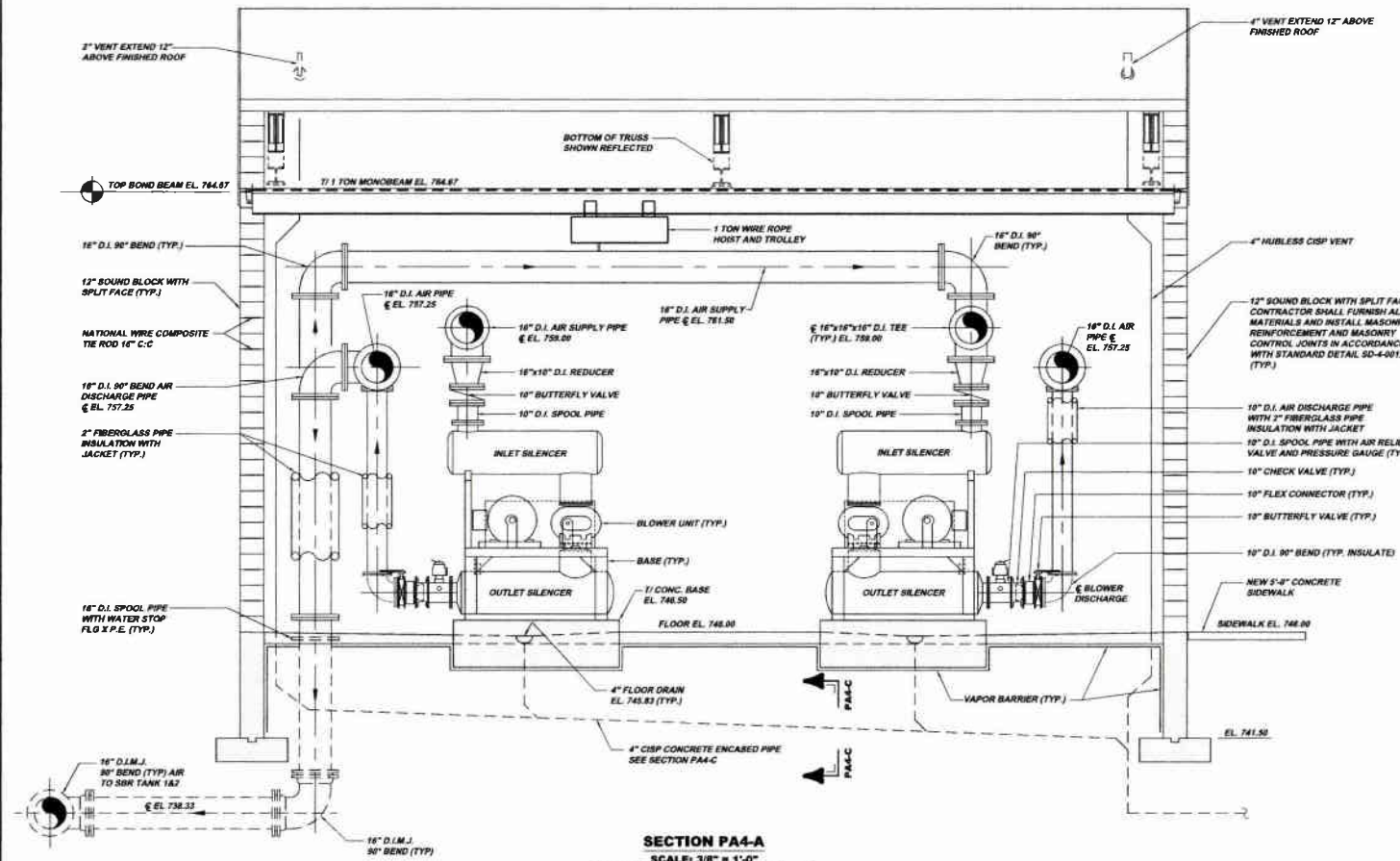
CONTRACTOR SHALL FURNISH ALL MATERIALS AND INSTALL MASONRY REINFORCEMENT AND MASONRY CONTROL JOINTS IN ACCORDANCE WITH STANDARD DETAIL SD-4-01 (TYP.) IN COURSES 17\"/>

Scale:	As Shown	Revision:	1-2011
Date:	July 2009	Revise:	15-09
Drawn By:	DMB	Revise:	15-09
Checked By:	HOF	Revise:	15-09
Approved By:	SHQ	Revise:	15-09
Sheet No.:	3	Revise:	15-09
Drawing No.:	220-PA3	Revise:	15-09

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 PROCESS AIR BUILDING SECTIONS

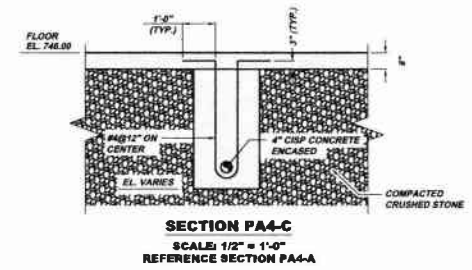
**KLH ENGINEERS, INC.**  
 5173 CHAMBERLAIN ROAD  
 PITTSBURGH, PA 15205  
 PHONE: 412-442-3333  
 FAX: 412-442-3334  
 INFO@KLHENGINEERS.COM





PROCESS AIR BUILDING DOOR SCHEDULE (ALL HARDWARE US 32 FINISH)

MARK	LOCATION	DOOR DESCRIPTION	DIMENSIONS (ROUGH OPENING)	LOCKSET (SARGENT FINISH US 32)	HINGE (FINISH US 32)	CLOSER (LCH)	THRESHOLD (NATIONAL GUARD)	KICKPLATE (ROCK WOOD)	WEATHER STRIP (NATIONAL GUARD)	DOOR STOP (ROCKWOOD)
PA1	EXTERIOR NORTH WALL BLOWER ROOM ENTRANCE	CLINE INSULATED ALUMINUM DOUBLE DOOR WITH ALUMINUM FRAME EACH DOOR PANEL 3'-0" x 7'-0" WITH HALF GLASS	6'-4" x 7'-4"	VERTICAL ROD EXT DEVICE SERIES #700 WITH ETL TRIM EACH PANEL	MCKINNEY STAINLESS STEEL CONTIGUOUS TYPE (HEAVY DUTY RATED)	1460 ADA COMPLIMENT EACH PANEL	425	10" HIGH x .050"	160 SDBK PERIMETER SEAL 161 VDKS SWEEP 140 BDKS ASTRAGAL	
PA2	EXTERIOR EAST WALL ELECTRIC ROOM ENTRANCE	CLINE INSULATED ALUMINUM DOOR WITH ALUMINUM FRAME DOOR PANEL 3'-0" x 7'-0" WITH HALF GLASS	3'-4" x 7'-4"	MORTISE PANIC TYPE EXIT DEVICE SERIES #900 WITH ETL TRIM	MCKINNEY STAINLESS STEEL CONTIGUOUS TYPE (HEAVY DUTY RATED)	1460 ADA COMPLIMENT	425	10" HIGH x .050"	160 SDBK PERIMETER SEAL 161 VDKS SWEEP	
PA3	INTERIOR BLOWER ROOM	CECO CORP METAL DOOR FLUSH PANEL 1-AIR FIRE RATED	3'-4" x 7'-4"	MORTISE PANIC TYPE EXIT DEVICE SERIES #900 WITH ETL TRIM	HAGER BB 1191	1460 ADA COMPLIMENT		10" HIGH x .050"	160 SA PERIMETER SEAL	471



NOTE:  
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**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
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CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
PROCESS AIR BUILDING SECTIONS AND DETAILS

Revisions	Date	By	Appr.
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2	10-09	REVISED	HOE
3	12-01	RELEASE FOR BID	SHG

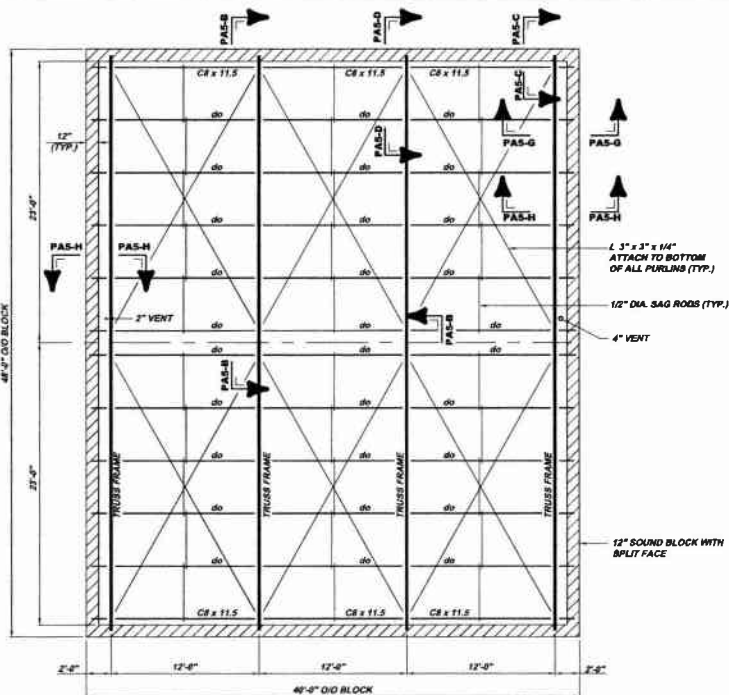
**KLH ENGINEERS, INC.**

8173 CAMPBELL RUN ROAD  
PITTSBURGH, PA 15203  
PHONE: 412-944-0333  
FAX: 412-944-0333  
WWW.KLHENGINEERS.COM

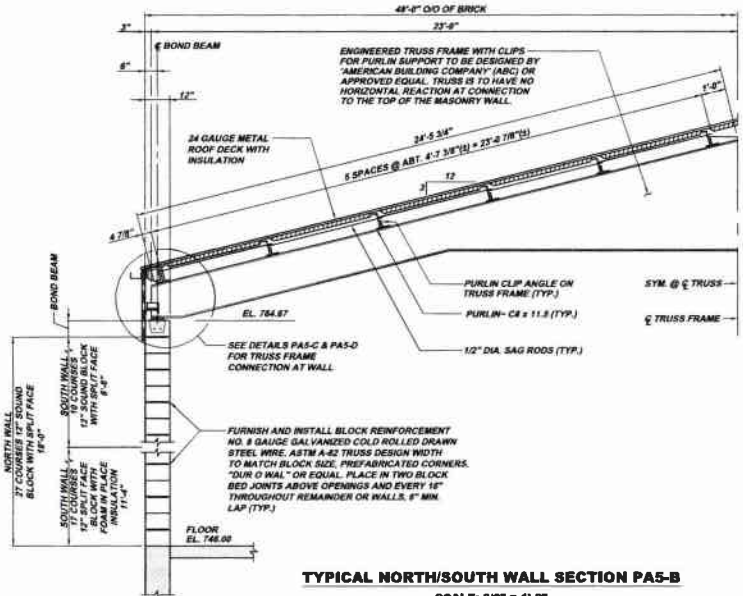
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Drawn By: DMB  
Checked By: HOE  
Approved By: SHG

Sheet No. 4  
Drawing No. 220-PA4

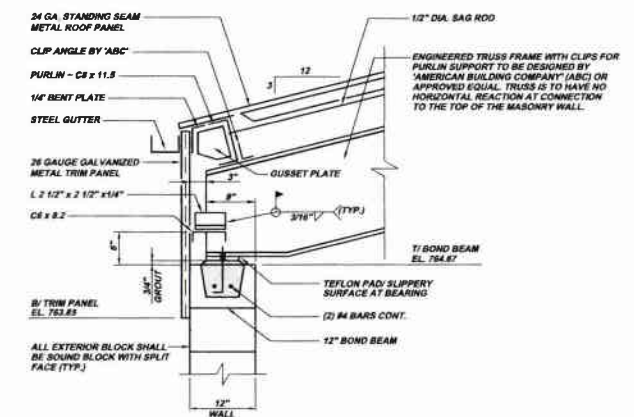




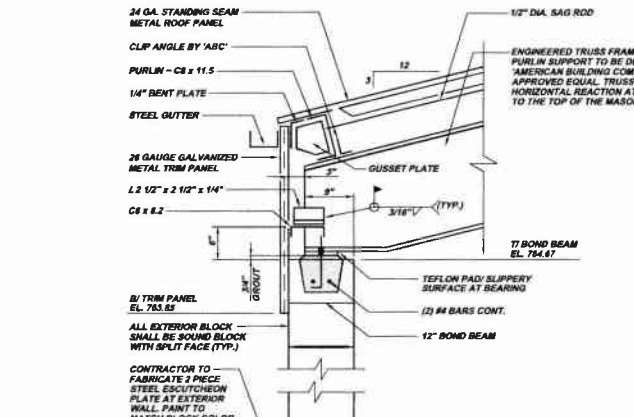
**PROCESS AIR BUILDING ROOF PLAN PA5-A**  
 SCALE: 3/16" = 1'-0"  
 REFERENCE PLAN PA2-A



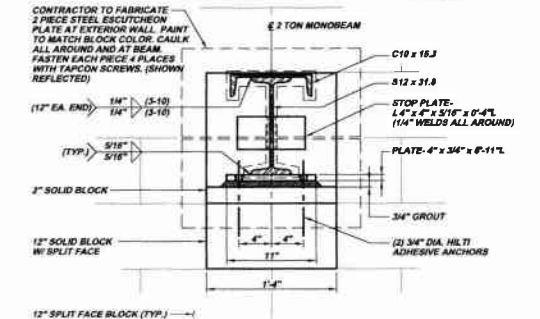
**TYPICAL NORTH/SOUTH WALL SECTION PA5-B**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN PAS-A



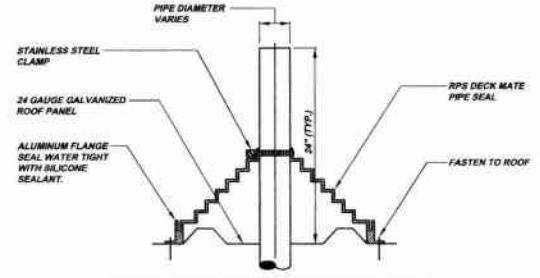
**SECTION PA5-C**  
 SCALE: 1" = 1'-0"  
 (TYP. AND OPPOSITE HAND)  
 REFERENCE PLAN PAS-A



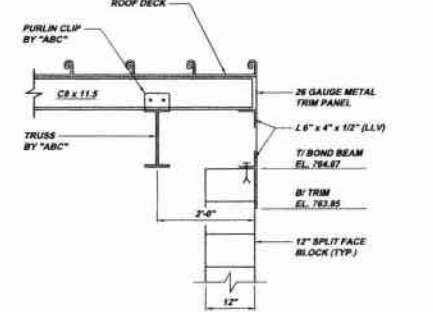
**DETAIL SECTION PA5-D**  
 SCALE: 1" = 1'-0"  
 REFERENCE PLAN PAS-A



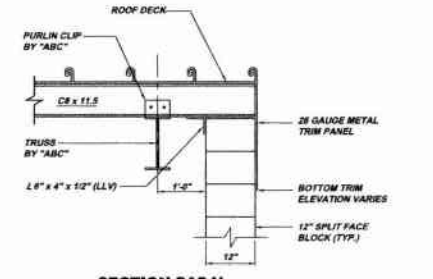
**SECTION PA5-E**  
 SCALE: 1 1/2" = 1'-0"  
 REFERENCE SECTION PA5-D



**METAL ROOF PIPE PENETRATION PA5-F**  
 SCALE: 1 1/2" = 1'-0"  
 REFERENCE PLAN PAS-A



**SECTION PA5-G**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN PAS-A



**SECTION PA5-H**  
 SCALE: 3/4" = 1'-0"  
 REFERENCE PLAN PAS-A

NOTE:  
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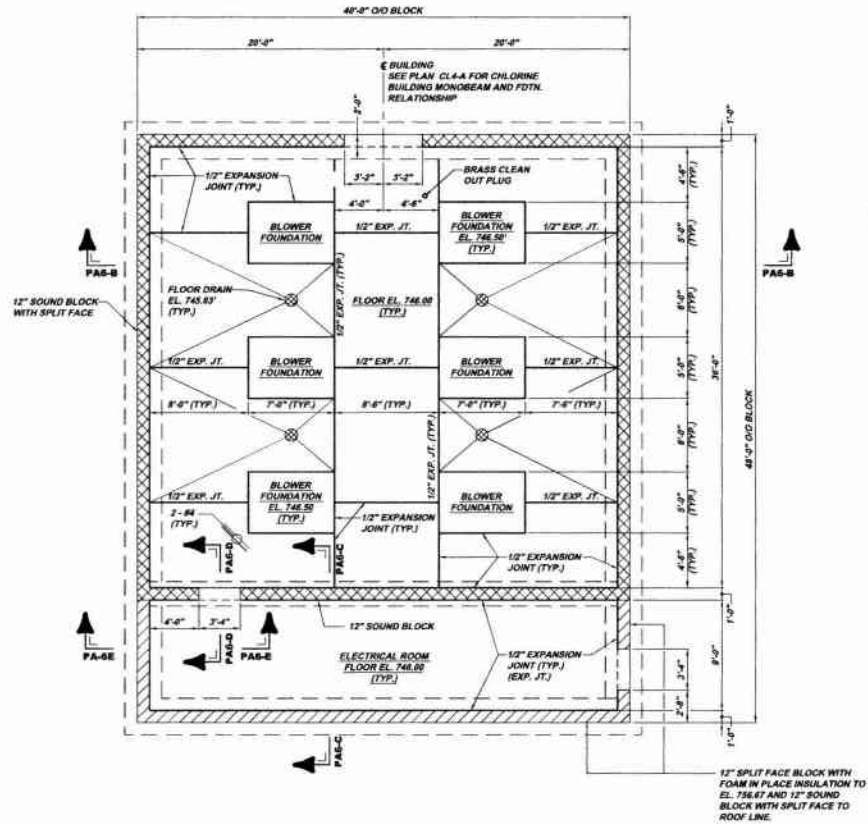
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Checked By:	NOF	Checked By:	NOF
Approved By:	BHQ	Approved By:	BHQ
Sheet No.:	5	Sheet No.:	5
Drawing No.:	220-PA5	Drawing No.:	220-PA5



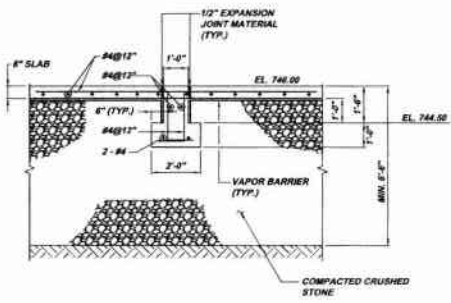
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 PROCESS AIR BUILDING ROOF PLAN, SECTIONS AND DETAILS

Revisions:	Revisions:
DWG SUBMITTAL	DWG SUBMITTAL
REVISED	REVISED
1/2011	1/2011
RELEASE FOR BID	RELEASE FOR BID

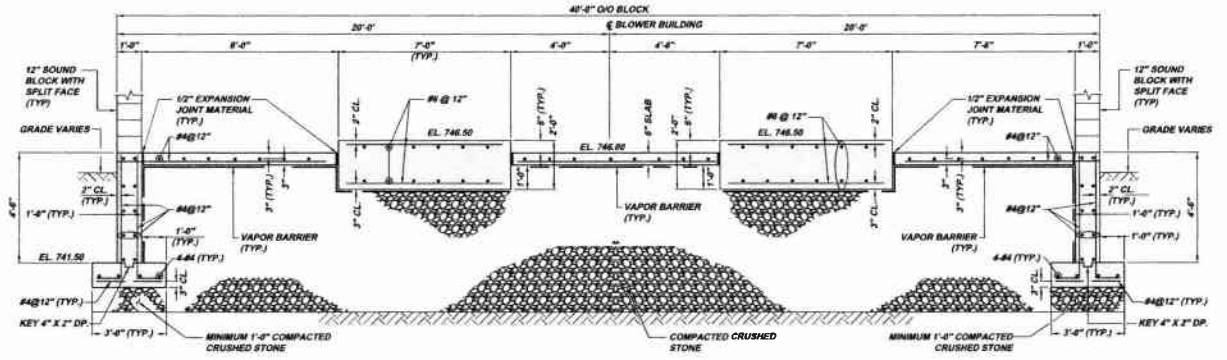
5175 CALDWELL BLVD. SUITE 5000  
 PITTSBURGH, PA 15206  
 PHONE: 412-241-9933  
 FAX: 412-241-9938  
 INFO@KLHENGINEERS.COM



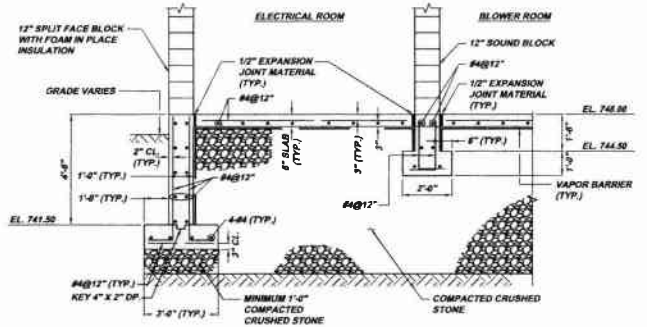
**PROCESS AIR BUILDING  
FOUNDATION PLAN PA6-A**  
SCALE: 3/16" = 1'-0"  
REFERENCE PLAN PA2-B



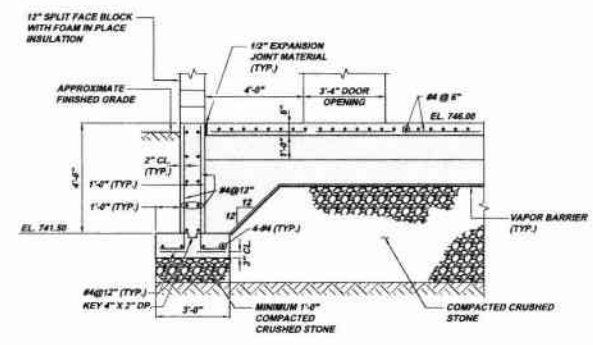
**SECTION PA6-D**  
SCALE: 3/8" = 1'-0"



**SECTION PA6-B**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN PA6-A



**SECTION PA6-C**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN PA6-A



**SECTION PA6-E**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN PA6-A

NOTE:  
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**KLH ENGINEERS, INC.**

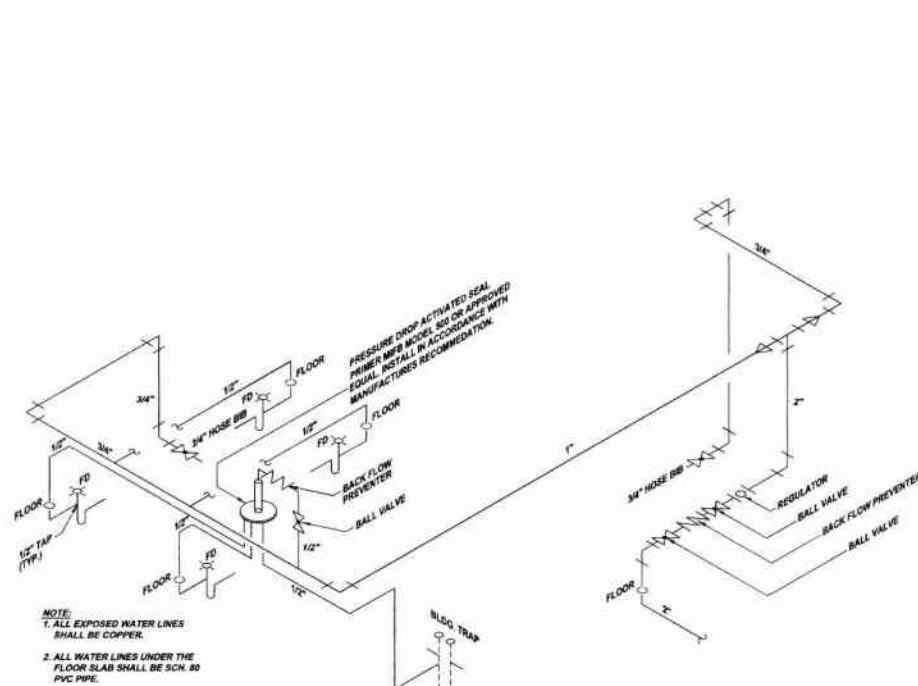
**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
PROCESS AIR BUILDING STRUCTURAL PLANS AND SECTIONS**

As Shown: July 2009  
 Date: July 2009  
 Drawn By: OMB  
 Checked By: HOF  
 Approved By: SHG  
 Sheet No.: 6  
 Drawing No.: 220-PA6



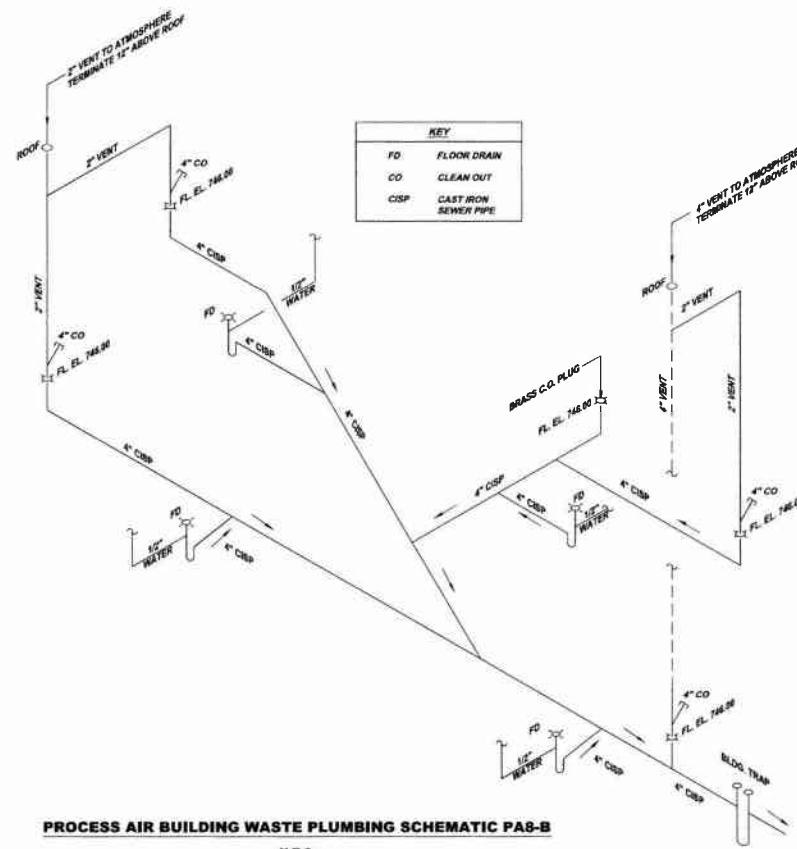






**PROCESS AIR BUILDING POTABLE WATER SCHEMATIC PAB-A**

N.T.S.

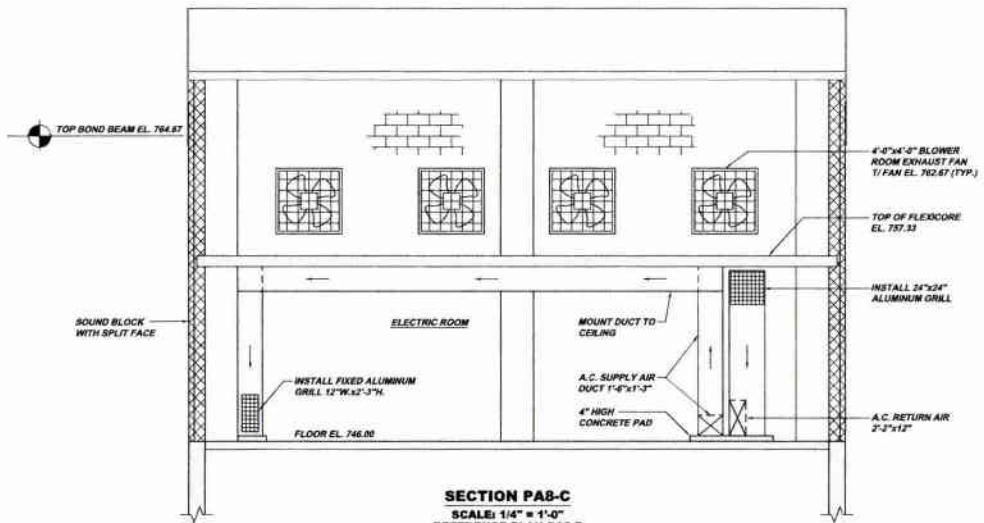


**PROCESS AIR BUILDING WASTE PLUMBING SCHEMATIC PAB-B**

N.T.S.

KEY	
FD	FLOOR DRAIN
CO	CLEAN OUT
CISP	CAST IRON SEWER PIPE

- NOTE:
1. ALL WASTE PLUMBING SHALL BE 4" CAST IRON SEWER PIPE AND SLOPE 1/8" PER FOOT.
  2. ALL VENT PIPE SHALL BE HUBBLESS CAST IRON SOIL PIPE AND SLOPE MINIMUM 1/8" PER FOOT.
  3. ALL BUILDING FLOOR DRAIN TRAPS AND BUILDING TRAP SHALL BE AUTOMATICALLY PRIMED. SEE POTABLE WATER SCHEMATIC PAB-A.
  4. ALL DRAIN PIPE BURIED UNDER THE FLOOR SHALL BE CONCRETE ENCASED AND RODDED TO THE FLOOR SLAB. SEE DETAIL PA4-C.
  5. SEE POTABLE WATER SCHEMATIC PAB-A FOR WATER CONNECTIONS TO TRAPS.



**SECTION PAB-C**  
SCALE: 1/4" = 1'-0"  
REFERENCE PLAN PA2-B

Date	Revisions	Function
7-21-08	DESUBMITTAL	
10-08	REVISED	
1-31-11	RELEASE FOR BID	

6172 CAMPBELL RUN ROAD PITTSBURGH, PA 15208 PHONE: 412-444-0248 FAX: 412-444-0248 INFO@KLHENGINEERS.COM	
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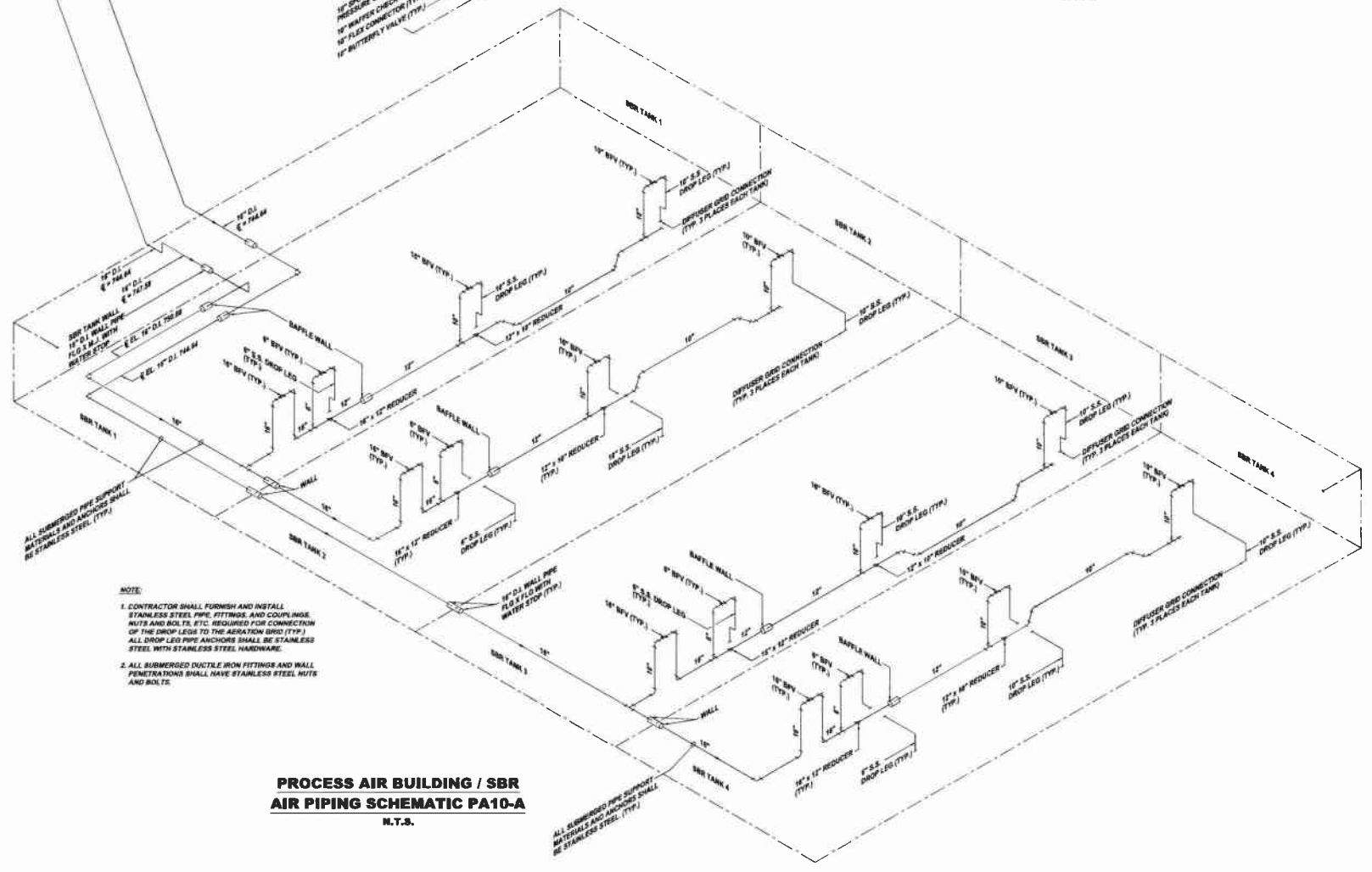
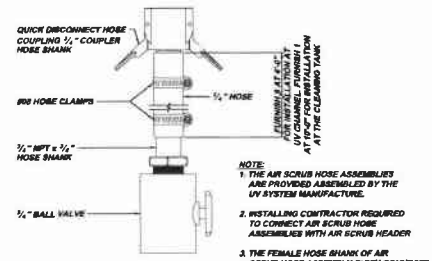
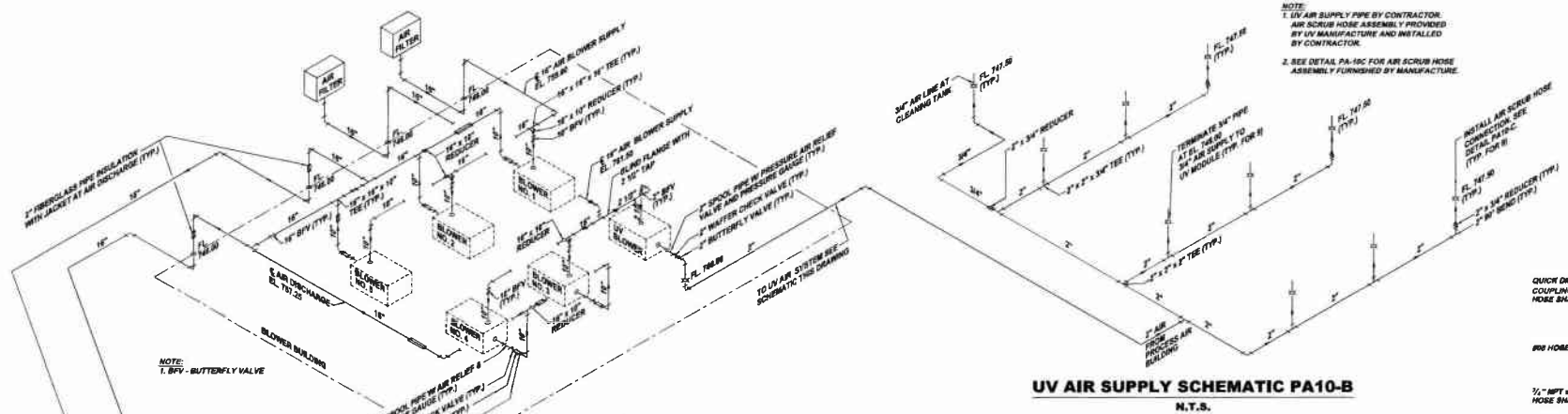
  

<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> ALLEGHENY COUNTY, PENNSYLVANIA CONTRACT NUMBER 2010-01 AND 2010-02 WASTEWATER TREATMENT PLANT EXPANSION PROCESS AIR BUILDING SCHEMATICS DIAGRAMS	Scale: As Shown Date: July 2008 Drawn By: DMB Checked By: HOF Approved By: BGD
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Sheet No.	8
Drawing No.	220-PAB

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items Identified with Mixed Case Text are Existing.



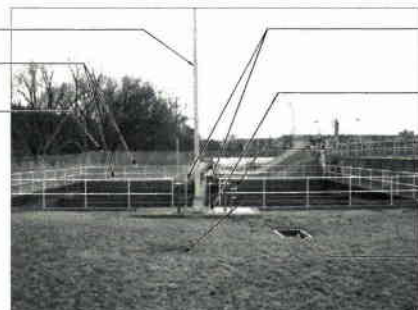
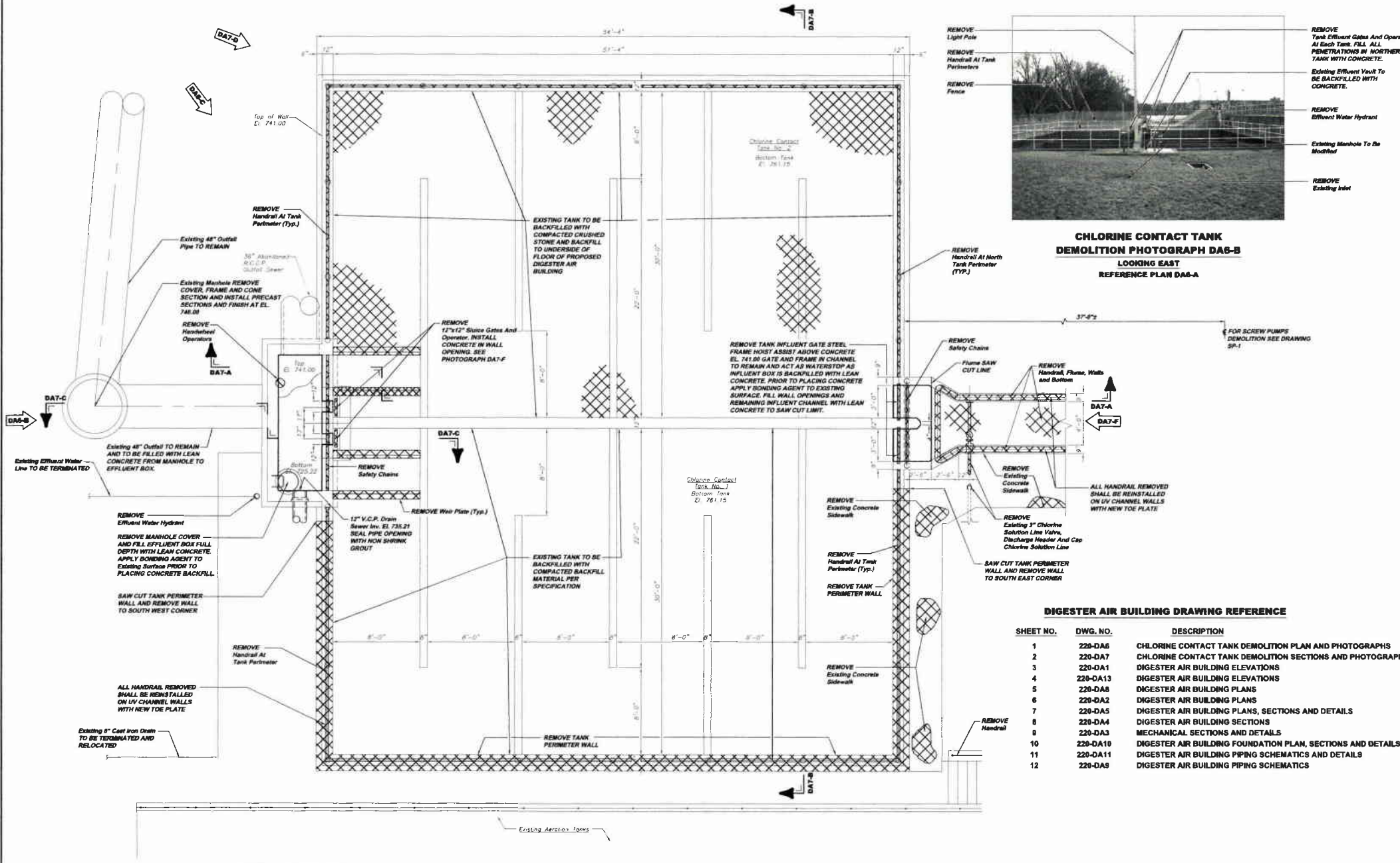
NOTE:  
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**KLH ENGINEERS, INC.**

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
PROCESS AIR SCHEMATIC DIAGRAMS AND DETAILS

Scale: As Shown  
Date: July 2009  
Drawn By: DB  
Checked By: DB  
Approved By: AS  
Sheet No. 9  
Drawing No. 220-PA10



**CHLORINE CONTACT TANK  
DEMOLITION PHOTOGRAPH DA6-B  
LOOKING EAST  
REFERENCE PLAN DA6-A**

- REMOVE Tank Effluent Gates And Operators At Each Tank. FILL ALL PENETRATIONS IN NORTHERLY TANK WITH CONCRETE.
- Existing Effluent Vault To BE BACKFILLED WITH CONCRETE.
- REMOVE Effluent Water Hydrant
- Existing Manhole To Be Modified
- REMOVE Existing Inlet

- REMOVE Light Pole
- REMOVE Handrail At Tank Perimeters
- REMOVE Fence

- REMOVE Handrail At North Tank Perimeter (Typ.)

- REMOVE Safety Chains

- REMOVE Handrail, Flume, Walls and Bottom

- REMOVE Existing Concrete Sidewalk

- REMOVE Existing 3" Chlorine Solution Line Valve, Discharge Header And Cap Chlorine Solution Line

- REMOVE Handrail At Tank Perimeter (Typ.)

- REMOVE Existing Concrete Sidewalk

- REMOVE Handrail

- REMOVE Existing Concrete Sidewalk

- REMOVE Handrail

- REMOVE Handrail

- REMOVE Handrail

- REMOVE Handrail

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- REMOVE Handrail

- REMOVE Handrail

- REMOVE Handrail

**DIGESTER AIR BUILDING DRAWING REFERENCE**

SHEET NO.	DWG. NO.	DESCRIPTION
1	220-DA6	CHLORINE CONTACT TANK DEMOLITION PLAN AND PHOTOGRAPHS
2	220-DA7	CHLORINE CONTACT TANK DEMOLITION SECTIONS AND PHOTOGRAPHS
3	220-DA1	DIGESTER AIR BUILDING ELEVATIONS
4	220-DA13	DIGESTER AIR BUILDING ELEVATIONS
5	220-DA8	DIGESTER AIR BUILDING PLANS
6	220-DA2	DIGESTER AIR BUILDING PLANS
7	220-DA5	DIGESTER AIR BUILDING PLANS, SECTIONS AND DETAILS
8	220-DA4	DIGESTER AIR BUILDING SECTIONS
9	220-DA3	MECHANICAL SECTIONS AND DETAILS
10	220-DA10	DIGESTER AIR BUILDING FOUNDATION PLAN, SECTIONS AND DETAILS
11	220-DA11	DIGESTER AIR BUILDING PIPING SCHEMATICS AND DETAILS
12	220-DA9	DIGESTER AIR BUILDING PIPING SCHEMATICS

**KEY:**

- ITEMS TO BE DEMOLISHED
- DENOTES PHOTOGRAPH DIRECTION

**CHLORINE CONTACT TANKS DEMOLITION PLAN DA6-A**  
SCALE: 1/4" = 1'-0"  
REFERENCE SITE PLAN

Revisions

Date	Revisions
1-2011	RELEASE FOR BID
1-2011	REVISION
1-2011	DCP SUBMITTAL

Date: 7-2010  
 1548  
 1-2011

8172 CAMERELLE RUN ROAD  
 PITTSBURGH, PA 15205  
 PROJECT # 11-4-04-0010  
 INFO@KLHENGINEERS.COM

**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010 - 01 AND 2010 - 02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 CHLORINE CONTACT TANK DEMOLITION PLAN AND PHOTOGRAPHS**

As Shown  
 July 2009  
 DMB  
 Drawn By:  
 Checked By:  
 Approved By: BKG

Sheet No.  
**1**

Drawing No.  
**220-DA6**

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

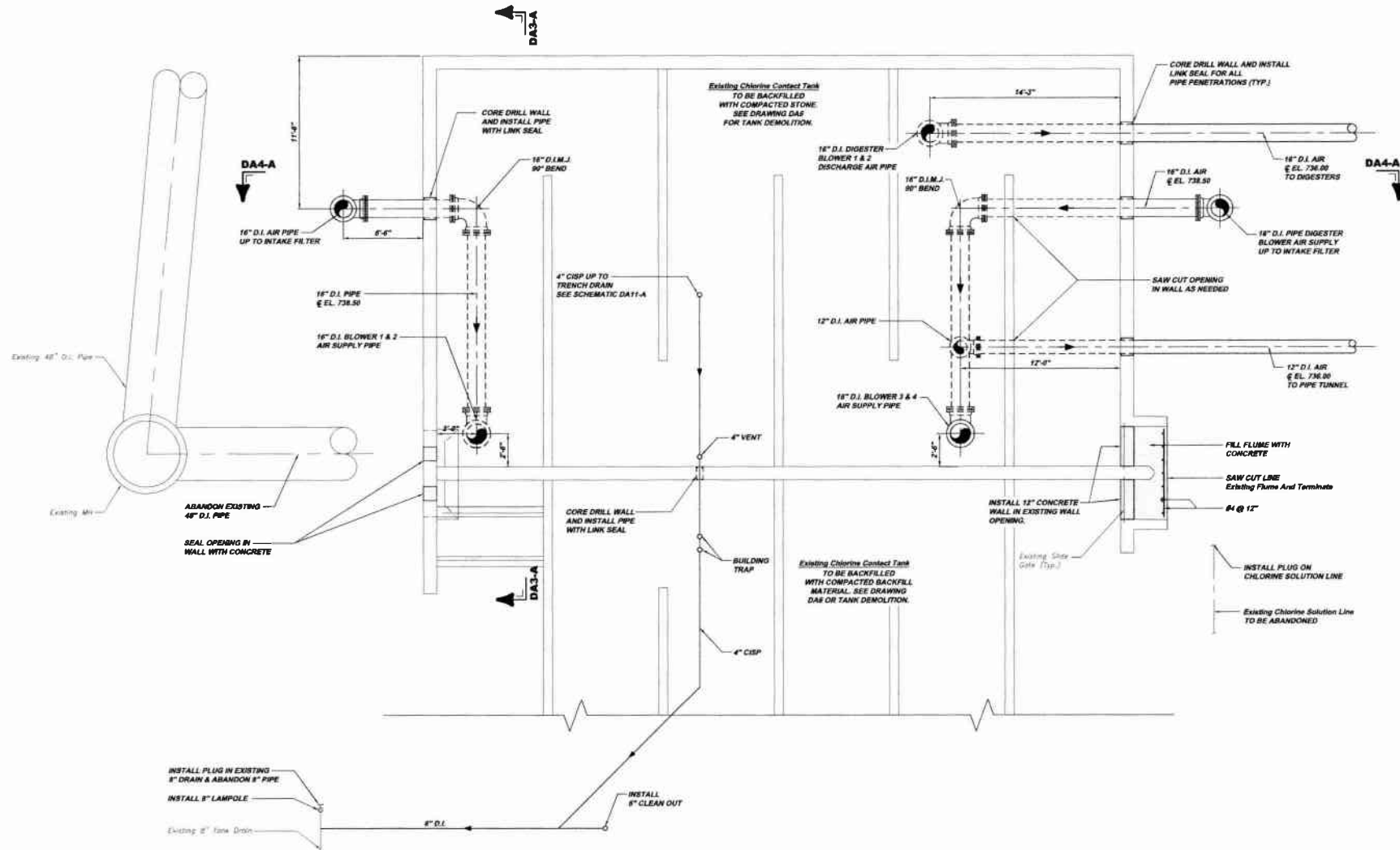










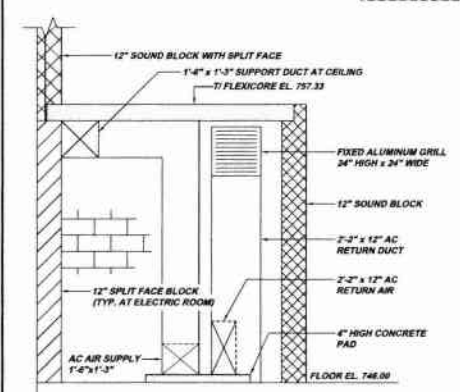
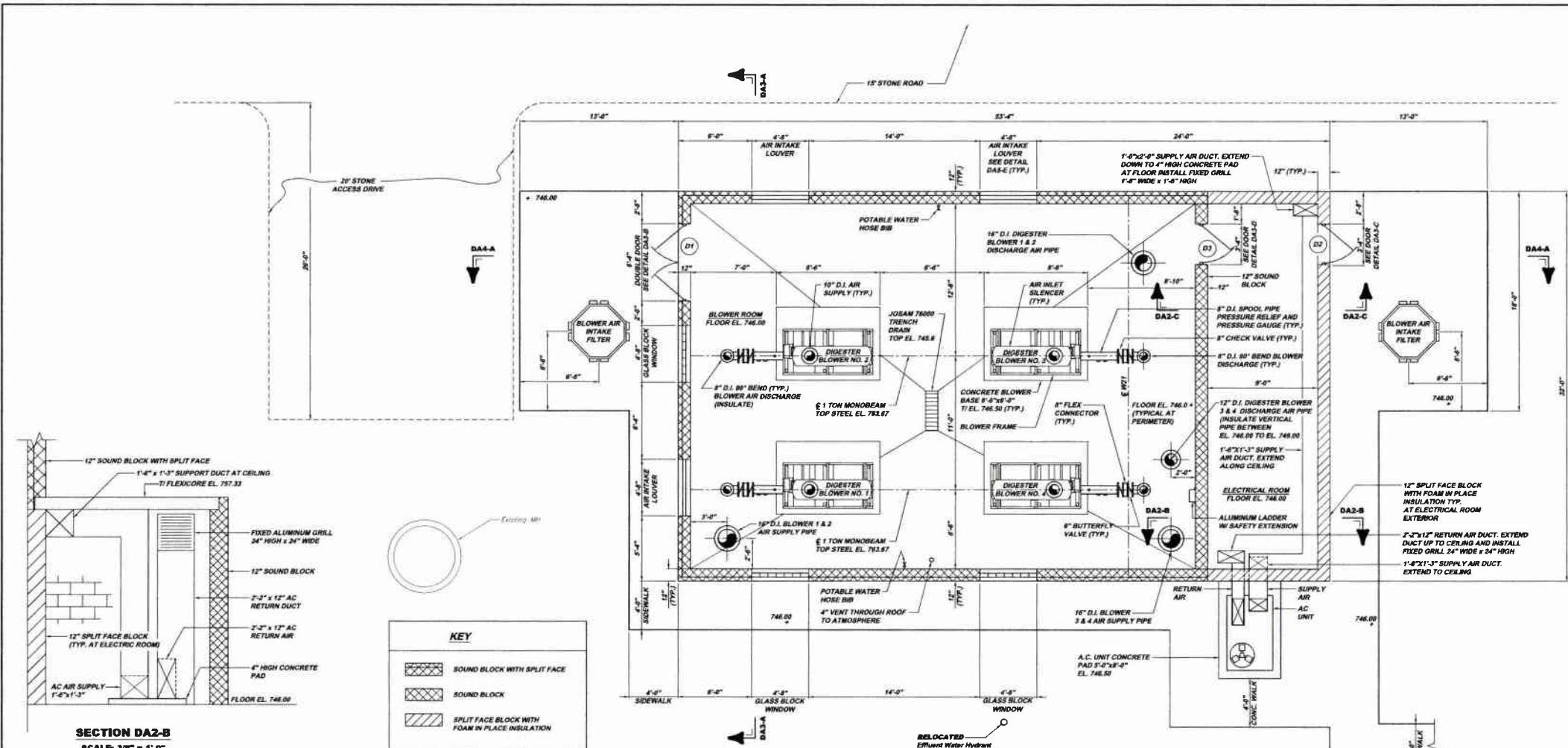


**DIGESTER AIR BUILDING BURIED PIPING PLAN DA8-A**

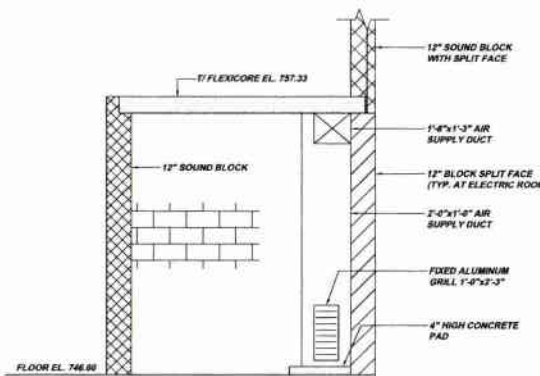
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**SECTION DA2-B**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN DA2-A



**SECTION DA2-C**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN DA2-A

**KEY**

	SOUND BLOCK WITH SPLIT FACE
	SOUND BLOCK
	SPLIT FACE BLOCK WITH FOAM IN PLACE INSULATION

**DIGESTER AIR BUILDING LOWER PIPING PLAN DA2-A**  
SCALE: 1/4" = 1'-0"  
REFERENCE PLAN DA2-A

DIGESTER AIR DOOR SCHEDULE (ALL HARDWARE US 32 FINISH)

MARK	LOCATION	DOOR DESCRIPTION	DIMENSIONS (ROUGH OPENING)	LOCKSET (BARGENT) (FINISH US 32)	HINGE (FINISH US 32)	CLOSER (LCA)	THRESHOLD (NATIONAL CHARD)	KICKPLATE (ROCK WOOD)	WEATHER-STRIP (NATIONAL CHARD)	DOOR STOP (ROCKWOOD)
D1	EXTERIOR WEST WALL BLOWER ROOM ENTRANCE	CLINE INSULATED ALUMINUM DOUBLE DOOR WITH ALUMINUM FRAME. EACH DOOR PANEL 5'-0" x 7'-4" WITH HALF GLASS	6'-4" x 7'-4"	VERTICAL ROD EXT DEVICE SERIES 9700 WITH ETL TRIM EACH PANEL	McKINNEY STAINLESS STEEL CONTINUOUS TYPE (HEAVY DUTY RATED)	1480 ADA COMPLIMENT EACH PANEL	425	10" HIGH x 60"	160 SDB PERIMETER SEAL 101 VDKB SWEEP 140 MCKB ASTRAGAL	
D2	EXTERIOR EAST WALL ELECTRIC ROOM ENTRANCE	CLINE INSULATED ALUMINUM DOUBLE DOOR WITH ALUMINUM FRAME. EACH DOOR PANEL 5'-0" x 7'-4" WITH HALF GLASS	5'-4" x 7'-4"	MORTISE PANIC TYPE EXIT DEVICE SERIES 9900 WITH ETL TRIM	McKINNEY STAINLESS STEEL CONTINUOUS TYPE (HEAVY DUTY RATED)	1480 ADA COMPLIMENT	425	10" HIGH x 60"	160 SDB PERIMETER SEAL 101 VDKB SWEEP	
D3	INTERIOR BLOWER ROOM	CECO CORP METAL DOOR FLUSH PANEL 1-HR FIRE RATED	5'-4" x 7'-4"	MORTISE PANIC TYPE EXIT DEVICE SERIES 9900 WITH ETL TRIM	HAGER 55 1161	1480 ADA COMPLIMENT		10" HIGH x 60"	160 SA PERIMETER SEAL	471

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items Identified with Mixed Case Text are Existing.

**KLH ENGINEERS, INC.**

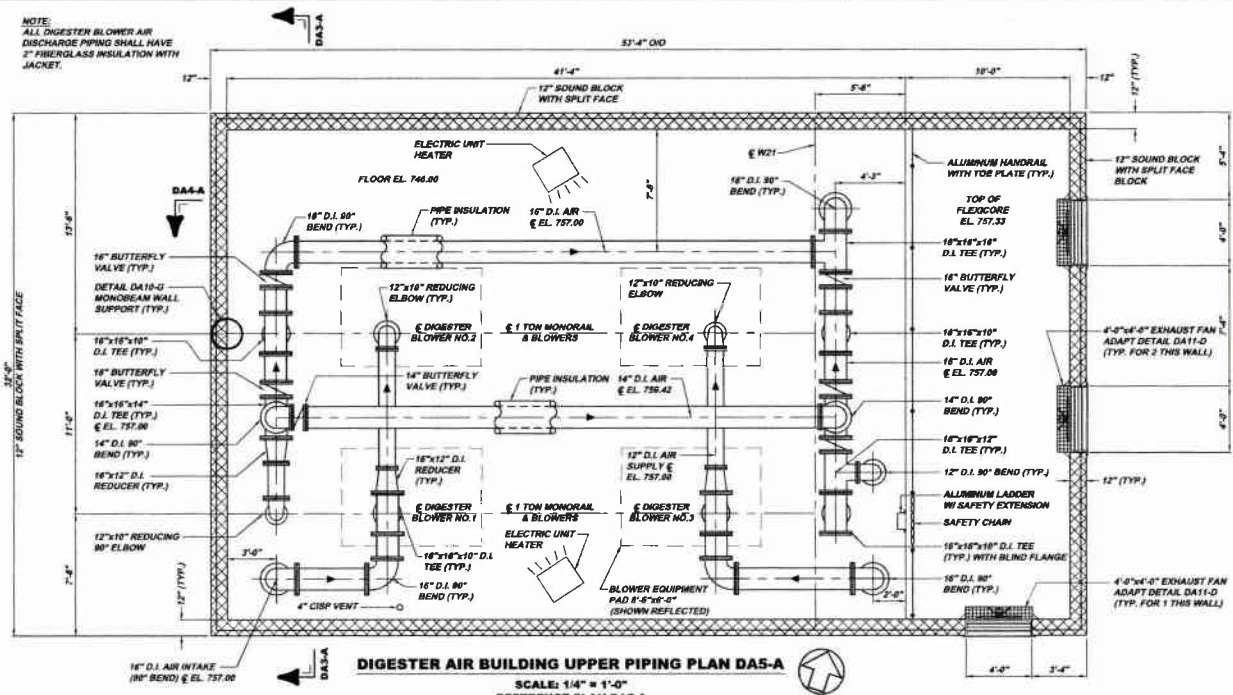
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010 - 01 AND 2010 - 02  
WASTEWATER TREATMENT PLANT EXPANSION  
DIGESTER AIR BUILDING PLAN AND SECTIONS

Revisions	Date	By	Check	Appr
1-001	10-01	INFO@KLHENGINEERS.COM		
1-002	10-01			
1-003	10-01			
1-004	10-01			
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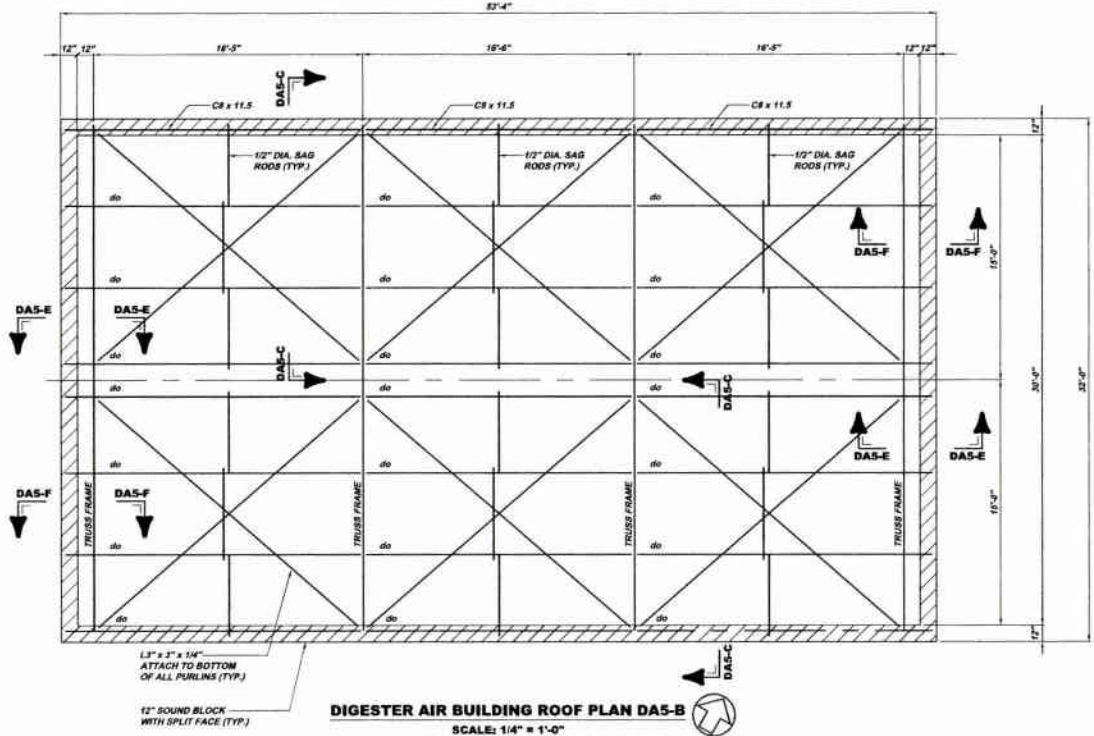
Scale: As Shown  
Date: May 2009  
Drawn By: DMB  
Checked By: BKE  
Approved By: SHG

Sheet No. 6  
Drawing No. 220-DA2

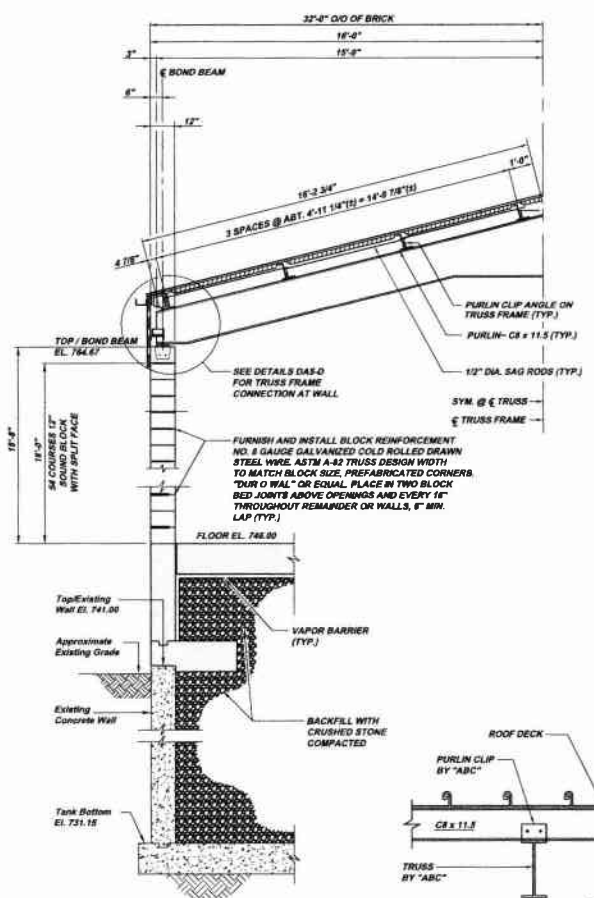
NOTE:  
ALL DIGESTER BLOWER AIR DISCHARGE PIPING SHALL HAVE 2" FIBERGLASS INSULATION WITH JACKET.



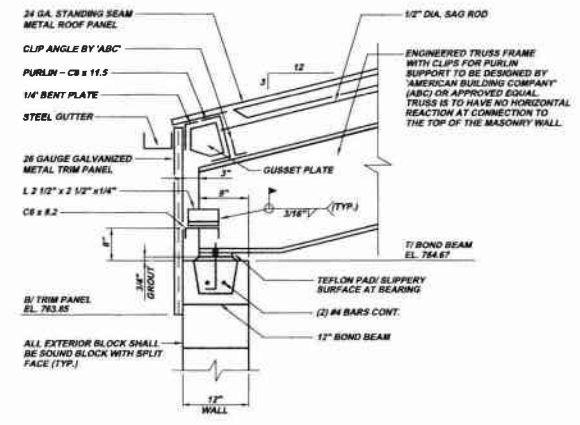
**DIGESTER AIR BUILDING UPPER PIPING PLAN DAS-A**  
SCALE: 1/4" = 1'-0"  
REFERENCE PLAN DAS-A



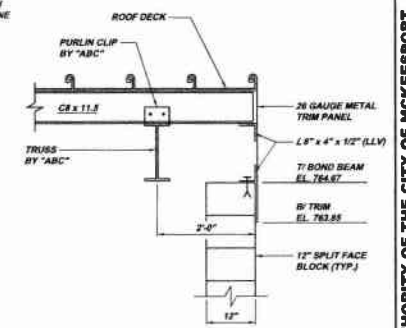
**DIGESTER AIR BUILDING ROOF PLAN DAS-B**  
SCALE: 1/4" = 1'-0"



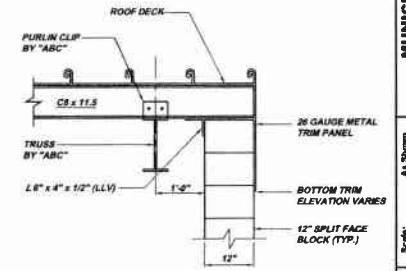
**SECTION DAS-C**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN DAS-B



**SECTION DAS-D**  
SCALE: 1" = 1'-0"  
(TYP. AND OPPOSITE HAND)  
REFERENCE PLAN DAS-A



**SECTION DAS-E**  
SCALE: 3/4" = 1'-0"  
REFERENCE PLAN DAS-B



**SECTION DAS-F**  
SCALE: 3/4" = 1'-0"  
REFERENCE PLAN DAS-B

NOTE:  
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Items Identified with Mixed Case Text are Existing.

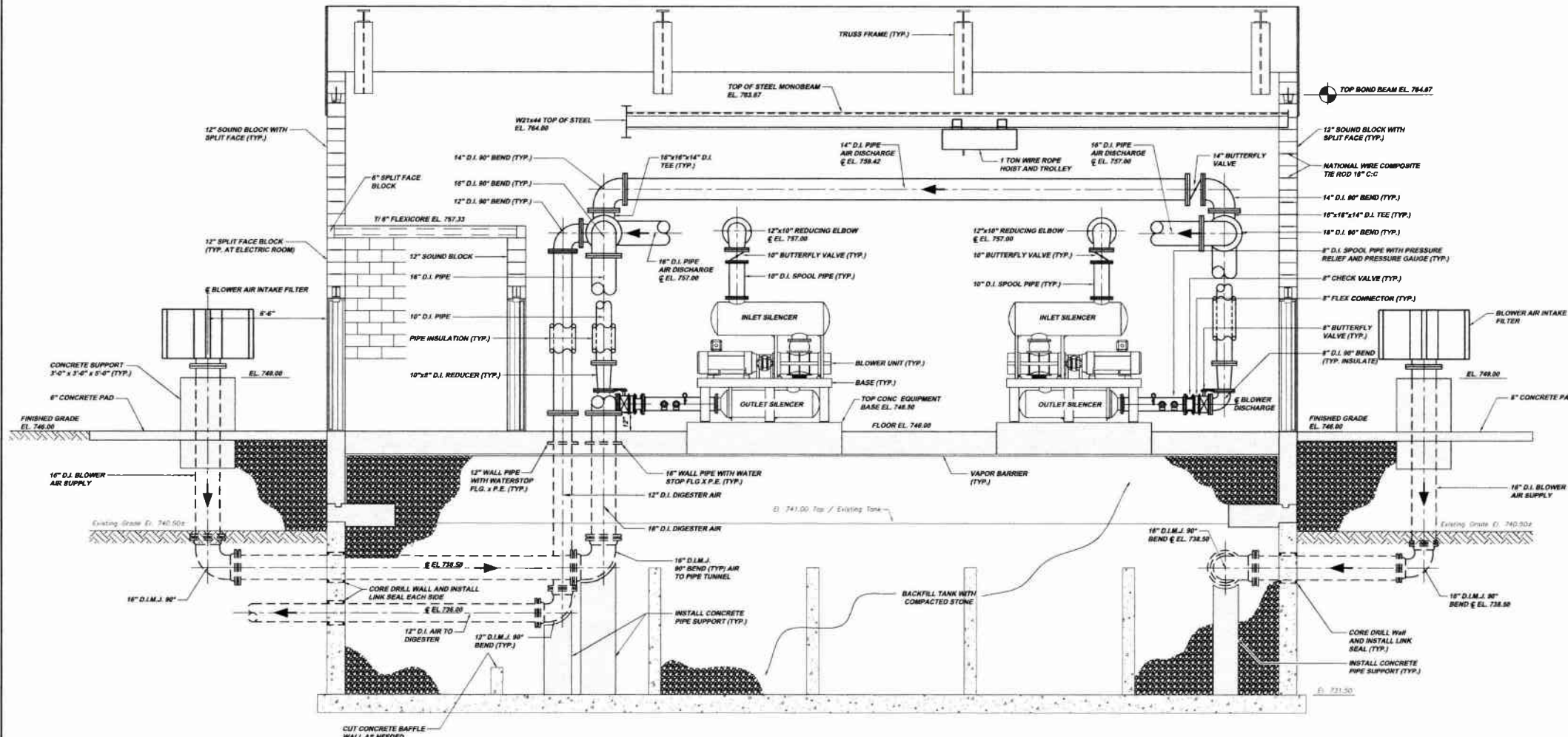
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55	7/21/09	SKC	SKC
56	7/21/09	SKC	SKC
57	7/21/09	SKC	SKC
58	7/21/09	SKC	SKC
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99	7/21/09	SKC	SKC
100	7/21/09	SKC	SKC

**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010 - 01 AND 2010 - 02  
WASTEWATER TREATMENT PLANT EXPANSION  
DIGESTER AIR BUILDING PLANS, SECTIONS AND DETAILS

Scale: As Shown  
Date: July 2009  
Drawn By: DBB  
Checked By: SKC  
Approved By: SKC  
Sheet No. 7  
Drawing No. 220-DA5





**SECTION DA4-A**  
 SCALE: 3/8" = 1'-0"  
 REFERENCE PLAN DA2-A, DA5-A AND DA8-A

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

Revisions	Date	By	Check
1	03-08	DSP	UBM/TAL
2	10-08		REVISED
3	1-09		RELEASE FOR 9B

5175 CAMERON'S RUN ROAD  
 PITTSBURGH, PA 15203  
 PHONE: 412-446-0000  
 FAX: 412-446-0000  
 INFO@KLHENGINEERS.COM

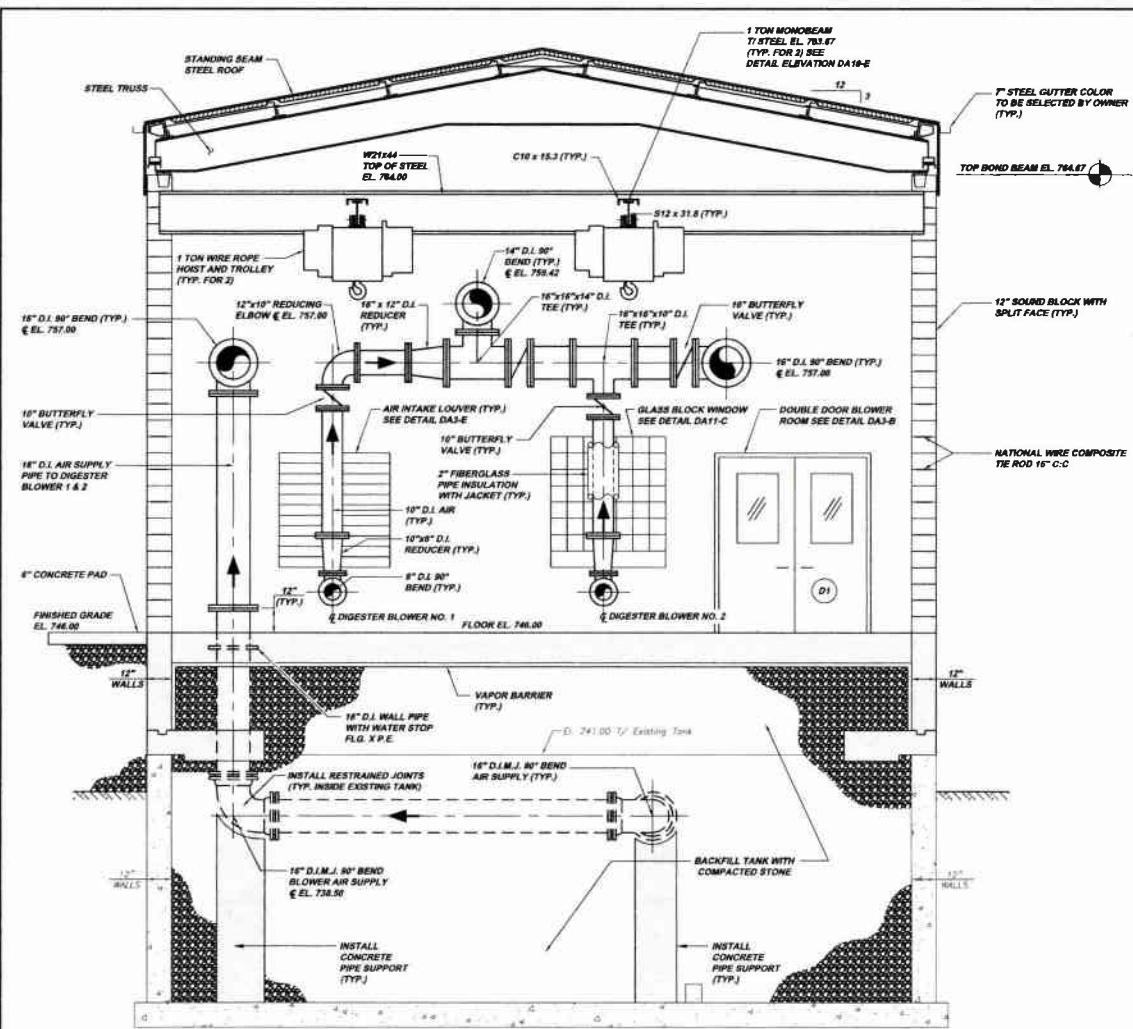
**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010 - 01 AND 2010 - 02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 DIGESTER AIR BUILDING SECTIONS

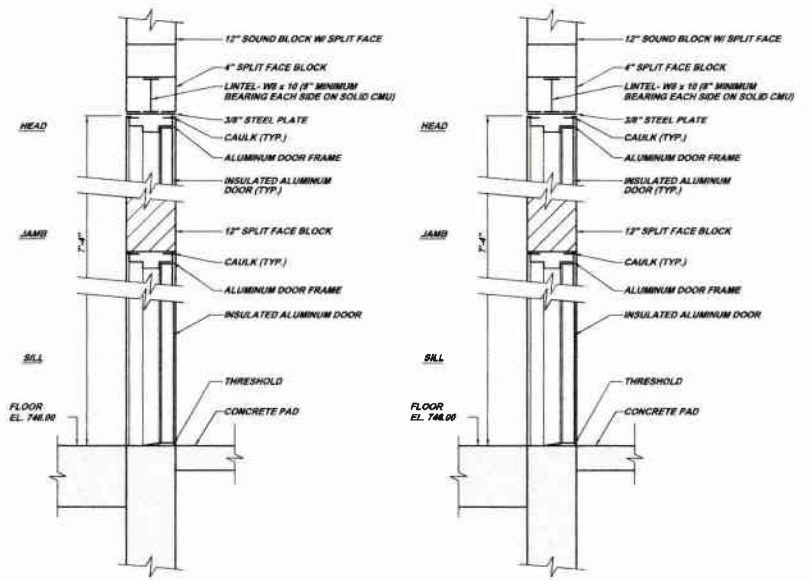
Scale:	As Shown
Date:	July 2008
Drawn By:	DMB
Checked By:	BKE
Approved By:	BJG

Sheet No. 8

Drawing No. **220-DA4**

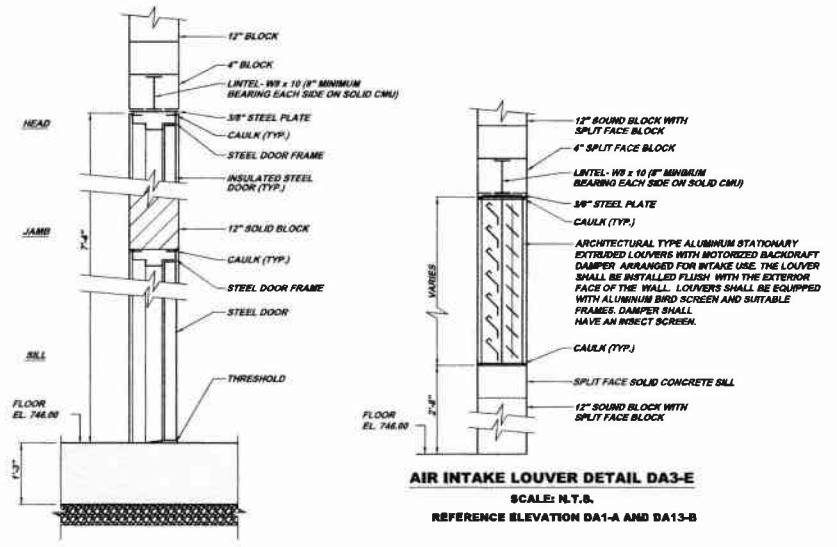


**SECTION DA3-A**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN DA5-A & DA6-A



**DOOR D1 DETAIL DA3-B**  
SCALE: N.T.S.  
REFERENCE PLAN DA5-A, DA6-A, SECTION DA3-A & DA4-A

**DOOR D2 DETAIL DA3-C**  
SCALE: N.T.S.  
REFERENCE PLAN DA5-A, DA6-A, SECTION DA3-A & DA4-A



**DOOR D3 DETAIL DA3-D**  
SCALE: N.T.S.  
REFERENCE PLAN DA5-A, DA6-A, SECTION DA3-A & DA4-A

**AIR INTAKE LOUVER DETAIL DA3-E**  
SCALE: N.T.S.  
REFERENCE ELEVATION DA1-A AND DA13-B

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Items Identified with Mixed Case Text are Existing.

Revisions	Date	Revisions	Date
1	7-31-08	DSP SUBMITTAL	
2	10-09	REVISED	
3	1-20-11	RELEASE FOR BID	

8172 CAMERELLE BLVD. SUITE 200  
PITTSBURGH, PA 15205  
PHONE: 412-444-9410  
FAX: 412-444-9416  
INFO@KLHENGINEERS.COM

**KLH ENGINEERS, INC.**

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2016 - 01 AND 2016 - 02  
WASTEWATER TREATMENT PLANT EXPANSION  
DIGESTER AIR BUILDING SECTIONS AND DETAILS

Scale:	As Shown
Date:	July 2009
Drawn By:	DMB
Checked By:	BEK
Approved By:	PHO

Sheet No. 9

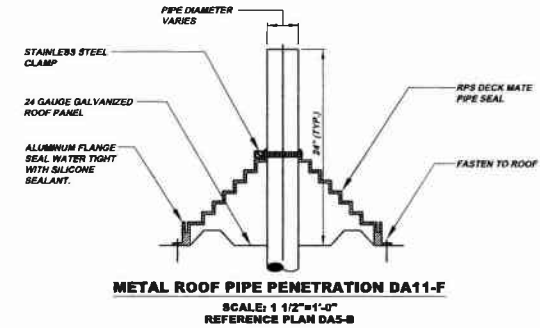
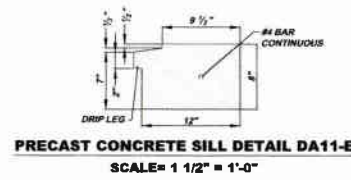
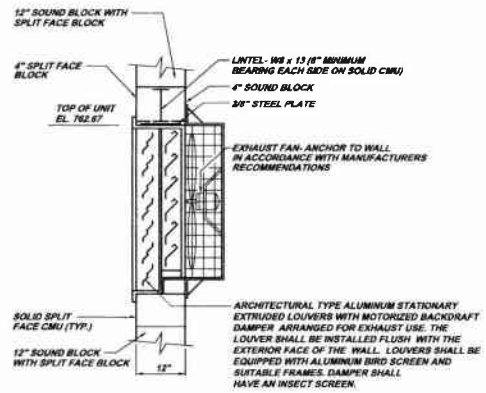
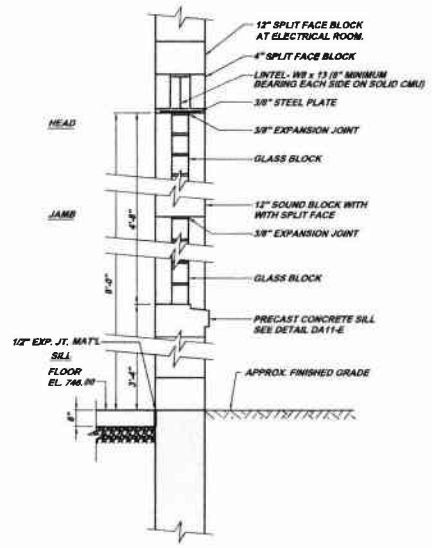
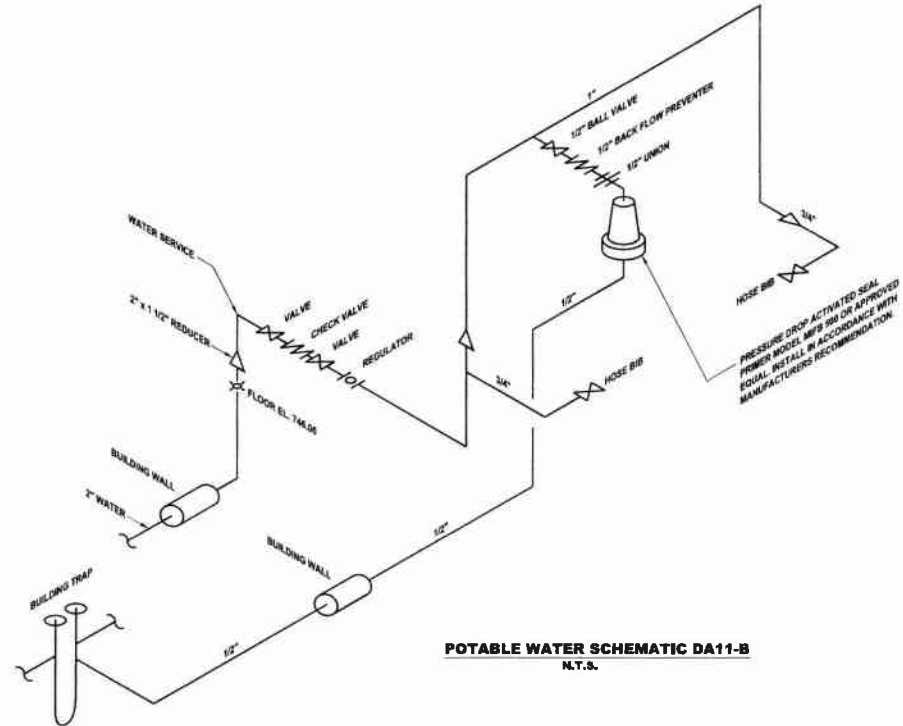
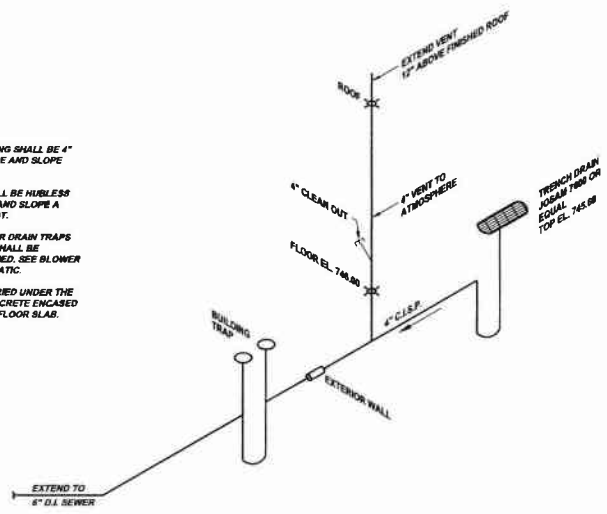
Drawing No. 220-DA3







NOTE:  
 1. ALL WASTE PLUMBING SHALL BE 4" CAST IRON SEWER PIPE AND SLOPE 1/4" PER FOOT.  
 2. ALL VENT PIPE SHALL BE HUBLESS CAST IRON SOIL PIPE AND SLOPE A MINIMUM 1/8" PER FOOT.  
 3. ALL BUILDING FLOOR DRAIN TRAPS AND BUILDING TRAP SHALL BE AUTOMATICALLY PRIMED. SEE BLOWER PLANT WATER SCHEMATIC.  
 4. ALL DRAIN PIPE BURIED UNDER THE FLOOR SHALL BE CONCRETE ENCASED AND RIGIDIZED TO THE FLOOR SLAB. SEE DETAIL PA4-C



NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 Items Identified with Mixed Case Text are Existing.

Revisions	Date	Revised By	Checked By	Approved By
001	07-10-08	KLH	KLH	KLH
002	07-10-08	KLH	KLH	KLH
003	07-10-08	KLH	KLH	KLH
004	07-10-08	KLH	KLH	KLH
005	07-10-08	KLH	KLH	KLH
006	07-10-08	KLH	KLH	KLH
007	07-10-08	KLH	KLH	KLH
008	07-10-08	KLH	KLH	KLH
009	07-10-08	KLH	KLH	KLH
010	07-10-08	KLH	KLH	KLH

KLH ENGINEERS, INC.  
 5173 CLAYBILLS RUN ROAD  
 PITTSBURGH, PA 15208  
 PHONE: 412-444-9428  
 FAX: 412-444-9428  
 INFO@KLHENGINEERS.COM

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010 - 01 AND 2010 - 02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 DIGESTER AIR BUILDING SCHEMATIC DIAGRAM AND DETAILS

Scale: As Shown  
 Date: July 2008  
 Drawn By: DMB  
 Checked By: BKE  
 Approved By: RJO

Sheet No. 11  
 Drawing No. 220-DA11



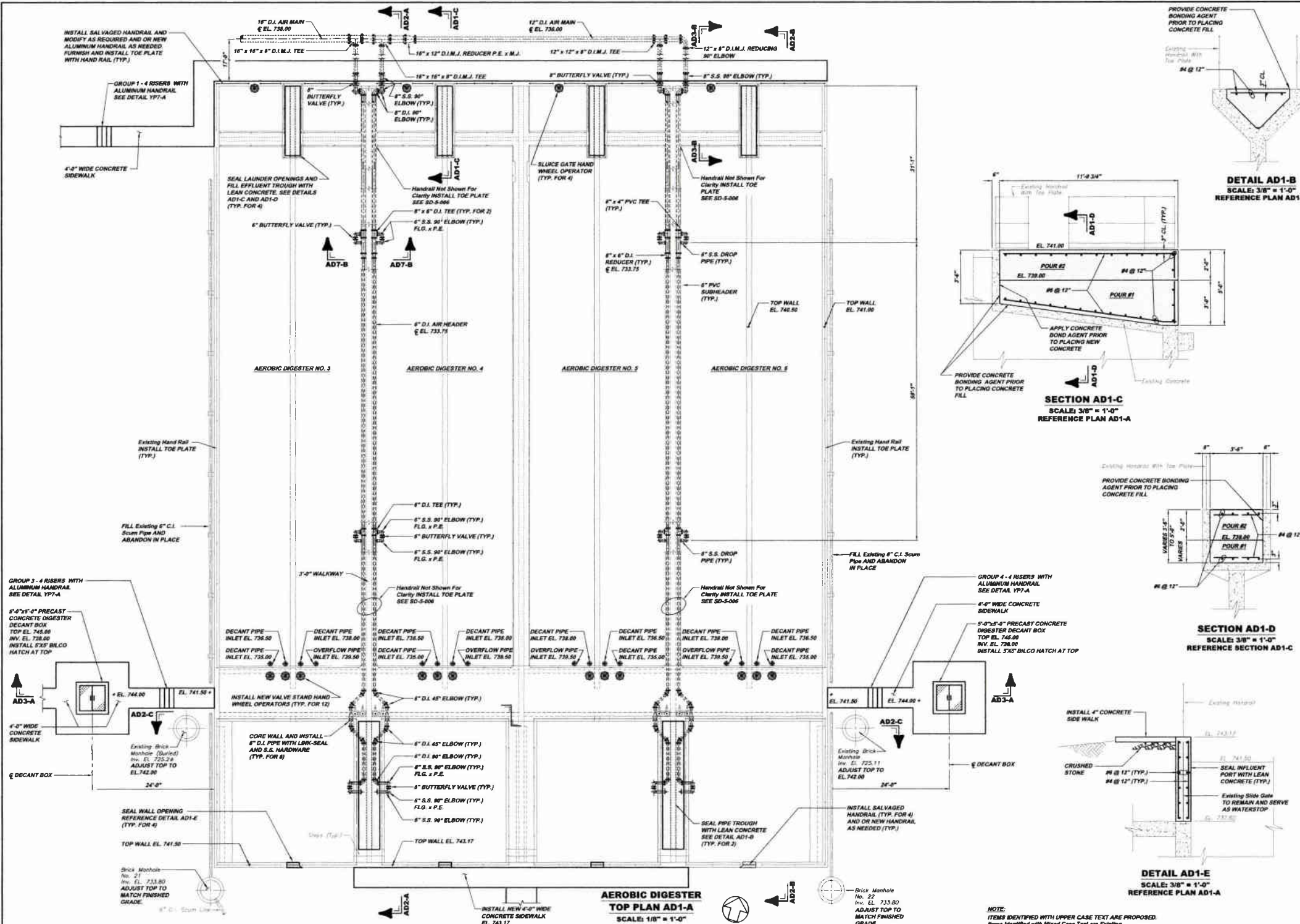












**DETAIL AD1-B**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN AD1-A

**SECTION AD1-C**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN AD1-A

**SECTION AD1-D**  
SCALE: 3/8" = 1'-0"  
REFERENCE SECTION AD1-C

**DETAIL AD1-E**  
SCALE: 3/8" = 1'-0"  
REFERENCE PLAN AD1-A

Revisions	Date	By	Checked By
DES SUBMITTAL	05-23-08	TCD	RDH
REVISED	10-08	RDH	RDH
RELEASE FOR BID	1-30-11		

Scale:	As Shown
Date:	JULY 2009
Drawn By:	TCD
Checked By:	RDH
Approved By:	BHS

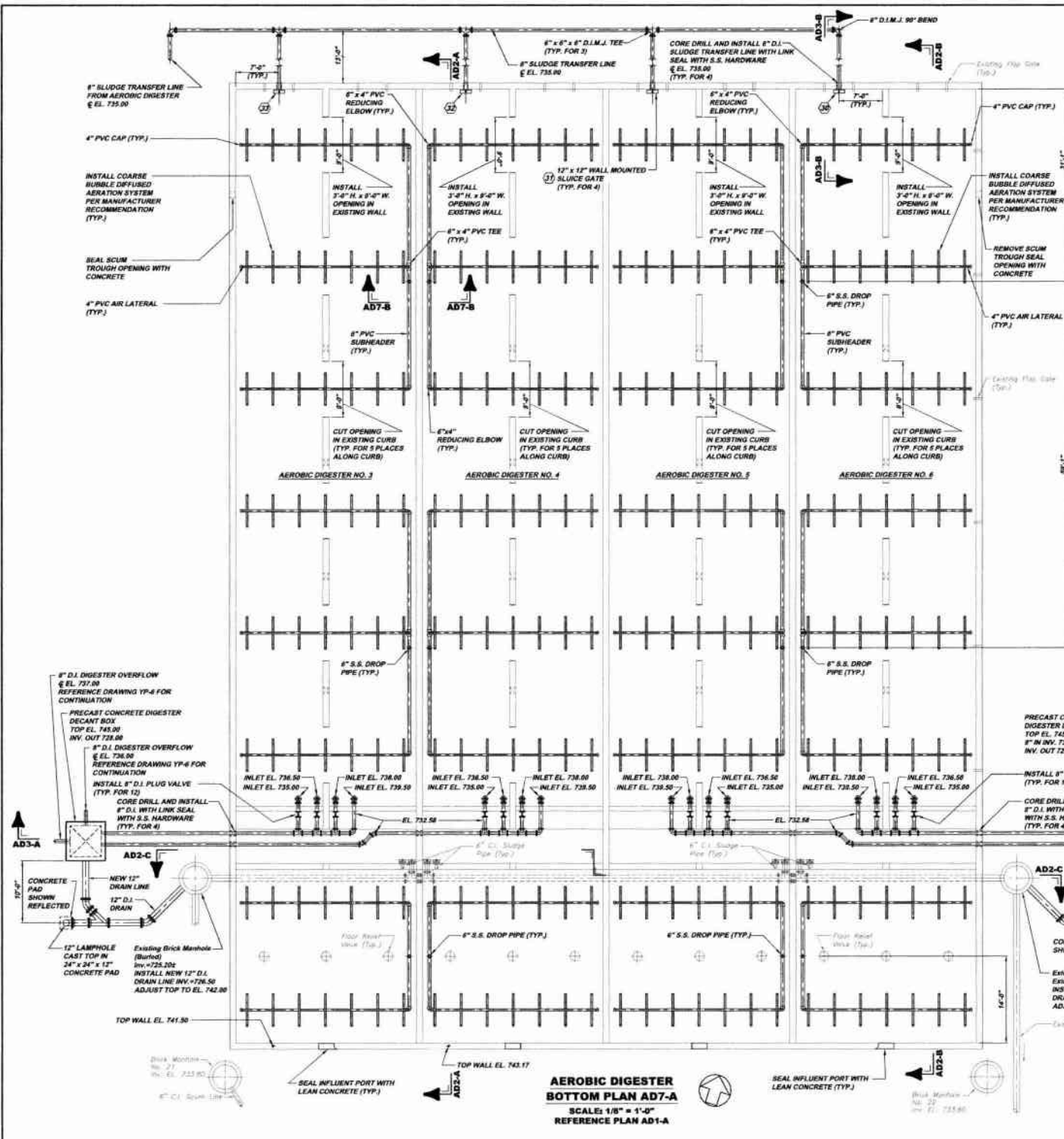
Sheet No.	4
Drawing No.	220-AD1

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT  
ALLEGHENY COUNTY, PENNSYLVANIA  
CONTRACT NUMBER 2010-01 AND 2010-02  
WASTEWATER TREATMENT PLANT EXPANSION  
AEROBIC DIGESTER TOP PLAN, SECTIONS AND DETAILS

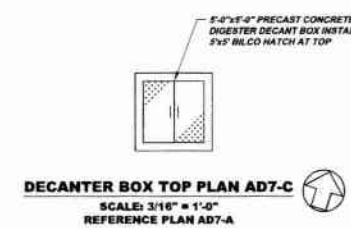
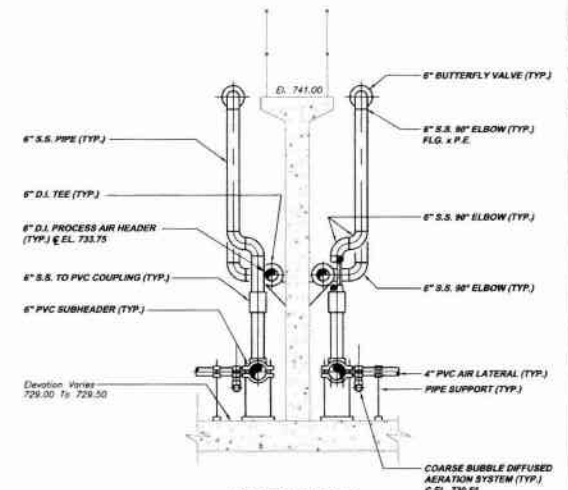
KLH ENGINEERS, INC.  
5172 CAMPBELL BLVD. #200  
PITTSBURGH, PA 15206  
PHONE: 412-244-9400  
FAX: 412-244-9408  
INFO@KLHENGINEERS.COM

NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
Name Identified with Mixed Case Text are Existing.





AEROBIC DIGESTER GATE SCHEDULE								
DESIGNATION	LOCATION	TYPE	OPERATOR	CHANNEL WIDTH	INVERT ELEVATION	TOP OF WALL	GATE HEIGHT	TRAVEL
(30)	AEROBIC DIGESTER NO. 6	WALL MOUNT	MANUAL	1'-0"	734.00	741.00	1'-0"	1'-0"
(31)	AEROBIC DIGESTER NO. 5	-	-	-	-	-	-	-
(32)	AEROBIC DIGESTER NO. 4	-	-	-	-	-	-	-
(33)	AEROBIC DIGESTER NO. 3	WALL MOUNT	MANUAL	1'-0"	734.00	741.00	1'-0"	1'-0"



Date: \_\_\_\_\_  
 Revisions: \_\_\_\_\_  
 Date: 07/23/09  
 DES. SUBMITTAL  
 15:08  
 REVISED  
 4:19  
 RELEASE FOR BID  
 12:01

5172 CAMPBELL RUN ROAD  
 PITTSBURGH, PA 15106  
 PHONE: 412-241-9422  
 FAX: 412-241-9423  
 INFO@KLHENGINEERS.COM

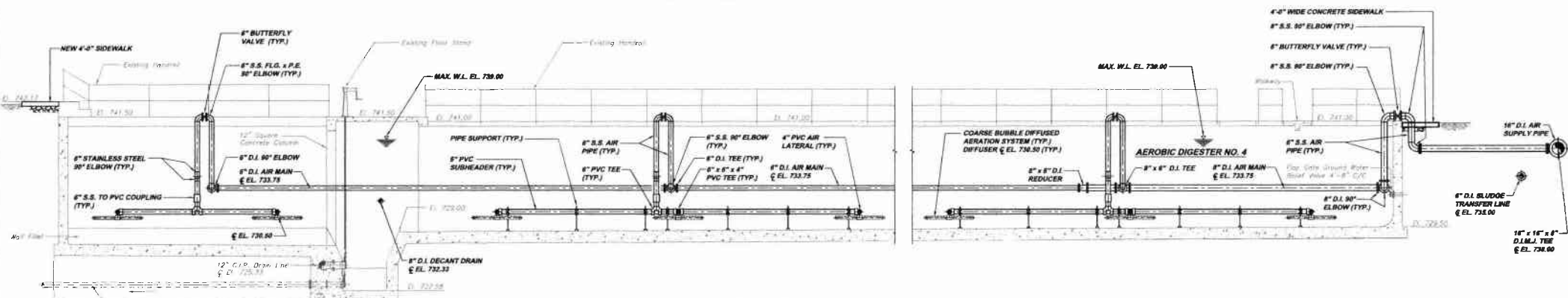
**KLH ENGINEERS, INC.**

**MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT**  
 ALLEGHENY COUNTY, PENNSYLVANIA  
 CONTRACT NUMBER 2010-01 AND 2010-02  
 WASTEWATER TREATMENT PLANT EXPANSION  
 AEROBIC DIGESTER BOTTOM PLAN AND SECTION

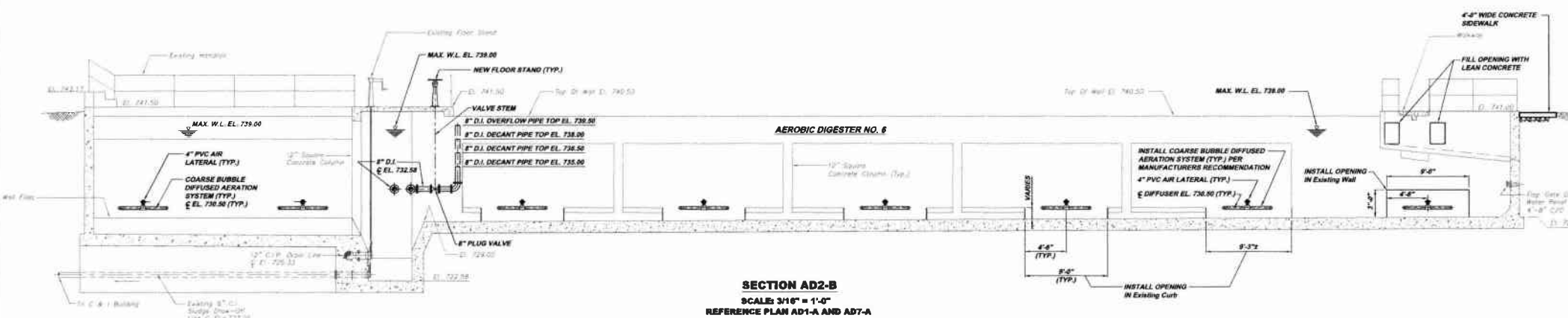
As Shown: \_\_\_\_\_  
 Date: JULY 2009  
 Drawn By: TND  
 Checked By: BDN  
 Approved By: SHG

Sheet No. 5  
 Drawing No. 220-AD7

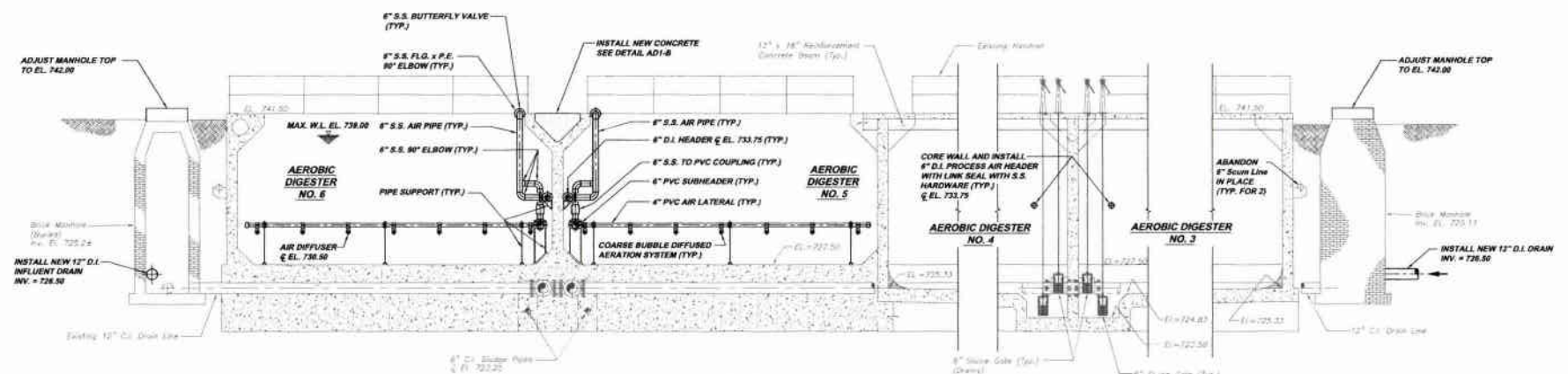
NOTE:  
ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
ITEMS IDENTIFIED WITH MIXED CASE TEXT ARE EXISTING.



**SECTION AD2-A**  
 SCALE: 3/16" = 1'-0"  
 REFERENCE PLAN AD1-A AND AD7-A



**SECTION AD2-B**  
 SCALE: 3/16" = 1'-0"  
 REFERENCE PLAN AD1-A AND AD7-A



**SECTION AD2-C**  
 SCALE: 3/16" = 1'-0"  
 REFERENCE PLAN AD1-A AND AD7-A

NOTE:  
 ITEMS IDENTIFIED WITH UPPER CASE TEXT ARE PROPOSED.  
 ITEMS IDENTIFIED WITH LOWER CASE TEXT ARE EXISTING.

Revisions	Date	By	Checked	Approved
1	07-09	DP	DP	DP
2	07-09	DP	DP	DP

5173 CAMPBELL BLVD. #200 PITTSBURGH, PA 15203 PHONE: 412-444-0033 FAX: 412-444-0033 INFO@KLHENGINEERS.COM	<b>KLH ENGINEERS, INC.</b> 	<b>MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT</b> ALLEGHENY COUNTY, PENNSYLVANIA CONTRACT NUMBER 2010-01 AND 2010-02 WASTEWATER TREATMENT PLANT EXPANSION AEROBIC DIGESTER SECTIONS
AS SHOWN: JULY 2009 DATE: TYP DRAWN BY: TYP CHECKED BY: TYP APPROVED BY: TYP		

Drawing No.	220-AD2
Sheet No.	6









