

CITY OF



Engineering Department

100 S. Myrtle Avenue, Clearwater, Florida 33756

HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)

Sect 10, Twn 29, Rng 15 MARSHALL STREET APCF

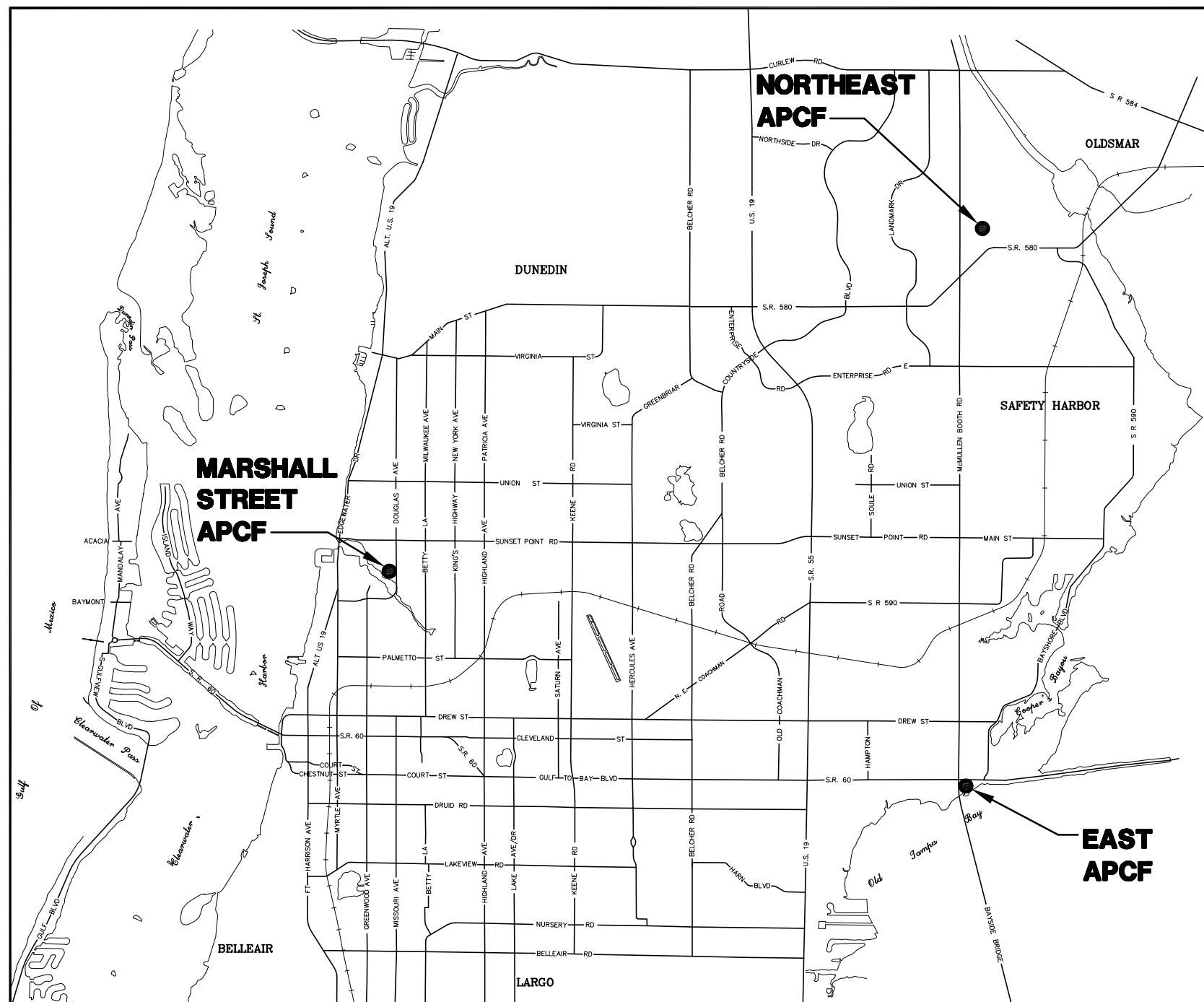
Sect 21, Twn 28, Rng 16 NORTHEAST APCF

Sect 16, Twn 29, Rng 16 EAST APCF

Clearwater Project No. 05-0063-UT

Jones Edmunds Project No. 03720-022-01

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CERTIFICATE OF AUTHORIZATION #1841

PROJECT MANAGER'S LOCATION

324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

CITY OFFICIALS

Frank Hibbard	Mayor	Seat 1
John Doran	Councilmember -	Seat 2
George N. Cretekos	Councilmember -	Seat 3
Carlen Petersen	Councilmember -	Seat 4
Paul F. Gibson	Councilmember -	Seat 5
William B. Horne II	City Manager	

Michael D. Quillen, P.E.
City Engineer


Approved By

Date Approved

CITY ENGINEER MICHAEL D. QUILLEN, P.E. #33721

RECORD DRAWING	
By: <u>Thomas W. Friedrich</u>	Date: <u>1-25-2010</u>
CONSTRUCTION ADMINISTRATOR	
TLC DIVERSIFIED, INC.	
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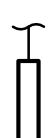




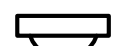

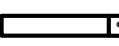

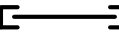


CIVIL LEGEND	
NOTE: IN GENERAL, LIGHT OR SCREENED LINES INDICATE EXISTING, BOLD LINES INDICATE NEW WORK	
EXISTING	DESCRIPTION
	CONSTRUCTION COORDINATE

FLOW STREAM	
---IR---	INTERNAL RECYCLE

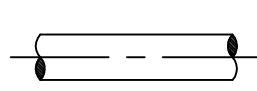
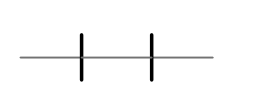
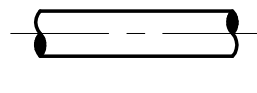
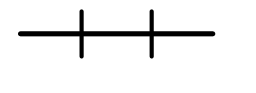
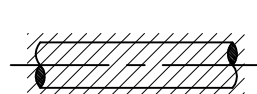
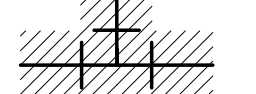
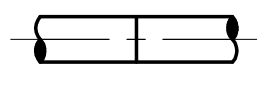

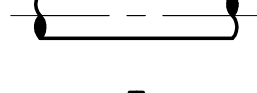
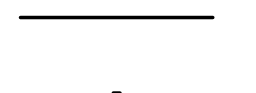
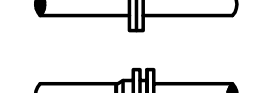
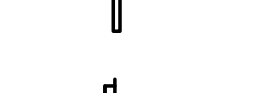

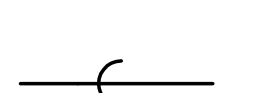
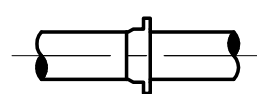
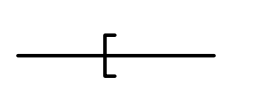
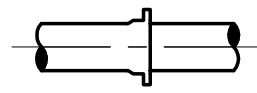
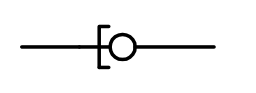
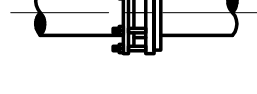
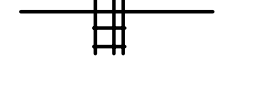
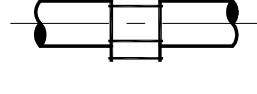
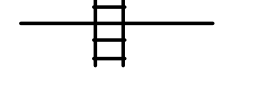
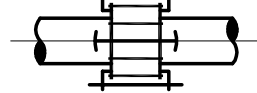
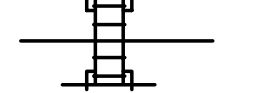
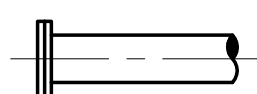
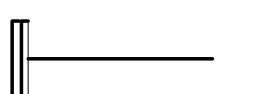
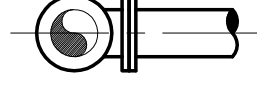
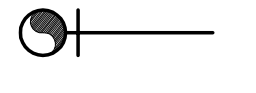





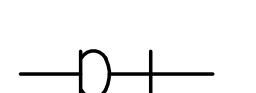
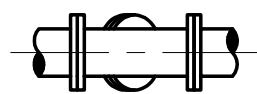
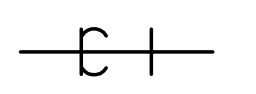
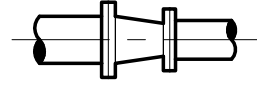
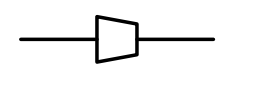
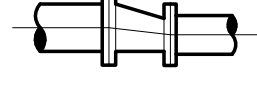
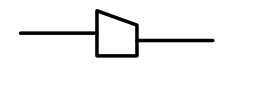

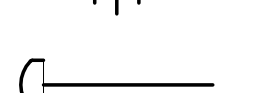
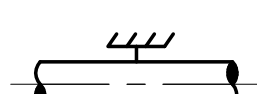
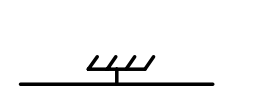


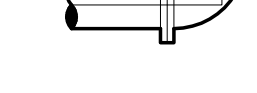
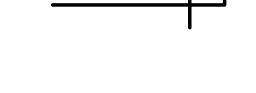


ABBREVIATIONS

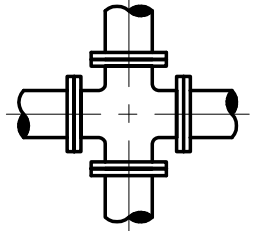
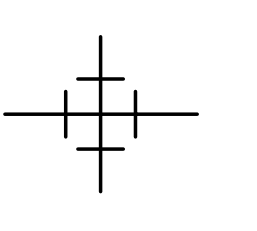
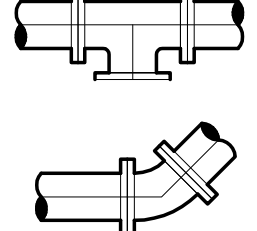
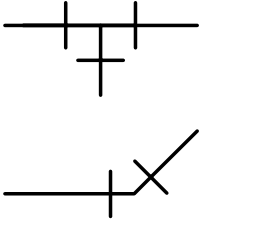
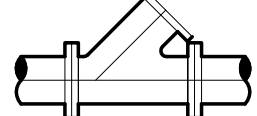
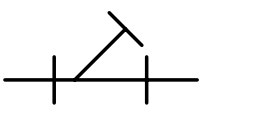
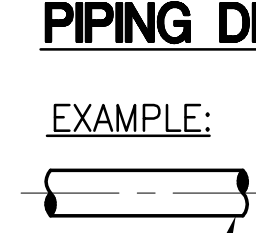
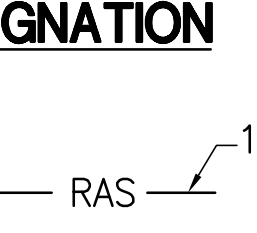
BFV	BUTTERFLY VALVE
BM	BENCHMARK
CL	CENTER LINE
CONC	CONCRETE
CONT	CONTINUOUS
CV	CHECK VALVE
DI	DUCTILE IRON
DIA	DIAMETER
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
FLG	FLANGED JOINT
FRP	FIBERGLASS REINFORCED PLASTIC
GV	GATE VALVE
INV, IE	INVERT ELEVATION
JT	JOINT
MAX	MAXIMUM
MIN	MINIMUM
MJ	MECHANICAL JOINT
PVC	POLYVINYL CHLORIDE
SST	STAINLESS STEEL
TBM	TEMPORARY BENCH MARK
TYP	TYPICAL
V	VALVE

GATE SYMBOLS

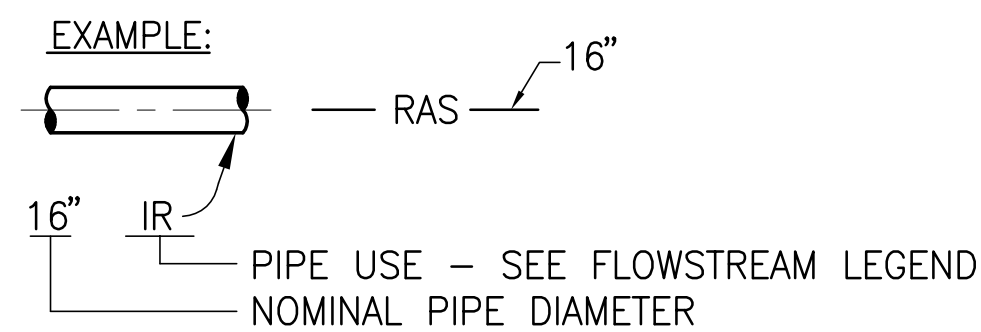
ELEVATION VIEW	PLAN VIEW	
		SLUICE GATE
		BUTTERFLY GATE
		FLAP GATE
		SHEAR GATE
		FABRICATED SLIDE GATE
		STOP LOG

PIPE AND FITTING SYMBOLS

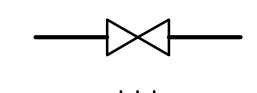
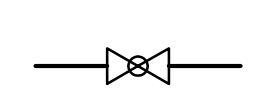


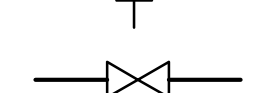

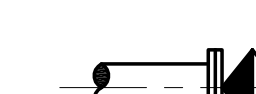

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE
		NEW PIPE
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		MECHANICAL JOINT
		HUB & SPIGOT JOINT (RUBBER GASKET)
		BALL JOINT
		FLANGED COUPLING ADAPTER
		FLEXIBLE COUPLING
		FLEXIBLE COUPLING WITH THRUST TIES
		BLIND FLANGE
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE

DOUBLE LINE	SINGLE LINE	
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL

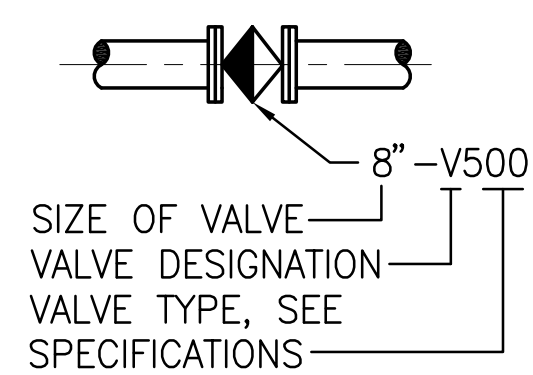
PIPING DESIGNATION



VALVE SYMBOLS

	GATE
	BUTTERFLY
	BALL
	PLUG
	SWING CHECK
	PRESSURE RELIEF
	AIR AND/OR VACUUM RELEASE
	KNIFE GATE

VALVE DESIGNATION

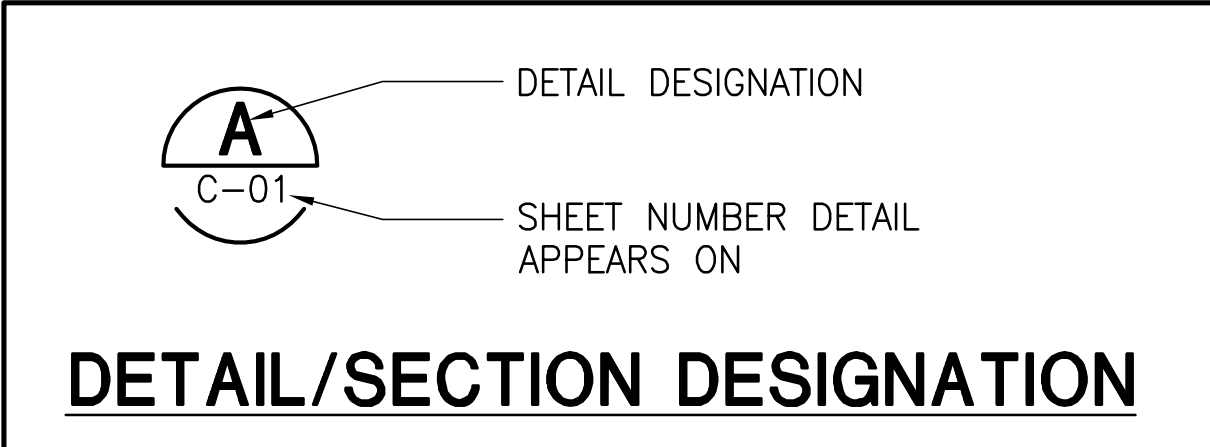
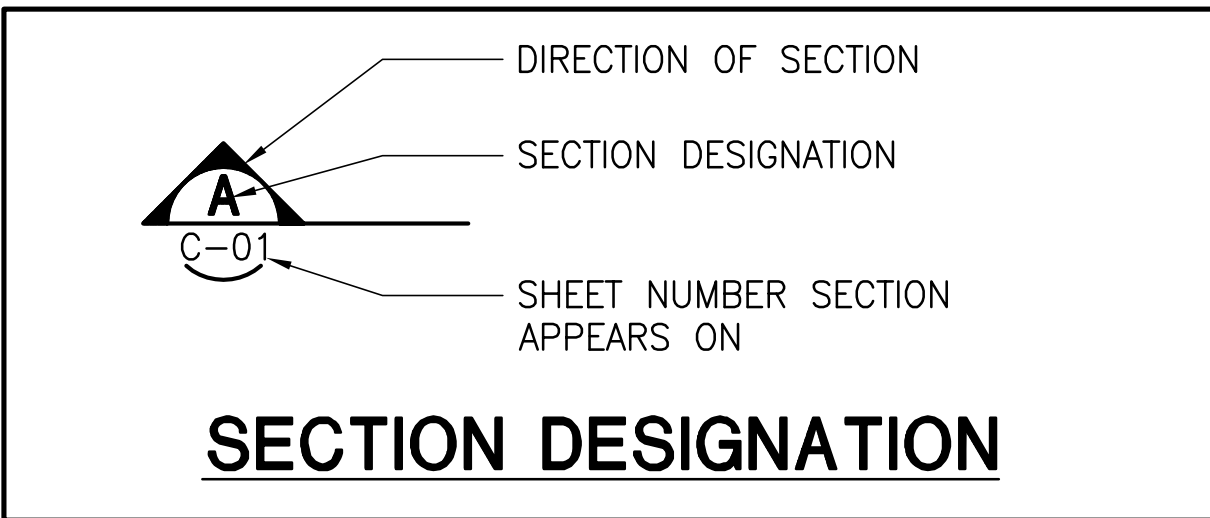
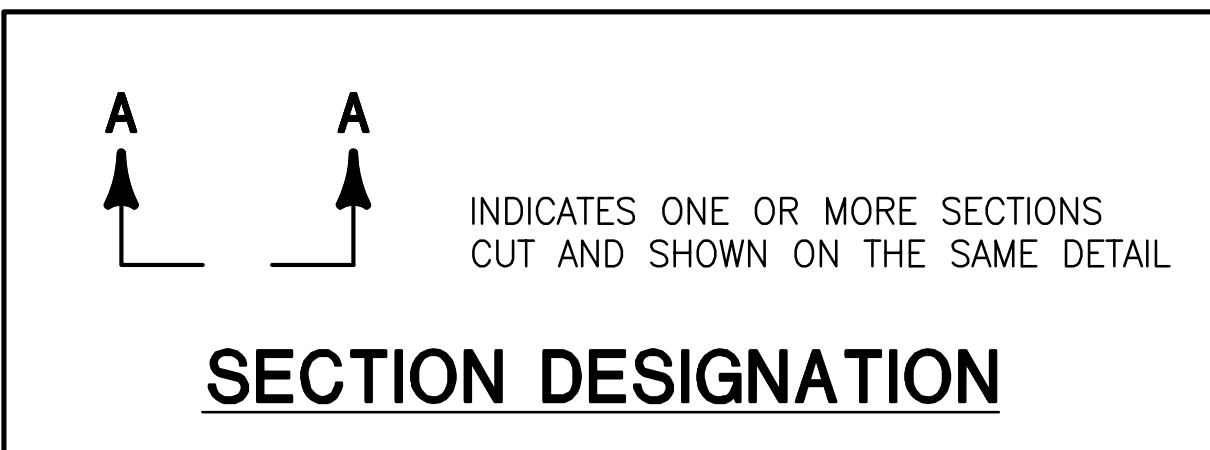
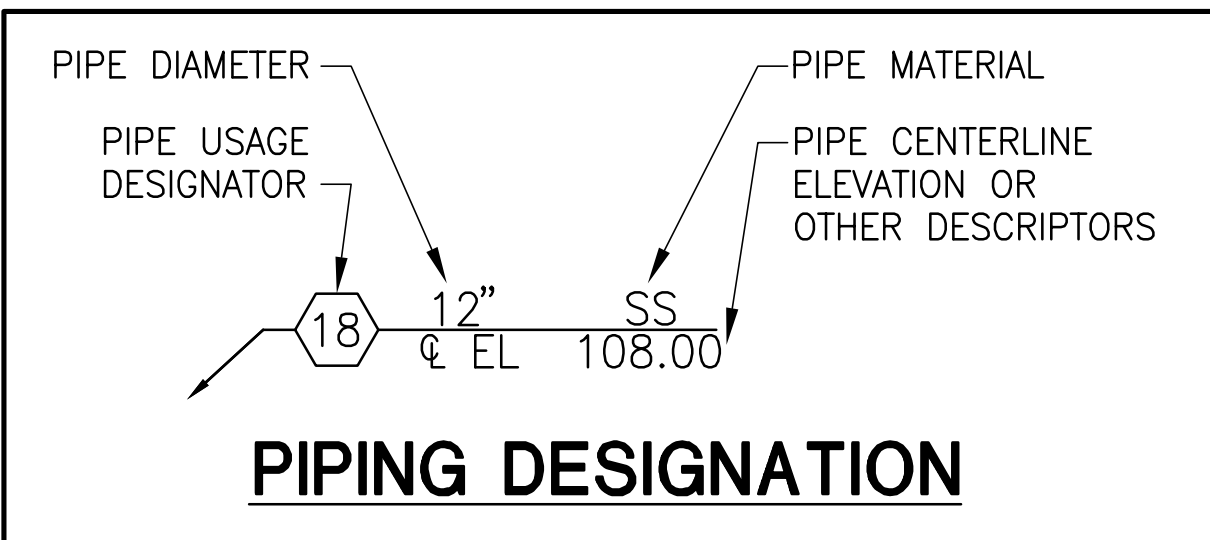


SUPPORT SYMBOLS

	PIPE SUPPORT SYMBOL (PLAN VIEW)
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GENERAL NOTES:

- INSTALL PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE. UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
- LOCATION AND NUMBER OF PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT, LOCATIONS, AND TYPES SHALL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE IN ACCORDANCE WITH THE SPECICATIONS BASED ON PIPE TYPE, BUT SHALL BE NO MORE THAN 10 FEET.
- ALL JOINTS SHALL BE WATERTIGHT. STANDARD WALL PIPE DETAIL SHALL BE USED WHEREVER PIPING PASSES FROM A LIQUID HOLDING CONCRETE STRUCTURE.
- SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE PLANS, WHEREVER APPLICABLE. ALL OF THE VARIOUS PIPING APPLICATIONS ARE NOT NECESSARILY USED IN THE PROJECT.
- ALL PIPING SHALL BE PRESSURE TESTED AS SPECIFIED.
- EXISTING PIPING AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.
- ALL ANCHORS AND FASTENERS SHALL BE 316 STAINLESS STEEL UNLESS OTHERWISE NOTED.
- ELEVATIONS ARE REFERENCED FROM THE MARSHALL STREET APCF, EAST APCF, AND NORTHEAST APCF FACILITY IMPROVEMENT DRAWINGS PRODUCED BY BRILEY, WILD & ASSOCIATES, INC. AUGUST 1988.
- ALL ELEVATIONS THAT TIE-INTO EXISTING FACILITIES SHALL MATCH EXISTING.



RECORD DRAWING	
By <i>Gregg S. Fawcett</i>	Date 1-25-2010
CONSTRUCTION ADMINISTRATOR	TLC DIVERSIFIED, INC.
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THOMAS W. FRIEDRICH	Date
0061281	JONES EDMUNDS & ASSOCIATES, INC.

RECORD DRAWING

RECORD DRAWINGS					CITY OF CLEARWATER, FLORIDA ENGINEERING DEPARTMENT 100 S. Myrtle Ave. Clearwater, FL 33756		DESIGNED BY JHY SCALE VERT. AS SHOWN 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703	HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)	DRAWN BY JHY SCALE VERT. AS SHOWN HORIZ. APPROVED FOR CONSTRUCTION THOMAS W FRIEDRICH, #P.E. 0061281	DESIGNED BY AJM SURVEYED BY DATE DRAWN OCT 2007	CHECKED BY BOOK NO. DWG NAME	CONTRACT NO. JOB NO. 03720-022-01 SHEET NO. G-02									
SURVEYED BY	DRAWN BY																				
REVIEWED BY	PROJECT ENGINEER	DATE																			
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	RECORD DRAWING REVISION 										MS	1/12/10	BY	DATE					



CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, FL 33756



730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

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ABBREVIATIONS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STEEL
CI	CAST IRON
CONC	CONCENTRIC
CS	CARBON STEEL
DI	DISCRETE INPUT
ECC	ECCENTRIC
EL	ELEVATION
FC	FAIL CLOSED
FI	FAIL INDETERMINATE
FL	FAIL LOCKED
FLG	FLANGE
FO	FAIL OPEN
GPM	GALLONS PER MINUTE
HP	HIGH PRESSURE
LC	LOCKED CLOSED
LO	LOCKED OPEN
LLL	LOW PRESSURE CONDENSATE
LP	LOW PRESSURE
LT	LOW TEMPERATURE
MAX	MAX
MCC	MOTOR CONTROL CENTER
MIN	MINIMUM
MSIC	MANUFACTURED SUPPLIED INSTUMENT CABLE
MW	MANWAY
NC	NORMALLY CLOSED
NLL	NORMAL LIQUID LEVEL
NO	NORMALLY OPEN
ORIF	ORIFICE
PE	PRESSURE END
RED	REDUCER
SC	SAMPLE CONNECTION
SCH	SCHEDULE
SD	SHUTDOWN
SP	SAMPLE POINT
SS	STAINLESS STEEL
STD	STANDARD
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TYP	TYPICAL

GENERAL SYMBOLS

	UNION
	DRAIN
	"Y" STRAINER
	"T" STRAINER
	FLEXIBLE HOSE
	FLANGE
	REDUCER (CONCENTRIC)
	DIAPHRAGM SEAL
	CENTRIFUGAL PUMP FOOT MOUNTED
	CENTRIFUGAL PUMP RECEIVER MOUNTED
	SLOPE LINE
	MAGNETIC FLOW METER
	FILTER/REGULATOR
	DOUBLE DIAPHRAGM PUMP (AIR OPERATED)
	BLOWER OR FAN
	COMPRESSOR
	MIXER
	ANALYTICAL POINT
	ADJUSTABLE SPEED CONTROL (ELECTRIC)
	VARIABLE SPEED DRIVE (MECHANICAL)
	VARIABLE FREQUENCY DRIVE
	REDUCER/MOTOR DRIVE UNIT
	PLANT WATER

VALVE SYMBOLS

	GATE VALVE
	GLOBE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	DIAPHRAGM VALVE
	NEEDLE VALVE
	PINCH VALVE
	VALVE WITH HAND OPERATOR
	RELIEF VALVE
	SOLENOID VALVE
	ELECTRICAL MOTOR OPERATED VALVE
	DIAPHRAGM OPERATED VALVE
	3-WAY SOLENOID VALVE
	ULTRASONIC LEVEL SENSOR

IDENTIFICATION LETTERS

	FIRST LETTER		SUCCEEDING LETTER		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY			CONTROL	
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	GAUGING		GLASS, VIEWING DEVICE		
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOISTURE	MOMENTARY			MIDDLE INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENT IDENTIFICATION

 ALARMS OR ACTIONS HHA PANEL#1 PANEL I.D.	FIELD MOUNTED	PRIMARY LOCATION FIELD PANEL MOUNTED	PRIMARY LOCATION INACCESSIBLE OR BEHIND PANEL	AUXILIARY LOCATION MAIN CONTROL ROOM	AUXILIARY LOCATION INACCESSIBLE OR BEHIND PANEL	 UNDEFINED INTERLOCK LOGIC
DISCRETE INSURUMENT						
SHARED DISPLAY, SHARED CONTROL						
COMPUTER FUNCTION						
PROGRAMMABLE LOGIC CONTROL						

EXAMPLE ALARMS OR ACTIONS

HA	HIGH ALARM	JOR	JOG/OFF/REMOTE
HHA	HIGH HIGH ALARM	LOR	LOCAL/OFF/REMOTE
HOA	HAND/OFF/AUTO	OO	ON/OFF
HOR	HAND/OFF/REMOTE		

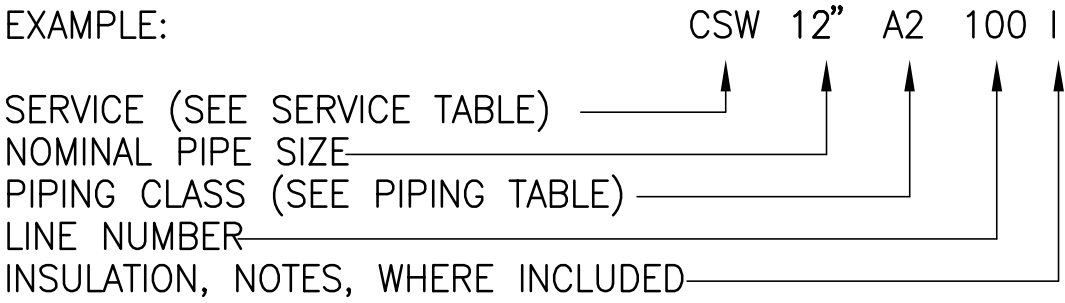
LINE LEGEND

	EQUIPMENT BOUNDARY		EQUIPMENT NOT BY WESTECH
	EXISTING	PA	PLANT AIR SUPPLY
	MAIN PROCESS FLOW	IA	INSTRUMENT QUALITY AIR
	DIRECTION OF FLOW SHOWN	WS	PLANT WATER U.O.N.
	SECONDARY PROCESS FLOW	WS	PLANT WATER U.O.N.

NOTES

THIS IS A TYPICAL P & ID LEGEND. NOT NECESSARILY ALL THE ABBREVIATIONS AND SYMBOLS ARE USED IN THIS PROJECT.

LINE NUMBERING SYSTEM

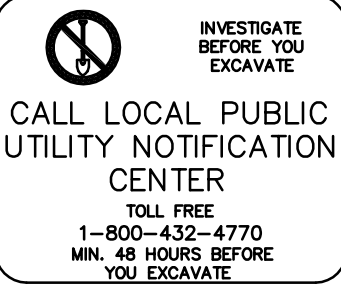


PIPING CLASS

SYMBOL	ANSI RATING	BASE MAT'L
A1	TH SCH 40	304
A2	150# RF	304
C1	SCH 80	PVC
D1	SCH 40	DUCTILE IRON

SERVICE

AS	AIR SCOUR
BR	BRINE
DR	DRAIN
ME	MIEX TREATED WATER
FR	FRESH RESIN
HPA	HIGH PRESSURE AIR
OF	OVERFLOW
REC	RECYCLED RESIN
RBS	RINSE/BRINE/SUPERNATANT WASTE
RD	REGENERATED DECANT
RM	RINSE/MAKEUP
RR	REGENERATED RESIN
RS	RESIN SLURRY
RSR	RECYCLED/SPENT RESIN
RW	RAW WATER
SA	SAMPLE
SALT	BULK
SD	SUPERNATANT DECANT
SSS	SATURATED SALT SOLUTION
SR	SPENT RESIN
SRR	SUPERNATANT/REGENERANT/RINSE
WATER	
SW	SERVICE WATER
VR	VIRGIN RESIN
W2	MAKEUP WATER
WB	WASTE BRINE



RECORD DRAWINGS					
SURVEYED BY	DRAWN BY				
REVIEWED BY	PROJECT ENGINEER	DATE			
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	RECORD DRAWING REVISION	MS	1/12/10
			REVISION	BY	DATE



CITY OF CLEARWATER, FLORIDA
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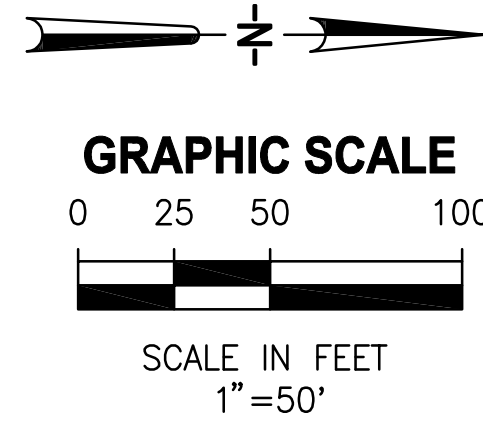
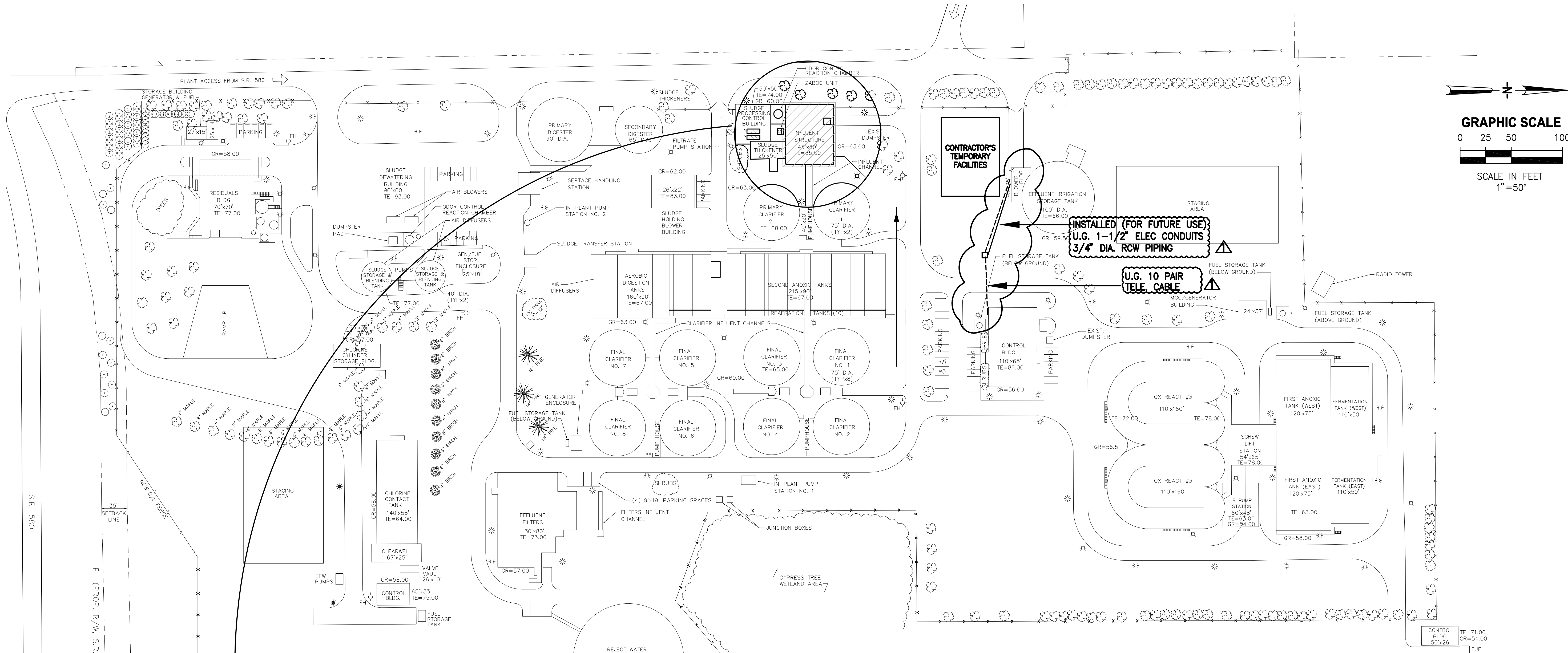
HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)

GENERAL
PIPING & ABBREVIATIONS
LEGEND

DRAWN BY JHY	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. G-03
APPROVED FOR CONSTRUCTION	THOMAS W. FRIEDRICH, P.E. 0061281 DATE		

RECORD DRAWING	
By <i>Gregg S. Powell</i>	Date 1-25-2010
CONSTRUCTION ADMINISTRATOR	
TLC DIVERSIFIED, INC.	
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THOMAS W. FRIEDRICH 0061281	Date
JONES EDMUNDS & ASSOCIATES, INC.	

RECORD DRAWING



GENERAL NOTES:

- HEADWORKS SCREENING AND GRIT REMOVAL SYSTEM TO REMAIN OPERATIONAL DURING CONSTRUCTION. CONTRACTOR TO COORDINATE DEMOLITION AND INSTALLATION SEQUENCING WITH CITY TO AVOID TREATMENT DISRUPTIONS
- CONTRACTORS TEMPORARY FACILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY AND CAN BE CHANGED UPON CITY'S APPROVAL
- SCREEN #3 IS NOT OPERATIONAL AND SHOULD BE THE FIRST OF TWO MECHANICAL BAR SCREENS TO BE REPLACED
- ODOR CONTROL MODIFICATIONS ARE BEING MADE UNDER SEPARATE CONTRACT. CONTRACTOR TO COORDINATE THIS WORK WITH CITY AND OTHER CONTRACTORS
- PROVIDE FLAT ALUMINUM COVER OVER ENTIRE INFLUENT WELL IN THE SCREEN ROOM AND PROVIDE AIR INLETS
- PROVIDE CHEMICAL RESISTANT COATING ON WALLS OF INFLUENT WELL, SCREEN CHANNELS AND CHANNEL CONNECTING THE SCREENS UP TO EXISTING PARSHALL FLUME
- ALL MODIFICATION METHODS TO BE APPROVED BY ENGINEER PRIOR TO IMPLEMENTATION
- CONTRACTOR TO PROVIDE BYPASS PUMPING PLAN DURING INSTALLATION OF NEW MECHANICAL BAR SCREENS
- PRIOR TO REMOVING AND DEMOLISHING THE ROOF, AS SHOWN IN NE-S-02, THE CONDUITS HANGING FROM THE ROOF SHALL BE TEMPORARILY RELOCATED. CONDUITS ARE TO BE RETURNED TO THEIR ORIGINAL LOCATION AFTER CONSTRUCTION OF THE NEW ROOF IS COMPLETE.

LEGEND	
	FIRE HYDRANT
	EXISTING LIGHT POLE
	PROPOSED LIGHT POLE
	PROPOSED IMPROVEMENTS
GR = GROUND ELEVATION	
TE = TOP ELEVATION	

INVESTIGATE BEFORE YOU EXCAVATE
CALL LOCAL PUBLIC UTILITY NOTIFICATION CENTER
TOLL FREE
1-800-432-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE

RECORD DRAWINGS			
SURVEYED BY	DRAWN BY		
REVIEWED BY	PROJECT ENGINEER	DATE	
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	
RECORD DRAWING REVISION		MS	1/12/10
REVISION		BY	DATE



CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
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324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)			
NORTHEAST APCF SITE PLAN		DRAWN BY JHY	DESIGNED BY TWF
		SCALE VERT. AS SHOWN	CHECKED BY TWF
		HORIZ.	BOOK NO.
		DATE DRAWN OCT 2007	DWG NAME
		APPROVED FOR CONSTRUCTION THOMAS W FRIEDRICH, P.E. 0061281	CONTRACT NO. JOB NO. 03720-022-01 SHEET NO. NE-C-01
		DATE	

RECORD DRAWING
By *Greg S. Pundt* Date 1-25-2010
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.
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THOMAS W. FRIEDRICH 0061281 Date
JONES EDMUNDS & ASSOCIATES, INC.

RECORD DRAWING

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA

CODES:

- 2004 FLORIDA BUILDING CODE
- STRUCTURAL STEEL: AISC "LOAD AND RESISTANCE FACTOR DESIGN FOR STRUCTURAL STEEL BUILDINGS" 2ND EDITION

DESIGN LIVE LOADS:

- PROCESS RELATED STRUCTURES:
- STAIRWAYS 100 PSF
- WALKWAYS 100 PSF
- PROCESS SLABS ON GRADE 200 PSF

SUPERIMPOSED DEADLOADS

- ROOFS AS NOTED
- FLOORS AS NOTED

WINDLOADS

- BASIC WIND SPEED 130 MPH
- IMPORTANCE FACTOR 1.15
- EXPOSURE B
- INTERNAL PRESSURE COEFFICIENT 0.18 (ENCLOSED STRUCTURE)
- DESIGN PRESSURES: PER ASCE 7-02.

GENERAL CONDITIONS

ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE MECHANICAL, CIVIL, ELECTRICAL, AND SHOP DRAWINGS AND SPECIFICATIONS.

THE CONTRACTOR SHALL REVIEW AND VERIFY DIMENSIONS SHOWN IN ALL PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE FACILITY. SHOULD DISCREPANCIES APPEAR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING TO OBTAIN ENGINEER'S CLARIFICATION BEFORE COMMENCING WITH THE WORK.

FOR ALL ITEMS EMBEDDED IN OR PASSED THOUGH CONCRETE, THE CONTRACTOR SHALL INITIALLY REFER TO MECHANICAL, HEATING, AND VENTILATION DRAWINGS FOR TYPE, SIZE, LOCATION, AND SPECIAL INSTALLATION REQUIREMENTS FOR THESE ITEMS.

THE CONTRACTOR SHALL TAKE ANY AND ALL NECESSARY MEASURES TO PROTECT EXISTING STRUCTURES FROM DAMAGE WHEN WORKING IN AND AROUND EXISTING STRUCTURES PERFORMING WORK SUCH AS DEMOLITION, FOUNDATION EXCAVATION, AND OTHERS.

SIZE AND LOCATION OF EQUIPMENT PADS AND ANCHOR BOLTS SHALL BE PER EQUIPMENT MANUFACTURERS REQUIREMENTS.

ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

STANDARD DETAILS APPLY TO ALL SIMILAR SITUATIONS ON THE PROJECT EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.

STRUCTURAL STEEL

DESIGN, FABRICATION, ERECTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS AND THE DESIGN DRAWINGS.

ALL SHAPES SHALL BE HOT DIP GALVANIZED

W-SHAPED SECTIONS: ASTM A992, Gr 50.
HOLLOW STRUCTURAL SECTIONS: ASTM A500, Gr B.
ALL OTHER STRUCTURAL STEEL: ASTM A36.
ALL PIPE: ASTM A53 GRADE B.

THE FABRICATOR SHALL DESIGN AND DETAIL ALL PARTS OF CONNECTIONS NOT FULLY DETAILED ON THE DESIGN DRAWINGS. THE NUMBER OF BOLTS AND OTHER SIMILAR ELEMENTS SHOWN ON THE DRAWINGS ARE PICTORIAL

SHOP AND ERECTION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER ONLY.

WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH THE LATEST AWS STRUCTURAL WELDING CODE REQUIREMENTS. ELECTRODES SHALL BE E-70XX.
MAIN CONNECTIONS: 3/4" DIA. ASTM A325 BOLTS. HOLES: 13/16" DIA
BOLTED CONNECTIONS:

CONNECTIONS SHALL BE "BEARING" TYPE WITH THREADS EXCLUDED FROM THE SHEAR PLANE.
SECONDARY CONNECTIONS: 3/4" DIA. (UNLESS NOTED) ASTM A307 GRADE A BOLTS.
ALL CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS.

GUSSET PLATES SHALL BE A MINIMUM OF 3/8" THICK.

LIGHT GAGE COLD FORMED STEEL FRAMING

ALL LIGHT GAGE COLD FORMED STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS BY THE AMERICAN IRON AND STEEL INSTITUTE.

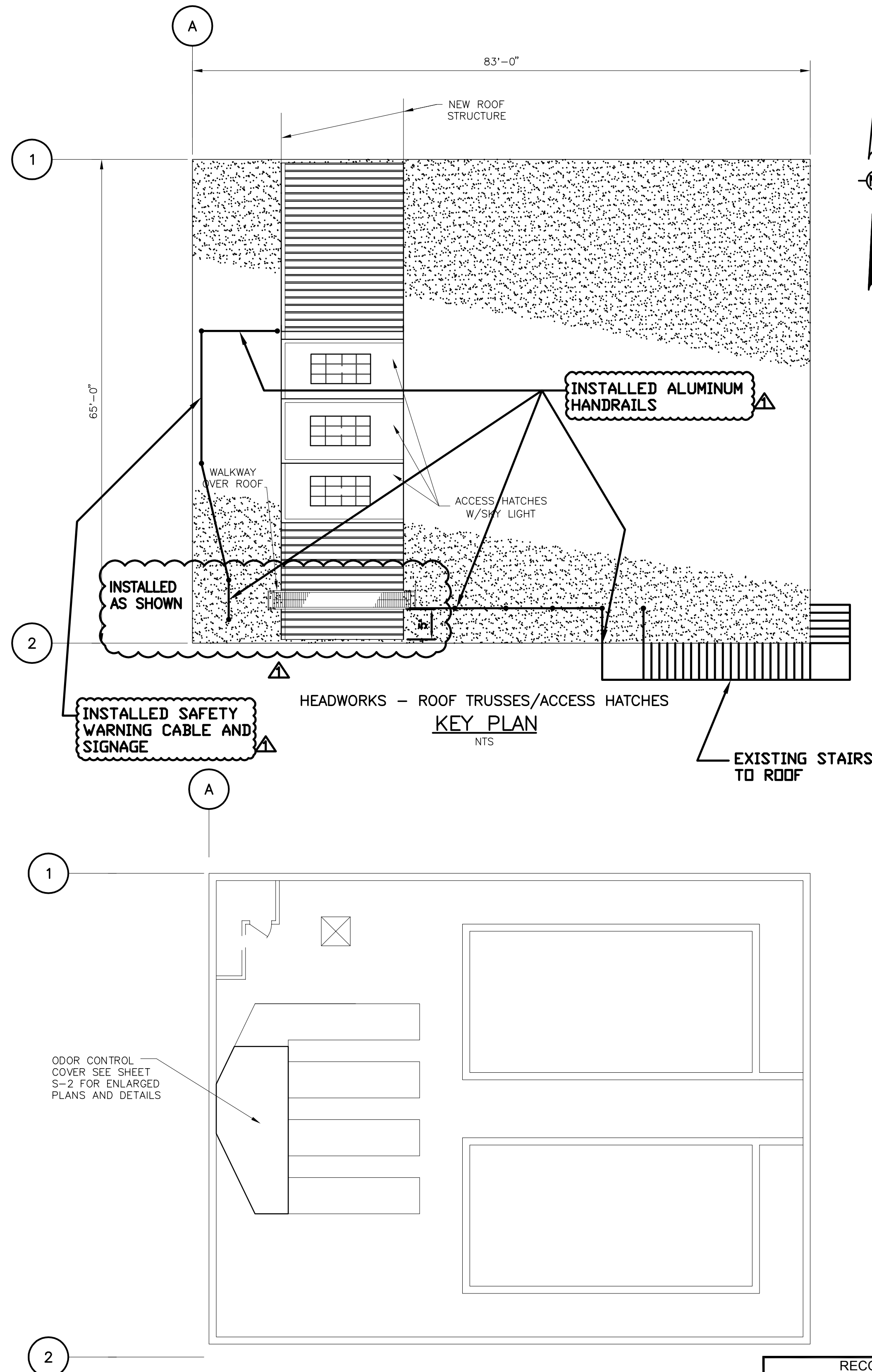
ALL LIGHT GAGE STEEL SHALL BE 16 GAGE

ALL STUDS SHALL SPACED ON 24 INCHES O/C

PRIOR TO ERECTION SUBMIT FOR REVIEW ENGINEERED SHOP DRAWINGS SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER SHOWING MEMBER SIZES AND CONNECTION DETAILS FULLFILLING THE INTENT OF THE DESIGN ILLUSTRATED IN THESE DRAWINGS.

ALL LIGHT GAGE STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI. ALL LIGHT GAGE STEEL SHALL BE GALVANIZED

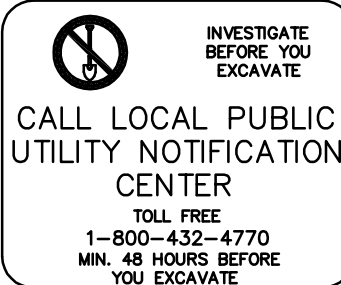
LATERAL BRIDGING SHALL BE INSTALLED AT MID-HEIGHT OF ALL WALLS ON THE EXTERIOR FACE OF WALL. BRIDGING SHALL BE CONTINUOUS 2" WIDE 20 GAGE STRAP ATTACHED TO EACH STUD WITH A #6 SCREW MINIMUM.



ABBREVIATIONS

STRUCTURAL ABBREVIATIONS APPLY TO "S" SHEETS ONLY

AL, ALU, ALUM	ALUMINUM	EXP	EXPANSION	PROJ	PROJECTION
AN	ANODIZED	HORIZ	HORIZONTAL	PSF	POUNDS PER SQUARE FOOT
BLDG	BUILDING	HP	HIGH POINT	PSI	POUNDS PER SQUARE INCH
BOT	BOTTOM	ID	INSIDE DIAMETER	PTD	PAINTED
CJ	CONTROL JOINT	JT	JOINT	SPECS	SPECIFICATIONS
CONC	CONCRETE	LP	LOW POINT	SS	STAINLESS STEEL
CONST JT	CONSTRUCTION JOINT	MAT'L	MATERIAL	STD	STANDARD
CONT	CONTINUOUS	MAX	MAXIMUM	STL	STEEL
DIA	DIAMETER	MIN	MINIMUM	REINF	REINFORCEMENT
DWG	DRAWING	MISC	MISCELLANEOUS	T&B	TOP AND BOTTOM
EJ	EXPANSION JOINT	NTS	NOT TO SCALE	T/STRUCTURE	TOP OF STRUCTURE
EL	ELEVATION	OC	ON CENTER	TYP	TYPICAL
EW	EACH WAY	PLF	POUNDS PER LINEAR FOOT		



RECORD DRAWINGS					
SURVEYED BY	DRAWN BY				
REVIEWED BY	PROJECT ENGINEER	DATE			
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	RECORD DRAWING REVISION	MS	1/12/10
			REVISION	BY	DATE



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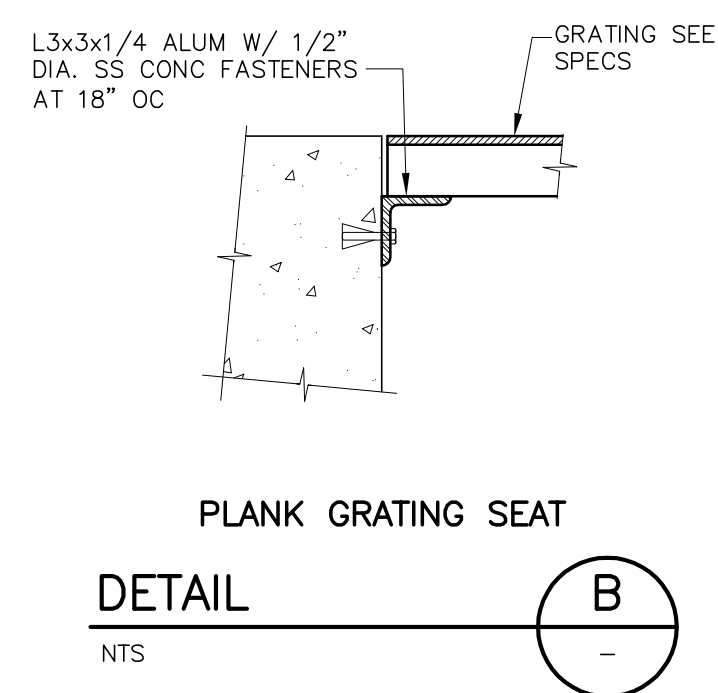
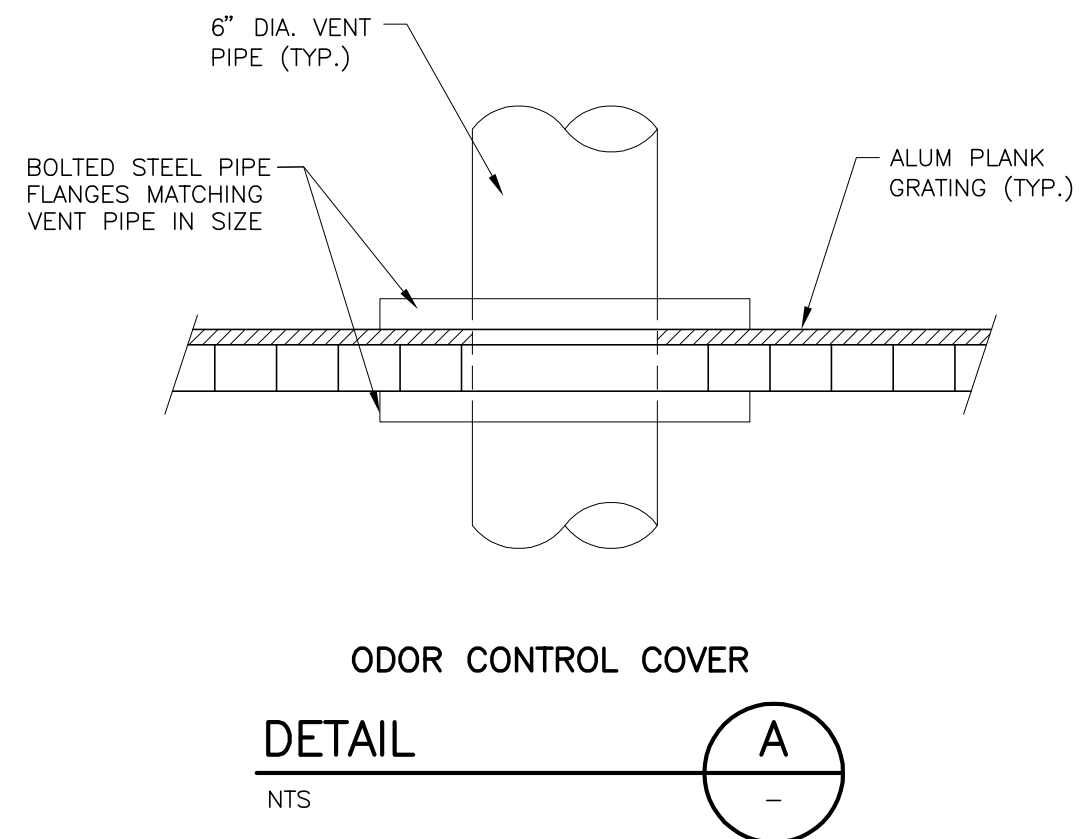
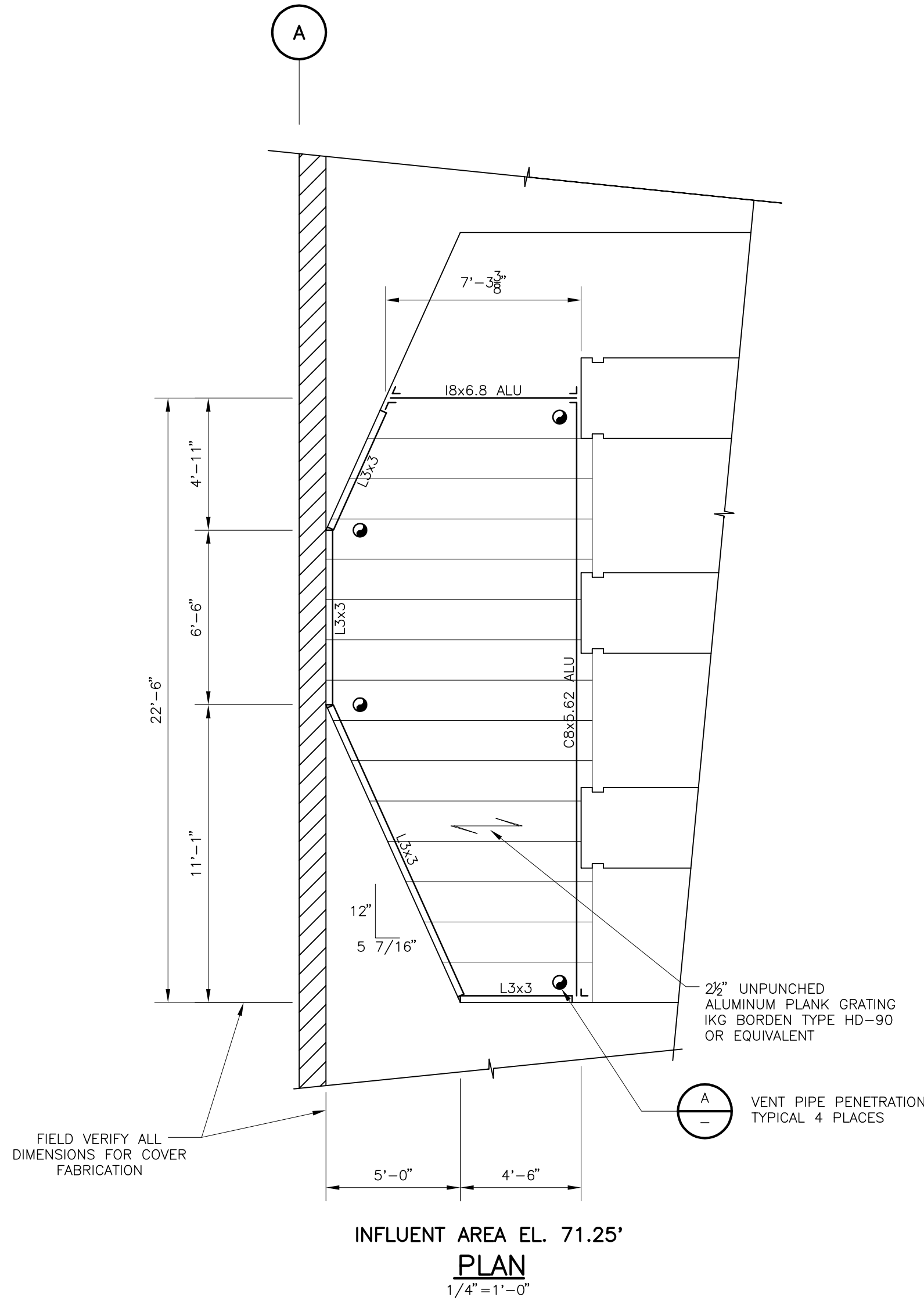
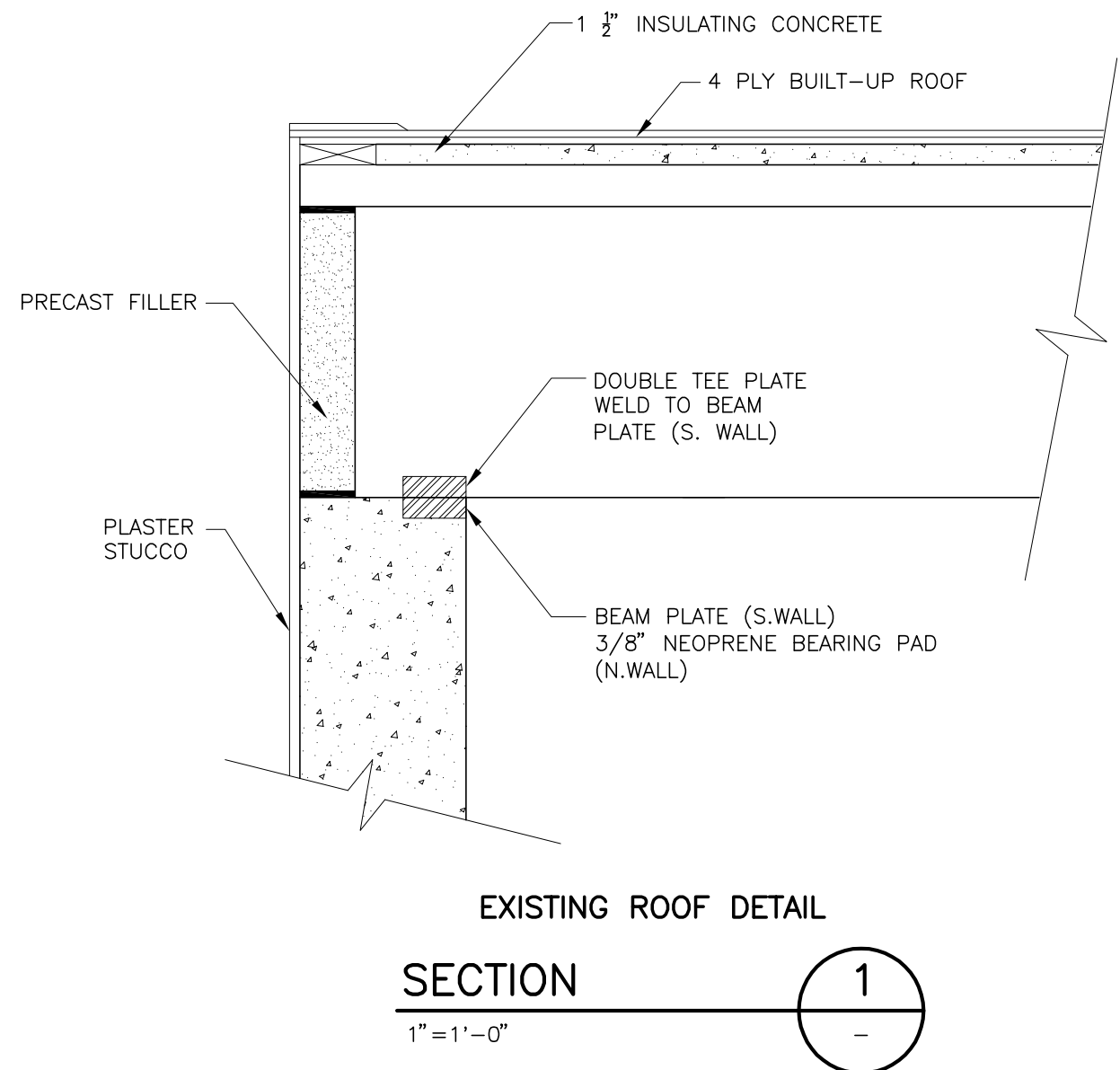
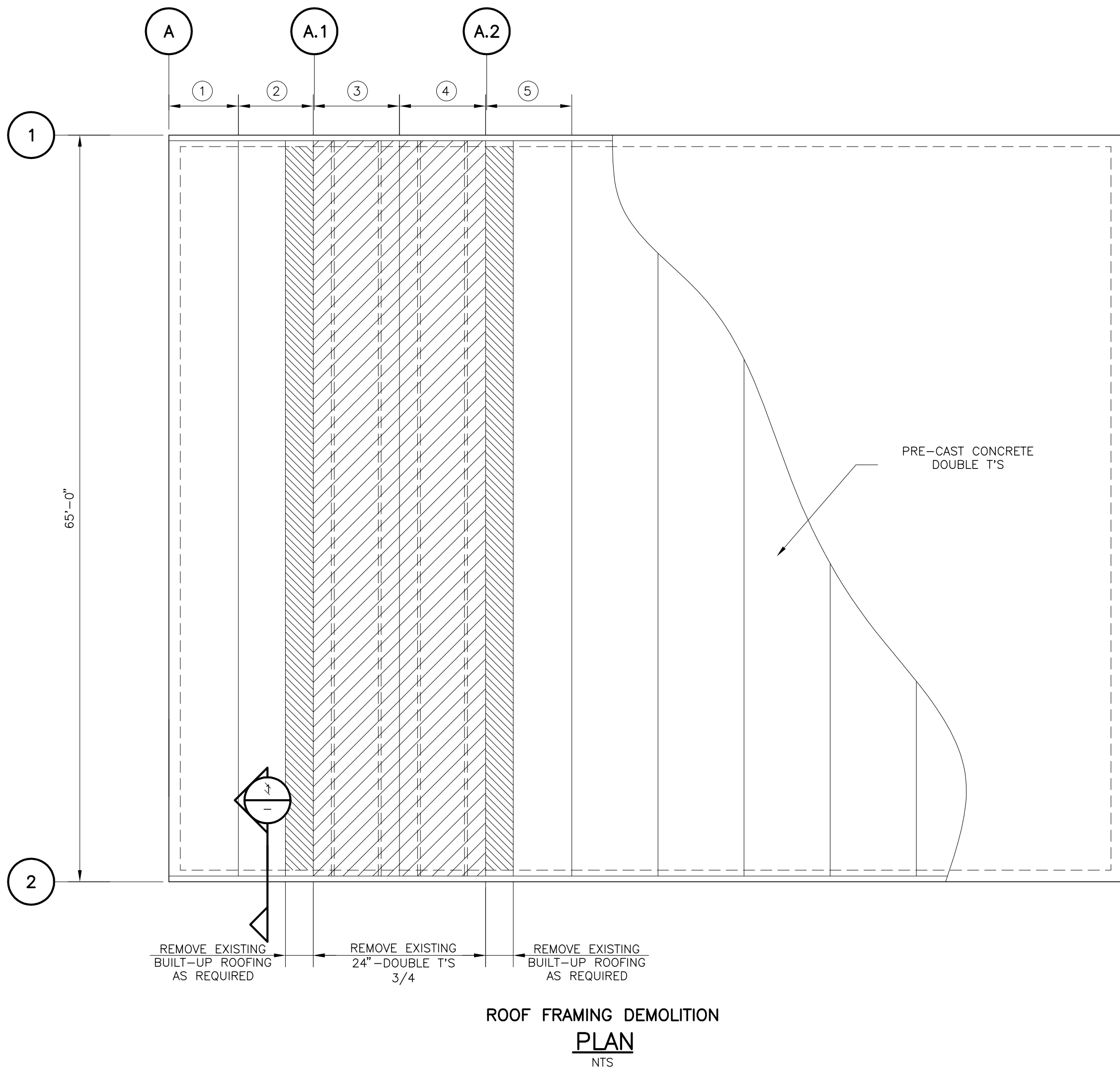


HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)	
NORTHEAST APCF GENERAL STRUCTURAL PLAN VIEW AND NOTES	

DRAWN BY JHY	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-S-01
APPROVED FOR CONSTRUCTION		THOMAS W FRIEDRICH, P.E. 0061281	
		DATE	

RECORD DRAWING	
By <i>Greg S. Powell</i>	Date 1-25-2010
CONSTRUCTION ADMINISTRATOR	
TLC DIVERSIFIED, INC.	
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THOMAS W. FRIEDRICH 0061281	Date
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RECORD DRAWING



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By: <u>Gregg S. Friedrich</u>	Date		<u>1-25-2010</u>
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RECORD DRAWING REVISION		MS	1/12/10		
REVISION		BY	DATE		

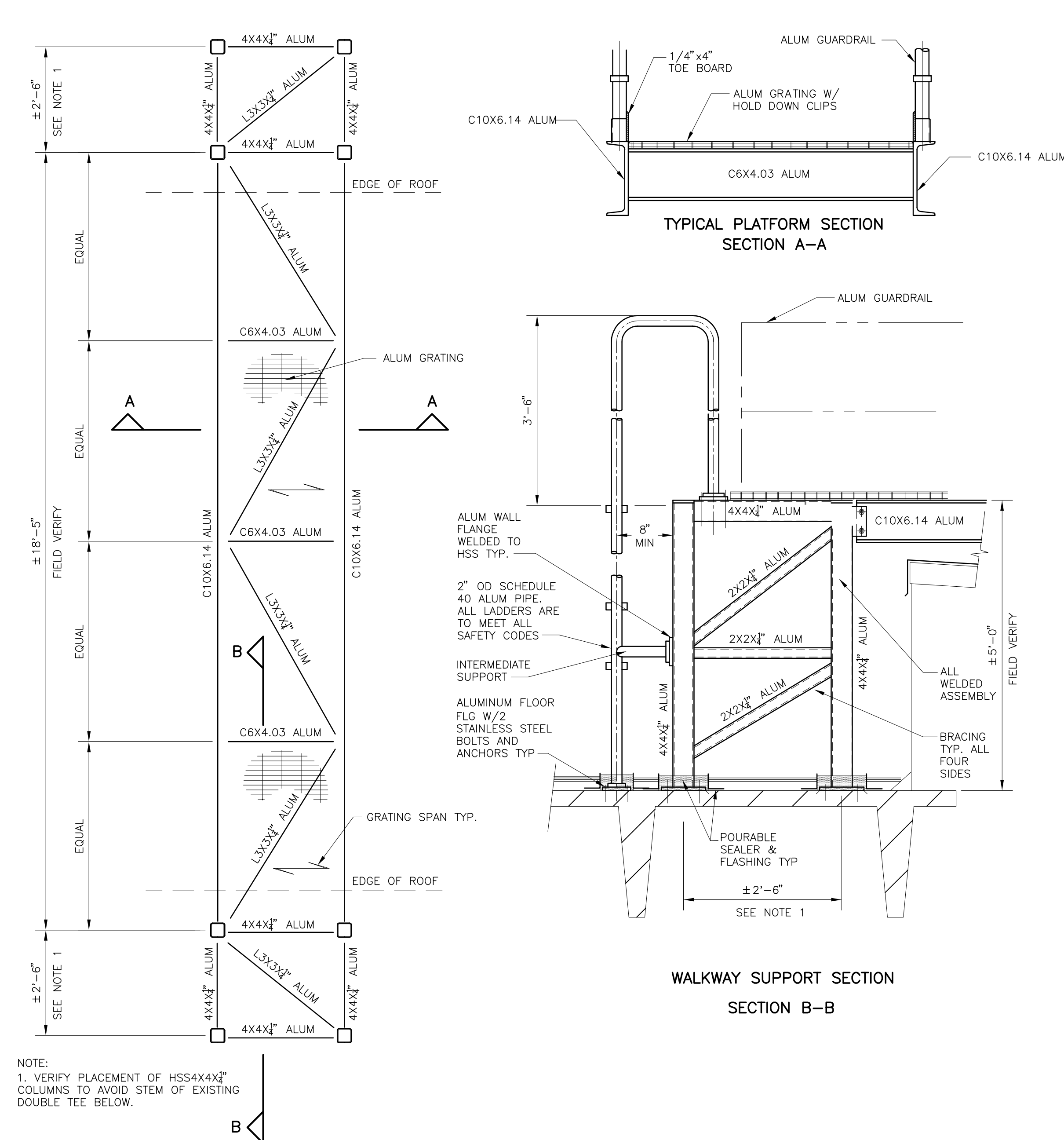


CITY OF CLEARWATER, FLORIDA
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100 S. Myrtle Ave.
Clearwater, FL 33756



HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)	
NORTHEAST APCF ROOF AND SKYLIGHT PLAN AND SECTION	

DRAWN BY JHV	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-S-02
APPROVED FOR CONSTRUCTION		THOMAS W FRIEDRICH, P.E. 0061281	
		DATE	



NOTE:
1. VERIFY PLACEMENT OF HSS4X4 $\frac{1}{2}$ "
COLUMNS TO AVOID STEM OF EXISTING
DOUBLE TEE BELOW.

ENLARGED WALKWAY PLAN

DETAIL A

NTS

WALKWAY SUPPORT SECTION
SECTION B-B

NOTES

1. PROVIDE A SIGN ON 12-INCH HIGH BY 18-INCH 1/16 THICK ALUMINUM PLATE TO INCLUDE THE FOLLOWING STATEMENT IN ONE INCH HIGH RED CAPITAL LETTER (HELVETICA FONT) OVER WHITE BACK GROUND :


USE OF THIS PLATFORM
IS RESTRICTED TO
AUTHORIZED
CITY OF CLEARWATER EMPLOYEE'S
WEARING FALL PROTECTION GEAR

RECORD DRAWING

 INVESTIGATE
BEFORE YOU
EXCAVATE

**CALL LOCAL PUBLIC
UTILITY NOTIFICATION
CENTER**

**TOLL FREE
1-800-432-4770
MIN. 48 HOURS BEFORE
YOU EXCAVATE**

RECORD DRAWINGS			
SURVEYED BY	DRAWN BY		
REVIEWED BY			
PROJECT ENGINEER	DATE		
APPROVED BY		RECORD DRAWING REVISION 	MS 1/12/10
CTY. ENGINEER MICHAEL D. CHILLEN, P.E. 4.33729	DATE	REVISION	BY DATE



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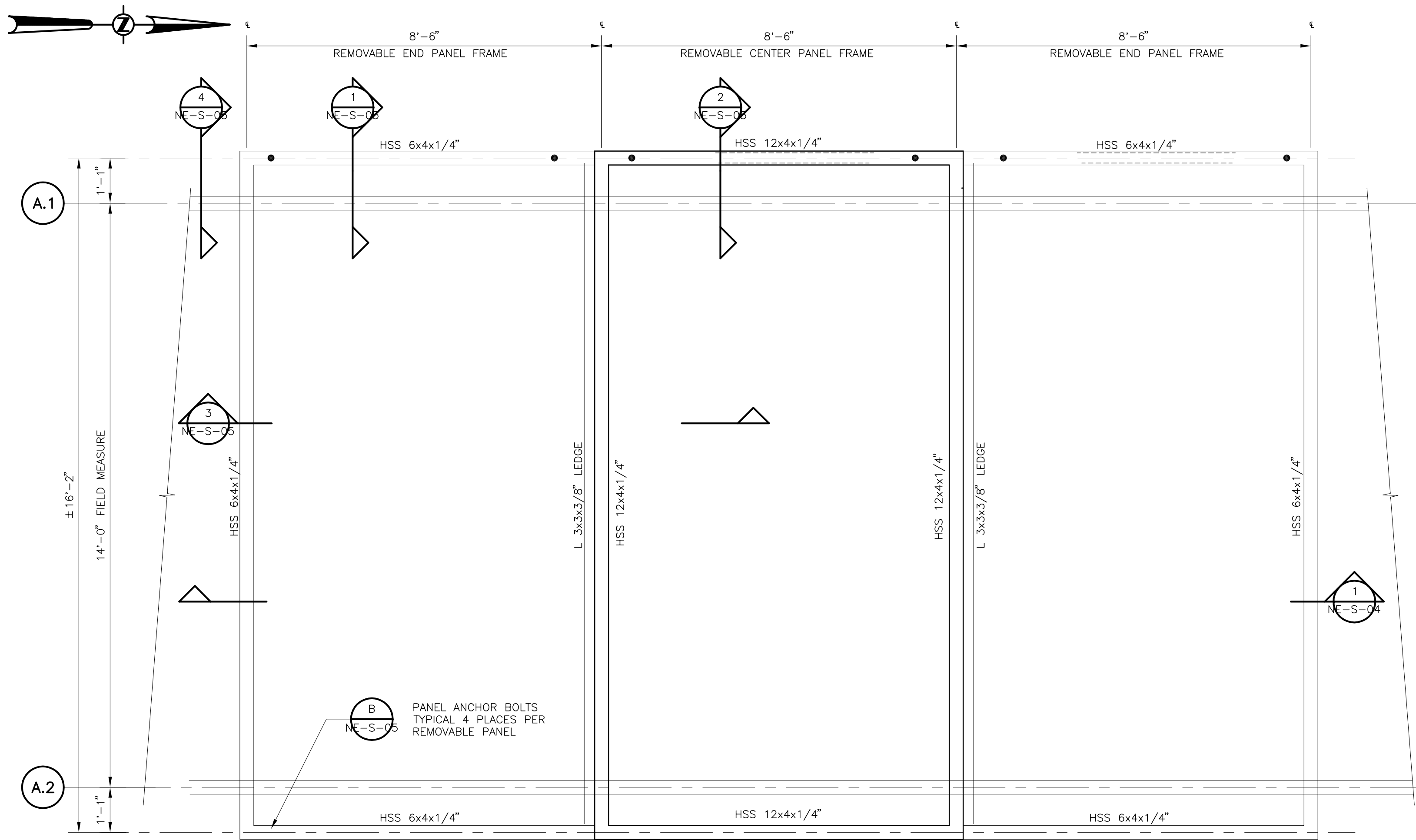


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324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

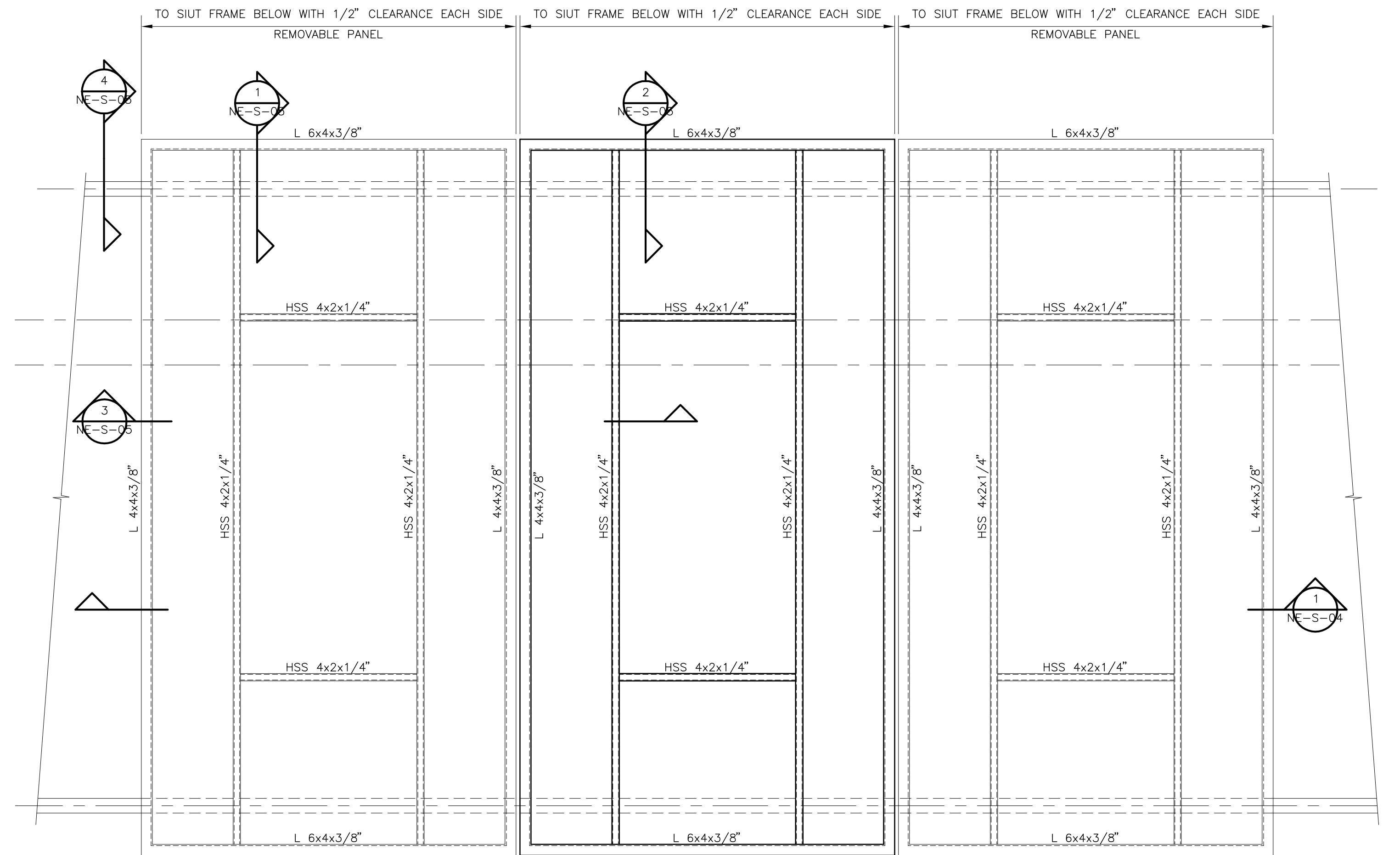
HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)

**NORTHEAST APCF
ROOF FRAMING
PLAN AND SECTION**

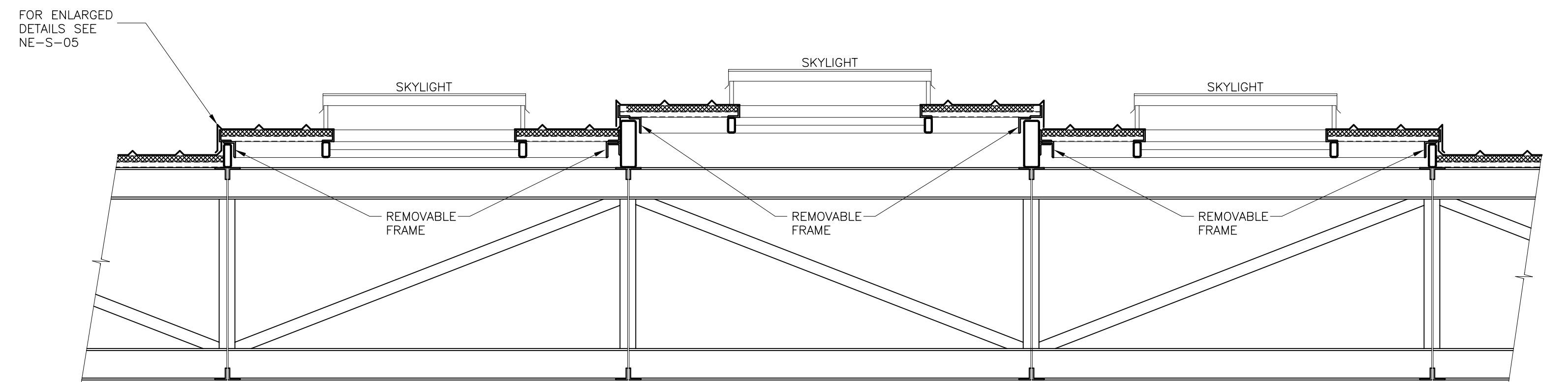
DRAWN BY JHV	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
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HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. E-S-03
APPROVED FOR CONSTRUCTION			
THOMAS W. FRIEDRICH		DATE	
P.E. 0061981			



REMOVABLE ROOF PANELS: RECEIVING FRAME
PLAN
1/2"=1'-0"

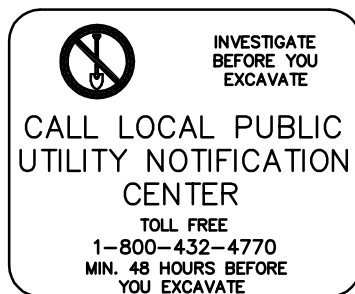


REMOVABLE ROOF PANEL FRAMING
PLAN
1/2"=1'-0"



SECTION
1/2"=1'-0"

1
NE-S-04



RECORD DRAWINGS				
SURVEYED BY	DRAWN BY			
REVIEWED BY	PROJECT ENGINEER	DATE		
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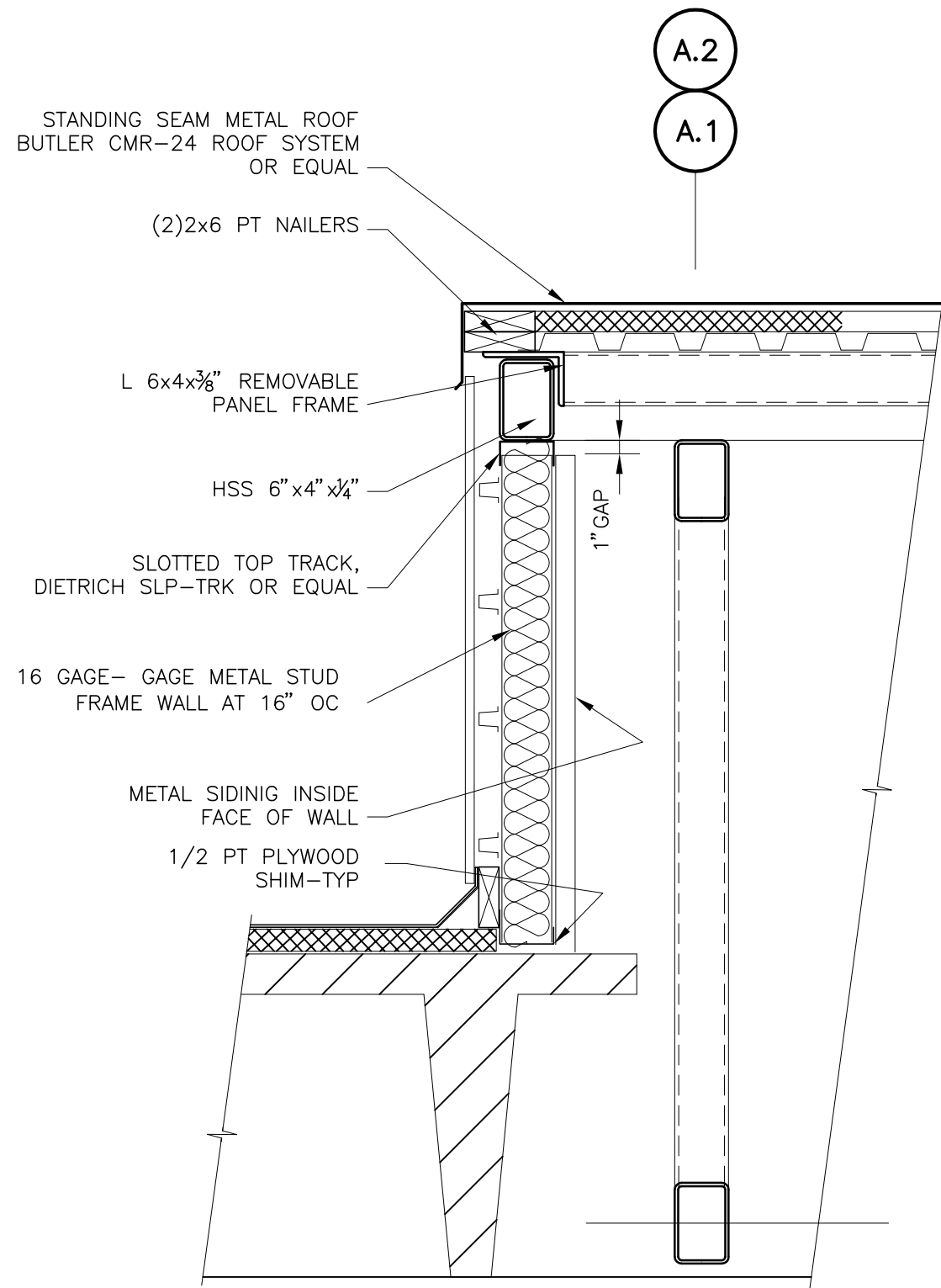
HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
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CONTROL FACILITIES (APCFs)

NORTHEAST APCF
NEW CONSTRUCTION
SKYLIGHT DETAILS

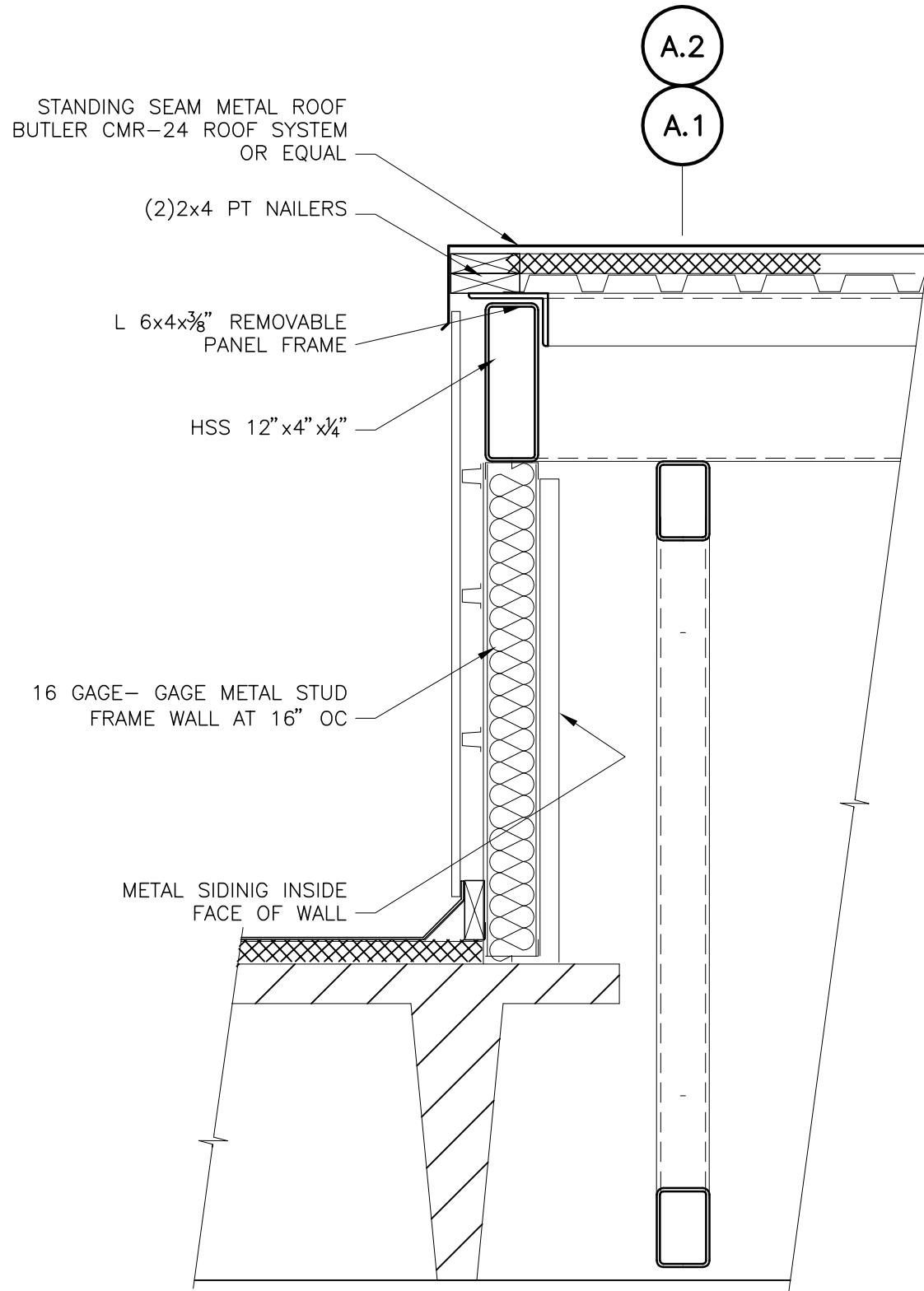
DRAWN BY JHM	DESIGNED BY TWF	CHECKED BY TWF	CONTRACT NO. 03720-022-01
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO.
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-S-04
APPROVED FOR CONSTRUCTION THOMAS W FRIEDRICH, P.E. 0061281 DATE			

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By *Greg S. Powell* Date 1-25-2010
CONSTRUCTION ADMINISTRATOR
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THOMAS W. FRIEDRICH 0061281 Date
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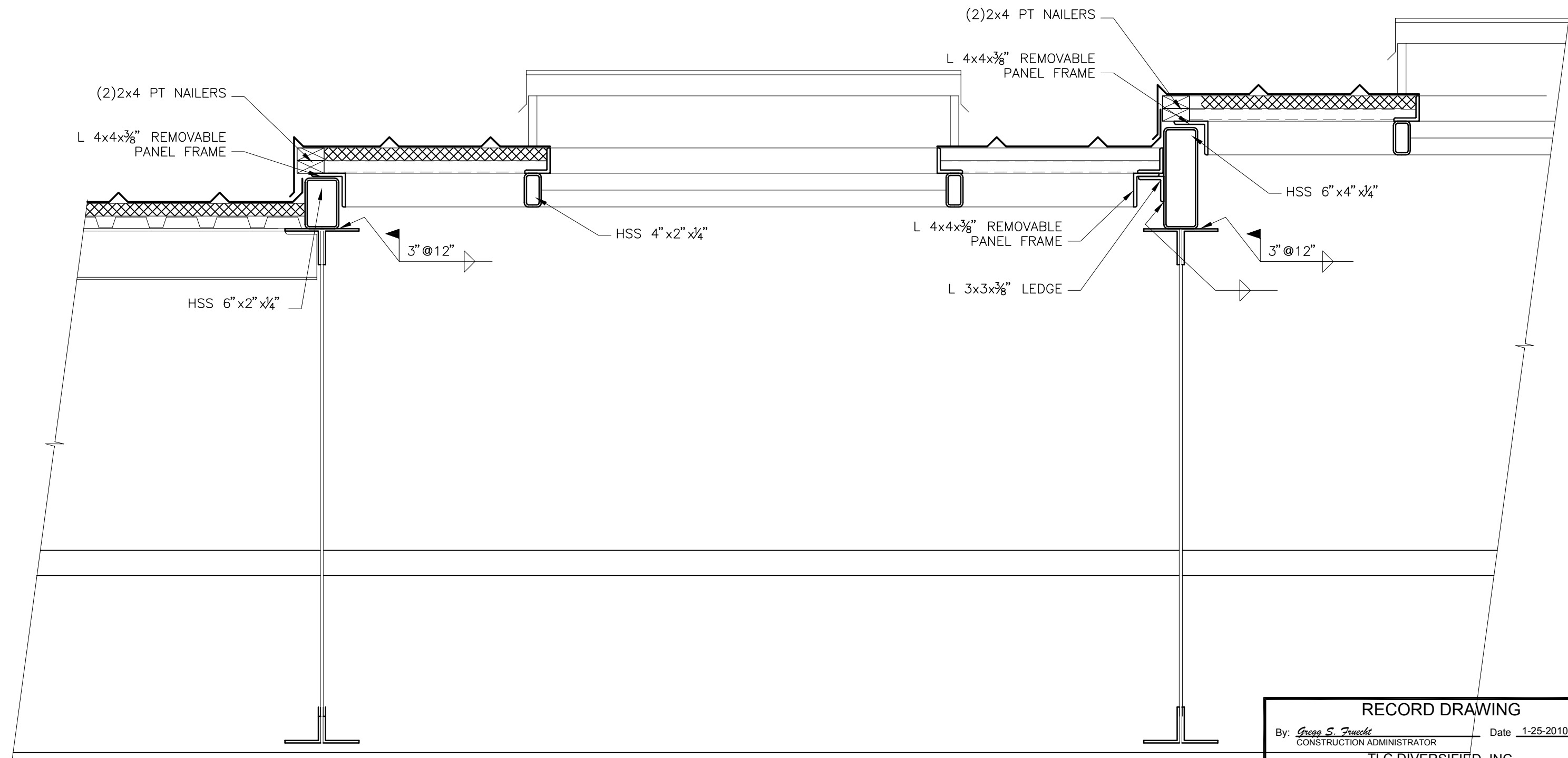
RECORD DRAWING



EDGE DETAIL - END REMOVABLE PANEL
SECTION 1
1"=1'-0"

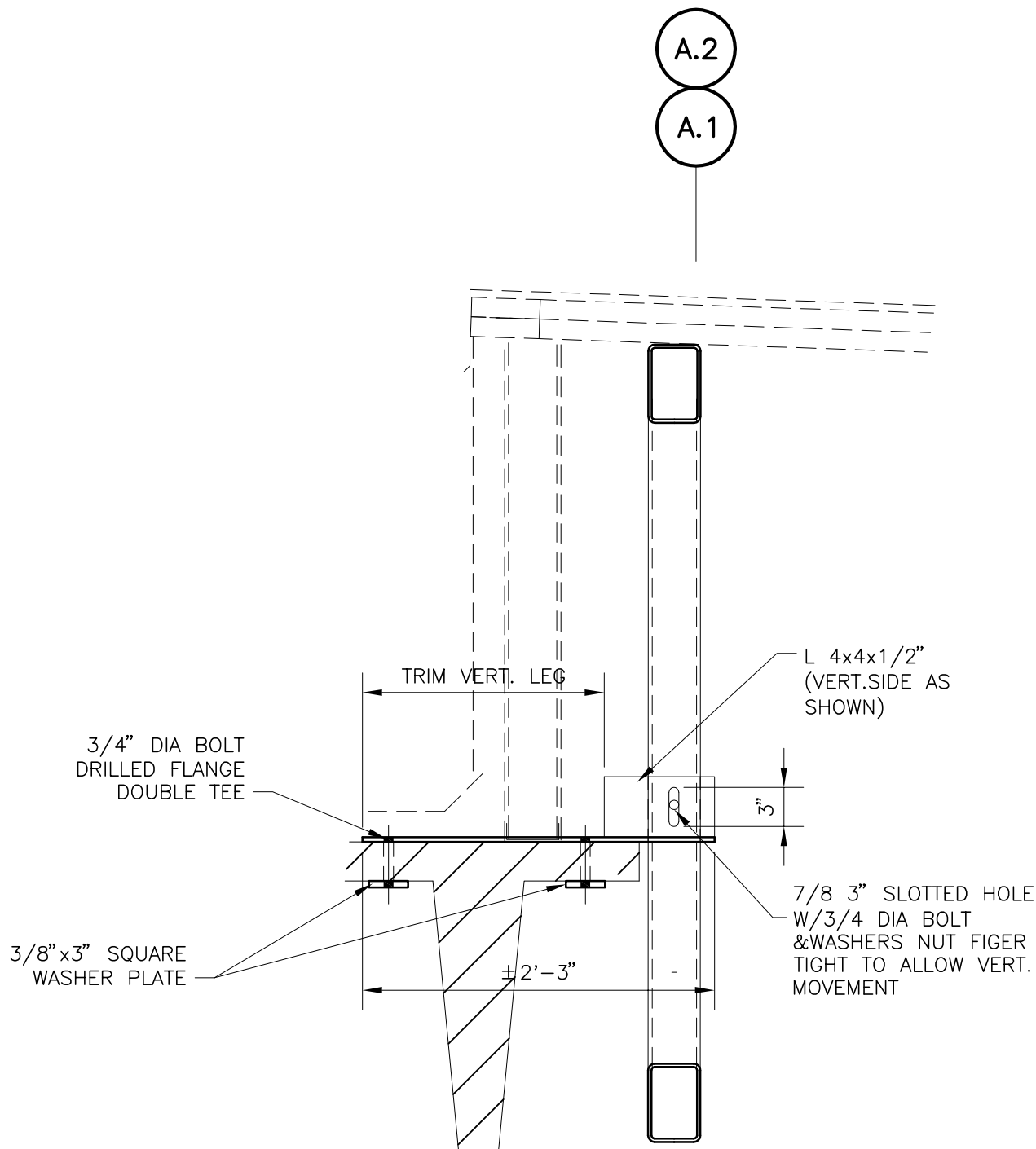


EDGE DETAIL - CENTER REMOVABLE PANEL
SECTION 2
1"=1'-0"

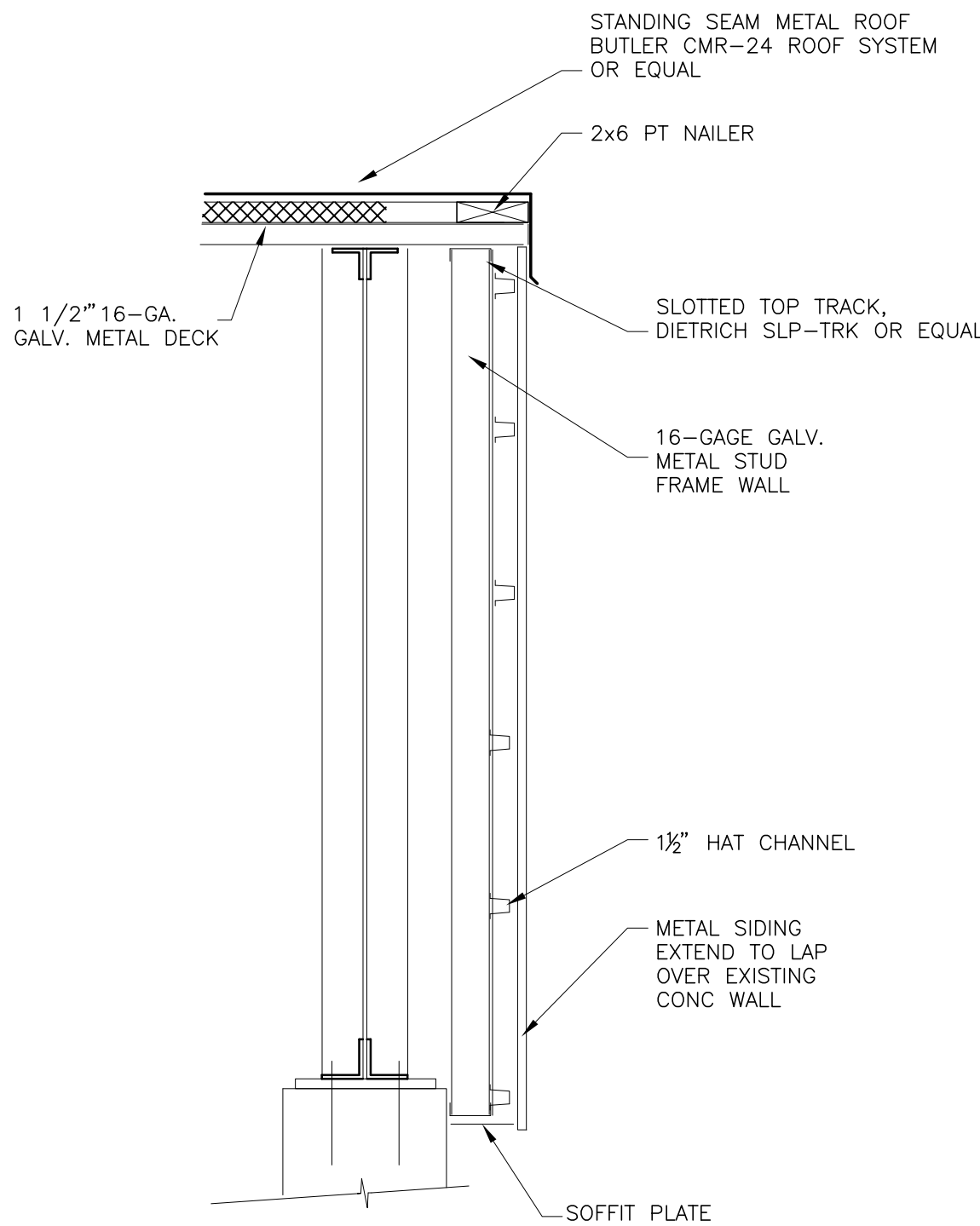


REMOVABLE PANEL FRAME
SECTION 3
1"=1'-0"

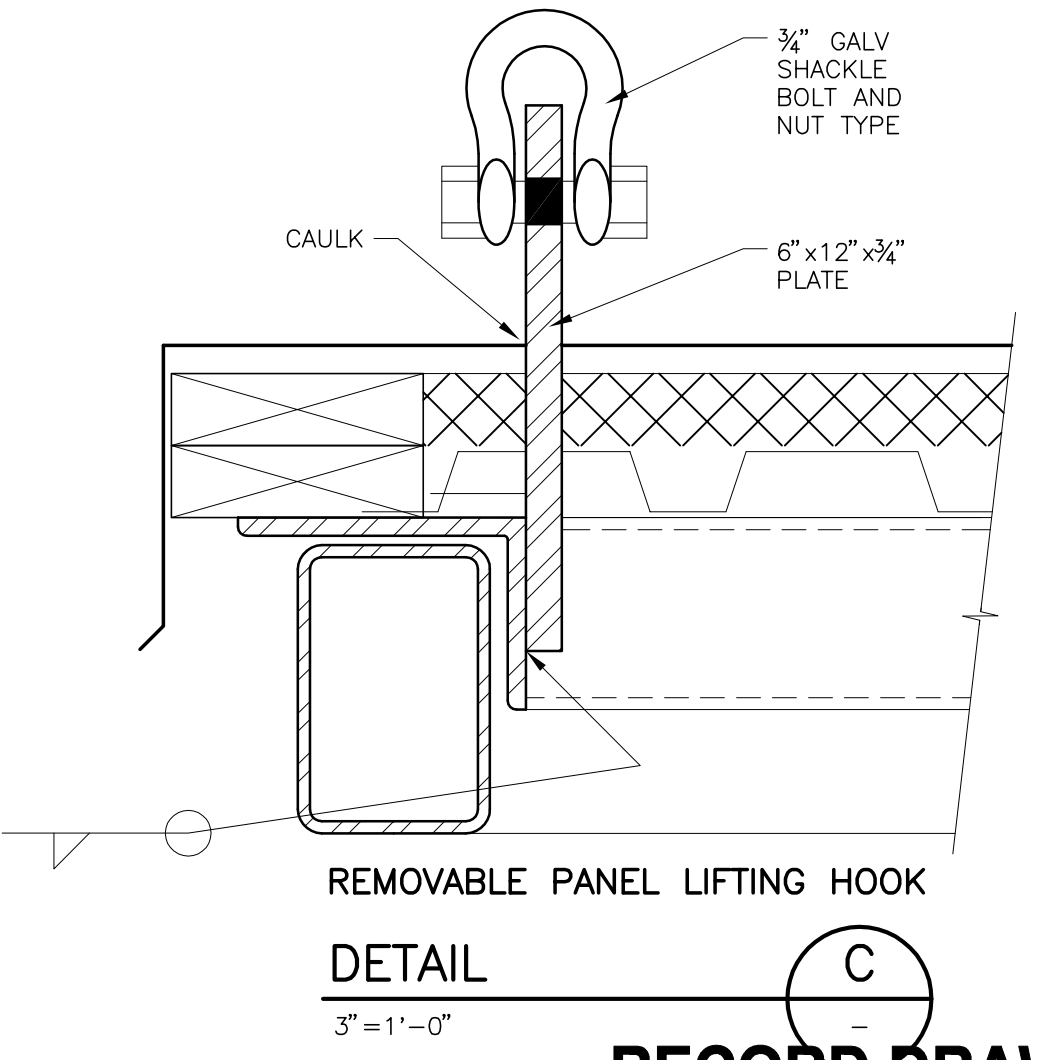
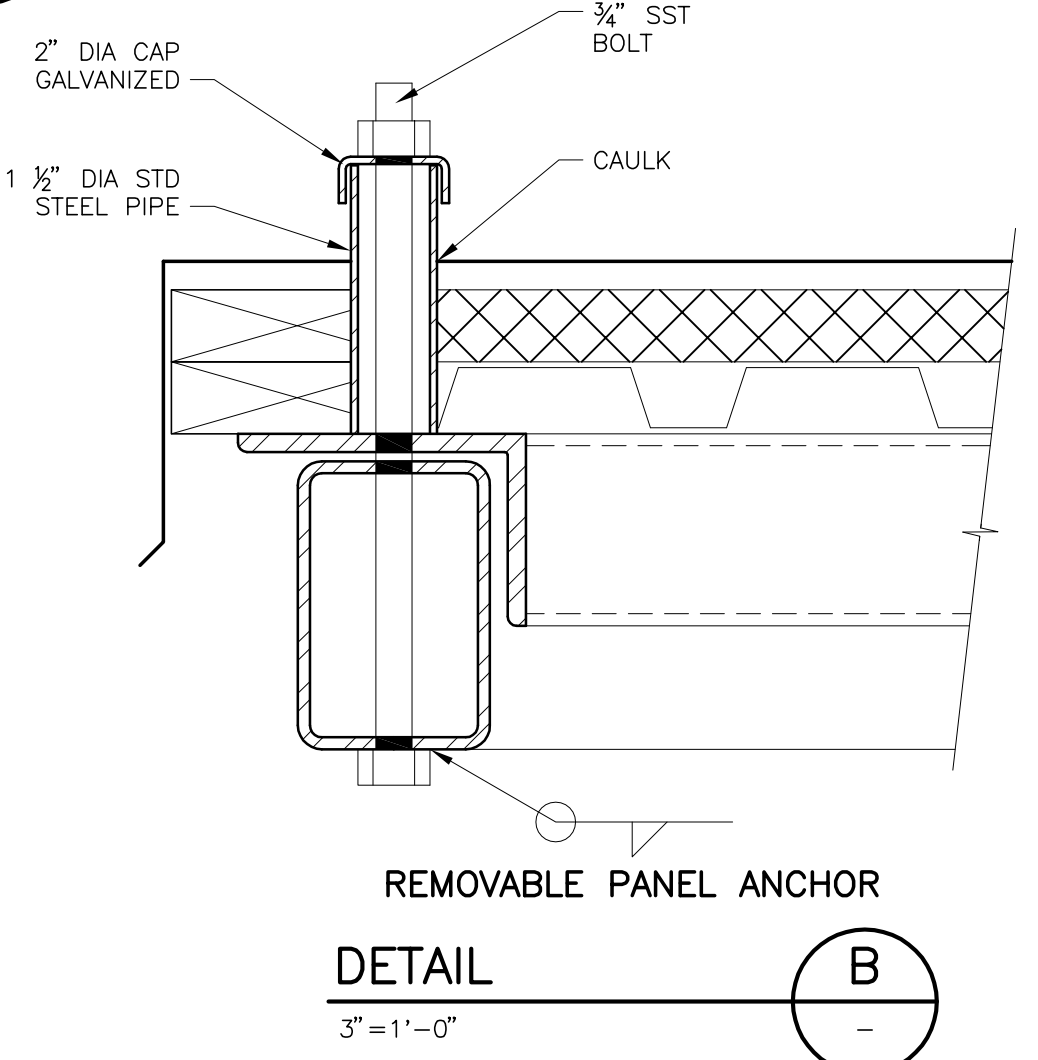
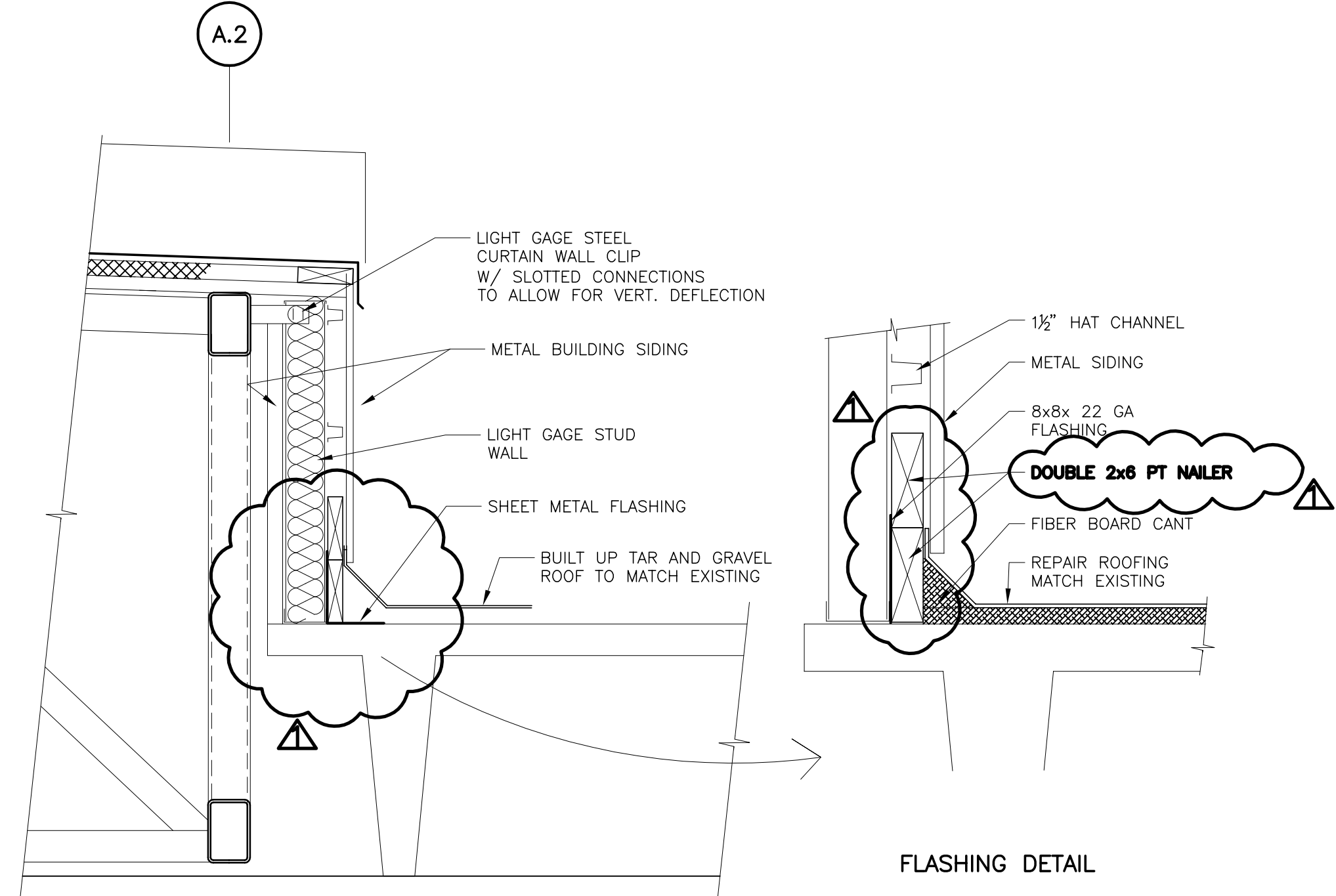
RECORD DRAWING
By: *Greg S. Smith*
CONSTRUCTION ADMINISTRATOR
Date: 1-25-2010
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Date: _____
THOMAS W. FRIEDRICH 0061281
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TRUSS LATERAL BRACE
SECTION 4
1"=1'-0"



TYPICAL END WALL
SECTION 5
1"=1'-0"



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TOLL FREE 1-800-452-4770
MIN. 48 HOURS BEFORE YOU EXCAVATE.

RECORD DRAWINGS			
SURVEYED BY	DRAWN BY		
REVIEWED BY	PROJECT ENGINEER	DATE	
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	

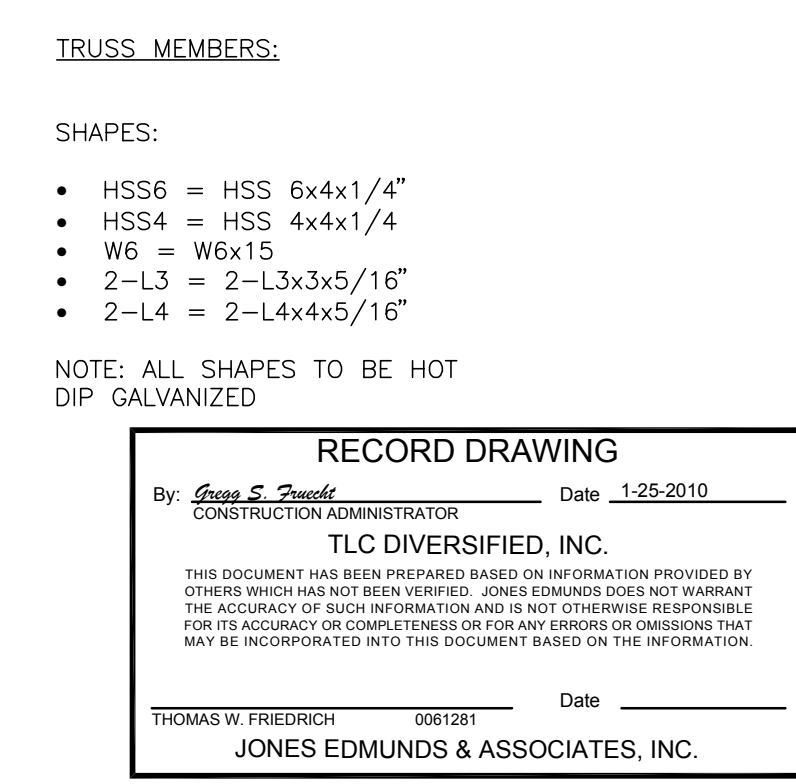


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Clearwater, FL 33756

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324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)
NORTHEAST APCF ROOF FRAMING

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SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO.
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-S-05
APPROVED FOR CONSTRUCTION		DATE	



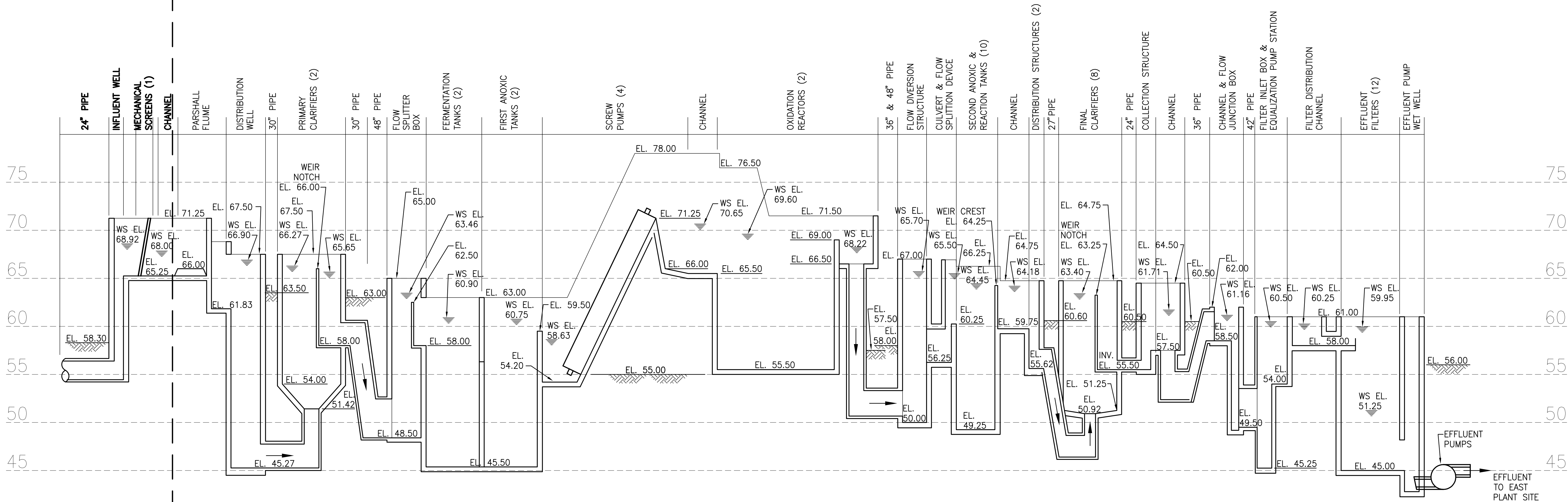
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NORTHEAST APCF ROOF FRAMING

E	DRAWN BY JHV	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
	SCALE VERT. <u>AS SHOWN</u>	SURVEYED BY	BOOK NO.	JOB NO. <u>03720-022-01</u>
	HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-S-06
APPROVED FOR CONSTRUCTION _____ _____ THOMAS W. FRIEDRICH, P.E. 0061081 _____ DATE _____				

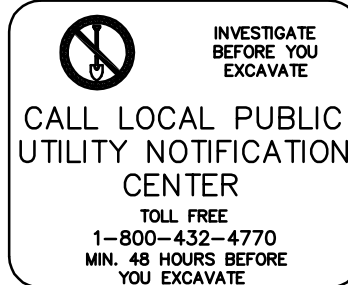
HYDRAULIC ELEVATIONS
CALCULATED BY JONES EDMUNDS

HYDRAULIC ELEVATIONS FROM CITY'S
RECORD DRAWINGS BY BRILEY, WILD
& ASSOCIATES, INC. (1988)



NOTES:

1. INDICATED WATER SURFACES ARE FOR PEAK HYDRAULIC FLOW CONDITIONS OF 27 MGD TO THE PLANT WITH NUMBER OF OPERATING PROCESS UNITS NOTED IN THE PARENTHESIS.
2. WATER SURFACE ELEVATION AT INFLUENT WELL IS CALCULATED AT PEAK HYDRAULIC FLOW CONDITIONS WITH ONE NEW SCREEN IN SERVICE
3. INDICATED TANK FLOOR ELEVATIONS INCLUDE GROUT.
4. TWO (2) NEW MECHANICAL BAR SCREENS WILL BE INSTALLED. EACH SCREEN IS DESIGNED FOR PEAK HYDRAULIC FLOW CONDITIONS OF 27 MGD. THE THIRD EXISTING SCREEN WILL BE USED AS A BACKUP IN CASE BOTH NEW SCREENS ARE UNDER MAINTENANCE.



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THOMAS W. FRIEDRICH	Date
JONES EDMUNDS & ASSOCIATES, INC.	

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SURVEYED BY	DRAWN BY			
REVIEWED BY	PROJECT ENGINEER	DATE		
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RECORD DRAWING REVISION		MS	1/12/10	
REVISION		BY	DATE	



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Clearwater, FL 33756

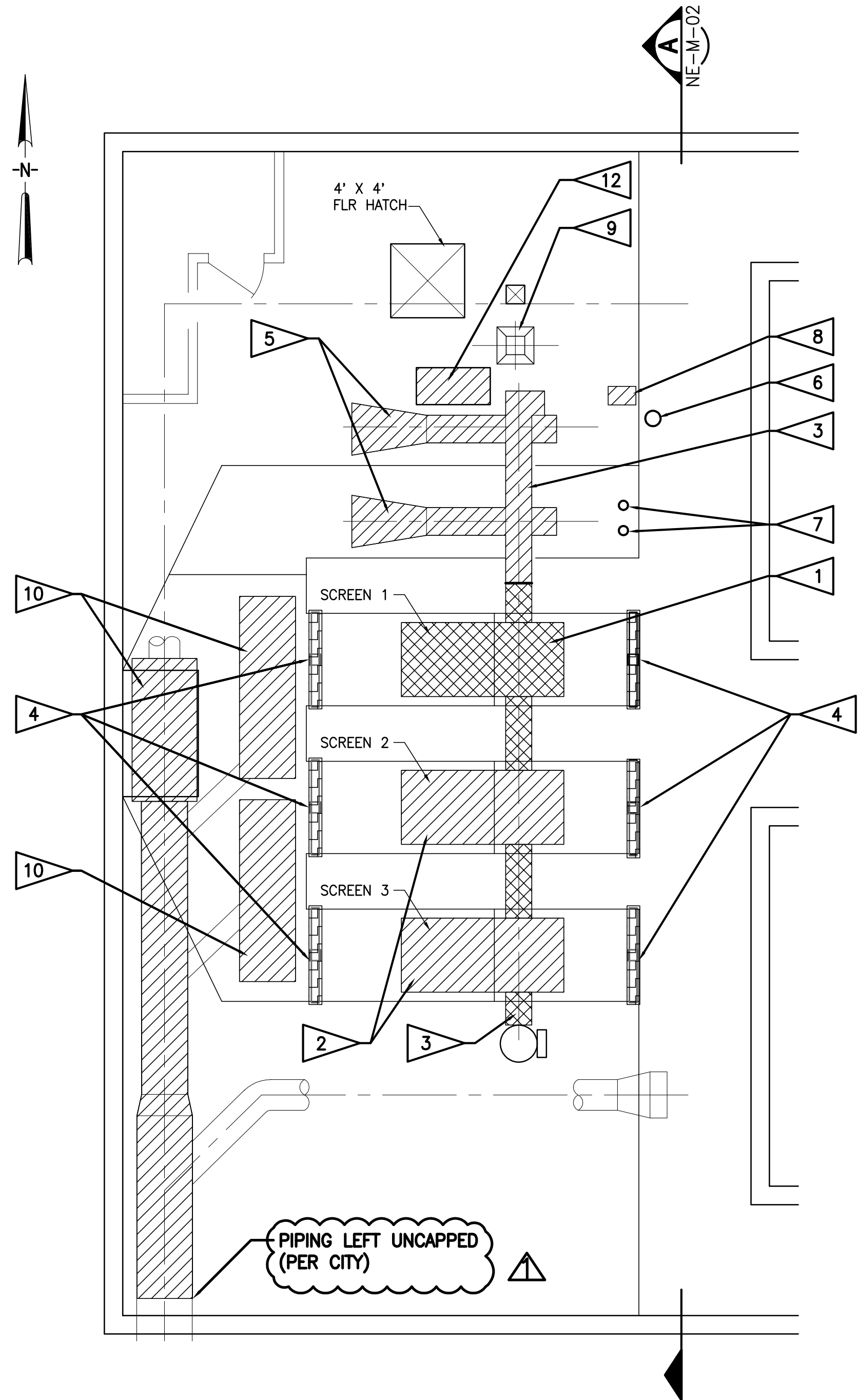


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HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)

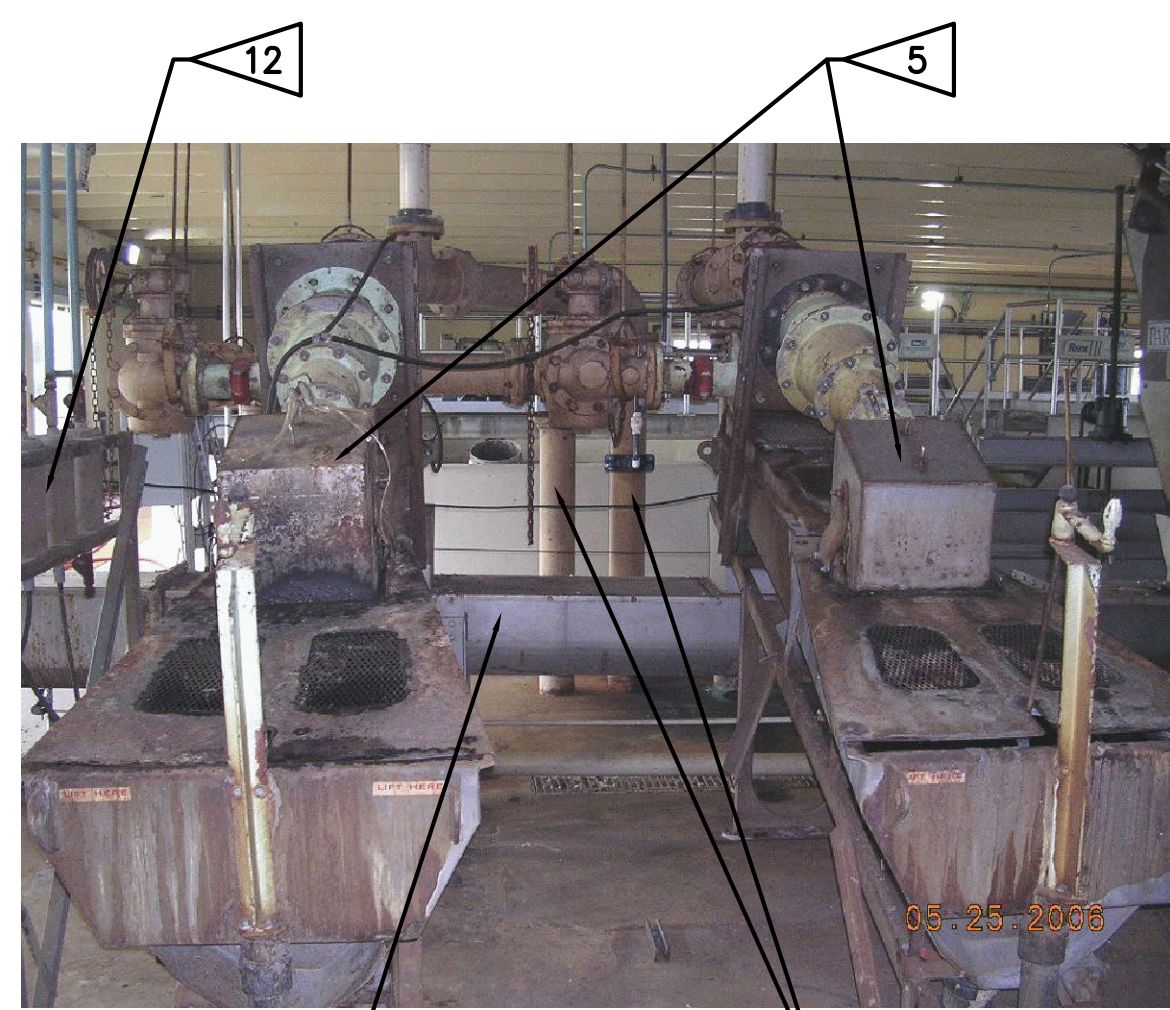
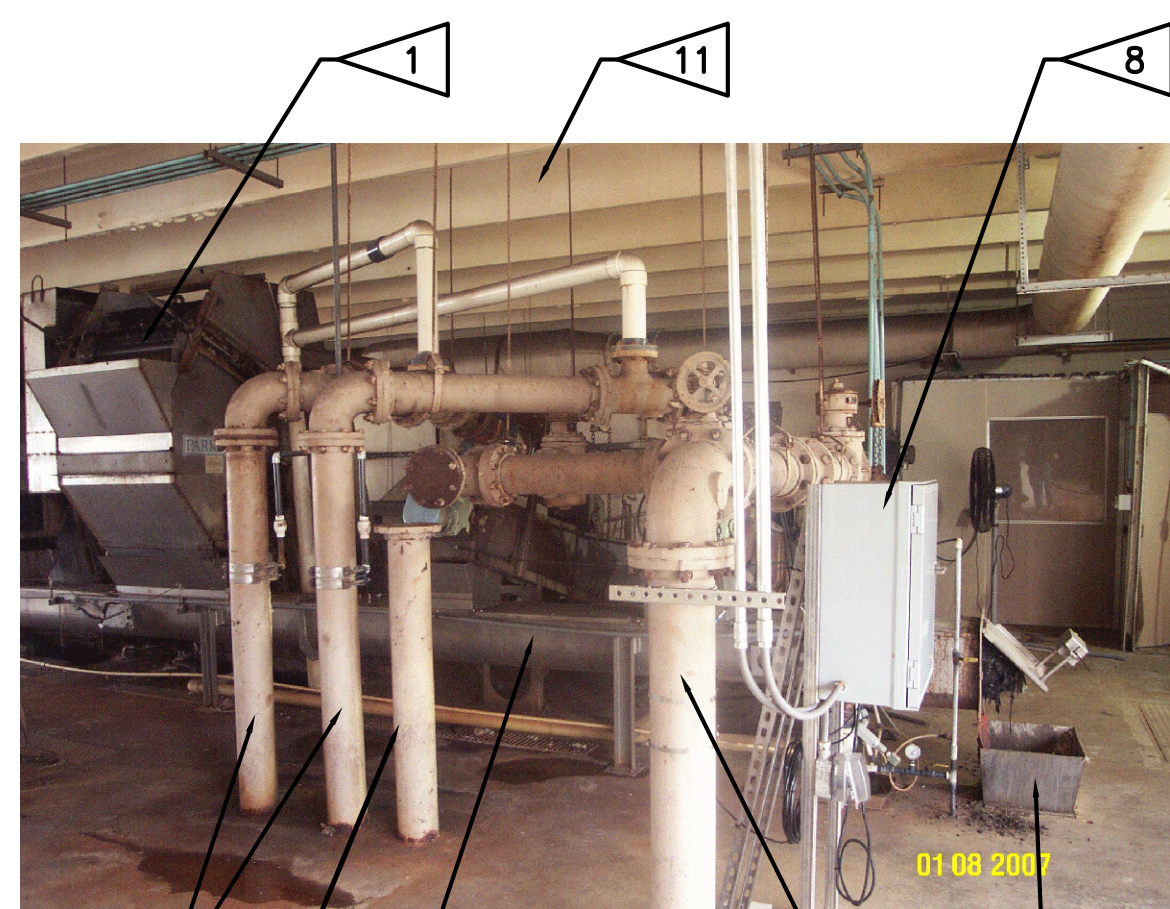
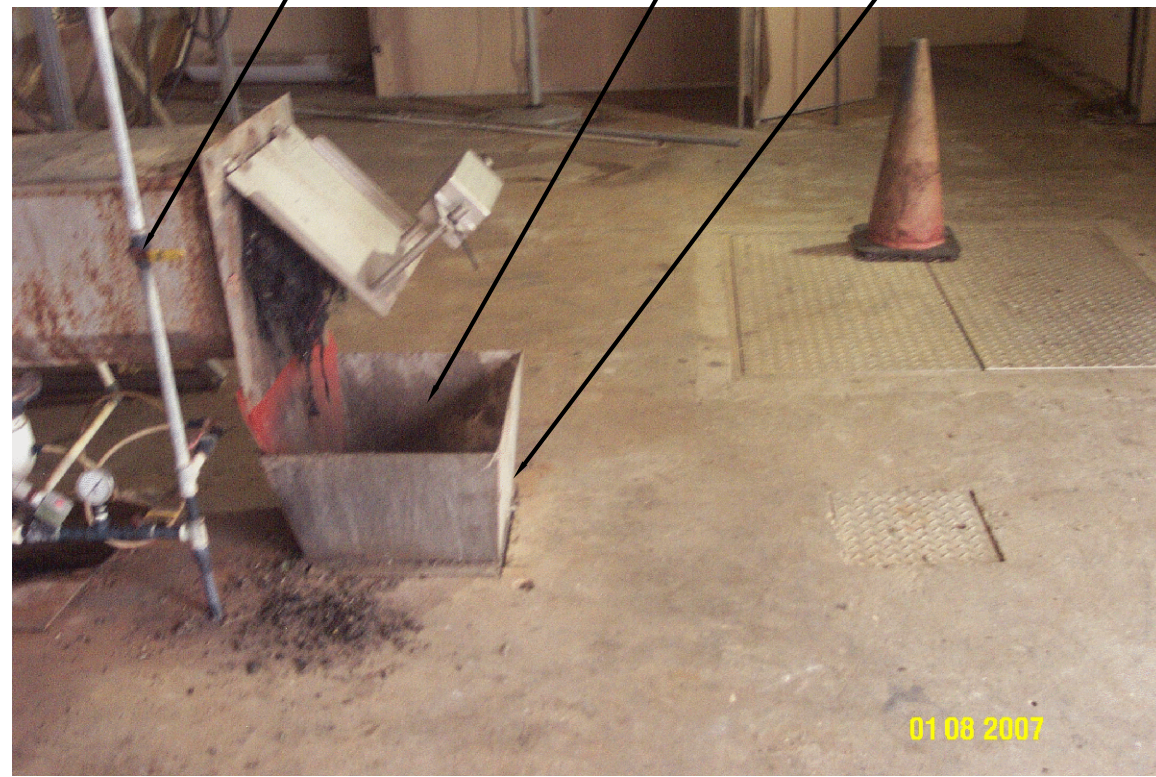
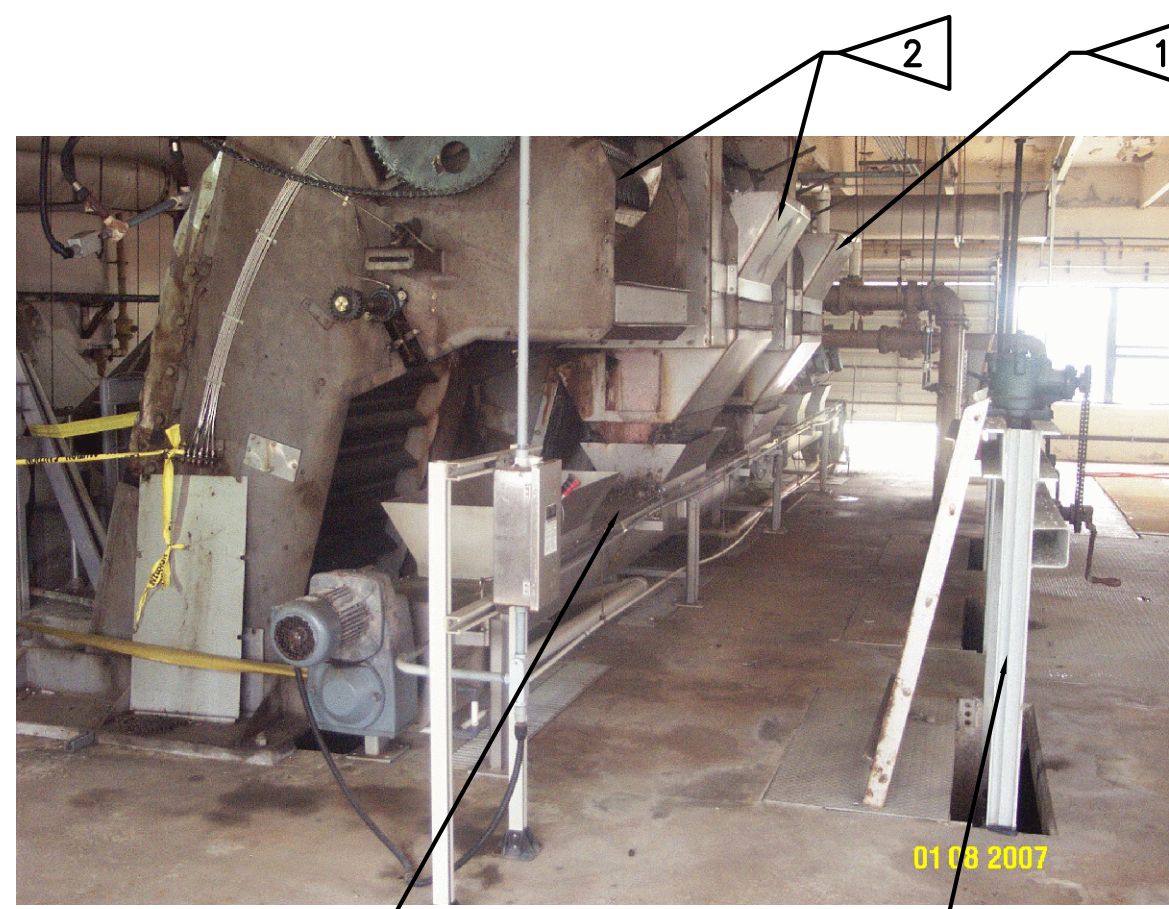
NORTHEAST APCF
HYDRAULIC PROFILE

DRAWN BY JHY	DESIGNED BY TWF	CHECKED BY TWF	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-M-01
APPROVED FOR CONSTRUCTION			DATE
THOMAS W. FRIEDRICH, P.E. 0061281			



INFLUENT STRUCTURAL PLAN
SCALE: 1/4" = 1'-0"

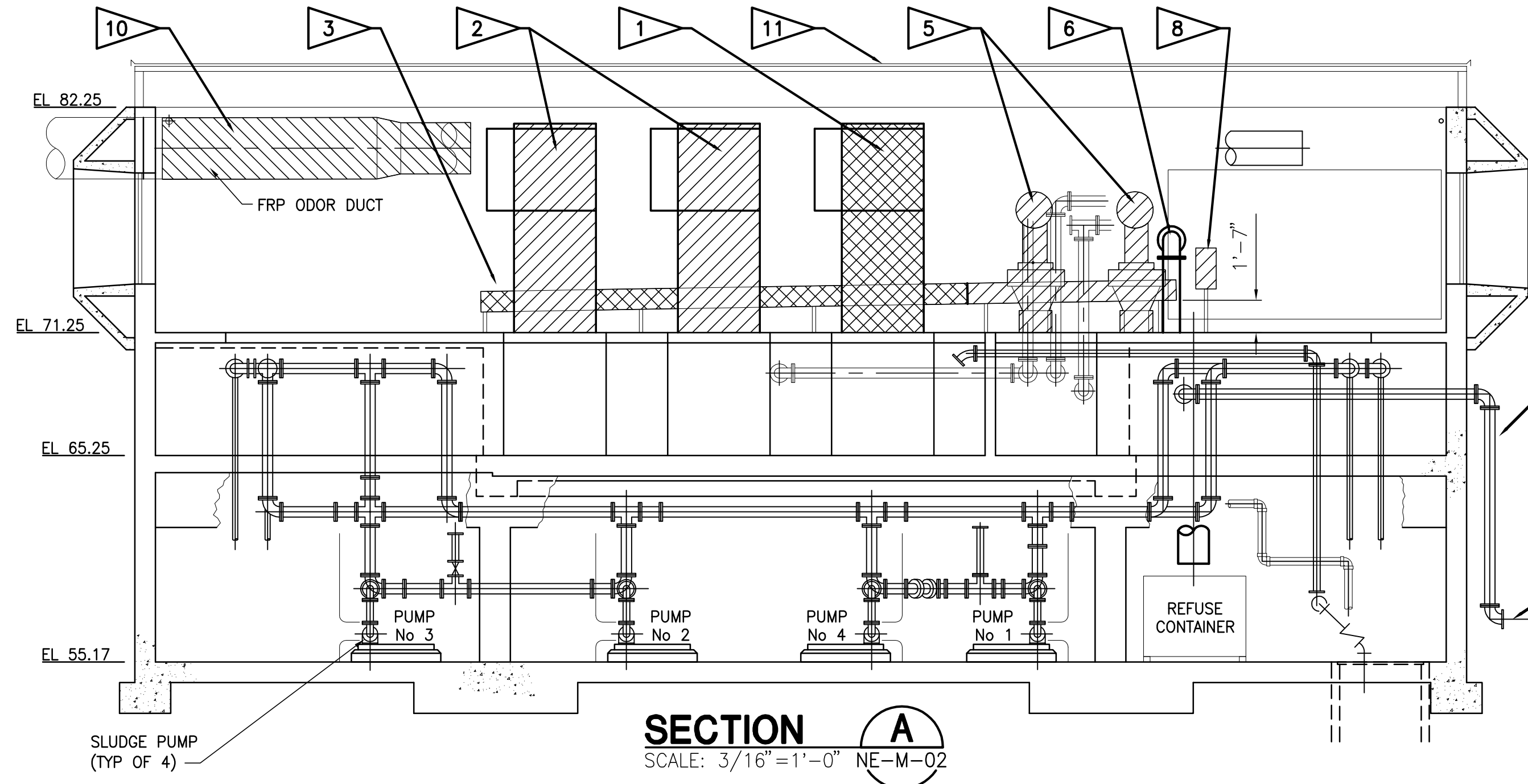
DEMOLITION KEY	
HATCH PATTERN	DIRECTIVE
	TO BE PROTECTED AND/OR RELOCATED
	TO BE DEMOLISHED OR REMOVED
	TO BE REPAIRED
	UNDER SEPARATE CONTRACT



- NOTES:**
1. REMOVE SHADED EQUIPMENT AND ALL RELATED PIPES AND ELECTRICAL BOXES
 2. REPAIR ALL OPENING AND DAMAGE CREATED BY EQUIPMENT REMOVAL
 3. PLAN AND SECTION VIEWS ARE FROM CITY'S RECORD DRAWINGS. CONTRACTOR TO VERIFY ALL EXISTING FEATURES, SIZES, DIMENSIONS AND CONDITIONS
 4. PHOTOGRAPHS SHOWN ARE ONLY SELECT VIEWS. CONTRACTOR TO VISIT BUILDING TO ASSESS CONDITIONS PRIOR TO BIDDING

FLAG NOTES

- 1 MECHANICAL SCREEN 1 TO REMAIN IN SERVICE AS BACKUP
- 2 MECHANICAL SCREENS TO BE REMOVED AND REPLACED
- 3 RELOCATE SCREW CONVEYOR SECTION UNDER SCREENS FOR CONNECTION TO NEW SCREENS AND WASH PRESS, DEMOLISH SECTION AT EXISTING GRIT DEWATERING UNITS. SEE ALTERNATE BID ITEMS FOR OPTION TO REPLACE EXISTING WITH NEW SCREW CONVEYOR. **INSTALLED NEW CONVEYOR**
- 4 GATES TO BE REPAIRED TO MAKE THEM OPERATIONAL FOR CHANNEL ISOLATION. SEE TABLE BELOW. **INSTALLED NEW GATES**
- 5 GRIT DEWATERING UNITS TO BE REMOVED AND REPLACED
- 6 GRIT DEWATERING INFLUENT PIPE TO BE MODIFIED FOR CONNECTION TO NEW GRIT CLASSIFIER
- 7 GRIT OVERFLOW PIPE TO BE MODIFIED FOR CONNECTION TO NEW GRIT CLASSIFIER
- 8 GRIT DEWATERING CONTROL PANEL TO BE REMOVED
- 9 GRIT AND SCREENS CHUTE TO BE RECONNECTED TO NEW SYSTEM
- 10 ABANDONED ODOR CONTROL VENTS TO BE REMOVED AND FRP ODOR CONTROL DUCT TO BE CAPPED AT WALL. **LEFT OPEN PER CITY**
- 11 ROOF TO BE REMOVED AND MODIFIED FOR INSTALLATION OF SKYLIGHTS (SEE STRUCTURAL DRAWINGS)
- 12 MECHANICAL SCREENS DISCONNECT SWITCHES TO BE REMOVED AND REPLACED
- 13 REMOVE EXISTING CHUTE



SECTION A
SCALE: 3/16" = 1'-0" NE-M-02

EXISTING SLIDE GATE AND SLUICE GATE TABLE - REPAIR											
APCF LOCATION	GATE LOCATION	NUMBER OF GATES	TYPE / ASSEMBLY/STYLE	CHANNEL DIMENSION WIDTH X HEIGHT (INCHES)	OVERALL FRAME HEIGHT (INCHES)	MATERIAL	DESIGN-OPERATING HEAD (FEET) SEATING/UNSEATING CONDITIONS	OPERATOR TYPE/CONTROL STYLE	MOUNTING	STEM	REPAIR
NORTHEAST	SCREEN CHANNEL	6	SLIDE GATE / SELF-CONTAINED	60" X 72"	50.5"	304 SS	18"	MANUAL CRANK	EMBEDDED	SINGLE STEM / RISING	EXISTING GATES ARE FROZEN. OPERATORS CANNOT OPEN OR CLOSE

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RECORD DRAWINGS					
SURVEYED BY	DRAWN BY				
REVIEWED BY	PROJECT ENGINEER	DATE			
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	RECORD DRAWING REVISION	MS 1/12/10	BY DATE



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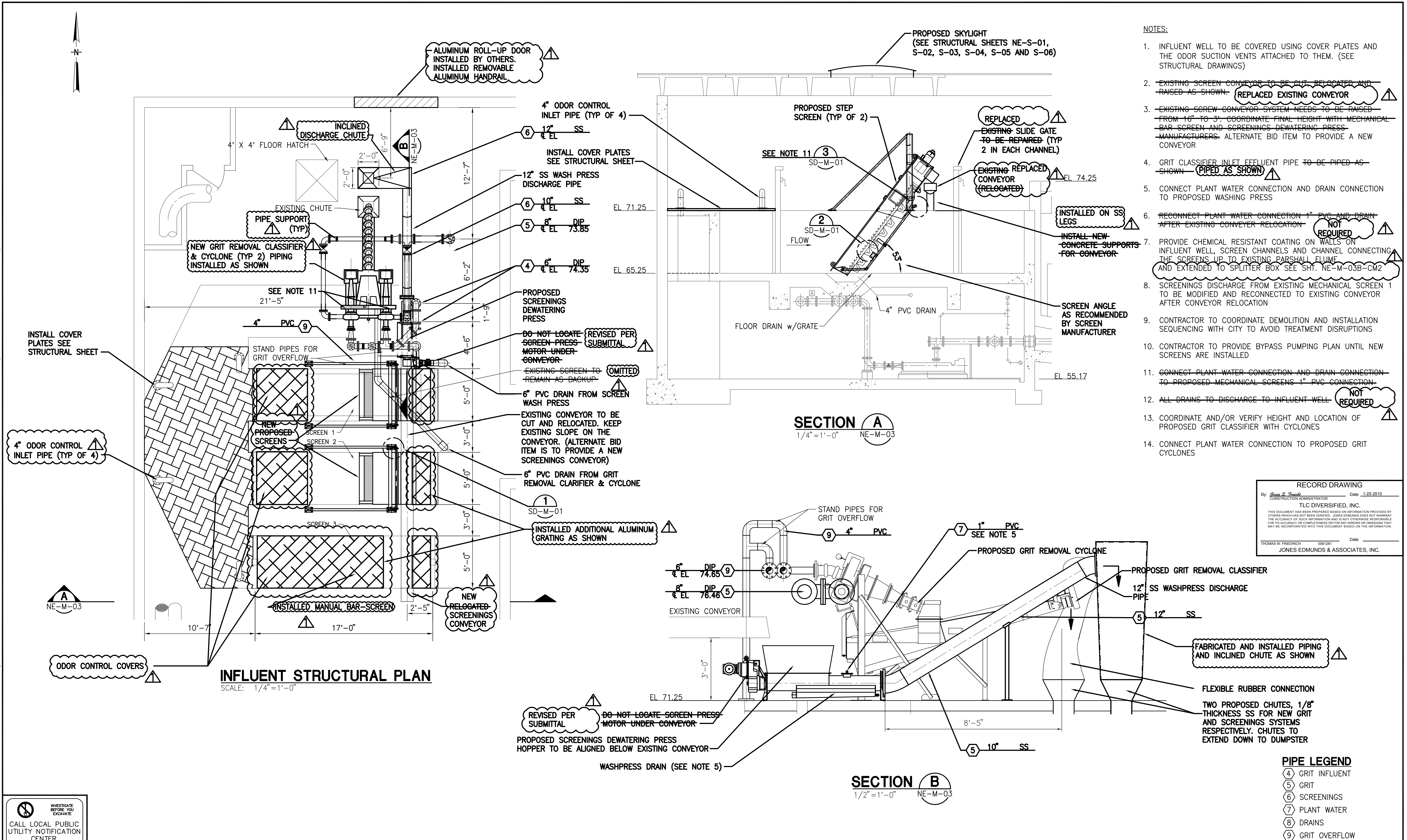
HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)

NORTHEAST APCF DEMOLITION PLAN
SCREENS AND GRIT CLASSIFIER

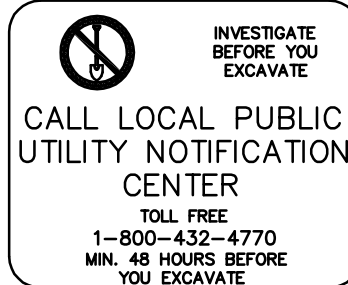
DRAWN BY JHW SCALE VERT. AS SHOWN HORIZ.	DESIGNED BY AJM SURVEYED BY DATE DRAWN OCT 2007	CHECKED BY TWF BOOK NO. DWG NAME	CONTRACT NO. JOB NO. 03720-022-01 SHEET NO. NE-M-02
APPROVED FOR CONSTRUCTION THOMAS W FRIEDRICH, P.E. 0061281 DATE			

RECORD DRAWING
By *Gregg S. Powell* Date 1-25-2010
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.
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THOMAS W. FRIEDRICH 0061281
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By: <i>Gregory S. Ponder</i>	Date: 1-25-2010
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JONES EDMUNDS

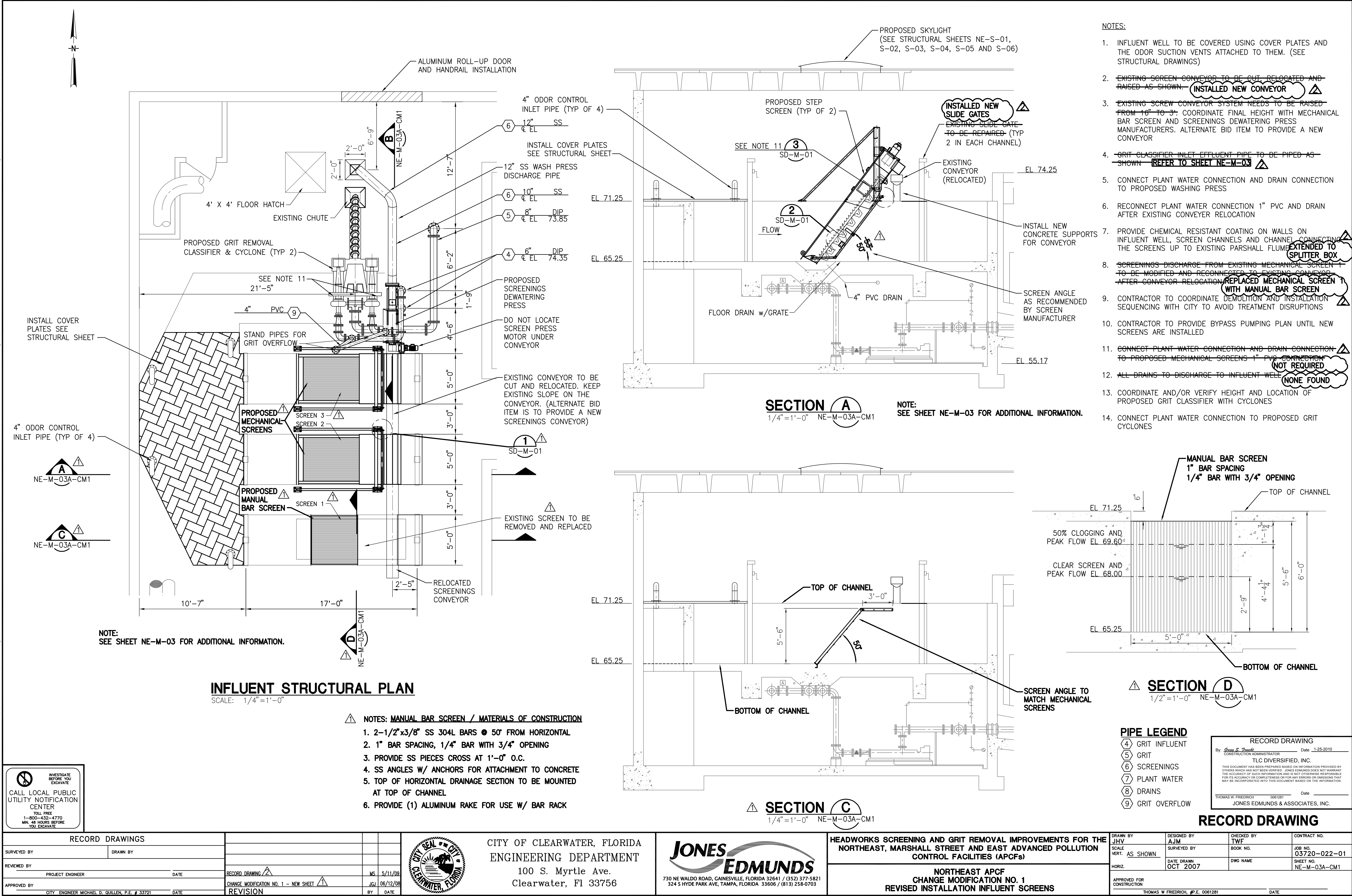
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CONTROL FACILITIES (APCFs)

NORTHEAST APCF
PROPOSED INSTALLATION
SCREENS AND GRIT CLASSIFIER

DRAWN BY JHY	DESIGNED BY TWF	CHECKED BY	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
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THOMAS W. FRIEDRICH, P.E. 0061281			

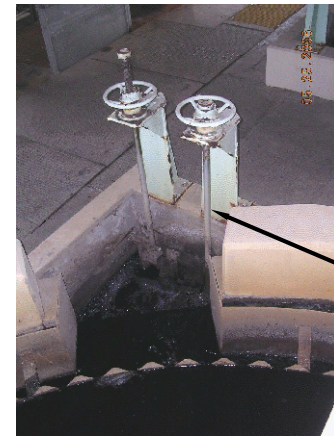
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\\\\tpamd101\drafting\03720 Clearwater\022-Headworks\RECORD DRAWINGS\ACAD Record Drawings\NE-CM-1-2\03720022-NE-M-03A-CM-X.dwg: 1/25/10 1:51pm JKramer



PHOTO 1
REMOVE EXIST. PIPE HANGERS, INSTALL NEW HANGERS. SEE DETAILS SHEET SD-M-01



EXIST. SLUICE GATE VALVES. ONLY PLANT PERSONNEL TO OPERATE.

PHOTO 2

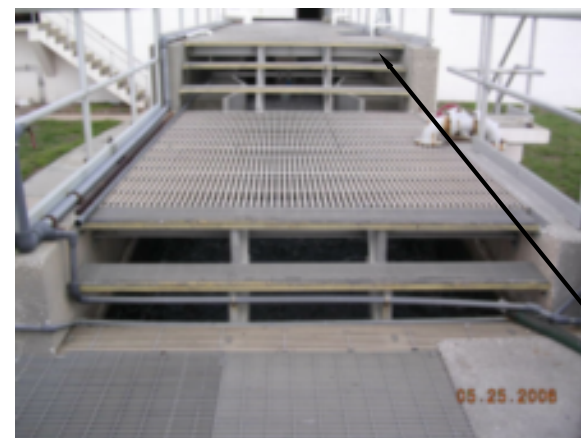


PHOTO 3
EXIST. THICKENER DISCHARGE TO INFLUENT CHANNEL - TO REMAIN IN OPERATION



PROTECT EXISTING PIPE, FITTINGS AND VALVES

PHOTO 4



PROTECT EXIST. GRATING AND STEPS. REMOVE AS NECESSARY TO INSTALL PIPE AND HANGERS

PHOTO 5



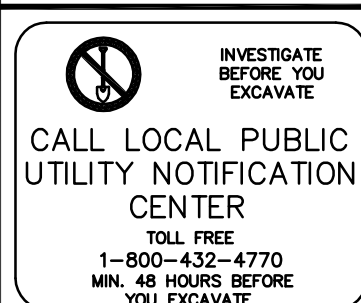
INSTALL NEW HANGERS FROM GRATE SUPPORT BEAMS

PROTECT EXIST. PARSHAL FLUME

PHOTO 6

PROJECT PHOTOS

CONTRACTOR TO VERIFY CURRENT CONDITIONS



RECORD DRAWINGS	
SURVEYED BY	DRAWN BY
REVIEWED BY	PROJECT ENGINEER
DATE	DATE
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721
DATE	DATE

RECORD DRAWING	MS	1/12/10
CHANGE MODIFICATION NO. 2 - NEW SHEET	JGJ	06/12/08
REVISION	BY	DATE



CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, FL 33756



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324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)

NORTHEAST APCF
CHANGE MODIFICATION NO. 2
THICKENER BYPASS PIPING REPLACEMENT

PIPE LEGEND

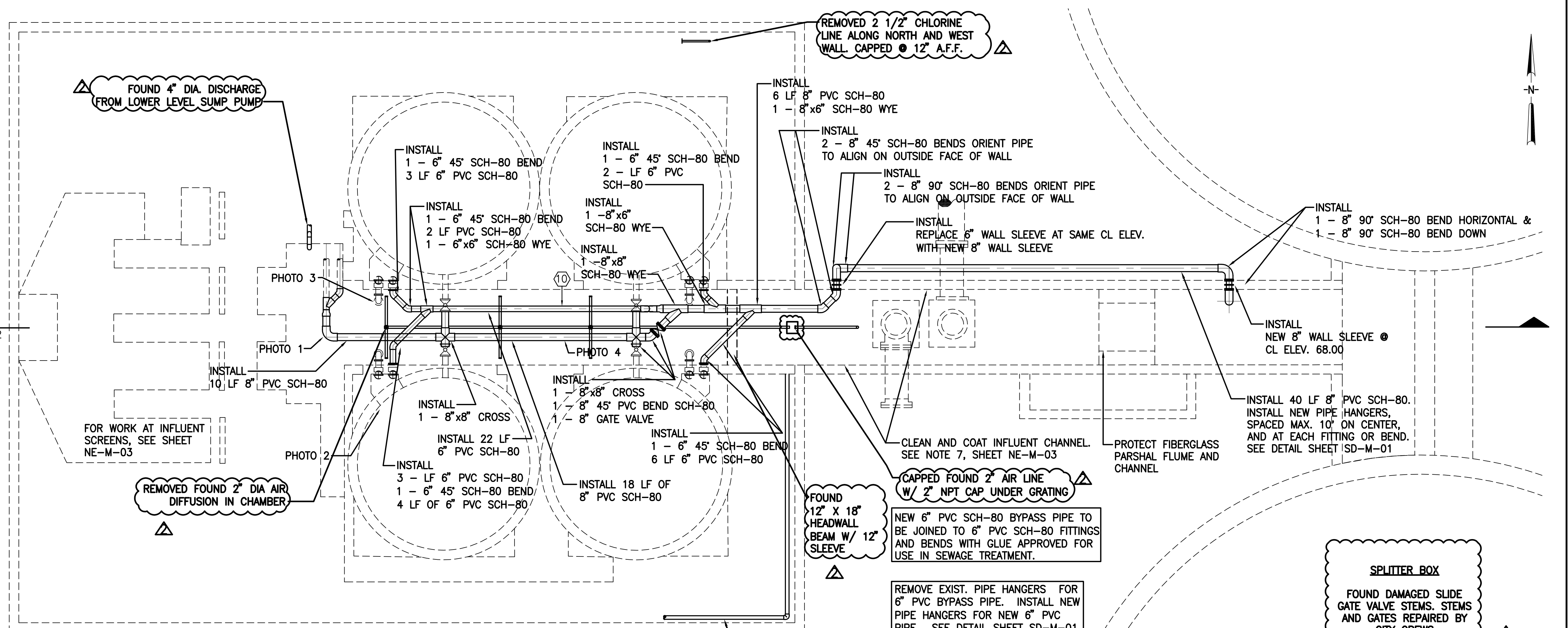
10 THICKENER EFFLUENT

RECORD DRAWING
By: *Greg S. Ponder* Date: 1-25-2010
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.
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THOMAS W. FRIEDRICH 0061281 Date:
JONES EDMUNDS & ASSOCIATES, INC.

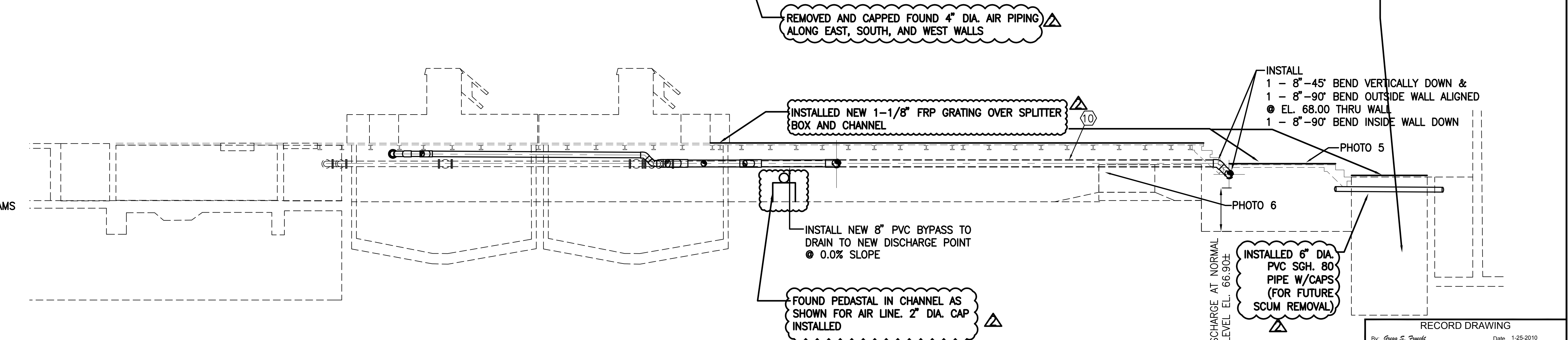
RECORD DRAWING

DRAWN BY JHY	DESIGNED BY TWF	CHECKED BY AJM	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-M-03B-CM2
APPROVED FOR CONSTRUCTION	THOMAS W. FRIEDRICH, P.E. 0061281	DATE	



INFLUENT THICKENER BYPASS PIPE PLAN

NTS



INFLUENT THICKENER BYPASS PIPE PROFILE

NTS

A
NE-M-03B-CM2

SPLITTER BOX

FOUND DAMAGED SLIDE GATE VALVE STEMS. STEMS AND GATES REPAIRED BY CITY CREWS

ELECTRICAL DRAWING LEGEND

IN GENERAL, LIGHT LINES INDICATE EXISTING
AND BOLD LINES INDICATE NEW ELECTRICAL WORK.

SYMBOL	DESCRIPTION
	MOTOR, HORSEPOWER INDICATED (ONE LINE DIAGRAMS)
	MOTOR CIRCUIT PROTECTOR (MCP) OR CIRCUIT BREAKER (TRIP AMPS INDICATED) 3 POLE UNLESS OTHERWISE INDICATED
	GROUND ROD, 5/8"x10'-0" COPPER CLAD
	CONDUIT UP (MULTIPLE OR SINGLE)
	CONDUIT DOWN (MULTIPLE OR SINGLE)
	CONDUIT IN FLOOR OR UNDERGROUND
	CIRCUIT REFERENCE, SEE WIRING SCHEDULES
	CFWE
	SAFETY SWITCH NEMA 4X STAINLESS STEEL 3 POLE UNLESS OTHERWISE NOTED WITH 2 FORM "C" AUX. CONTACTS
	JUNCTION BOX
	ULTRASONIC LEVEL SENSOR
	MOTOR-FACILITY PLANS
	HIGH LEVEL FLOAT
	SOLENOID VALVE

GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC). GROUND ALL ELECTRICAL EQUIPMENT AND ENCLOSURES IN ACCORDANCE WITH THE NEC.
- COORDINATE NEW CONDUIT RUNS WITH NEW FACILITIES AND PIPING RUNS. PROVIDE 6" CLEARANCE AT PIPE CROSSINGS.
- THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF ALL SYSTEMS INCLUDING ROUTING OF HOME RUNS.
- INSTRUMENTATION CIRCUIT CONDUIT SHALL BE RIGID GALVANIZED STEEL AND SHALL BE PVC COATED IN EXTERIOR ABOVE GRADE LOCATIONS.
- CONNECTIONS ARE PERMITTED IN PULL BOXES FOR THE SITE LIGHTING AND RECEPTACLE CIRCUITS. CONNECTIONS FOR OTHER CIRCUITS SHALL NOT BE PERMITTED IN PULL BOXES UNLESS APPROVED BY THE ENGINEER. CONNECTIONS WHERE PERMITTED SHALL BE MADE USING MOISTURE-PROOF SPLICES, SCOTCHCAST OR EQUAL.
- ALL MOUNTING HARDWARE, ANCHORS, CHANNEL, PLATES, BRACKETS, FLOAT SUSPENSION CABLES, CABLE HANGERS AND ENCLOSURES SHALL BE STAINLESS STEEL UNLESS OTHERWISE INDICATED.
- CONDUIT SHALL BE RIGID GALVANIZED STEEL ABOVE GRADE AND SCH 80 PVC BELOW GRADE. PVC CONDUIT SHALL BE SUNLIGHT RESISTANT, RATED FOR 90°C CONDUCTORS. FLEXIBLE CONDUIT SHALL BE CARLON "CARFLEX" OR EQUAL.
- CONDUCTORS SHALL BE ANNEALED SOFT DRAWN COPPER WITH TYPE THW OR THWN INSULATION RATED FOR 600 VOLTS.

INVESTIGATE
BEFORE YOU
EXCAVATE

CALL LOCAL PUBLIC
UTILITY NOTIFICATION
CENTER

TOLL FREE
1-800-452-4770
MIN. 48 HOURS BEFORE
YOU EXCAVATE.

RECORD DRAWINGS	
SURVEYED BY	DRAWN BY
REVIEWED BY	DATE
PROJECT ENGINEER	DATE
APPROVED BY	DATE
CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE

RECORD DRAWING REVISION	MS	1/12/10
REVISION	BY	DATE



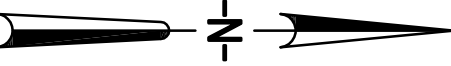
CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

JONES EDMUNDS
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)

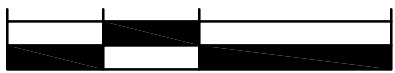
NORTHEAST APCF
ELECTRICAL
SITE PLAN

DRAWN BY DGP	DESIGNED BY MLK	CHECKED BY MLK	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-E-01
APPROVED FOR CONSTRUCTION	DATE		
MALCOLM L. KOROS, #P.E. 0063622	DATE		

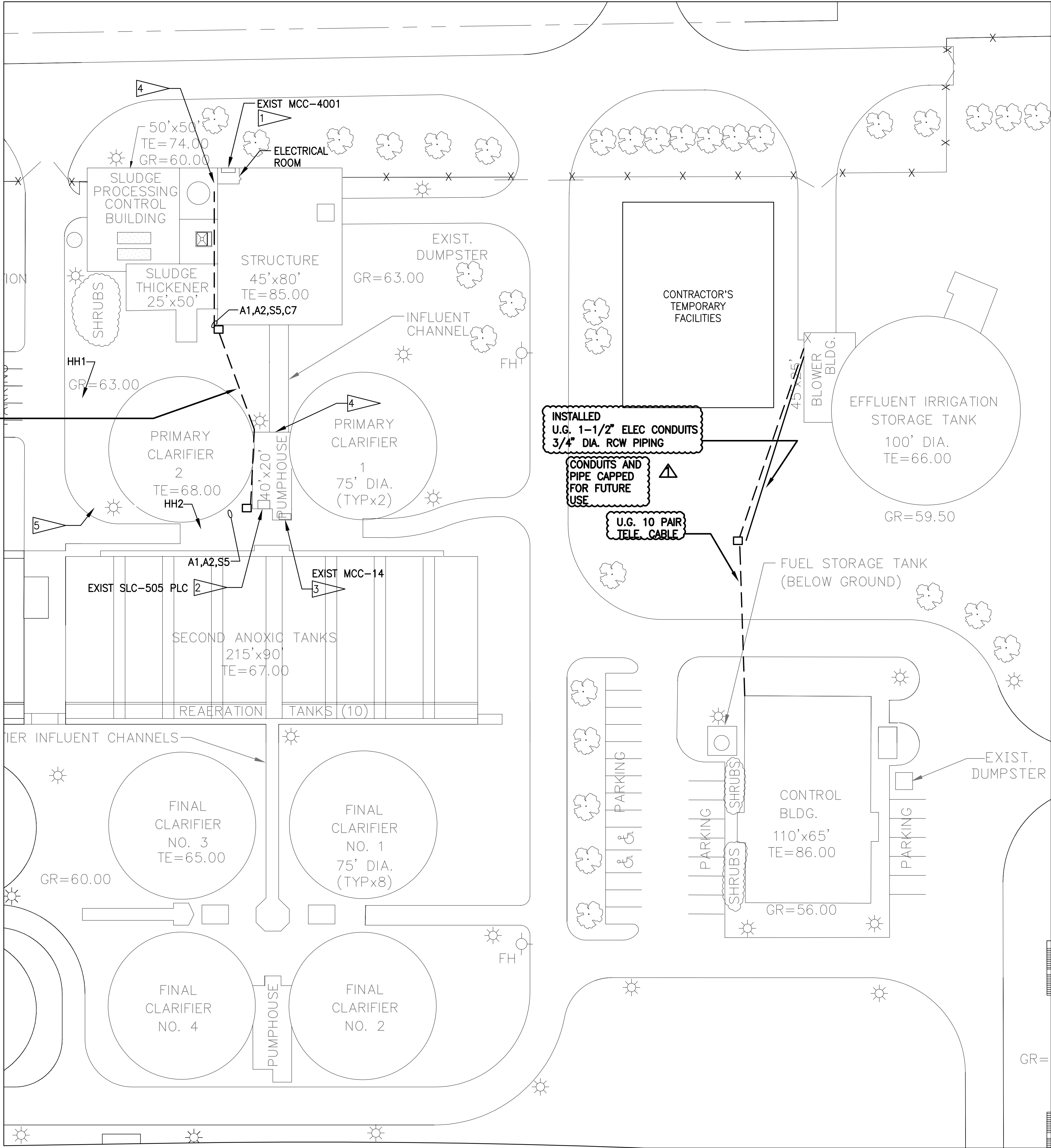


GRAPHIC SCALE

0 15 30 60



SCALE IN FEET
1"=30'



NOTES:

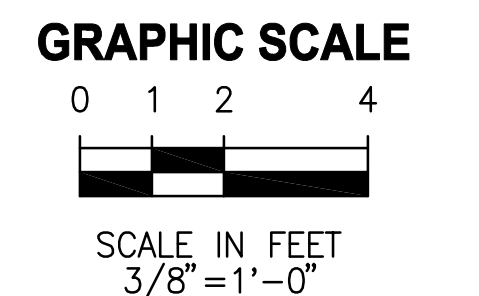
- PROVIDE POWER CIRCUITS FROM MCC-4001 TO NEW EQUIPMENT CONTROL PANELS (BSCP & GSCP).
- INSTALL CONTROL WIRING FROM NEW & EXISTING EQUIPMENT TO PLC ENCLOSURE. COORDINATE WIRING TERMINATIONS IN PLC ENCLOSURE WITH OWNER/ENGINEER. REFER TO DWG NE-E-4 FOR CONDUIT ROUTING.
- CONNECT MOTOR RUN STATUS CONTACTS FROM GRIT PUMPS 1 & 2 IN THIS MCC-14 TO GRIT CLASSIFIER CONTROL PANEL. REFER TO DWG NE-E-4.
- ROUTE CONTROL WIRING FROM BSCP & GSCP IN INFLUENT ELECTRICAL ROOM TO PLC ENCLOSURE LOCATED IN PUMP HOUSE. REFER TO DWG NE-E-4 FOR CONDUIT ROUTING.
- CONTRACTOR MAY SUBMIT ALTERNATE CONDUIT ROUTING AT THIS LOCATION FOR ENGINEER APPROVAL PRIOR TO INSTALLATION.

RECORD DRAWING	
By <i>Gregg S. Powell</i>	Date 1-25-2010
CONSTRUCTION ADMINISTRATOR	TLC DIVERSIFIED, INC.
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THOMAS W. FRIEDRICH	Date
001381	JONES EDMUNDS & ASSOCIATES, INC.

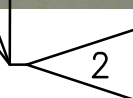
RECORD DRAWING



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



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



1	CLASSIFIER DISCONNECT & HOA SWITCH TO BE DEMOLISHED & REPLACED. GRIT HANDLING SYSTEM TO REMAIN IN OPERATION DURING CONSTRUCTION. PROVIDE TEMPORARY POWER & CONTROL CIRCUITS, ROUTED IN A PROTECTED LOCATION ALONG WALL OR FLOOR. PROTECT CIRCUITS WITH CONDUITS IN HIGH TRAFFIC & HEAVY CONSTRUCTION AREAS. REMOVE TEMPORARY CONDUITS & CABLING ONCE PERMANENT INSTALLATION IS COMPLETE.
---	--

2	BARSCREEN DISCONNECT SWITCH TO BE DEMOLISHED & REPLACED
3	BARSCREEN CONTROL PANEL TO BE DEMOLISHED & REPLACED
4	BARSCREEN #1 CONTROL PANEL TO REMAIN IN SERVICE


By: Gregg S. Furecht Date 1-25-2010
CONSTRUCTION ADMINISTRATOR

TLC DIVERSIFIED, INC.

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THOMAS W. FRIEDRICH 0061281 Date _____
JONES EDMUNDS & ASSOCIATES, INC.

RECORD DRAWING

RECORD DRAWINGS			
SURVEYED BY	DRAWN BY		
REVIEWED BY			
PROJECT ENGINEER			
DATE			
APPROVED BY		RECORD DRAWING REVISION 	MS 1/12/19
CITY ENGINEER MICHAEL D. OUELLEN P.E. # 533721	DATE	REVISION	BY DATE

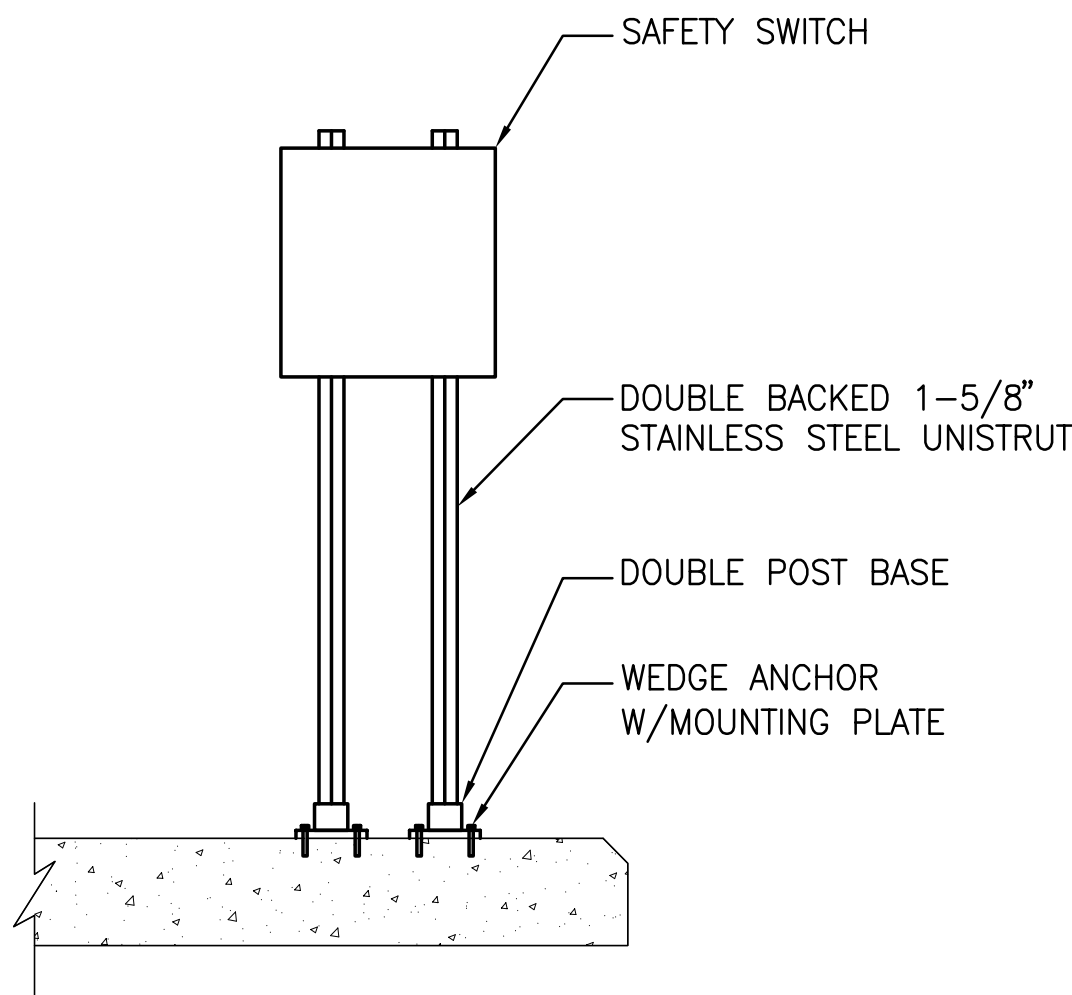


JONES EDMUNDS

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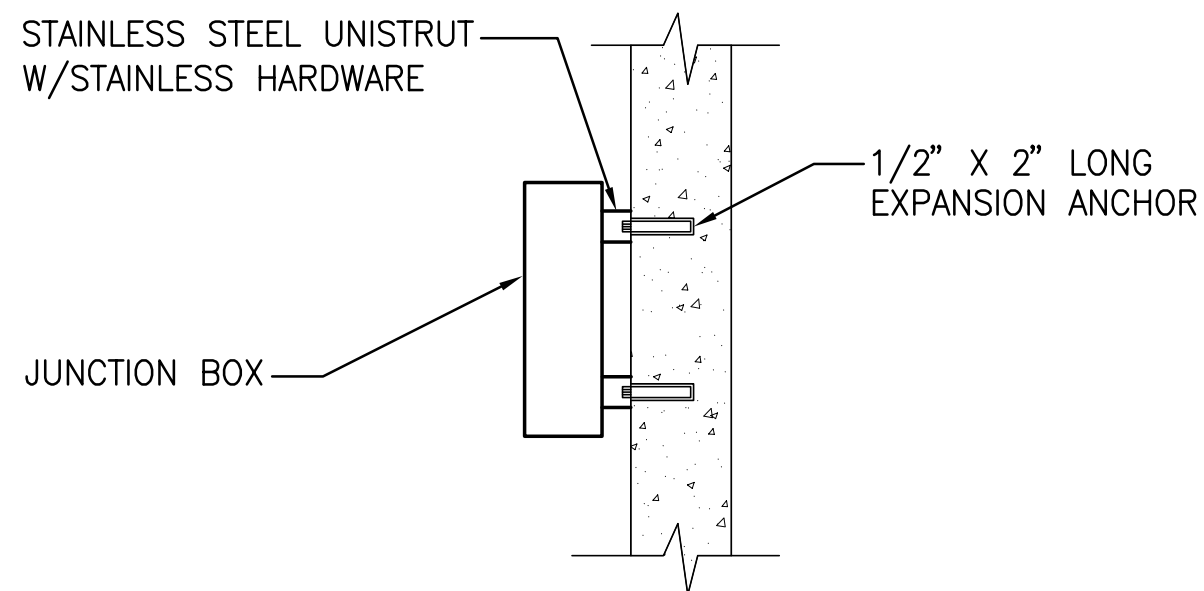
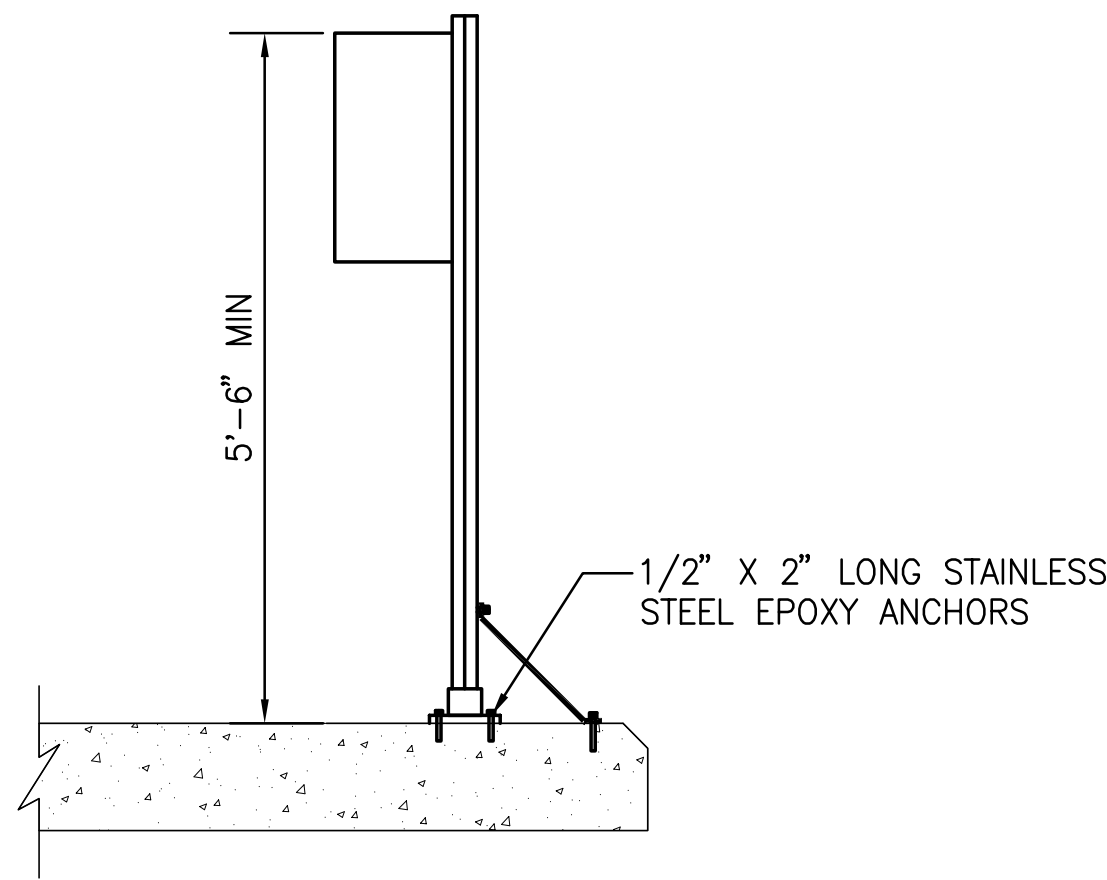
NORTHEAST APCF
ELECTRICAL DEMOLITION PLAN
PROCESS CONTROL BUILDING

DRAWN BY JHV SCALE VERT. AS SHOWN HORIZ.	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
	SURVEYED BY 	BOOK NO. 	JOB NO. 03720-022-01
	DATE DRAWN OCT 2007	DWG NAME 	SHEET NO. NE-E-02
APPROVED FOR CONSTRUCTION _____ THOMAS W FRIEDRICH, P.E. 0061281			
			DATE _____



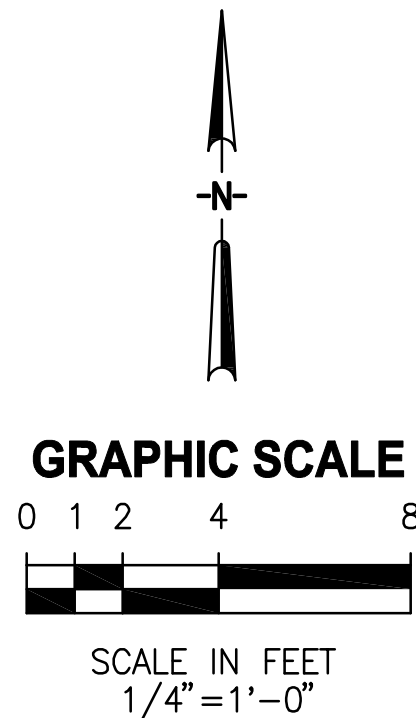
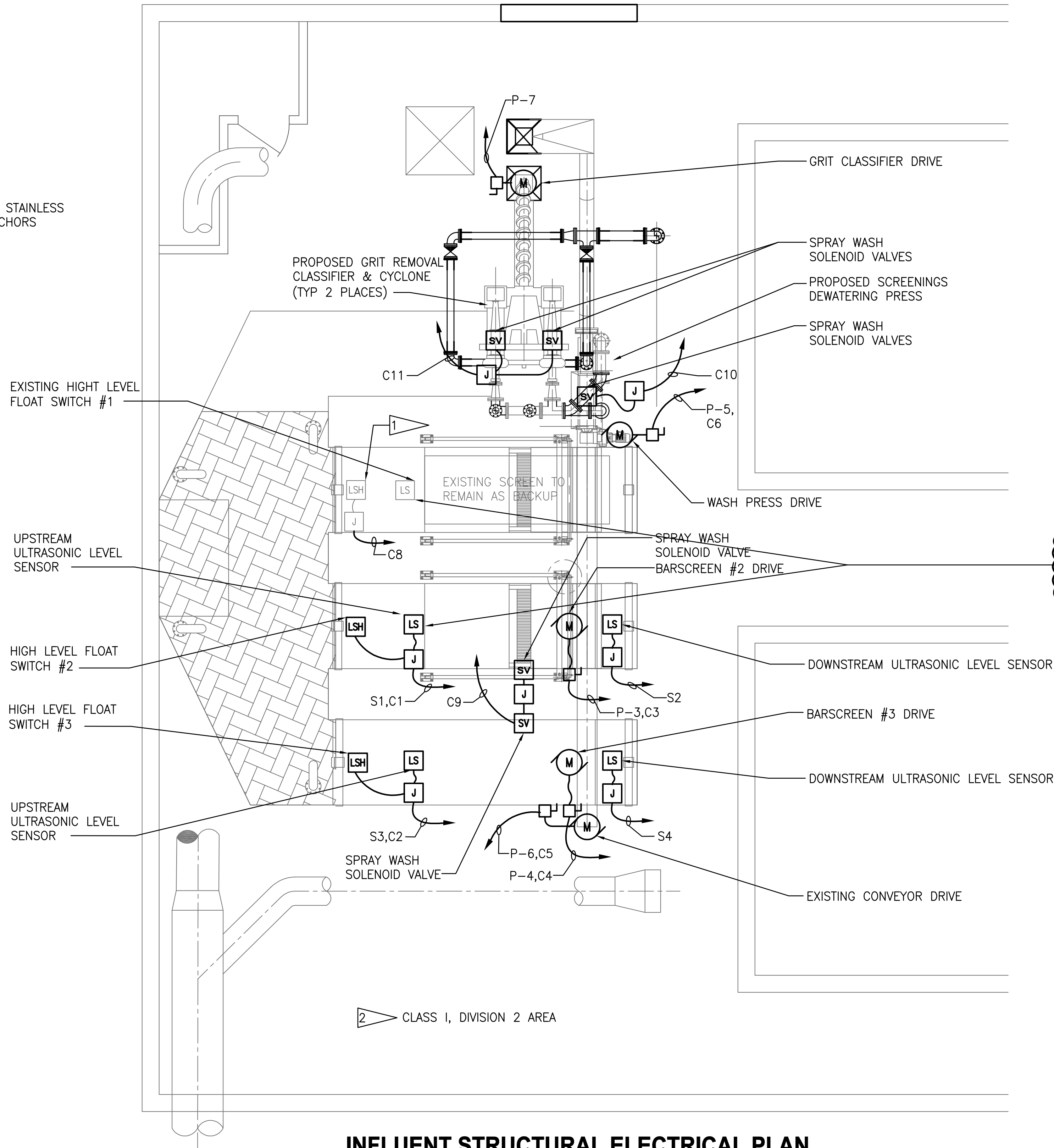
SAFETY SWITCH SUPPORT DETAIL

NONE



JUNCTION BOX SUPPORT DETAIL

NONE



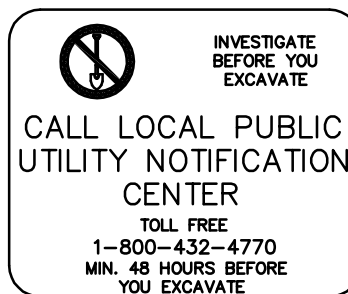
NOTE: ALL LEVEL SENSOR DISPLAYS AND RELAYS INSTALLED IN MAIN CONTROL PANEL ROOM IN LOWER FLOOR.

FLAG NOTES:

- 1 PROVIDE & INSTALL NEW WIRING FROM BARSCREEN #1 EXISTING HIGH LEVEL FLOAT.
- 2 ELECTRICAL EQUIPMENT INSTALLED WITHIN CLASS I, DIVISION II ENVIRONMENT SHALL BE NEMA 7 RATED.

INFLUENT STRUCTURAL ELECTRICAL PLAN

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



RECORD DRAWINGS					
SURVEYED BY	MLK	DRAWN BY			
REVIEWED BY		PROJECT ENGINEER		DATE	
APPROVED BY		CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721		DATE	
RECORD DRAWING REVISION		MS	1/12/10	BY	DATE
REVISION					



CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, FL 33756

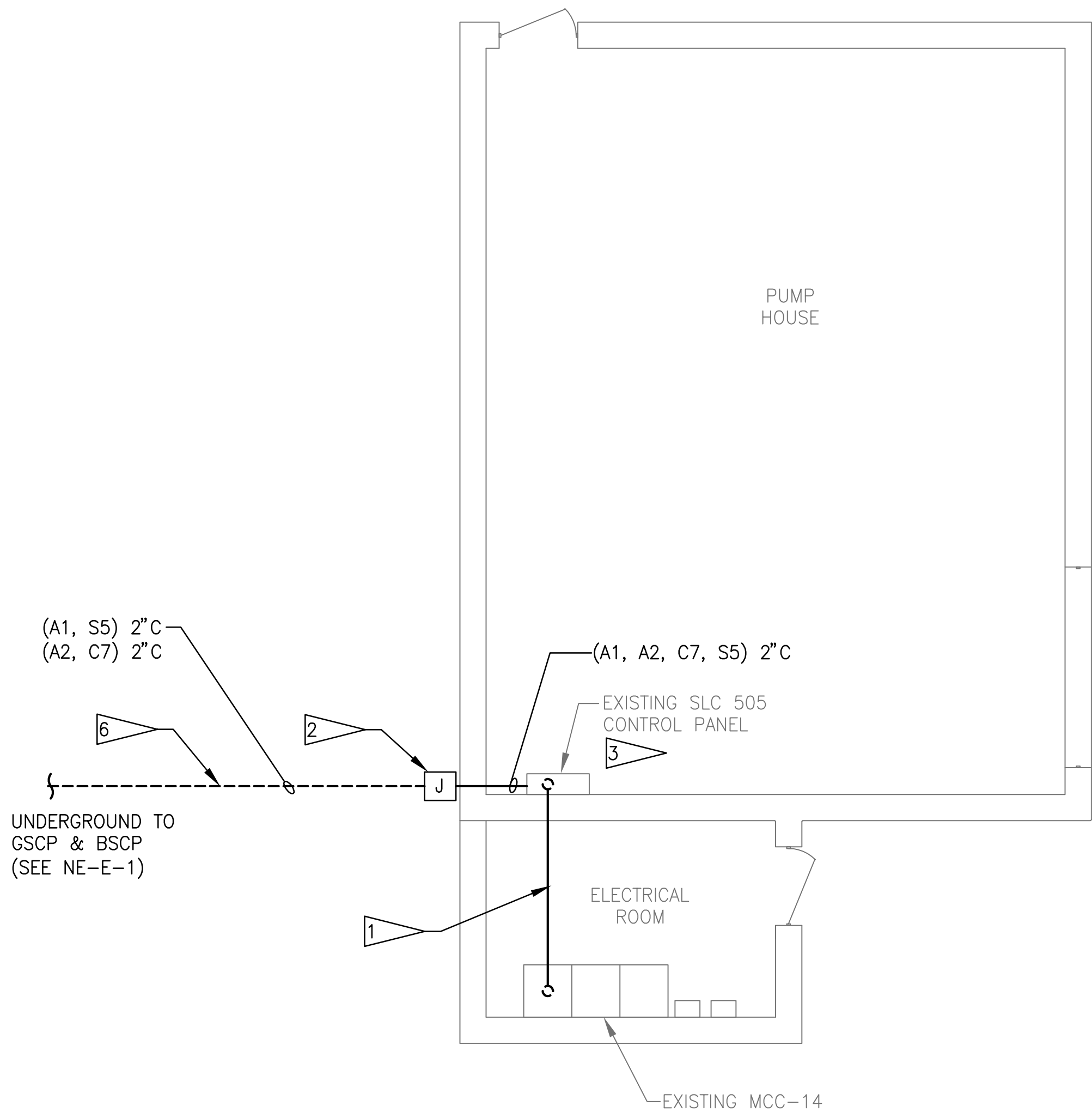


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HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)

NORTHEAST APCF
PROPOSED ELECTRICAL PLAN
INFLUENT ELECTRICAL PLAN

DRAWN BY	DESIGNED BY	CHECKED BY	CONTRACT NO.
DGP	JRA/MLK	MLK	
SCALE	SURVEYED BY	BOOK NO.	JOB NO.
VERT. AS SHOWN			03720-022-01
HORIZ.	DATE DRAWN	DWG NAME	SHEET NO.
	OCT 2007		NE-E-03
APPROVED FOR CONSTRUCTION		DATE	
MALCOLM L. KOROS, P.E. 0063622			

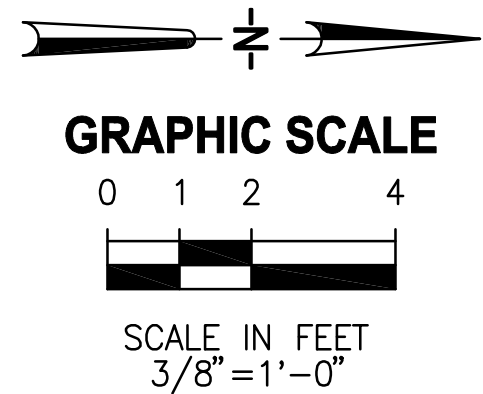


PRIMARY CLARIFIER PUMP HOUSE-UPPER LEVEL PLAN

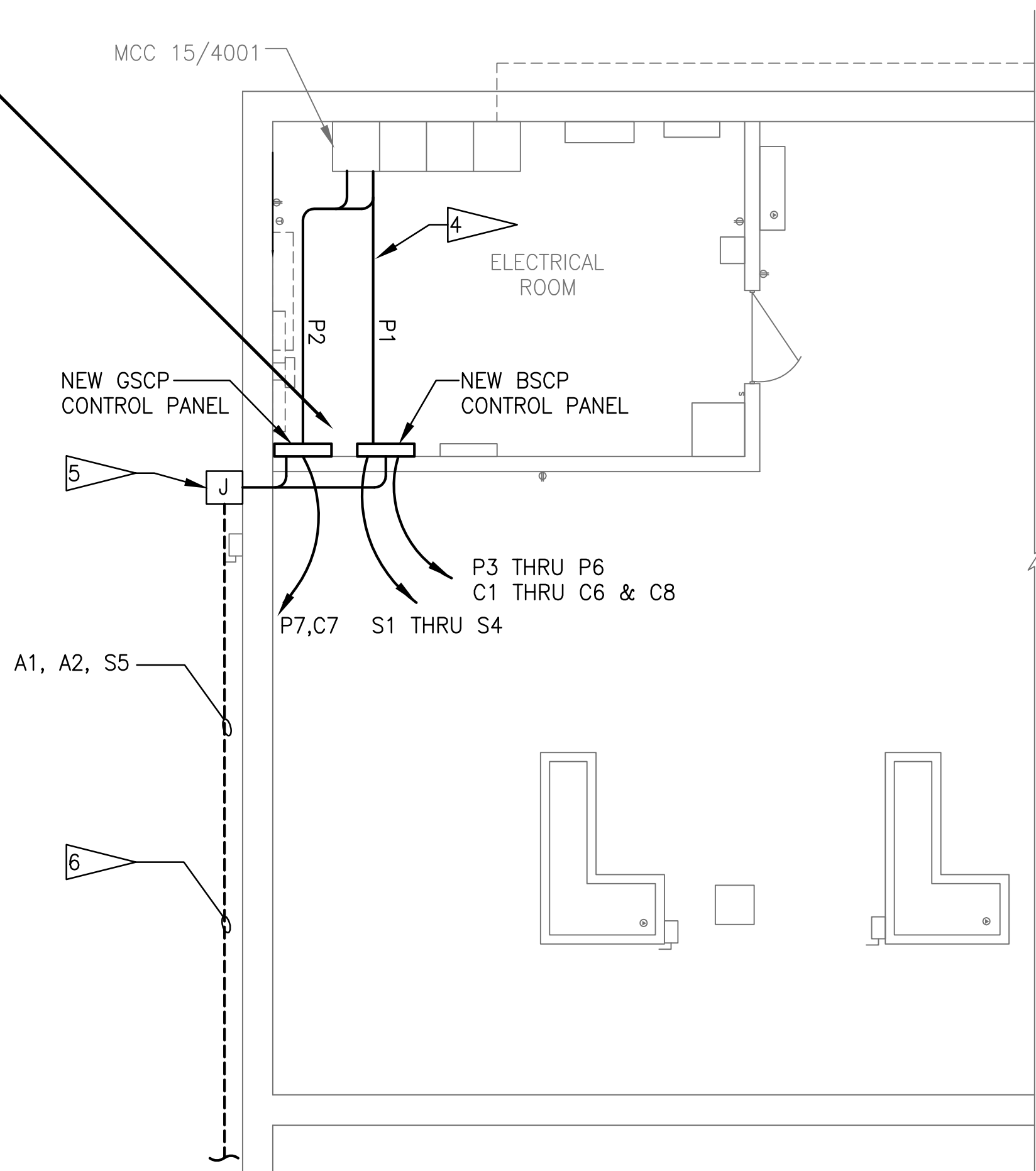
SCALE: 3/8"=1'-0"

NOTES:

- 1 CORE DRILL PUMP HOUSE WALL FOR CONDUIT PENETRATION. ROUTE CONDUIT OVERHEAD IN ELECTRICAL ROOM.
- 2 CORE DRILL EXTERIOR PUMP HOUSE WALL FOR CONDUIT PENETRATION. MOUNT NEMA 4X, SS JUNCTION BOX ON EXTERIOR WALL.
- 3 INSTALL INTERPOSING RELAYS FOR GRIT PUMP RUN STATUS. INSTALL TERMINAL BLOCKS & I/O MODULES FOR SCADA INTERFACE, COORDINATE WITH OWNER/ENGINEER.
- 4 ROUTE CONDUITS OVERHEAD IN ELECTRICAL ROOM.
- 5 MOUNT NEMA 4X SS JUNCTION BOX ON EXTERIOR WALL OF INTAKE STRUCTURE. CORE DRILL WALL PENETRATIONS FROM ELECTRICAL ROOM & FROM EQUIPMENT ROOM TO OUTDOOR J-BOX.
- 6 ROUTE UNDERGROUND CONDUITS FROM INFLUENT STRUCTURE J-BOX TO PUMP HOUSE J-BOX, REFER TO DRAWING NE-E-1 FOR ROUTING.

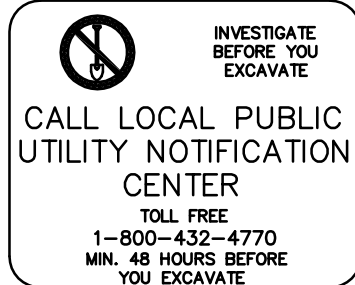


NOTE
ALL LEVEL
SENSOR
DISPLAYS AND
RELAYS
INSTALLED IN
MAIN CONTROL
PANEL ROOM



INFLUENT STRUCTURE-LOWER LEVEL ELECTRICAL PLAN

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



RECORD DRAWING	
By <i>Gregg S. Fawcett</i>	Date 1-25-2010
CONSTRUCTION ADMINISTRATOR	
TLC DIVERSIFIED, INC.	
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THOMAS W. FRIEDRICH	Date
JONES EDMUNDS & ASSOCIATES, INC.	

RECORD DRAWING

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SURVEYED BY	DRAWN BY			
REVIEWED BY	PROJECT ENGINEER	DATE		
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	RECORD DRAWING REVISION	MS 1/12/10
			REVISION	BY DATE



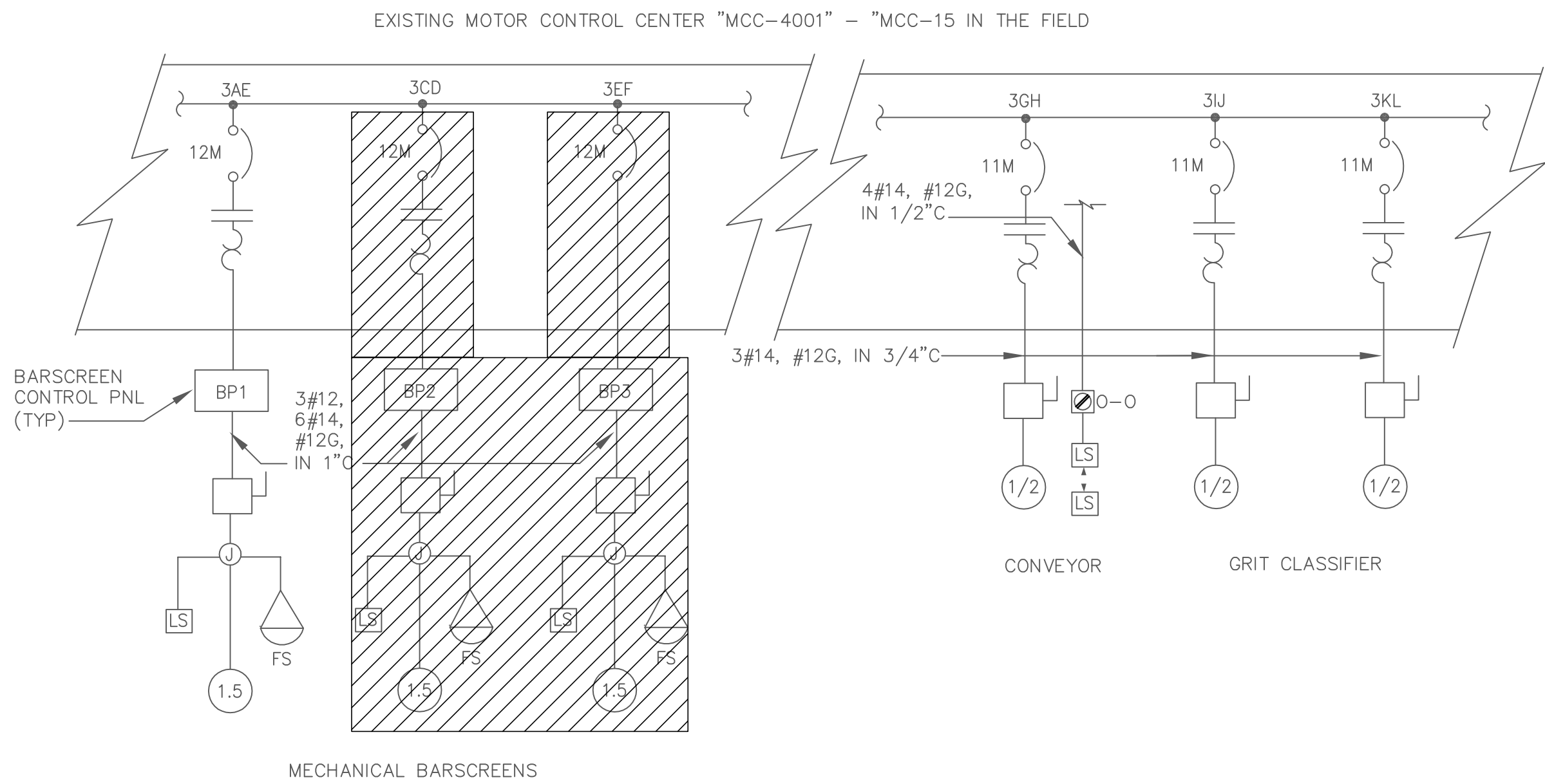
CITY OF CLEARWATER, FLORIDA
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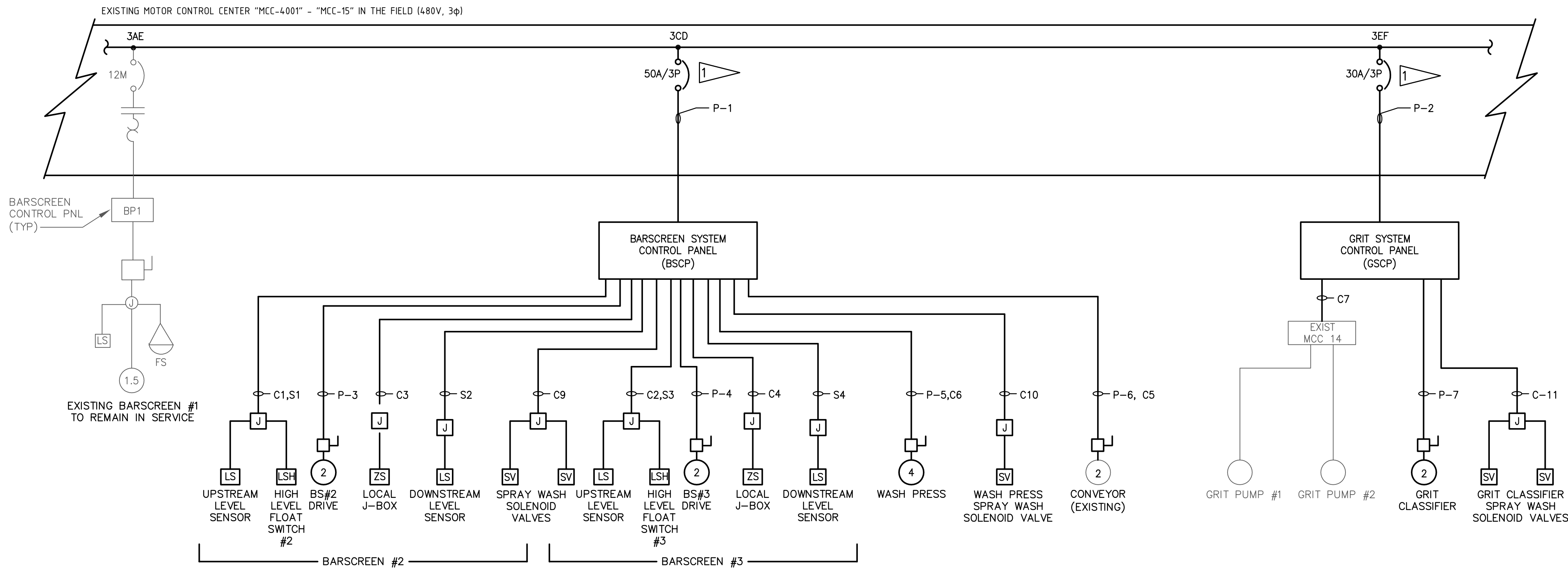
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CONTROL FACILITIES (APCFs)

NORTHEAST APCF
ELECTRICAL PLAN

DRAWN BY JHY	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-E-04
APPROVED FOR CONSTRUCTION	THOMAS W FRIEDRICH, P.E. 0061281		
	DATE		



EXISTING MOTOR CONTROL CENTER "MCC-4001" ONE-LINE DIAGRAM



PROPOSED MOTOR CONTROL CENTER "MCC-4001" ONE-LINE DIAGRAM

INSTRUMENTATION AND CONTROL WIRING SCHEDULE								
CIRCUIT NUMBER	FROM	TO	VOLTS	CONDUCTORS			CONDUIT ①	ALARM OR FUNCTION
				ANALOG	DISCRETE	GROUND		
A1	BARSREEN CONTROL PANEL	EXISTING SLC5/05 PANEL	120	-	60#14	-	2"	BARSREEN ALARM AND STATUS
A2	GRIT SYSTEM CONTROL PANEL	EXISTING SLC5/05 PANEL	120	-	12#14	-	3/4"	GRIT SYSTEM ALARM AND STATUS
C1	BARSREEN CONTROL PANEL	FLOAT SWITCH #2	120	-	2#14	1#14	3/4"	STATUS
C2	BARSREEN CONTROL PANEL	FLOAT SWITCH #3	120	-	2#14	1#14	3/4"	STATUS
C3	BARSREEN CONTROL PANEL	BARSREEN #2 LOCAL J-BOX	120	-	12#14	-	3/4"	STATUS AND CONTROL
C4	BARSREEN CONTROL PANEL	BARSREEN #3 LOCAL J-BOX	120	-	12#14	-	3/4"	STATUS AND CONTROL
C5	BARSREEN CONTROL PANEL	SCREENING CONVEYOR	120	-	12#14	-	3/4"	STATUS AND CONTROL
C6	BARSREEN CONTROL PANEL	WASH PRESS	120	-	16#14	-	1"	STATUS AND CONTROL
C7	GRIT SYSTEM CONTROL PANEL	EXISTING MCC-14	120	-	12#14	-	3/4"	STATUS
C8	BARSREEN CONTROL PANEL	FLOAT SWITCH #1	120	-	2#14	-	3/4"	STATUS
C9	BARSREEN CONTROL PANEL	BAR SCREEN SOLENOIDS	120	-	4#14	2#14	3/4"	CONTROL
C10	BARSREEN CONTROL PANEL	WASH PRESS SPRAY WASH SOLENOID VALVE	-	-	2#14	2#14	3/4"	CONTROL
C11	GRIT SYSTEM CONTROL PANEL	GRIT CLASSIFIER SOLENOID VALVES	-	-	4#14	1#14	3/4"	CONTROL
S1	BARSREEN #2 UPSTREAM LEVEL SENSOR	BARSREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S2	BARSREEN #2 DOWNSTREAM LEVEL SENSOR	BARSREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S3	BARSREEN #3 UPSTREAM LEVEL SENSOR	BARSREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S4	BARSREEN #2 DOWNSTREAM LEVEL SENSOR	BARSREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S5	BARSREEN CONTROL PANEL	EXISTING SLC5/05	-	4 TSP#16	-	-	3/4"	BARSREEN ANALOG SIGNALS

POWER WIRING SCHEDULE								
CIRCUIT NUMBER	BREAKER NO. POLES	TRIP AMPS	STARTER SIZE	POWER				NAME PLATE
				PHASE CNDC	NEUTRAL CNDC	GROUND WIRE	HTR CKT	
P-1	3	50	-	3#8	-	1#8	-	1 1/4" BSCP POWER
P-2	3	30	-	3#10	-	1#10	-	3/4" GSCP POWER
P-3	3	-	-	3#12	-	1#12	-	3/4" BARSREEN #2
P-4	3	-	-	3#12	-	1#12	-	3/4" BARSREEN #3
P-5	3	-	-	3#12	-	1#12	-	3/4" WASH PRESS
P-6	3	-	-	3#12	1#12	1#12	-	3/4" CONVEYOR
P-7	3	-	-	3#12	1#12	1#12	-	3/4" GRIT CLASSIFIER

SCHEDULE NOTES

- ① EACH CIRCUIT SHALL BE PROVIDED WITH NUMBER AND SIZE OF CONDUITS INDICATED IN SCHEDULE. THE COMBINING OF MULTIPLE CIRCUITS IN ONE CONDUIT SHALL ONLY BE PERMITTED WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.

FLAG NOTES

- 1 REPLACE EXISTING MOTOR STARTER UNIT WITH MCC COMPATIBLE CIRCUIT BREAKER OF SIZE INDICATED.
- 2 TOTAL OF FIVE SPRAY WASH SOLENOID VALVES. ONE FOR NEW WASHING PRESS, TWO FOR NEW SCREENS, & TWO FOR GRIT CYCLONES.



RECORD DRAWINGS	
SURVEYED BY	DRAWN BY
REVIEWED BY	DATE
APPROVED BY	DATE

PROJECT ENGINEER	DATE
CITY ENGINEER MICHAEL D. QUILLLEN, P.E. # 33721	DATE



CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, FL 33756

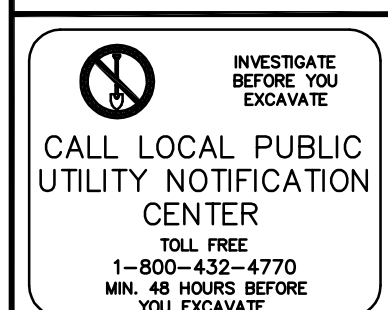
JONES EDMUNDS
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
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HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)	
NORTHEAST APCF PROPOSED MCC INSTRUMENTATION AND WIRING DETAIL	

DRAWN BY DCP SCALE VERT. AS SHOWN HORIZ.	DESIGNED BY MLK SURVEYED BY DATE DRAWN OCT 2007	CHECKED BY MLK BOOK NO. DWG NAME	CONTRACT NO. JOB NO. 03720-022-01 SHEET NO. NE-E-05
APPROVED FOR CONSTRUCTION MALCOLM L. KOROS, P.E. #063622		DATE	

RECORD DRAWING	
By <i>Greg S. Powell</i> CONSTRUCTION ADMINISTRATOR	Date 1-25-2010
TLC DIVERSIFIED, INC.	
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THOMAS W. FRIEDRICH JONES EDMUNDS & ASSOCIATES, INC.	Date

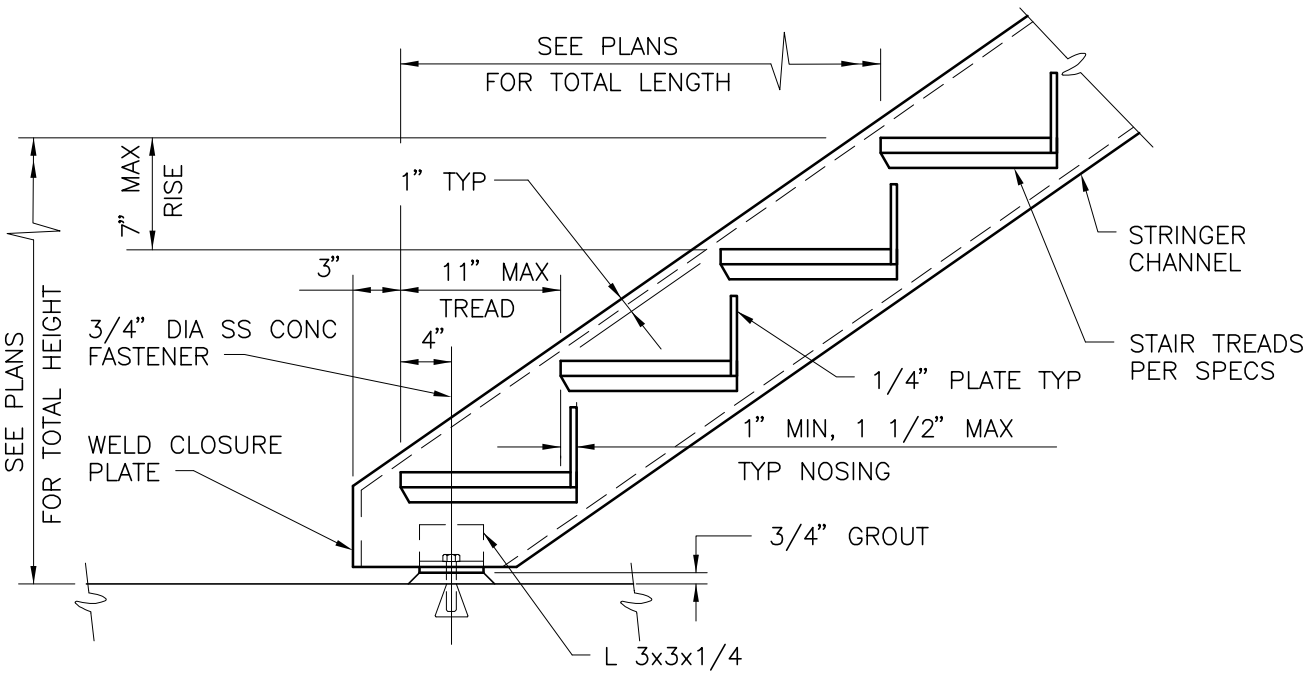
RECORD DRAWING



JONES EDMUNDS
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

<p>HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION CONTROL FACILITIES (APCFs)</p>
<p>NORTHEAST APCF SCREENS AND GRIT REMOVAL INSTRUMENTATION</p>

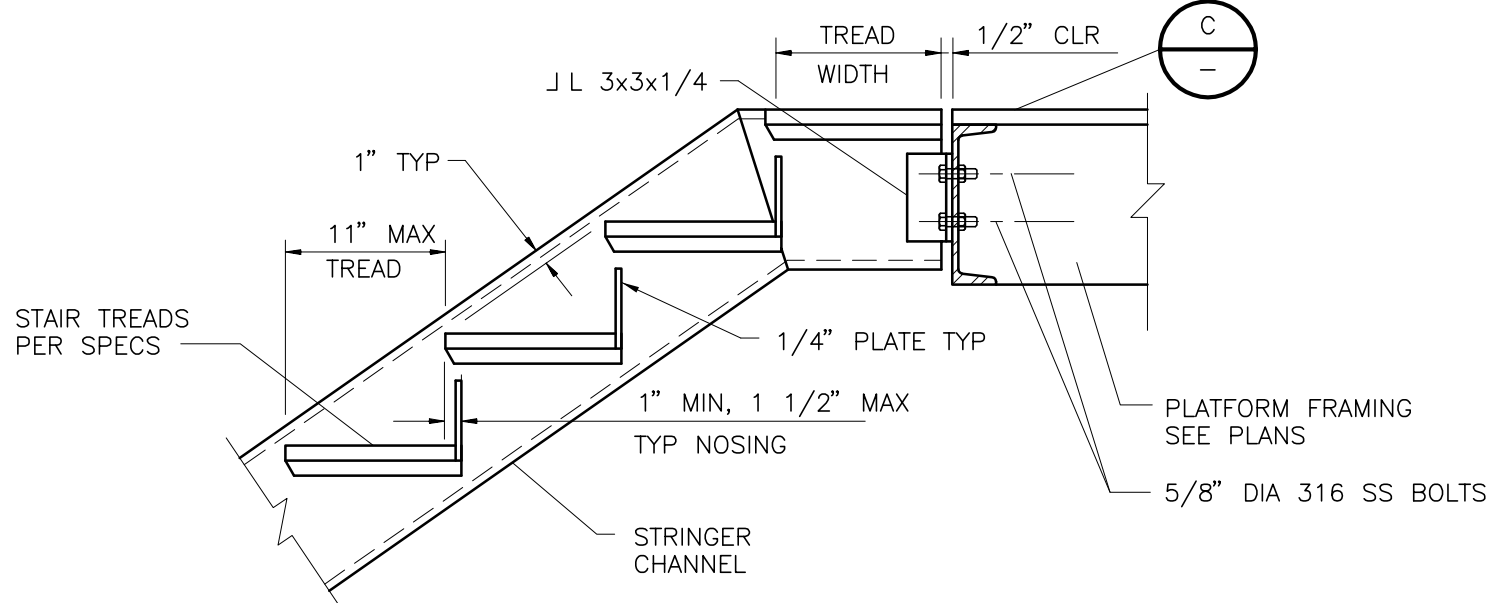
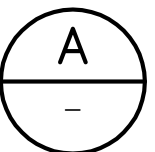
DRAWN BY DGP	DESIGNED BY JRA/MLK	CHECKED BY MLK	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. NE-1-01
APPROVED FOR CONSTRUCTION <div style="display: flex; justify-content: space-between; align-items: center;"> MALCOLM L. KOROS, #P.E. 0063622 DATE _____ </div>			



ALUM STAIR STRINGER TO CONCRETE PLATFORM

DETAIL

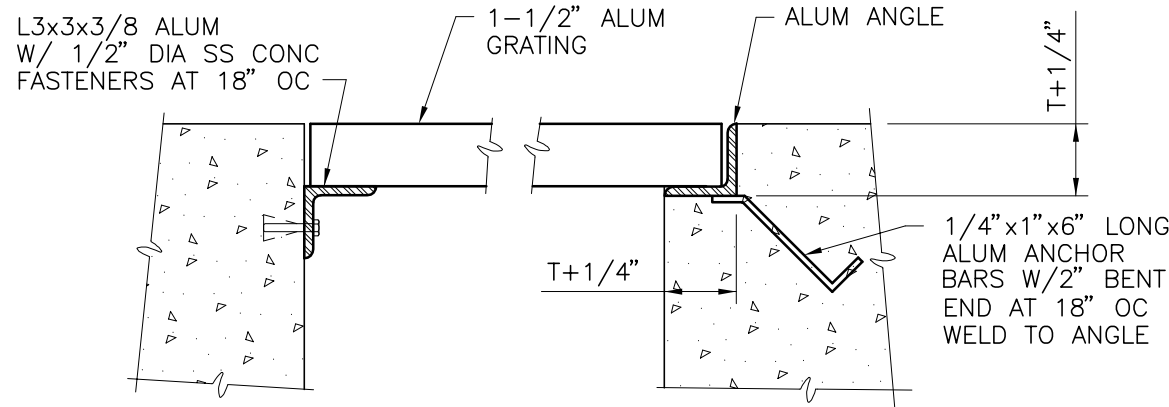
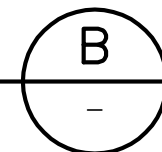
NTS



ALUM STAIR STRINGER TO STEEL PLATFORM TOP

DETAIL

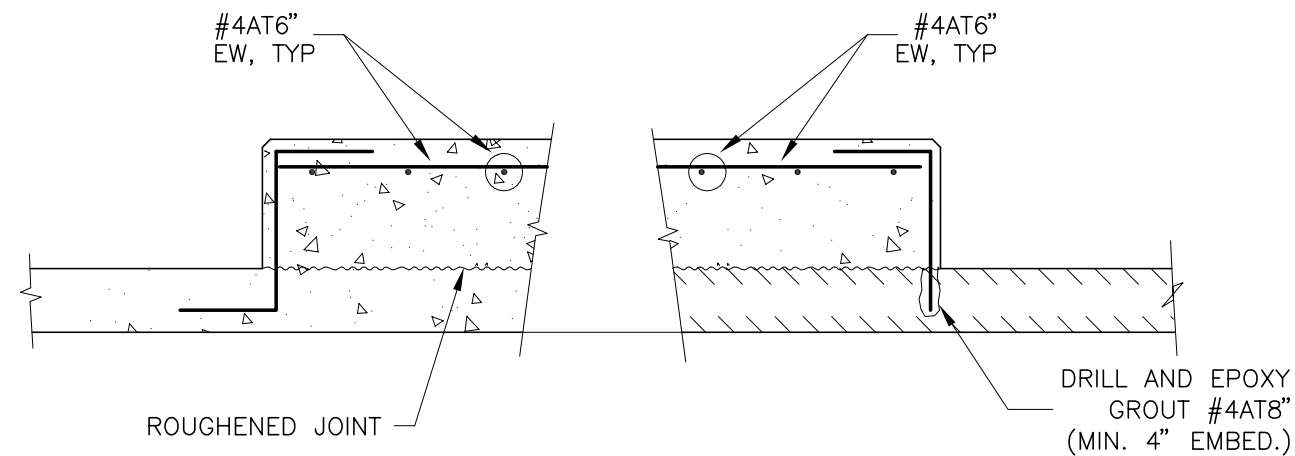
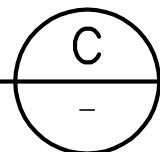
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GRATING AND GRATING SUPPORT

DETAIL

NTS

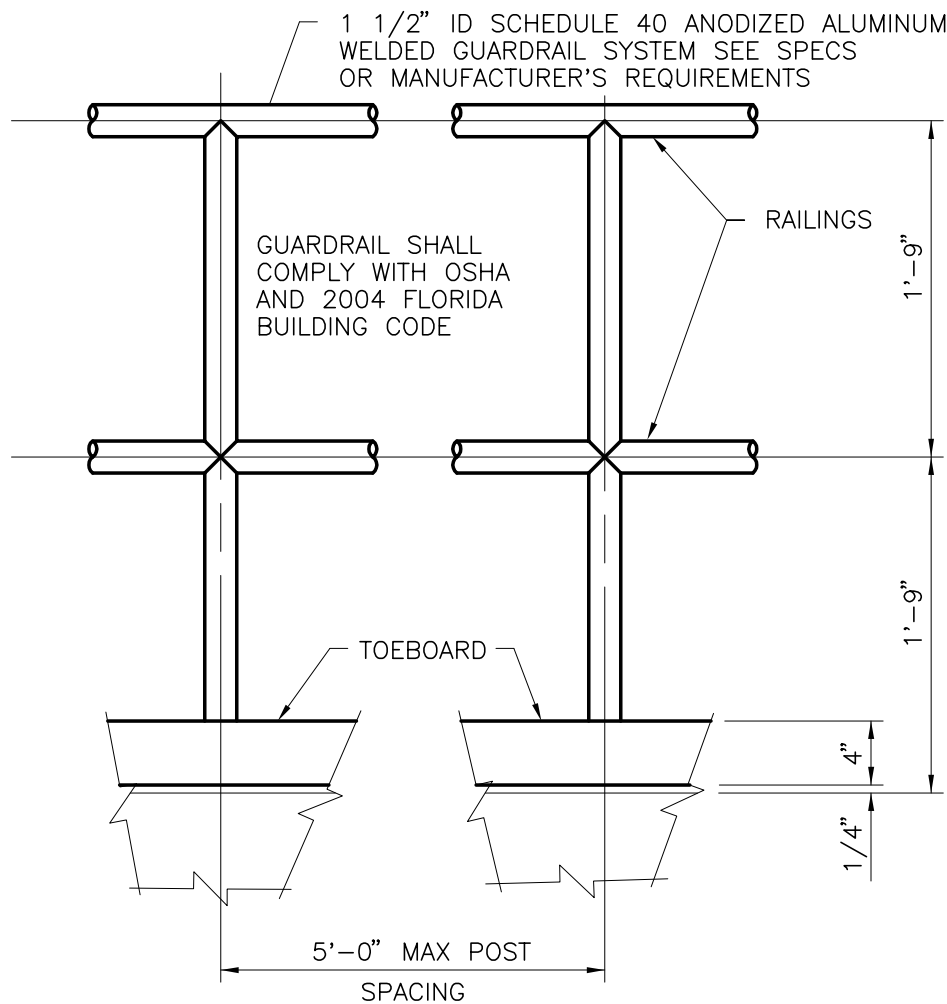
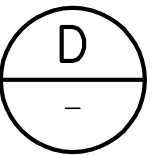


PAD OVER NEW SLAB

PAD OVER EXIST SLAB

DETAIL

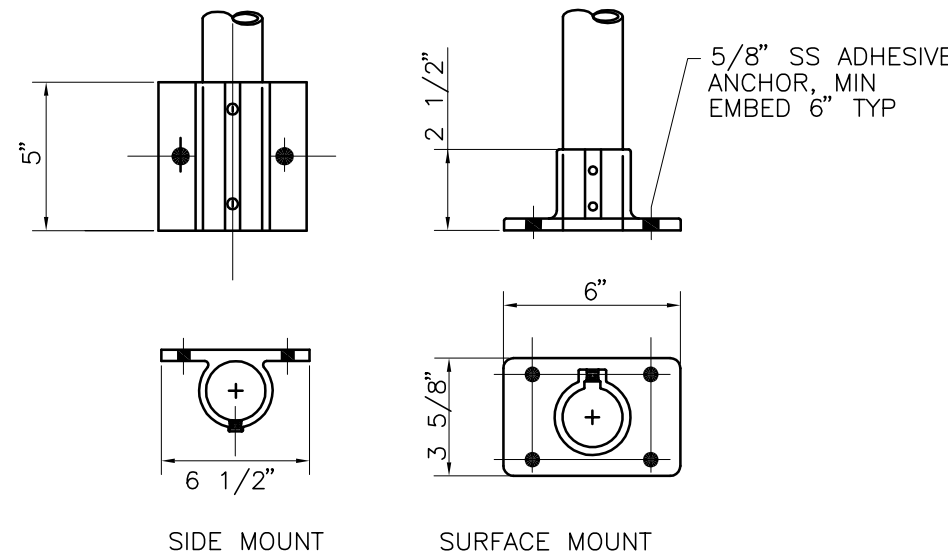
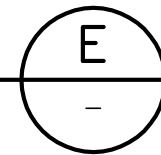
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ALUM GUARDRAIL

DETAIL

NTS

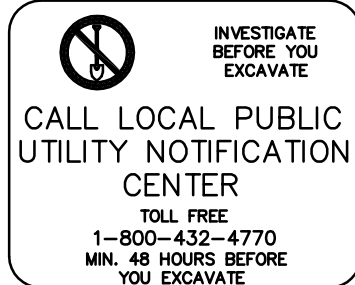


CONNECTIONS

EXPANSION JT

NOTES:

- ALUMINUM EMBEDDED IN CONCRETE MUST BE PAINTED WITH ONE SHOP COAT OF HEAVY BITUMASTIC
- ALUMINUM SHAPES IN CONTACT WITH CONCRETE MUST BE SEPARATED BY A 1/32" NEOPRENE GASKET OR ANY CASE WHERE TWO DIFFERENT METALS ARE TO BE IN CONTACT. A NEOPRENE GASKET MUST BE PROVIDED
- HANDRAILS, GUARDRAILS, POSTS, BRACKETS AND MOUNTINGS SHALL MEET THE FLORIDA BUILDING CODE (F.B.C.) AND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) LOADING REQUIREMENTS
- TOP OF ALL GUARDRAILS SHOULD BE 42" HIGH ABOVE THE FINISH FLOOR OR WALKWAY, THE INTERMEDIATE RAILS SHALL BE EQUALLY SPACED BETWEEN THE TOP RAIL AND THE TOEBOARD.
- ALL WALKWAYS SHALL USE GRATING UNLESS CHECKERED PLATE IS SHOWN ELSEWHERE ON THE DRAWINGS



RECORD DRAWINGS				
SURVEYED BY	DRAWN BY			
REVIEWED BY	PROJECT ENGINEER	DATE		
APPROVED BY	CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	DATE	RECORD DRAWING REVISION	MS 1/12/10
			REVISION	BY DATE



CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, FL 33756



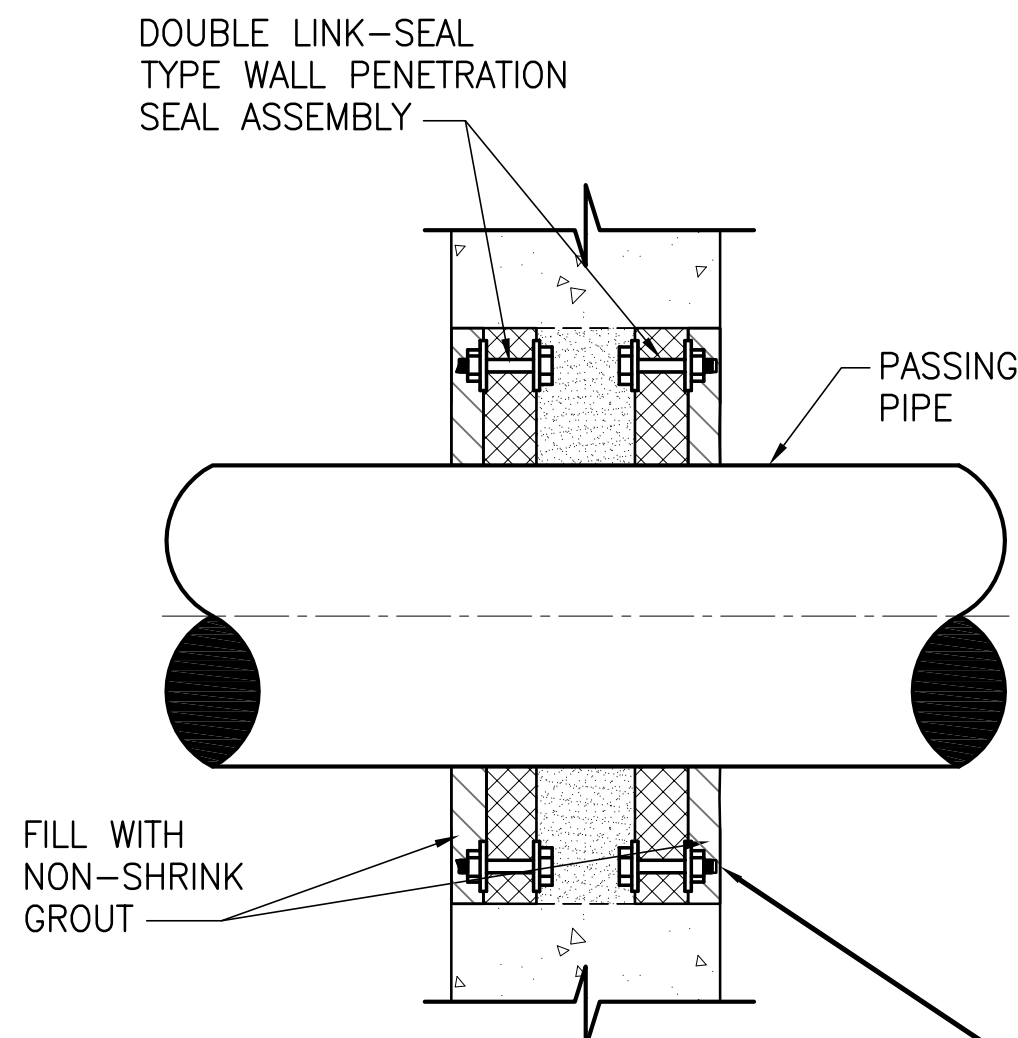
HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)

STANDARD DETAILS
STRUCTURAL
DETAILS

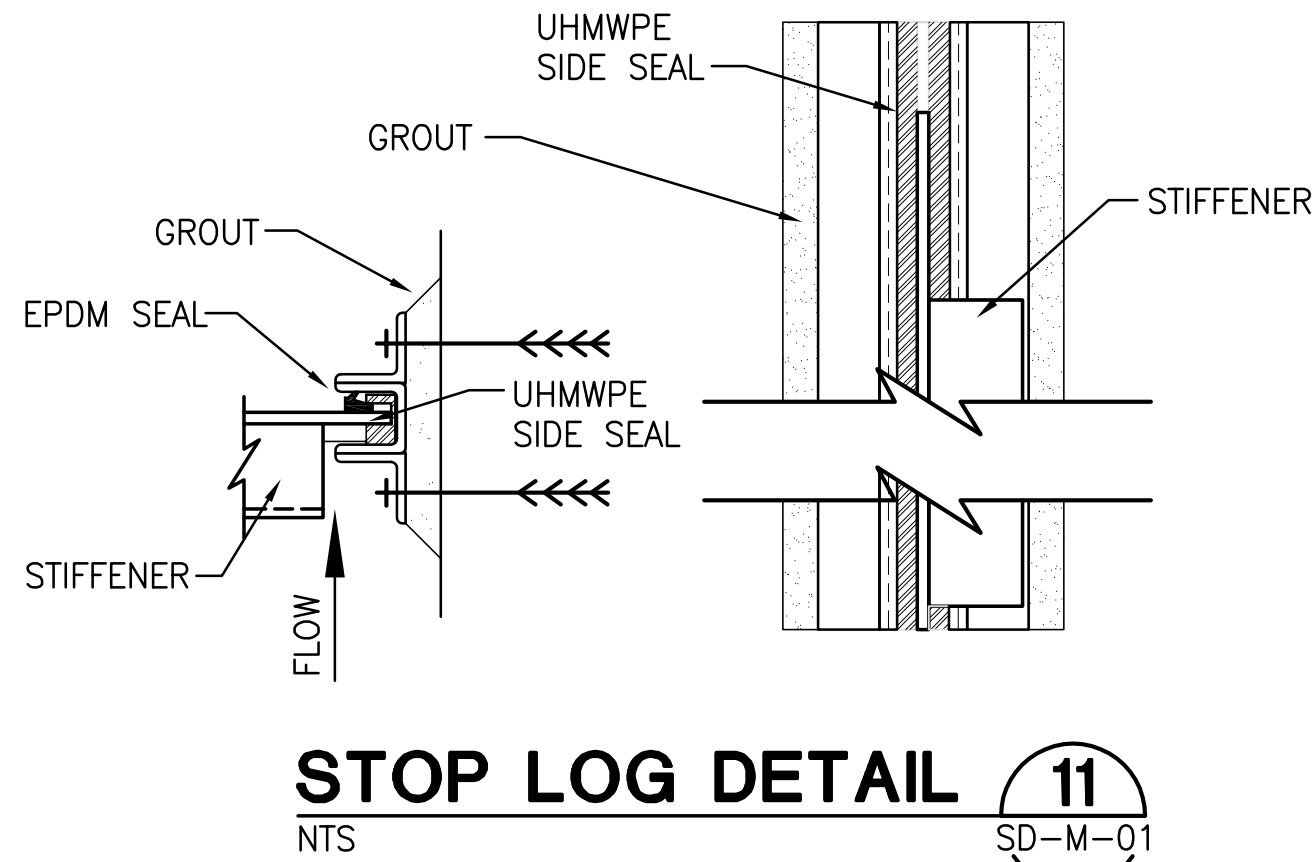
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SCALE VERT. AS SHOWN	SURVEYED BY	BOOK NO.	JOB NO. 03720-022-01
HORIZ.	DATE DRAWN OCT 2007	DWG NAME	SHEET NO. SD-S-01
APPROVED FOR CONSTRUCTION THOMAS W FRIEDRICH, P.E. 0061281 DATE			

RECORD DRAWING	
By <i>Gregg S. Pundt</i>	Date 1-25-2010
CONSTRUCTION ADMINISTRATOR	
TLC DIVERSIFIED, INC.	
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THOMAS W. FRIEDRICH 0061281	Date
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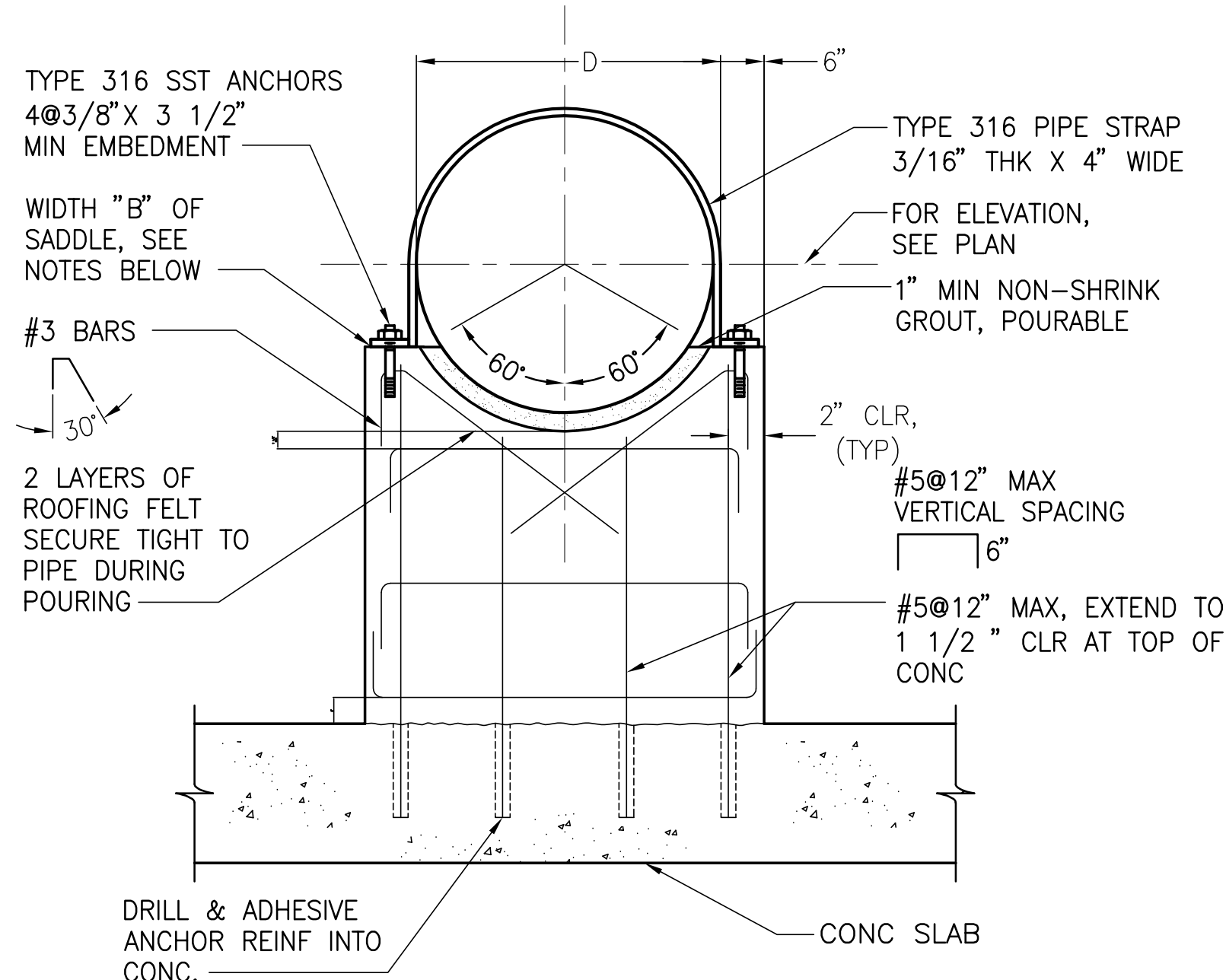


PENETRATION SEAL 6
NTS SD-M-01



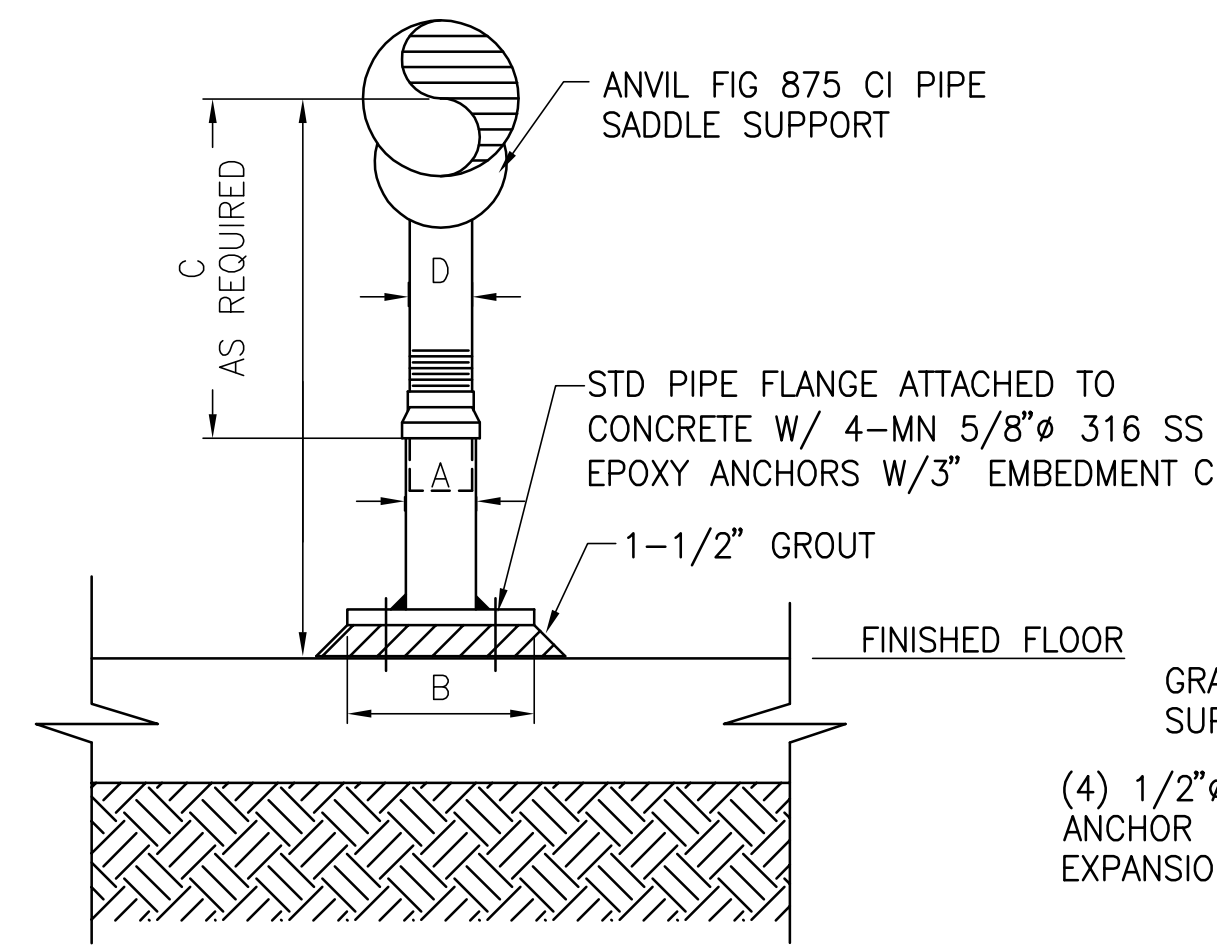
STOP LOG DETAIL 11
NTS SD-M-01

INSET LINK SEAL ON EACH SIDE OF PENETRATION SO THAT THE EXTERIOR SURFACE ON EACH SIDE IS FINISHED WITH GROUT FLUSH WITH THE WALL SURFACE.



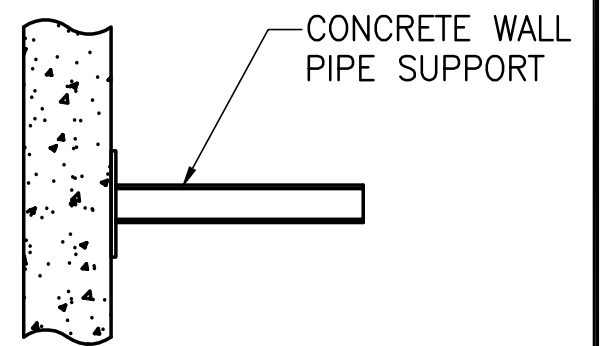
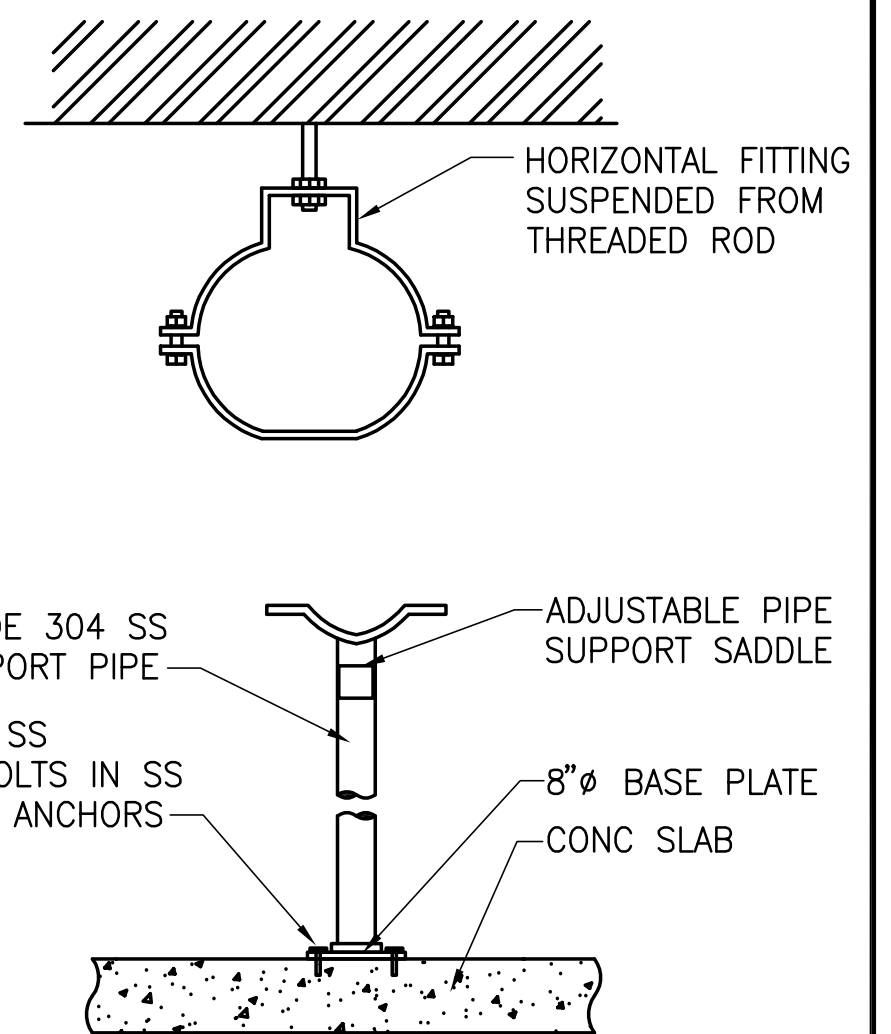
- NOTES:**
- THICKNESS "B" OF SADDLE
B=6" WHEN: $D < 12"$
B=8" WHEN: $12" \leq D < 24"$
B=10" WHEN: $24" \leq D < 36"$
B=12" WHEN: $36" \leq D < 48"$
 - FOR "B"=10" OR THICKER, USE 2 LAYERS OF REINFORCING, TURN HORIZONTAL BARS 90° TO HOOK AROUND VERTICALS, 1 1/2" CLEAR OF CONCRETE.
 - FORM 3/4" BEVEL ON ALL EXPOSED CORNERS OF SUPPORT.

CONCRETE DIP PIPE SUPPORT 7
NTS SD-M-01

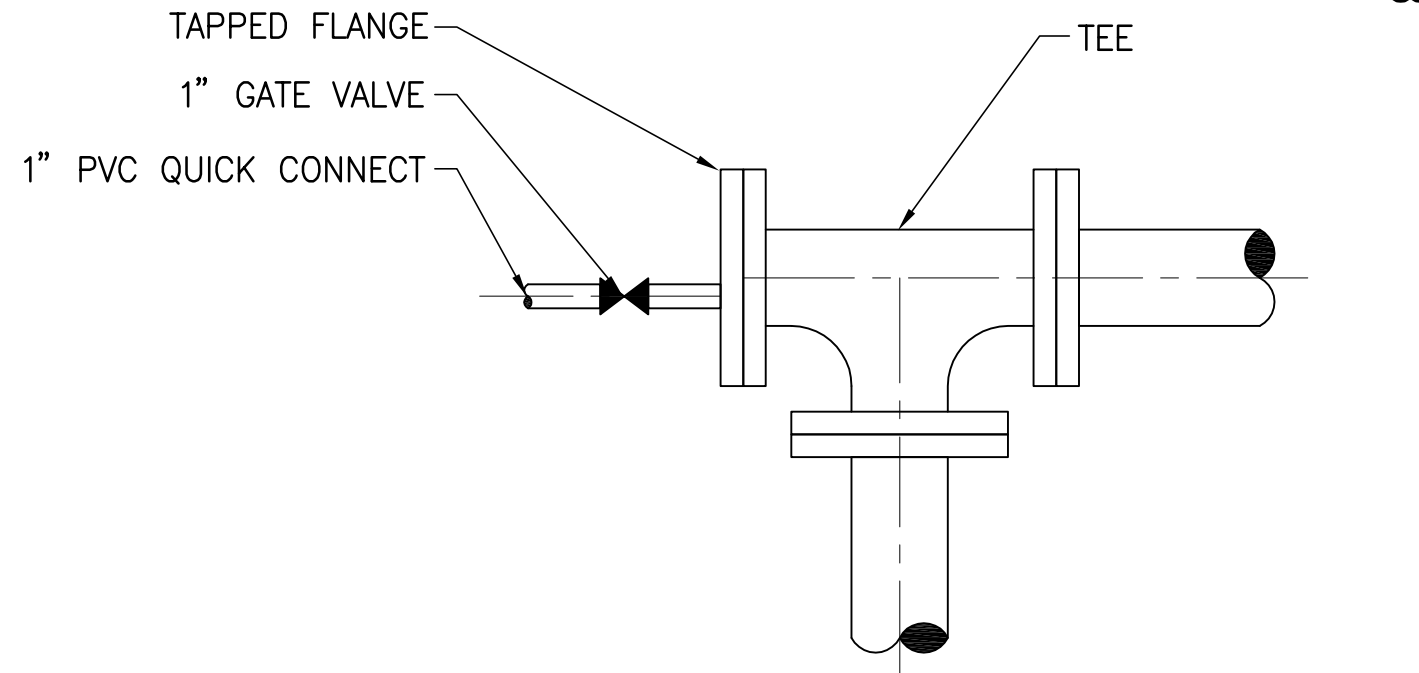


FOR BASE, HEIGHT AND FLANGE DIMENSIONS, SEE TABLE BELOW. ALL DIMENSIONS IN INCHES.

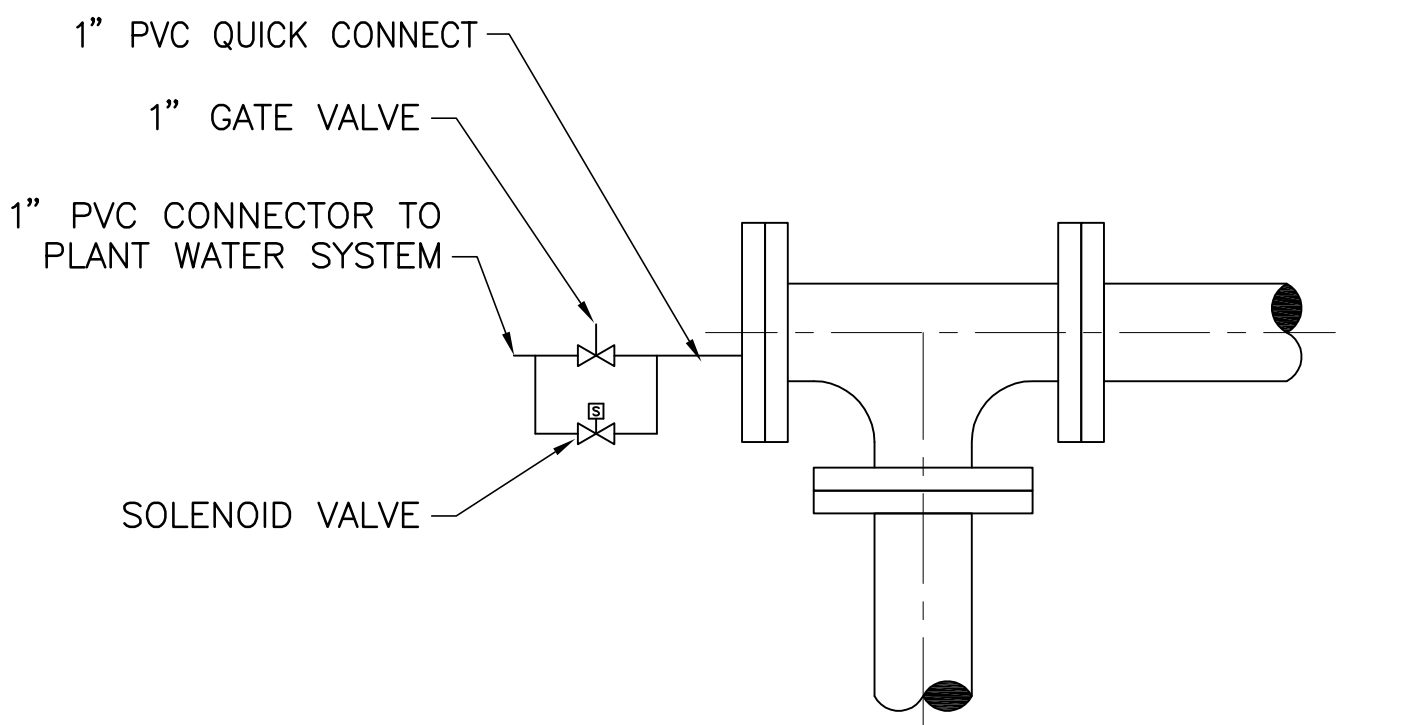
PIPE SIZE	A	B	C		D
			MIN	MAX	
2-1/2	2-1/2	9	8	13	1-1/2
3	2-1/2	9	8-1/4	13-1/4	1-1/2
3-1/2	2-1/2	9	8-1/2	13-1/2	1-1/2
4	3	9	9-1/4	14	2-1/2
5	3	9	10	14-3/4	2-1/2
6	3	9	10-1/2	15-1/4	2-1/2
8	3	9	11-3/4	16-1/2	2-1/2
10	3	9	13-1/2	18-1/4	2-1/2
12	3	9	15	19-3/4	2-1/2
14	4	11	16-1/4	20-3/4	3
16	4	11	17-3/4	22-1/4	3
18	6	13-1/2	19-1/2	24	3-1/2
20	6	13-1/2	21	25-1/2	3-1/2
24	6	13-1/2	23-3/4	28-1/4	4
36	6	15	30	36	4



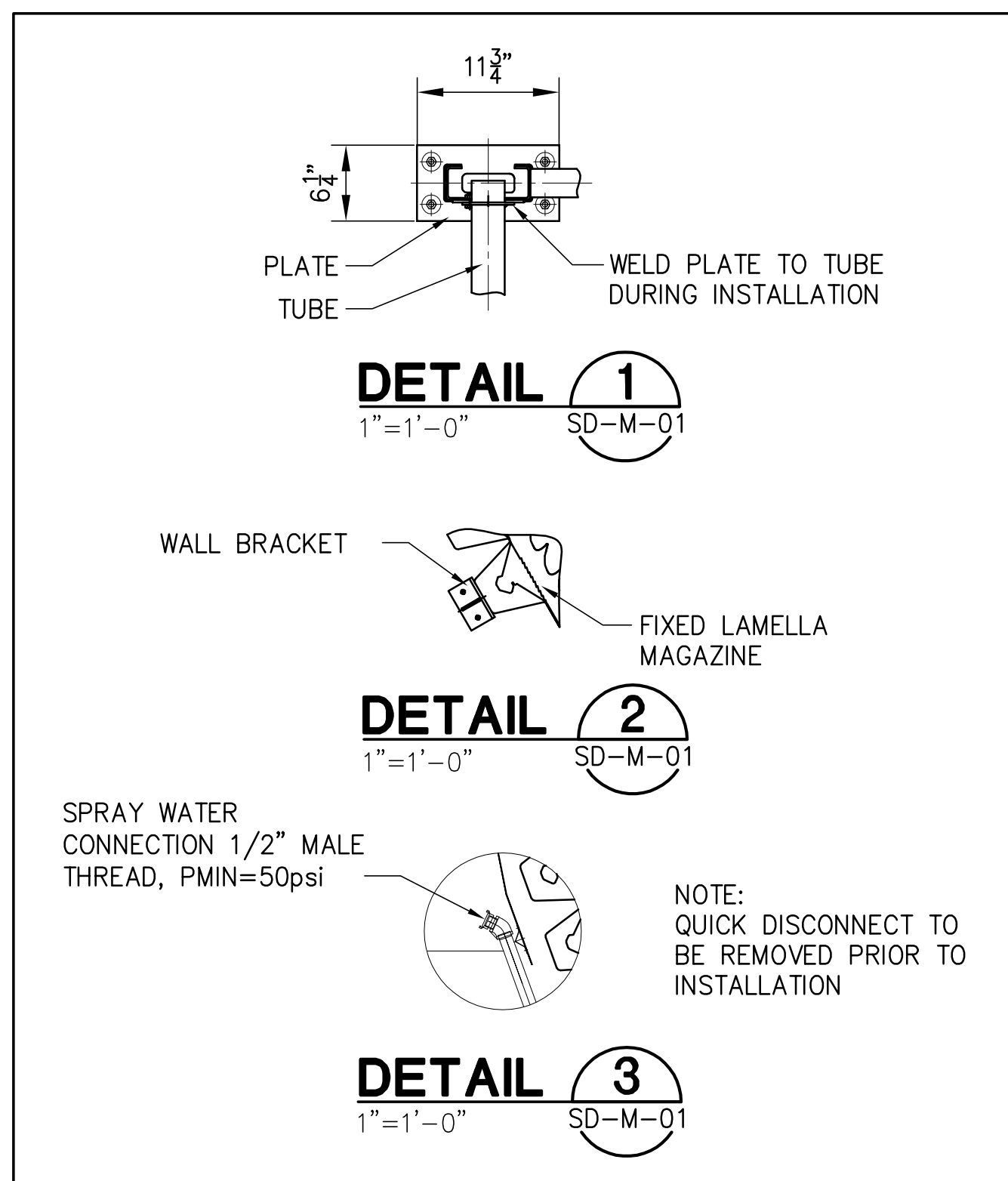
TYPICAL PIPE SUPPORT DETAIL 8
NTS SD-M-01



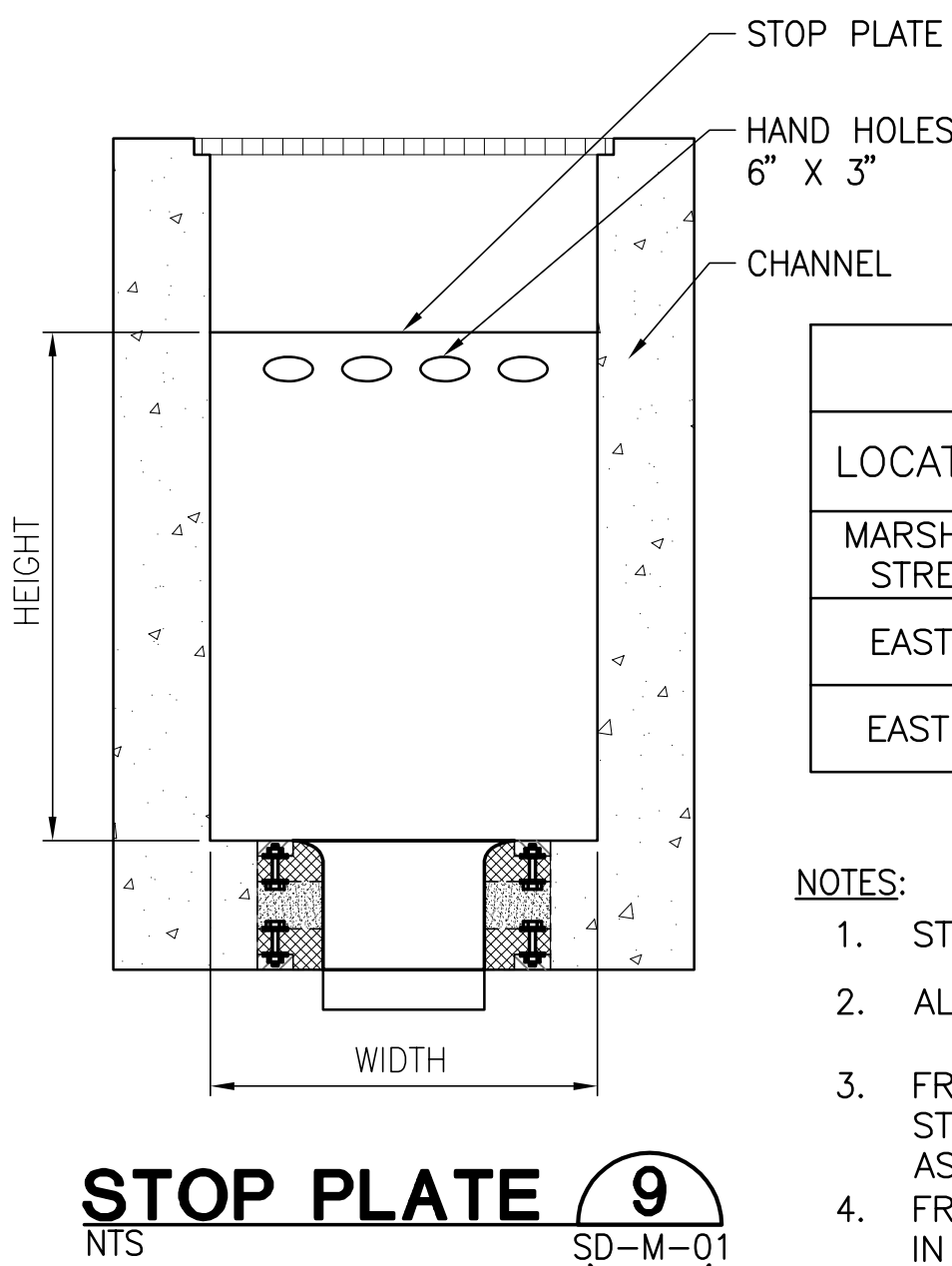
FLUSHING CONNECTION 4
NTS SD-M-01



AUTOMATED FLUSHING CONNECTION 5
NTS SD-M-01



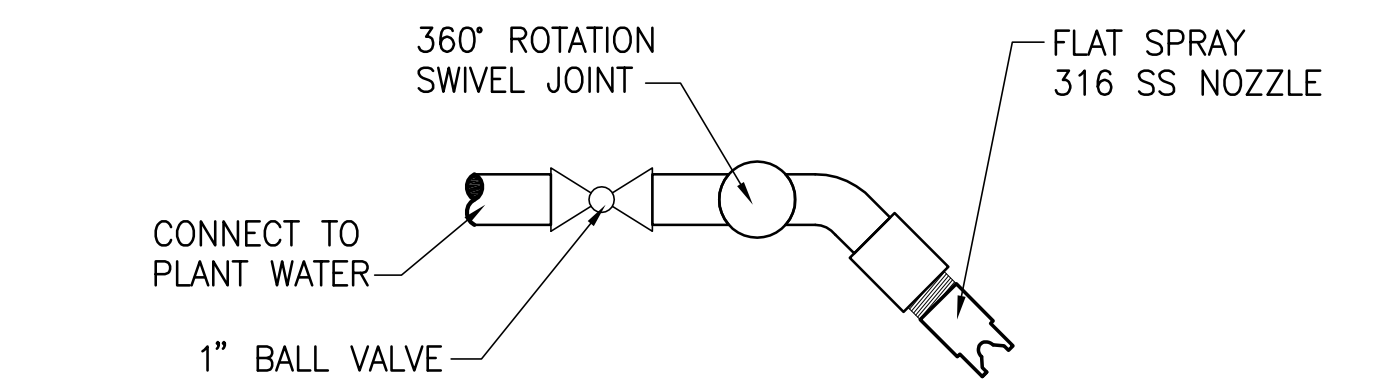
SCREEN DETAILS



STOP PLATE 9
NTS SD-M-01

STOP PLATE DETAIL			
LOCATION	HIGH WATER LEVEL	WIDTH	HEIGHT
MARSHALL STREET	23.31'	5'-0"	4'-6"
EAST-1	22.40'	4'-0"	2'-7"
EAST-2	20.37'	4'-0"	3'-3"

- NOTES:**
- STOP PLATE SHALL BE 316 STAINLESS STEEL.
 - ALL HARDWARE SHALL BE STAINLESS STEEL.
 - FRAME AND MOUNTING BOLTS SHALL BE 316 STAINLESS STEEL FOR MOUNTING IN THE CHANNEL AS SHOWN.
 - FRAME SHALL BE STAINLESS STEEL FOR MOUNTING IN THE CHANNEL AS SHOWN.
 - THE STOP LOG SHALL CONFORM TO THE FOLLOWING:
 - LEAKAGE SHALL NOT EXCEED 0.105 GAL/MIN PER FOOT OF PERIPHERY.
 - DEFLECTION SHALL BE LIMITED TO 1/360 OF GATE'S SPAN UNDER DESIGN HEAD.
 - EACH LOG SHALL HAVE A LIFTING HANDLE PER MANUFACTURERS RECOMMENDATIONS.
 - PROVIDE 2-10 FOOT LONG ALUMINUM POLES W/ HOOKS CAPABLE OF LIFTING STOP PLATE



HOPPER SPRAY SYSTEM NOTES:

- MEDIUM CAPACITY 316 SS FLAT SPRAY PATTERN VEEJET NOZZLE
- MINIMUM CAPACITY OF 40 GPM (152 L/MIN) AT 40 PSI (2.8 BAR), 1" TO 2" NPT OR BSPT
- SMALL TO MEDIUM SIZED DROPS WITH UNIFORM DISTRIBUTION OVER A WIDE RANGE OF FLOW RATES AND PRESSURES
- SPRAY ANGLES FROM 0° (SOLID STREAM) TO 110° AT 40 PSI (2.8 BAR).
- HIGH IMPACT SOLID STREAM TO PROVIDE HIGHEST IMPACT PER UNIT AREA WITH UNOBSTRUCTED FLOW PASSAGES TO MINIMIZE CLOGGING

HOPPER SPRAY WASH SYSTEM 10
NTS SD-M-01



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APPROVED BY	CITY ENGINEER MICHAEL D. QUILLLEN, P.E. # 33721

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STANDARD DETAILS MECHANICAL DETAILS & SECTIONS	

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