The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:

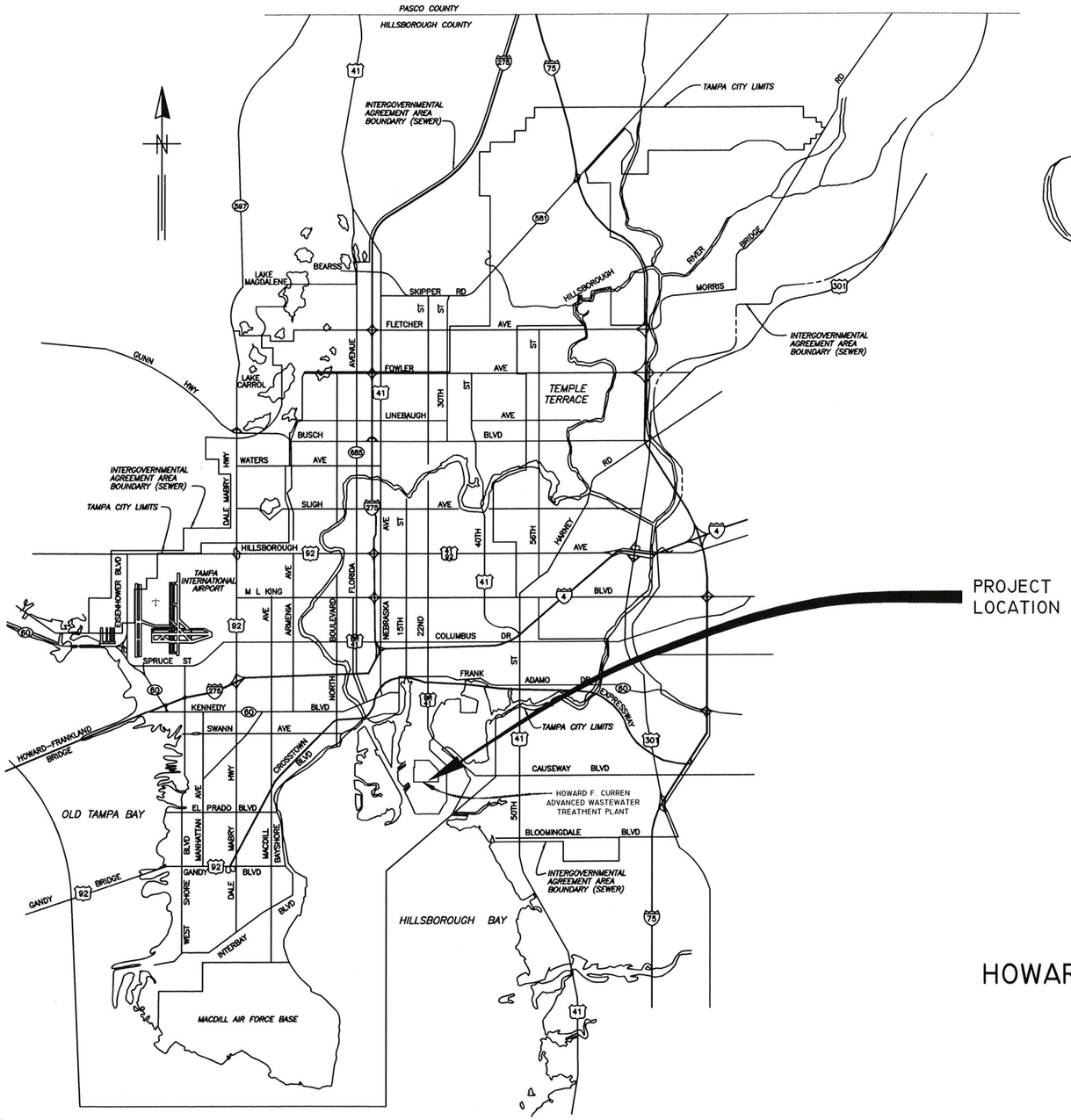
MailTo:ContractAdministration@TampaGov.net

Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

TPB014-043

LOCATION MAP



CITY of TAMPA

CITY OF TAMPA FLORIDA
MASCOTTE
ORGANIZED JULY 15 1887

WASTEWATER DEPARTMENT

PLANS FOR

HOWARD F. CURREN ADVANCED WASTEWATER TREATMENT PLANT
DENITRIFICATION FILTERS MEDIA REPLACEMENT

CONTRACT No. 15-C-00008

NOTE:

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

Jacinto Carlos Ferras 12/5/14

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: CB
DRN: BB
CKD:
DATE:

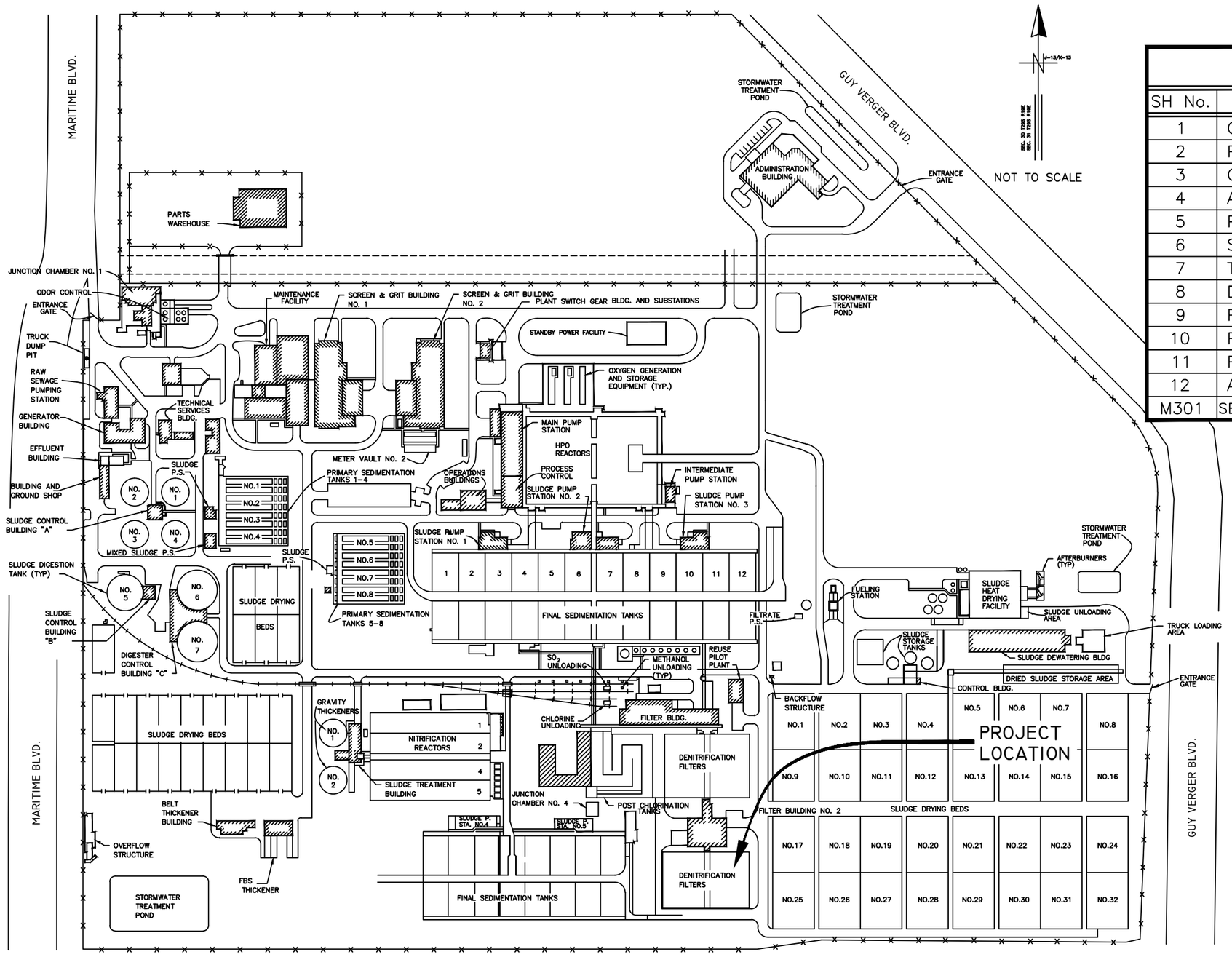
No.	DATE	REVISIONS
3		
2		
1		

CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

• COVER SHEET •

W.O.1000390
SHEET 1 OF 12

TPB014-044



INDEX

SH No.	DESCRIPTION
1	COVER SHEET
2	PROJECT MAP & INDEX
3	GENERAL NOTES AND STOP LOG NOTES
4	AERIAL VIEW
5	PLAN VIEW AT ELEVATION 19'-0"
6	SECTION VIEW - EAST SIDE TANKS
7	TYPICAL SECTIONAL PLAN VIEW
8	DEMOLITION SECTIONS
9	PROPOSED SECTIONS AND DETAILS
10	PROPOSED STOP-LOG DETAILS - EFFLUENT CONDUIT
11	PROPOSED STOP-LOG DETAILS - INFLUENT CONDUIT
12	AS-BUILT DETAILS (FOR INFORMATION)
M301	SEVERN TRENT SERVICES - FILTER FIELD INSTALLATION DRAWING

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1			4		

DES: CB
DRN: BB
CKD:
DATE:

CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
PROJECT MAP & INDEX

W.O.1000390
SHEET 2 OF 12

TPB014-045

GENERAL NOTES

G–1. EXISTING DIMENSIONS ARE BASED ON THE BEST INFORMATION AVAILABLE. TRUE DIMENSIONS SHALL BE DETERMINED IN THE FIELD.

G–2. SHOP DRAWINGS SHALL BE SUBMITTED AND APPROVED BY THE CITY FOR ALL PROPOSED ITEMS. ALL SUBMITTALS AND SHOP DRAWINGS SHALL BE ORIGINALS OR HIGH QUALITY COPIES (EASILY READABLE). NO FAXED SHEETS OR POOR QUALITY COPIES WILL BE ACCEPTED FOR SUBMITTAL REVIEW.

G–3. OSHA STANDARD SAFETY EQUIPMENT FOR CONFINED SPACE AREA SUCH AS, BUT NOT LIMITED TO, SAFETY HARNESSES, GAS MONITORS, LOWER EXPLOSIVE LIMIT (LEL) DETECTORS, BREATHING APPARATUS, ETC. SHALL BE UTILIZED WHERE THE WORK DICTATES THEIR USE.

G–4. CONTRACTOR SHALL REPLACE 12 DUAL CELL DENITRIFICATION FILTER TANKS UNDERDRAIN BLOCKS, FILTER MEDIA AND SUPPORT GRAVEL WITHIN THE EXISTING CONCRETE FILTER TANKS. SALVAGEABLE MATERIALS AS DETERMINED BY THE WASTEWATER DEPARTMENT PERSONNEL SHALL BE DELIVERED TO AN ONSITE LOCATION AT THE HFC AWTP. NON– SALVAGEABLE MATERIALS ARE TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. IN GENERAL, THE SUPPORT GRAVEL AND FILTER MEDIA SHALL REMAIN THE PROPERTY OF THE CITY. APPROXIMATELY, 3,000 TONS OF FILTER BLOCKS SHALL BE REMOVED AND PROPERLY DISPOSED OF FROM THE EXISTING 12 FILTER TANKS. REFER TO DISPOSAL OF DEBRIS SECTION IN THE SPECIFICATIONS.

G–5. THE PROPOSED UNDERDRAIN FILTER BLOCKS SHALL BE THE SNAP–T UNDERDRAIN BLOCK AS MANUFACTURED BY SEVERN TRENT WATER PURIFICATION, INC. THE PROPOSED FILTER MEDIA, SUPPORT GRAVEL AND SNAP–T UNDERDRAIN BLOCK SHALL BE SUPPLIED BY ONE MANUFACTURER SEVERN TRENT SERVICES. THE FILTER UNDERDRAIN BLOCK IS A SOLE SOURCE ITEM AND NO "OR EQUAL" SUBMITTALS WILL BE CONSIDERED. REFER TO SPECIFICATIONS.

G–6. BYPASS PUMPING WILL NOT BE REQUIRED. ISOLATION OF THE FILTER TANKS SHALL BE PROVIDED BY INSTALLATION OF STOP LOGS, REFER TO PLAN SHEET 5 FOR EXACT LOCATIONS. AFTER STOP LOGS ARE INSTALLED, THE CONTRACTOR WILL BE REQUIRED TO SUPPLY DEWATERING PUMPS NECESSARY TO REMOVE THE REMAINING WATER IN THE EFFLUENT CONDUIT. ACCESS TO EACH FILTER TANK UNDERDRAIN SUMP AREA SHALL BE THROUGH THE 30" ACCESS MANHOLE.

G–7. THIS WORK REQUIRES TAKING ONE SET OF FILTER TANKS (6 TOTAL) OUT OF SERVICE AT ONE TIME. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH TREATMENT PLANT PERSONNEL AND THE CONTRACT ADMINISTRATION DEPARTMENT. NO WORK SHALL COMMENCE UNTIL ALL FILTER BLOCKS, MEDIA, GRAVEL, PIPING, EQUIPMENT AND APPURTENANCES ARE LOCATED ON SITE.

G–8. THE CONTRACTOR SHALL ALLOW 3 WEEKS IN BETWEEN PHASE 1 AND PHASE 2 OF THE DENITRIFICATION FILTER MEDIA REPLACEMENT TO ALLOW SEEDING OF THE NEW FILTER MEDIA COMPONENTS.

G–9. KNIFE GATE VALVES WITH HAND WHEEL OPERATORS SHALL BE SIZE 20–INCH DEZURIK KGC–HD HEAVY DUTY CAST STAINLESS STEEL, OR APPROVED EQUAL.

G–10. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED ITEMS DURING THE REPLACEMENT PROJECT, IN KIND OR BETTER.

STOP LOG NOTES

S–1) CONTRACTOR WILL BE REQUIRED TO FABRICATE AND INSTALL (2) 304 STAINLESS STEEL STOP LOGS.

S–2) STOP LOGS SHALL BE CONSTRUCTED WITH 304 SS STRUCTURAL MEMBERS AND PLATES.

S–3) (1) STOP LOG SHALL BE DESIGNED FOR THE DENITRIFICATION FILTER TANK EFFLUENT CONDUIT TO RESIST A MAXIMUM WATER HEIGHT OF 15' WITH A MAXIMUM DEFLECTION OF .125" AND SHALL BE AS WATERTIGHT AS POSSIBLE WITH RUBBER MATERIAL SECURELY ATTACHED TO ITS "WETTED" PERIMETER. APPROXIMATE HEIGHT OF STOP LOG IS 30'–0" AND WIDTH OF THE STOP LOG GROOVE OPENING IS APPROXIMATELY 5'–2". CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. FABRICATION DRAWINGS MUST REFLECT FIELD VERIFIED MEASUREMENTS. THE CONTRACTOR IS ENCOURAGED TO MEASURE THE CITY'S STOP LOG FOR THE EFFLUENT CONDUIT FOR MEASUREMENT GUIDANCE PRIOR TO FABRICATION OF PROPOSED STOP LOG.

S–4) (1) STOP LOG SHALL BE DESIGNED FOR THE DENITRIFICATION FILTER TANK INFLUENT CONDUIT TO RESIST A MAXIMUM WATER HEIGHT OF 4' WITH A MAXIMUM DEFLECTION OF .125" AND SHALL BE AS WATERTIGHT AS POSSIBLE WITH RUBBER MATERIAL SECURELY ATTACHED TO ITS "WETTED" PERIMETER. APPROXIMATE HEIGHT OF STOP LOG IS 5'–0" AND WIDTH OF THE STOP LOG GROOVE OPENING IS APPROXIMATELY 8'–2". CONTRACTOR SHALL SUBMIT FABRICATION DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. FABRICATION DRAWINGS MUST REFLECT FIELD VERIFIED MEASUREMENTS.

S–5) THE EXISTING STOP LOG GROOVES ARE ¼" THICK FRP CHANNELS. THE SIZE OF THE GROOVE IS ONLY 6" WIDE BY 1⅝" DEEP. IT IS RECOMMENDED THAT THE CONTRACTOR MEASURE THE STOP LOG GROOVE IN MULTIPLE LOCATIONS FOR UNIFORMITY PRIOR TO STOP LOG FABRICATION.

S–6) CONTRACTOR SHALL INSTALL STOP LOGS AS REQUIRED. AFTER STOP LOGS ARE INSTALLED, THE CONTRACTOR WILL BE REQUIRED TO SUPPLY DEWATERING PUMPS NECESSARY TO REMOVE THE REMAINING WATER IN THE EFFLUENT CONDUIT.

S–7) CONTRACTOR SHALL MINIMIZE ANY STOP LOG LEAKAGE AS NECESSARY TO FACILITATE THE WORK REQUIRED IN THIS CONTRACT. LEAKAGE MAY BE REDUCED BY INSTALLING VISQUEEN ROLLS BEHIND (WATER SIDE) OF STOP LOGS, OR INJECT OAKUM. ALL ITEMS LISTED SHALL BE CONTAINED, REMOVED AND PROPERLY DISCARDED OF AFTER WORK HAS COMPLETED.

S–8) AT THE COMPLETION OF THIS PROJECT THE (2) STOP LOGS SHALL BECOME THE PROPERTY OF THE CITY OF TAMPA.

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1			4		

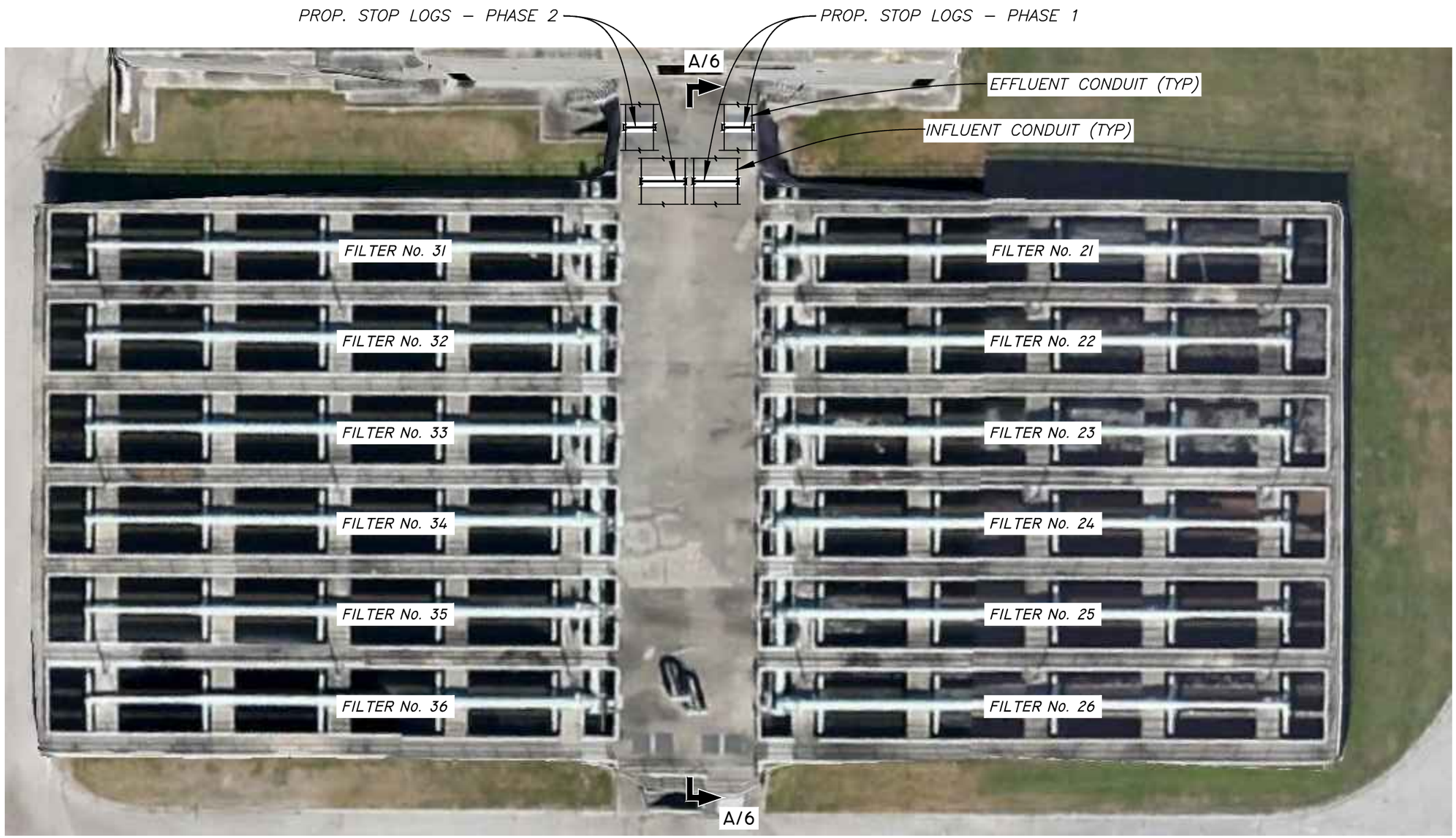
DES: CB
DRN: BB
CKD:
DATE:

CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
GENERAL NOTES

W.O.1000390
SHEET 3 OF 12

TPB014-046



J–13
K–13

SEC. 30 T29S R19E
SEC. 31 T29S R19E

DENITRIFICATION FILTER TANKS - AERIAL VIEW

NOT TO SCALE

PROP. STOP LOGS

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1			4		

DES: CB
DRN: BB
CKD:
DATE:

CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
AERIAL VIEW

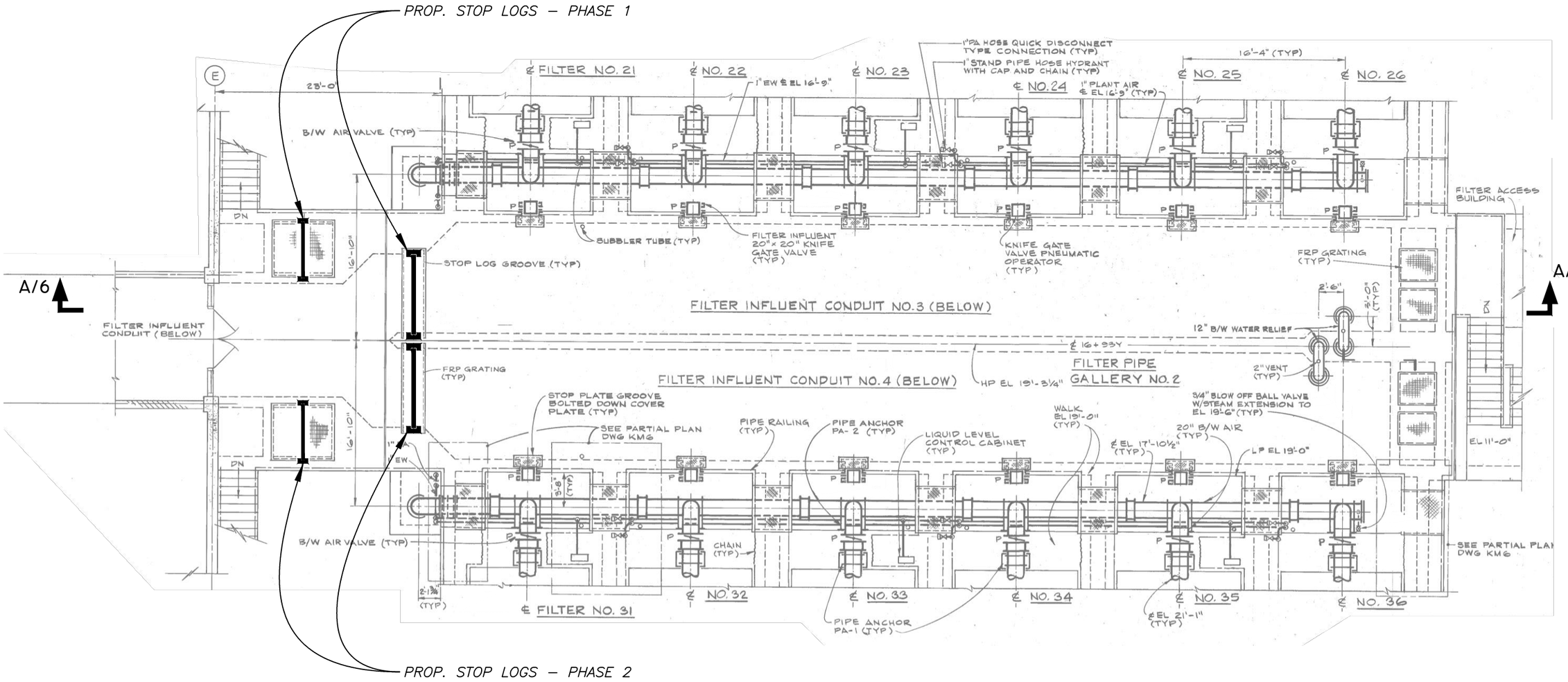
W.O.1000390
SHEET 4 OF 12

Layout– Dec 05, 2014 – 11:10am CTB – MONOCHROME.CTB

TPB014-047

J-13
K-13

SEC. 30 T29S R19E
SEC. 31 T29S R19E



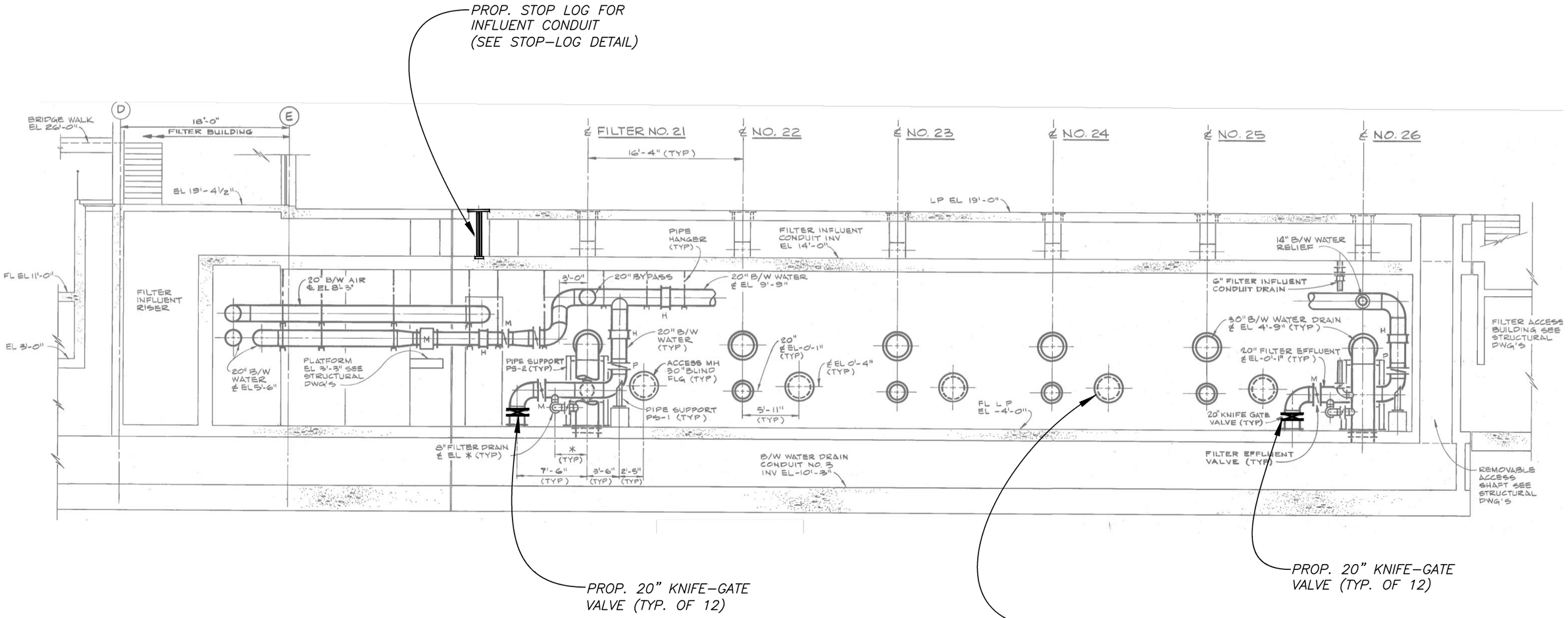
PLAN VIEW AT ELEV. 19'-0"

APPROX. SCALE: 3/32" = 1'–0"

	No.	DATE	REVISIONS	DES: CB	CITY of TAMPA	HOWARD F. CURREN A.W.T.P.	W.O.1000390
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DRN: BB	HOWARD F. CURREN ADVANCED WASTEWATER TREATMENT PLANT	DENITRIFICATION FILTERS MEDIA REPLACEMENT PLAN VIEW AT ELEV. 19'-0"	SHEET 5 OF 12
	2			CKD:			
	1			DATE:			

User: ss1f Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheet 05-06.dwg
Layout= Dec 05, 2014 - 11:22am CTB - MONOCHROME.CTB

TPB014-048



SECTION VIEW A/5

APPROX. SCALE: 3/32" = 1'-0"

No.	DATE	REVISIONS
3		
2		
1		

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

DES: CB
DRN: BB
CKD:
DATE:

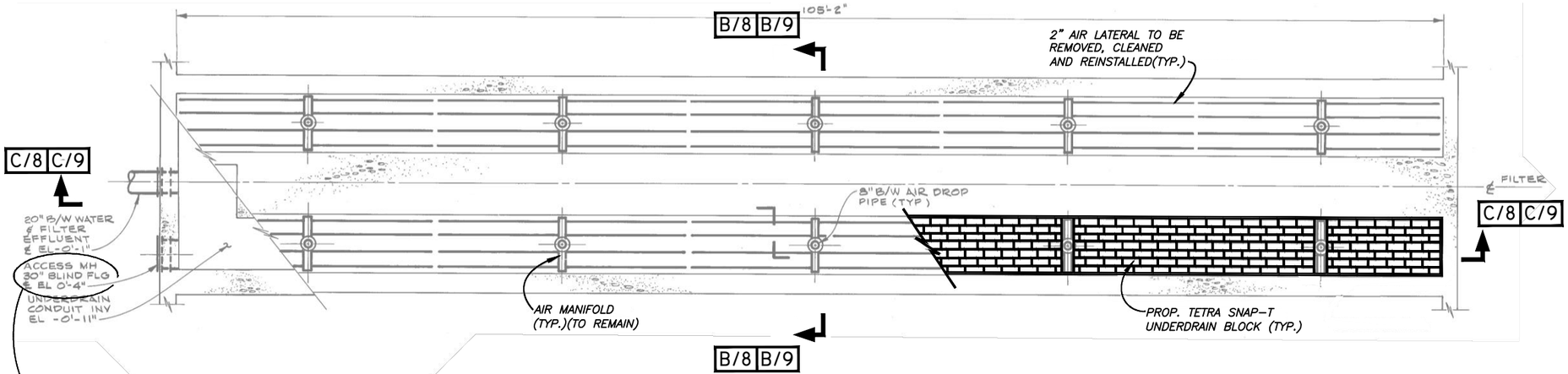
CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
SECTION VIEW - EAST SIDE TANKS

W.O.1000390
SHEET 6 OF 12

User: ss1f Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheet 05-06.dwg
Layout= Dec 05, 2014 - 11:22amCTB - MONOCHROME.CTB

TPB014-049



SECTIONAL PLAN VIEW
(TYPICAL FOR 12 FILTER TANKS)

APPROX. SCALE: $\frac{3}{32}$" = 1'-0"

User: ss11 Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheets 07-09.dwg
Layout= Dec 05, 2014 - 11:22amCTB - MONOCHROME.CTB

	No.	DATE	REVISIONS
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3		
	2		
	1		

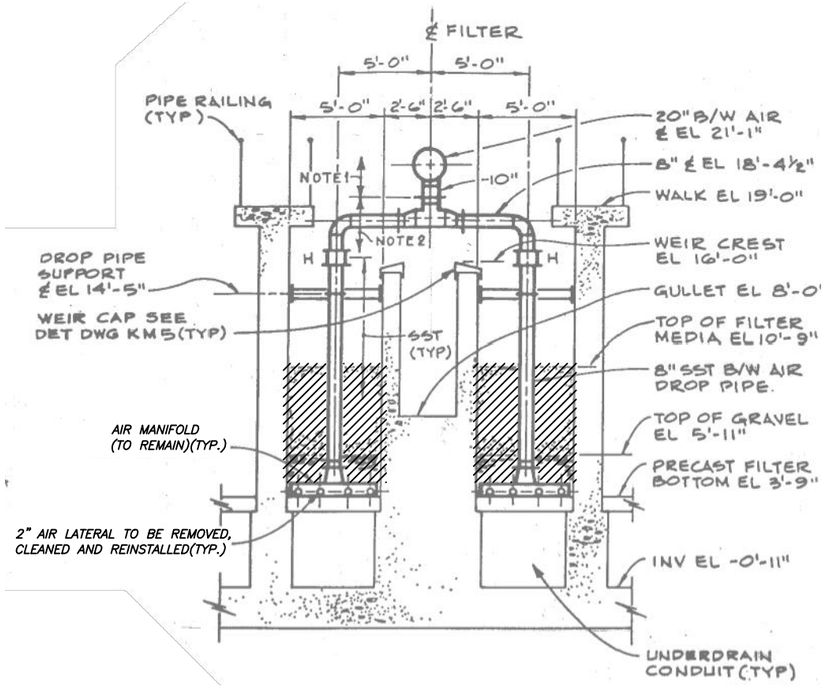
DES: CB
DRN: BB
CKD:
DATE:

CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
TYPICAL SECTIONAL PLAN VIEW

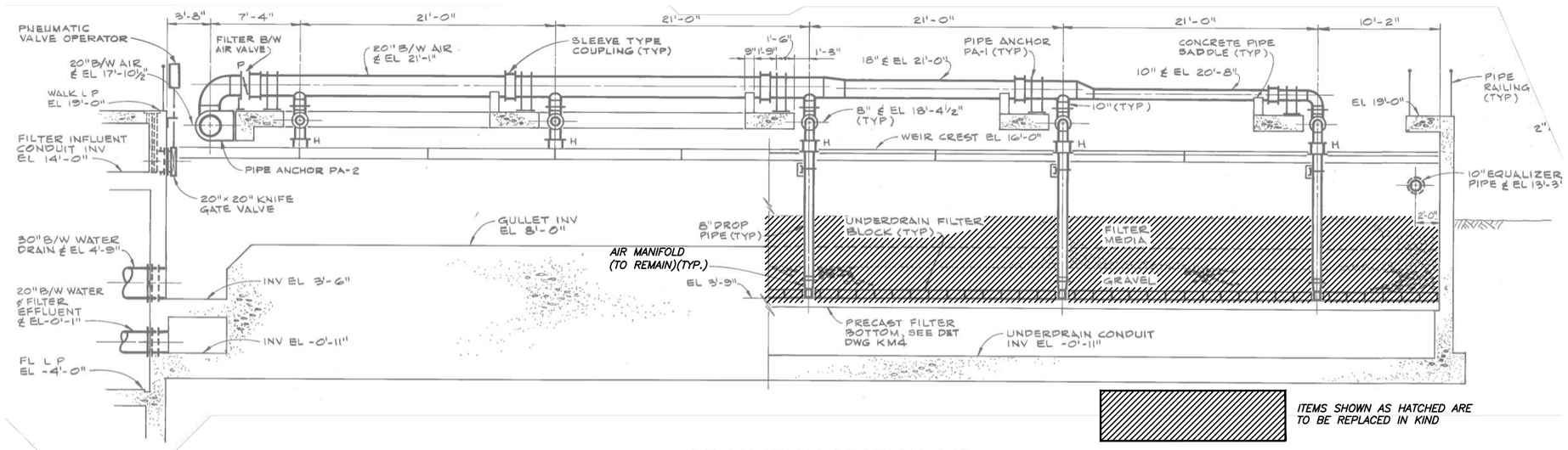
W.O.1000390
SHEET 7 OF 12

TPB014-050



DEMOLITION SECTION B/7

APPROX. SCALE: ⅛" = 1'–0"



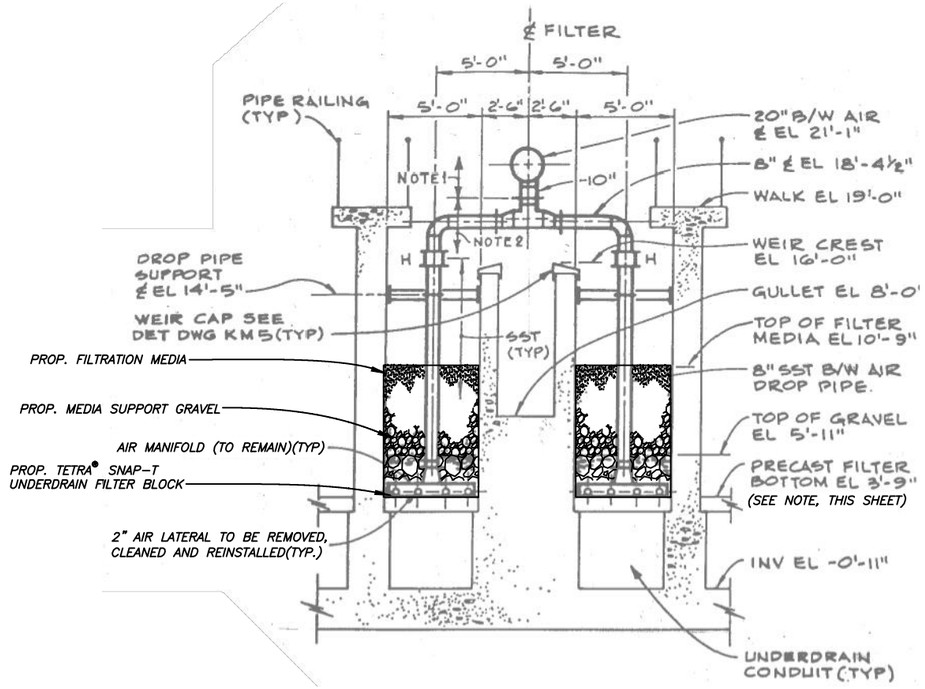
DEMOLITION SECTION C/7

APPROX. SCALE: 3/32" = 1'–0"

	No.	DATE	REVISIONS			
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: CB DRN: BB CKD: DATE:	CITY of TAMPA HOWARD F. CURREN ADVANCED WASTEWATER TREATMENT PLANT	HOWARD F. CURREN A.W.T.P. DENITRIFICATION FILTERS MEDIA REPLACEMENT DEMOLITION SECTIONS	W.O.1000390 SHEET 8 OF 12
	2						
	1						

User: ss1f Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheets 07-09.dwg
Layout- Dec 05, 2014 - 11:22amCTB - MONOCHROME.CTB

TPB014-051

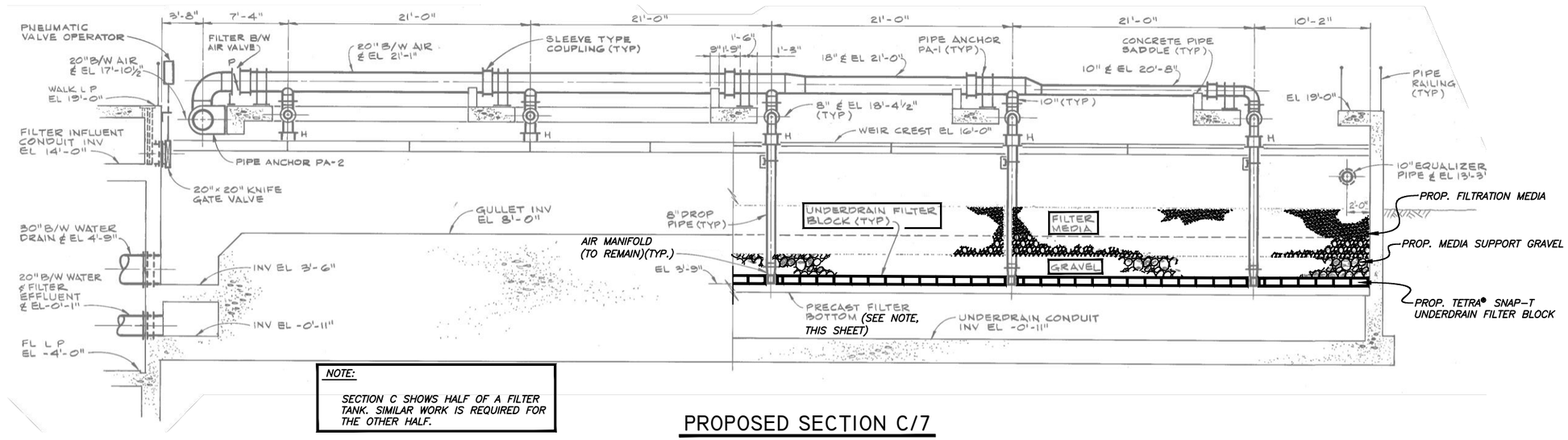


PROPOSED SECTION B/7

APPROX. SCALE: ⅛" = 1'-0"

NOTE:

THE CONTRACTOR SHALL REMOVE AND REPLACE ONE TYPE A OR TYPE B PRECAST FILTER BOTTOM IN EACH FILTER FOR ADDITIONAL ACCESS TO SUMP AREA FOR CLEANING. THE CONTRACTOR CAN REMOVE (2) PRECAST FILTER BOTTOMS PER TANK FOR A TOTAL OF (24) PRECAST FILTER BOTTOMS TO BE REPLACED. THE PRECAST FILTER BOTTOM SHALL BE REPLACED IN ACCORDANCE WITH THE AS-BUILT DETAILS ON SHEET 12.



NOTE:

SECTION C SHOWS HALF OF A FILTER TANK. SIMILAR WORK IS REQUIRED FOR THE OTHER HALF.

PROPOSED SECTION C/7
TYPICAL FOR 12 TANKS

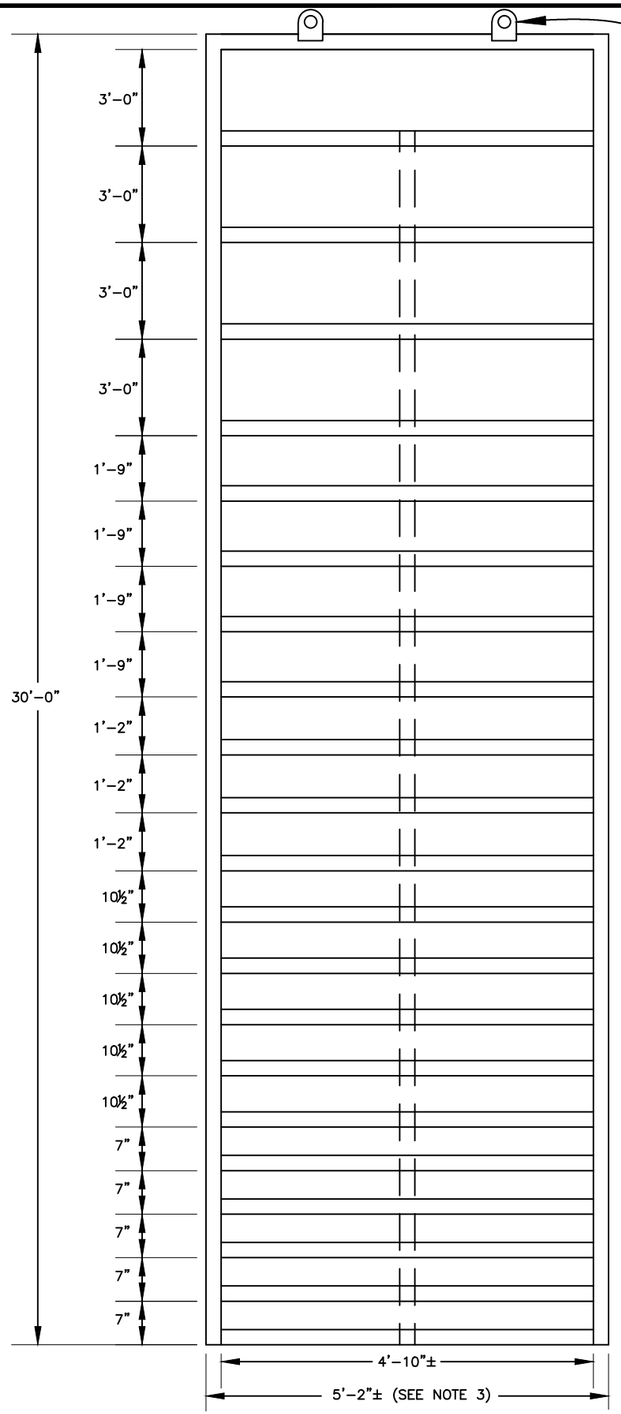
APPROX. SCALE: 3/32" = 1'-0"

	No.	DATE	REVISIONS			
JACINTO CARLOS FERRAS, P.E. #49454 DESIGN DIVISION HEAD WASTEWATER DEPARTMENT	3			DES: CB DRN: BB CKD: DATE:	CITY of TAMPA HOWARD F. CURREN ADVANCED WASTEWATER TREATMENT PLANT	HOWARD F. CURREN A.W.T.P. DENITRIFICATION FILTERS MEDIA REPLACEMENT PROPOSED SECTIONS AND DETAILS
	2					
	1					

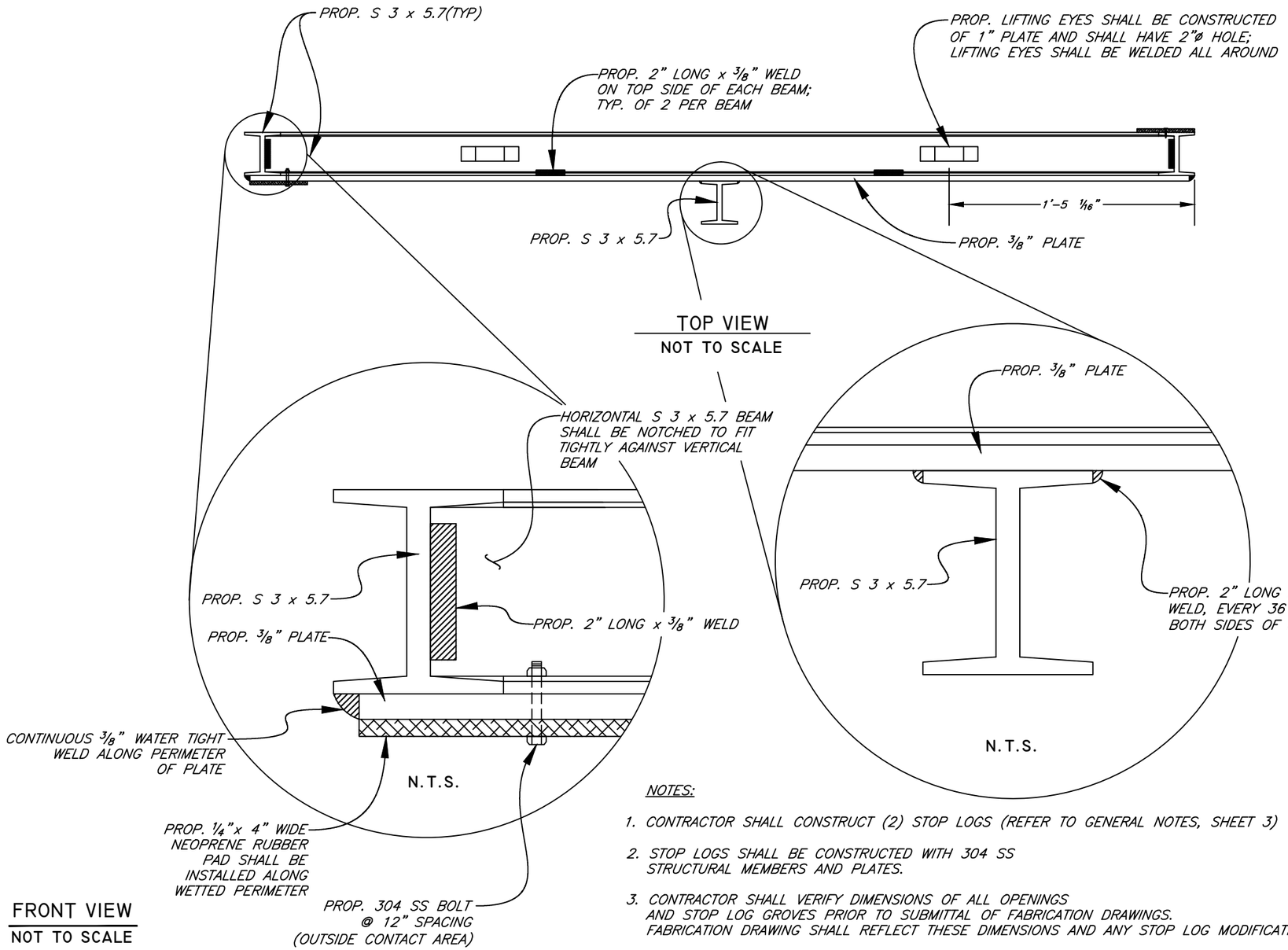
W.O.1000390
SHEET 9 OF 12

User: ss11 Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheets 07-09.dwg
Layout= Dec 05, 2014 - 12:29pmCTB - MONOCHROME.CTB

TPB014-052



FRONT VIEW
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL CONSTRUCT (2) STOP LOGS (REFER TO GENERAL NOTES, SHEET 3)
2. STOP LOGS SHALL BE CONSTRUCTED WITH 304 SS STRUCTURAL MEMBERS AND PLATES.
3. CONTRACTOR SHALL VERIFY DIMENSIONS OF ALL OPENINGS AND STOP LOG GROVES PRIOR TO SUBMITTAL OF FABRICATION DRAWINGS. FABRICATION DRAWING SHALL REFLECT THESE DIMENSIONS AND ANY STOP LOG MODIFICATIONS.

JACINTO CARLOS FERRAS, PE #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3	4'–10"± 5'–2"± (SEE NOTE 3)	
2		
1		

DES: CB
DRN: BB
CKD:
DATE:

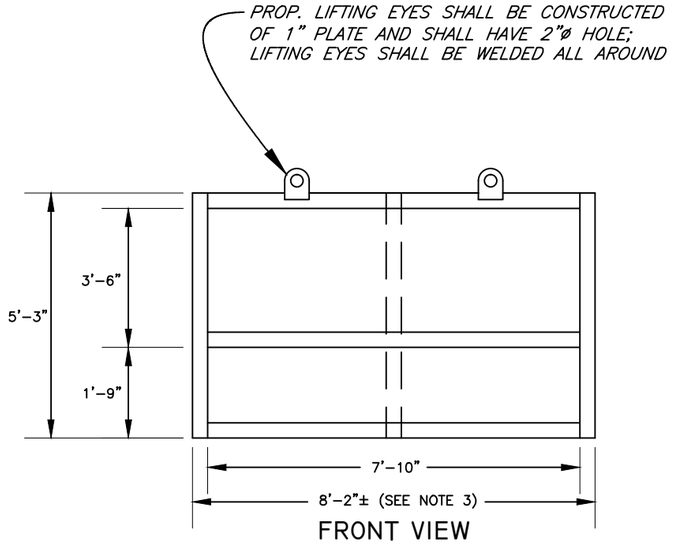
CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
STOP LOG DETAILS - EFFLUENT CONDUIT

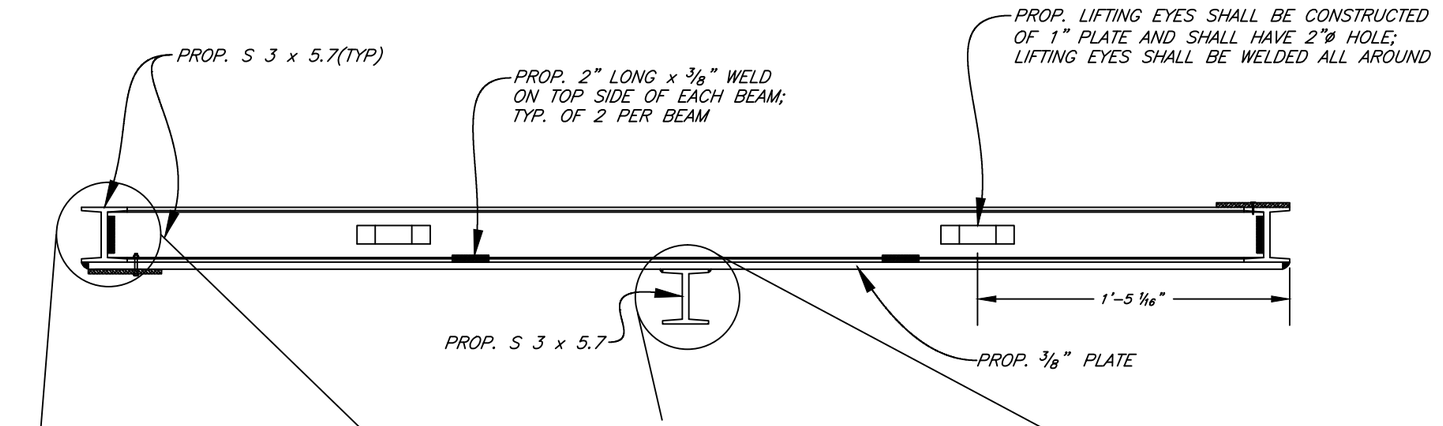
W.O.1000390
SHEET 10 OF 12

User: ss1f Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheets 10-11.dwg
Layout- Dec 05, 2014 - 11:33amCTB - MONOCHROME.CTB

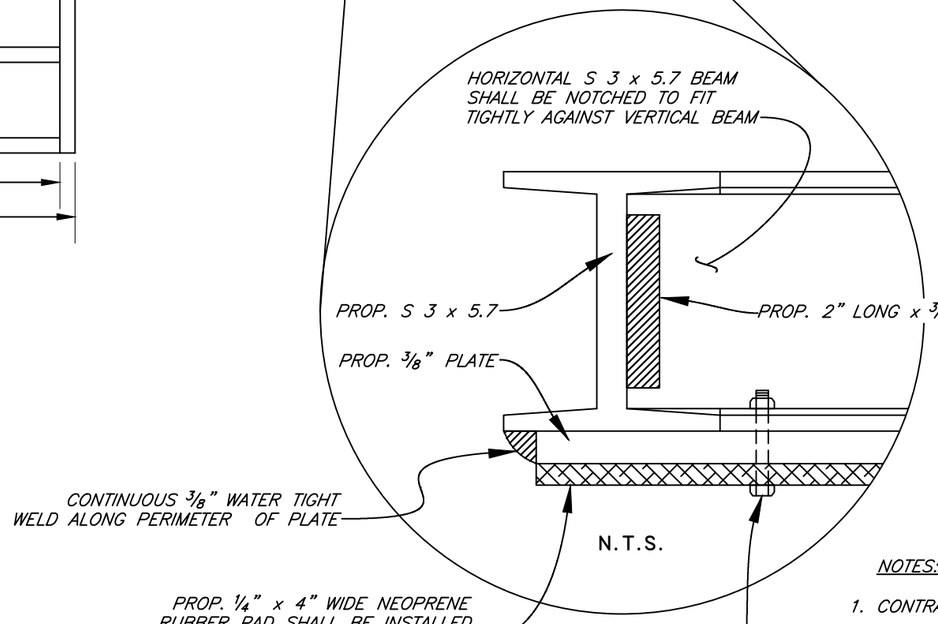
TPB014-053

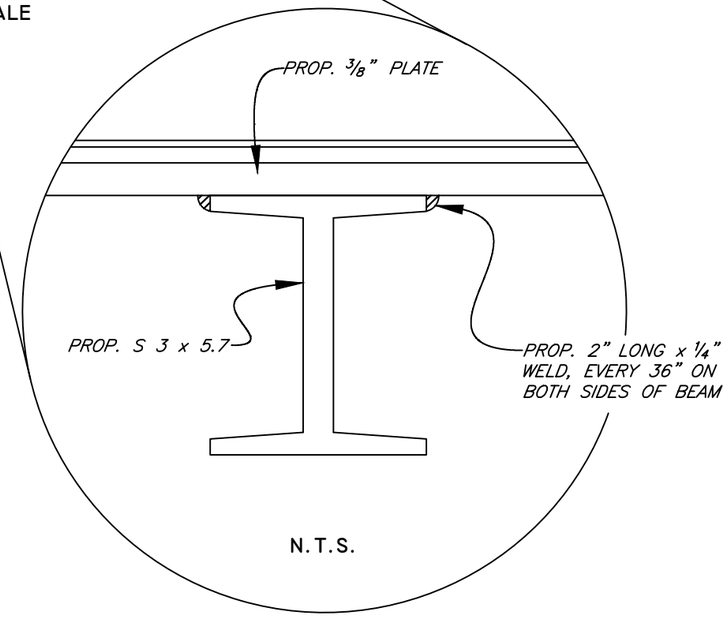


FRONT VIEW
NOT TO SCALE



TOP VIEW
NOT TO SCALE





NOTES:

1. CONTRACTOR SHALL CONSTRUCT (2) STOP LOGS (REFER TO GENERAL NOTES, SHEET 3)
2. STOP LOGS SHALL BE CONSTRUCTED WITH 304 SS STRUCTURAL MEMBERS AND PLATES.
3. CONTRACTOR SHALL VERIFY DIMENSIONS OF ALL OPENINGS AND STOP LOG GROVES PRIOR TO SUBMITTAL OF FABRICATION DRAWINGS. FABRICATION DRAWING SHALL REFLECT THESE DIMENSIONS AND ANY STOP LOG MODIFICATIONS.

JACINTO CARLOS FERRAS, PE #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

No.	DATE	REVISIONS
3		
2		
1		

DES: CB
DRN: BB
CKD:
DATE:

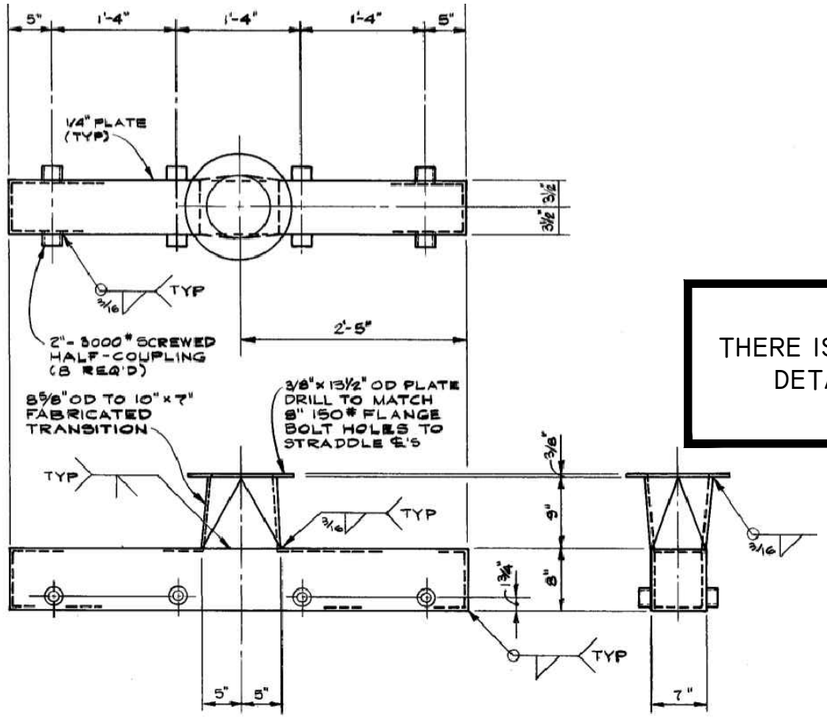
CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
STOP LOG DETAILS - INFLUENT CONDUIT

W.O.1000390
SHEET 11 OF 12

User: ss1f Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheets 10-11.dwg
Layout- Dec 05, 2014 - 11:33amCTB - MONOCHROME.CTB

TPB014-054

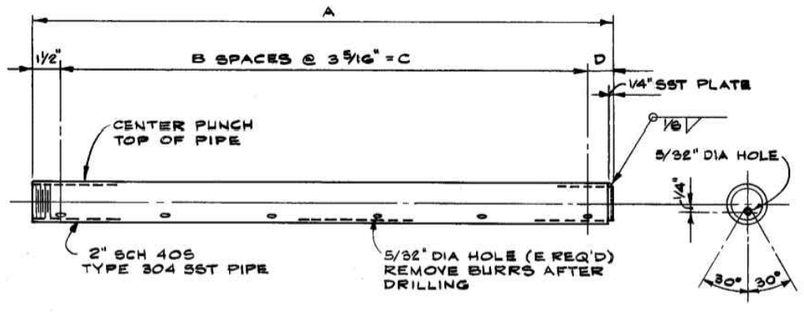


NOTE:

MATERIAL TYPE 304 SST. 10 REQUIRED PER FILTER

AIR MANIFOLD DETAIL

NOT TO SCALE

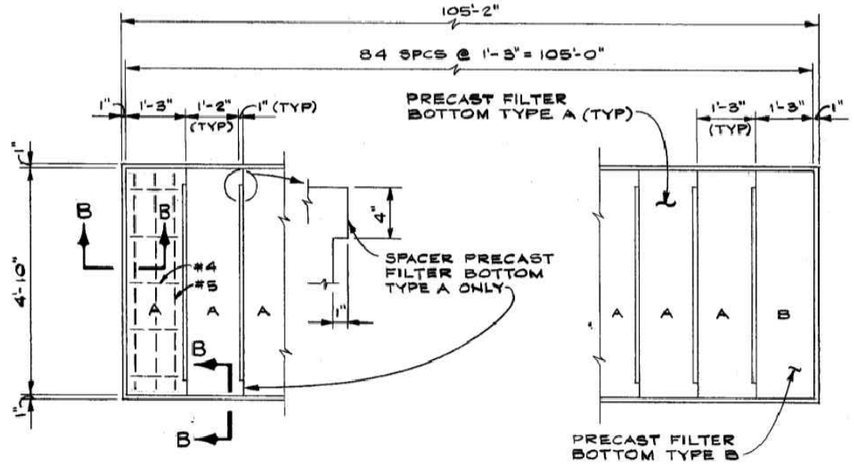


A	B	C	D	E	NO. REQ'D
10'-4-1/8"	31	10'-2-1/16"	9/16"	65	8
10'-0-1/8"	30	9'-10-1/8"	1/2"	63	64
9'-8-1/4"	29	9'-6-3/16"	9/16"	61	8

AIR LATERAL DETAIL

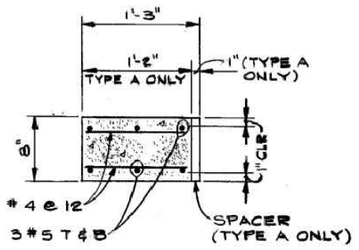
NOT TO SCALE

THERE IS NO PROPOSED WORK SHOWN ON THESE DETAILS. AS-BUILT INFORMATION ONLY



PLAN

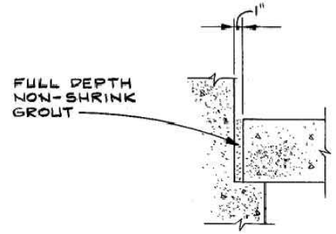
NOT TO SCALE



PRECAST FILTER BOTTOM TYPE A & B

NOT TO SCALE

166 TYPE A REQ'D PER FILTER
2 TYPE B REQ'D PER FILTER



SECTION B

NOT TO SCALE

PRECAST FILTER BOTTOM DETAILS

NOT TO SCALE

User: ss1f Drawing Name: K:\WW_Projects\2015\2015-1000390_Denitrification_Filters\Dwg\2015-1000390-Sheet 12.dwg
Layout- Dec 05, 2014 - 11:39amCTB - MONOCHROME.CTB

	No.	DATE	REVISIONS
	3		
	2		
	1		

JACINTO CARLOS FERRAS, P.E. #49454
DESIGN DIVISION HEAD
WASTEWATER DEPARTMENT

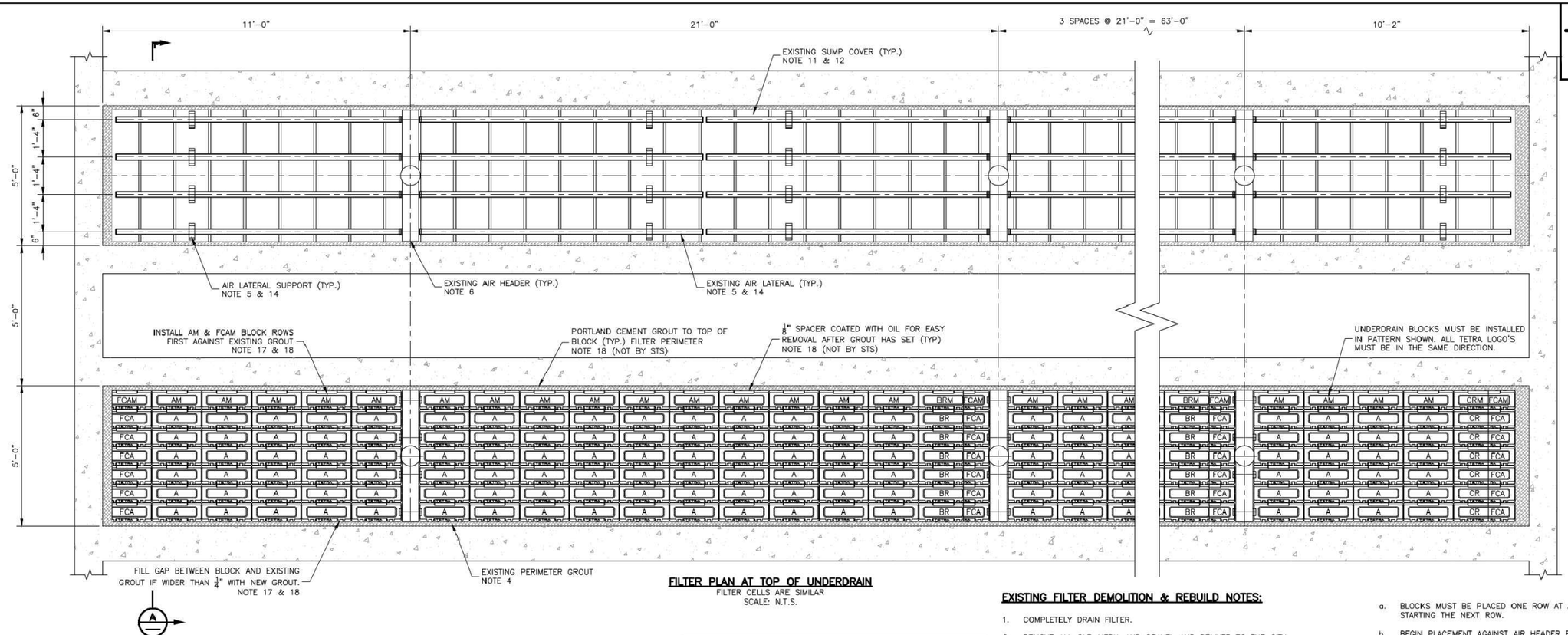
DES: CB
DRN: BB
CKD:
DATE:

CITY of TAMPA
HOWARD F. CURREN
ADVANCED WASTEWATER TREATMENT PLANT

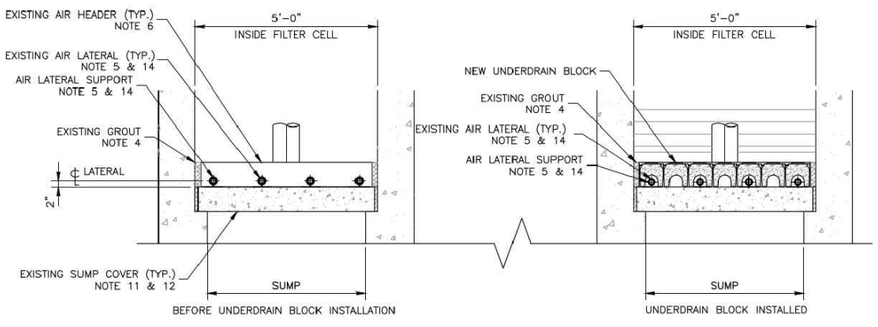
HOWARD F. CURREN A.W.T.P.
DENITRIFICATION FILTERS MEDIA REPLACEMENT
AS-BUILT DETAIL (FOR INFORMATION PURPOSES ONLY)

W.O.1000390
SHEET 12 OF 12

TPB014-055



FILTER PLAN AT TOP OF UNDERDRAIN
FILTER CELLS ARE SIMILAR
SCALE: N.T.S.



SECTION A
SCALE: N.T.S.

GRAVEL & MEDIA MATERIAL LIST		
LAYER No.	GRAIN SIZE	TOTAL VOLUME FOR ONE FILTER
LAYER #1	1½" x ¾" GRAVEL	193 CU. FT.
LAYER #2	¾" x ½" GRAVEL	106 CU. FT.
LAYER #3	½" x ¼" GRAVEL	175 CU. FT.
LAYER #4	¼" x ⅛" GRAVEL	175 CU. FT.
LAYER #5	½" x ¼" GRAVEL	175 CU. FT.
LAYER #6	TETRA #5 SAND	2366 CU. FT.
LAYER #7		

ONE CUBIC FOOT OF GRAVEL OR SAND WEIGHS 100 lbs.

BLOCK MATERIAL LIST FOR ONE FILTER CELL (BY STS)		
MARK	LENGTH	QUANTITY
A	1'-9⅜"	294
AM	1'-9⅜"	49
FCA	FIELD CUT MARK A	36
FCAM	FIELD CUT MARK AM	6
BR	1'-3"	24
BRM	1'-3"	1
CR	1'-7¼"	6
CRM	1'-7¼"	1

EXISTING FILTER DEMOLITION & REBUILD NOTES:

1. COMPLETELY DRAIN FILTER.
2. REMOVE ALL OLD MEDIA AND GRAVEL AND DELIVER TO THE CITY.
3. REMOVE ALL OLD UNDERDRAIN BLOCK AND DELIVER TO THE CITY.
4. THE GROUT AROUND THE PERIMETER OF THE EXISTING UNDERDRAIN IS NOT TO BE DISTURBED NOR BROKEN OUT.
5. CAREFULLY REMOVE ALL AIR LATERALS AND AIR LATERAL SUPPORTS. CLEAN. MAKE SURE ALL AIR DISTRIBUTION HOLES ARE CLEAR AND INTERNALS ARE DIRT AND DEBRIS FREE. COVER AND STORE IN A CLEAN ENVIRONMENT. MAKE SURE AIR LATERALS HAVE CENTER PUNCH MARK ON TOP LOCATION. TEMPORARILY COVER HEADER COUPLINGS WITH MASKING TAPE OR PLASTIC PLUGS TO PREVENT DEBRIS FROM ENTERING AIR HEADER.
6. OMITTED BY CITY
7. OMITTED BY CITY
8. OMITTED BY CITY
9. OMITTED BY CITY
10. MAKE SURE 1" GAPS BETWEEN SUMP PLATES ARE TOTALLY CLEAR FROM OBSTRUCTIONS SO WATER CAN PASS THROUGH FREELY. IF NOT, THESE MUST BE THOROUGHLY CLEANED AND INSPECTED AS DIRECTED BY THE SERVICE ENGINEER.
11. OMITTED BY CITY
12. OMITTED BY CITY
13. CLEAN FILTER FLOOR OF ANY DEBRIS.
14. REMOVE TEMPORARY TAPE OR PLUGS ON AIR HEADER AND INSTALL CLEANED AIR LATERALS, SCREW AIR LATERAL INTO COUPLING ON AIR HEADER USING TEFLON TAPE OR THREAD LUBRICANT ON THREADS AND TIGHTEN SECURELY WITH PIPE WRENCH TO APPROX. 100# TORQUE. CENTER PUNCH MARK ON THREADED END OF AIR LATERAL MUST BE ON TOP TO ASSURE ALIGNMENT OF HOLES ON BOTTOM OF AIR LATERAL. DO NOT BLOCK HOLES IN AIR LATERALS.
15. FILL FILTER WITH 3" INCHES OF WATER COVERING AIR LATERALS AND TURN AIR ON TO FILTERS FOR AN AIR PATTERN TEST. CHECK AIR PATTERN. MAKE SURE THERE ARE NO DEAD SPOTS IN FILTERS AIR GRID. IF A DEAD SPOT IS PRESENT, MARK LATERALS, SHUT OFF AIR, DRAIN FILTER, REMOVE, CLEAN AND REPLACE CLOGGED LATERALS. REPEAT AIR PATTERN TEST UNTIL NO DEAD SPOTS APPEAR.
16. SHUT OFF AIR AND DRAIN FILTER.
17. BLOCKS MUST BE INSTALLED IN THE PATTERN SHOWN.
    a. BLOCKS MUST BE PLACED ONE ROW AT A TIME, COMPLETING THAT ROW BEFORE STARTING THE NEXT ROW.
    b. BEGIN PLACEMENT AGAINST AIR HEADER BEGINNING WITH AM, BRM, CRM & FCAM BLOCK. THESE BLOCKS DO NOT HAVE THE MALE LUGS ON SIDE OF BLOCK. THEN WORK TO THE OUTER PERIMETER OF THE CELL LAYING ONE COMPLETE ROW AT A TIME. SOME BLOCKS MAY NEED TO BE SAW CUT TO FIT LENGTHWISE. REVIEW REBUILD UNDERDRAIN DRAWINGS.
    c. IF STEPS A AND B ARE NOT FOLLOWED EXACTLY, THE UNDERDRAIN BLOCKS WILL NOT FIT.
18. INSTALL NEW GROUT TO ANY DAMAGED AREAS. DISTANCE FROM UNDERDRAIN BLOCK TO GROUT TO BE ¼".
19. INSTALLATION INSTRUCTIONS FOR NEW GRAVEL AND MEDIA.
    a. THE FILTER UNDERDRAIN SYSTEM INSTALLATION MUST BE INSPECTED AND APPROVED BY A STS REPRESENTATIVE BEFORE GRAVEL LAYERS AND MEDIA ARE INSTALLED. THE GRAVEL LAYERS AND MEDIA MUST BE INSTALLED UNDER THE SUPERVISION OF A STS REPRESENTATIVE.
    b. MEASURE FROM THE TOP OF THE UNDERDRAIN BLOCKS AND SCRIBE LINES AROUND THE INTERIOR FILTER SIDE WALLS TO LOCATE THE TOP OF EACH LAYER.
    c. SEE CHART ON DRAWING FOR TOTAL VOLUME (CU. FT.) FOR EACH LAYER BEING INSTALLED. FROM THE CHART AND SIZE OF BAGS BEING USED, ESTIMATE THE NUMBER OF BAGS REQUIRED FOR EACH LAYER.
    d. CAREFULLY PLACE GRAVEL OR MEDIA ON TOP OF UNDERDRAIN BLOCKS OR PREVIOUS LAYER, SO THAT MINIMUM LATERAL SPREADING AND INTERMIXING OF LAYERS OCCURS.
    e. USING A STRAIGHT EDGE AND THE SCRIBED LINES, BUILD UP EACH LAYER TO THE REQUIRED HEIGHT. THE TOP OF EACH LAYER IS TO BE LEVEL IN TWO DIRECTIONS ACROSS THE FILTER. WHILE INSTALLING AND LEVELING LAYERS, THE LAYERS MUST NOT BE WALKED ON – USE BOARDS FOR WORKING SURFACES. REMOVE BOARDS FROM BETWEEN LAYERS WHEN INSTALLING THE NEXT LAYER.
    f. COVER THE FINAL LAYER WITH PLASTIC UNTIL THE FILTERS ARE PLACED INTO SERVICE TO KEEP THE MEDIA FROM BEING CONTAMINATED WITH FOREIGN MATERIAL.

NO.	REVISIONS	BY	DATE	APP'D
A	FOR PROPOSAL	SS	11/14/2014	NPK
B	FOR PROPOSAL	SS	12/3/2014	NPK

NO.	REVISIONS	BY	DATE	APP'D

SCALE AS NOTED
APP'D
DATE
DESIGNED
DRAFTED SS
CHECKED

FOR PROPOSAL ONLY

This drawing, any copies of this drawing and all information contained on this drawing is and shall remain the property of Severn Trent Services. It is submitted only in connection with the transaction to which it pertains and must not be used or distributed for any purpose other than to accomplish the purpose of said transaction without the expressed written approval of Severn Trent Services. This drawing and/or any copy of this drawing is not to be copied. This drawing or any copy of this drawing must be returned to Severn Trent Services upon request.
Copyright Severn Trent Services 2014

HOWARD CURREN WWTP
CITY OF TAMPA, FLORIDA
(24) 5'-0" x 105'-2" FILTER CELLS- REBUILDS
FILTER FIELD INSTALLATION
GENERAL ARRANGEMENT

SEVERN TRENT SERVICES

FILTRATION PRODUCTS

CONTRACT No.	DWG No.	REV.
E34512-M301		B