

24x36

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NE-S-02	ROOF AND SKYLIGHT	PLAN AND SECTION
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022-HEADWORKS: MARSHALL ST APCF		
MS-C-01	SITE PLAN	MARSHALL STREET APCF – SITE PL
MS-S-01	PROPOSED STRUCTURAL IMPROVEMENTS	PLAN, SECTION AND DETAILS
MS-M-01	HYDRAULIC PROFILE	
MS-M-02	DEMOLITION PLAN AND SECTIONS	SCREENS
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MS-E-01	ELECTRICAL	DEMOLITION PLANS
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MS-E-04	PROPOSED MCC	INSTRUMENTATION AND WIRING DATA
MS-I-01	SCREENS AND GRIT REMOVAL	INSTRUMENTATION
022-HEADWORKS: EAST APCF		
EA-C-01	SITE PLAN	EAST APCF – SITE PLAN
EA-S-01	PROPOSED STRUCTURAL IMPROVEMENTS	PLAN, SECTIONS AND DETAILS
EA-M-01	HYDRAULIC PROFILE	EAST APCF – HYDRAULIC PROFILE
EA-M-02	DEMOLITION PLAN	SCREEN AND GRIT
EA-M-03	DEMOLITION SECTION	SCREEN AND GRIT
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022-HEADWORKS: STANDARD DETAILS		
SD-S-01	STRUCTURAL	DETAILS
SD-M-01	MECHANICAL	DETAILS & SECTIONS

The logo for Clearwater features the word "clearwater" in a bold, black, sans-serif font. To the left of the text is a large, semi-transparent gray circle containing the number "1". The background consists of several black wavy lines representing water.



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)

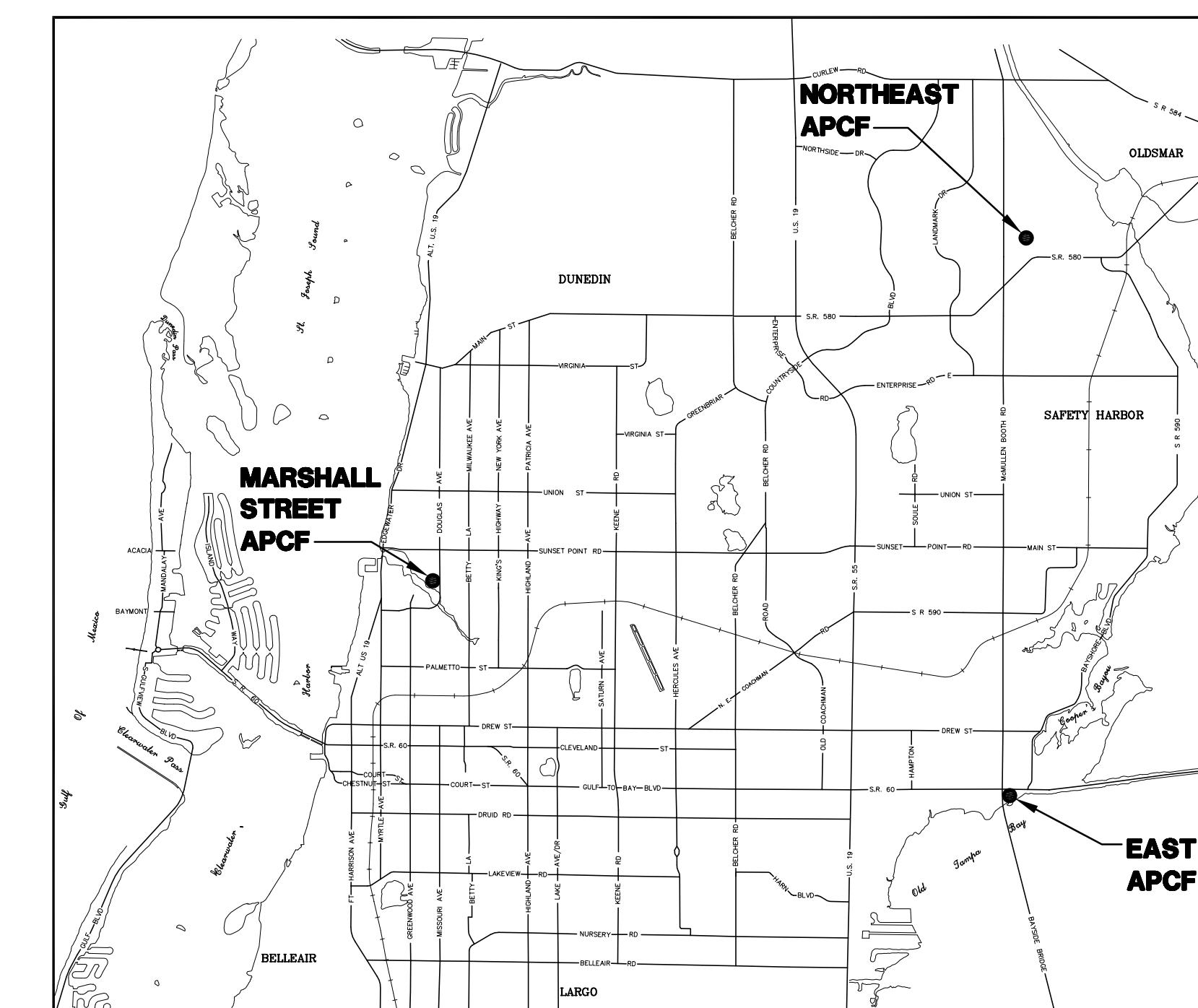
Sect 10, Twn 29, Rng 15 MARSHALL STREET APC

Sect 21, Twn 28, Rng 16 NORTHEAST APCF

Sect 16, Twn 29, Rng 16 EAST APCF

Clearwater Project No. 05-0063-UT
Clearwater Project No. 05-0063-UT

Jones Edmunds Project No. 03720-022-01



PREPARED BY:

JONES FDMUND'S

730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
CERTIFICATE OF AUTHORIZATION #1841

PROJECT MANAGER'S LOCATION

224 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 256-0703

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

RECORD DRAWING

By: Gregg S. Fruecht Date 1-25-2010
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.

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RECORD DRAWINGS

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 INSTMNT 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		GATE VALVE
	DRAIN		GLOBE VALVE
	"Y" STRAINER		BALL VALVE
	"T" STRAINER		BUTTERFLY VALVE
	FLEXIBLE HOSE		CHECK VALVE
	FLANGE		DIAPHRAGM VALVE
	REDUCER (CONCENTRIC)		NEEDLE VALVE
	DIAPHRAGM SEAL		PINCH VALVE
	CENTRIFUGAL PUMP FOOT MOUNTED		VALVE WITH HAND OPERATOR
	CENTRIFUGAL PUMP RECEIVER MOUNTED		RELIEF VALVE
	SLOPE LINE		SOLENOID VALVE
	MAGNETIC FLOW METER		ELECTRICAL MOTOR OPERATED VALVE
	FILTER/REGULATOR		DIAPHRAGM OPERATED VALVE
	DOUBLE DIAPHRAGM PUMP (AIR OPERATED)		COMPRESSOR
	BLOWER OR FAN		3-WAY SOLENOID
	MIXER		ULTRASONIC LEVEL SENSOR
	ANALYTICAL POINT		
	ADJUSTABLE SPEED CONTROL (ELECTRIC)		
	VARIABLE SPEED DRIVE (MECHANICAL)		
	VARIABLE FREQUENCY DRIVE		
	REDUCER/MOTOR DRIVE UNIT		
	PLANT WATER		

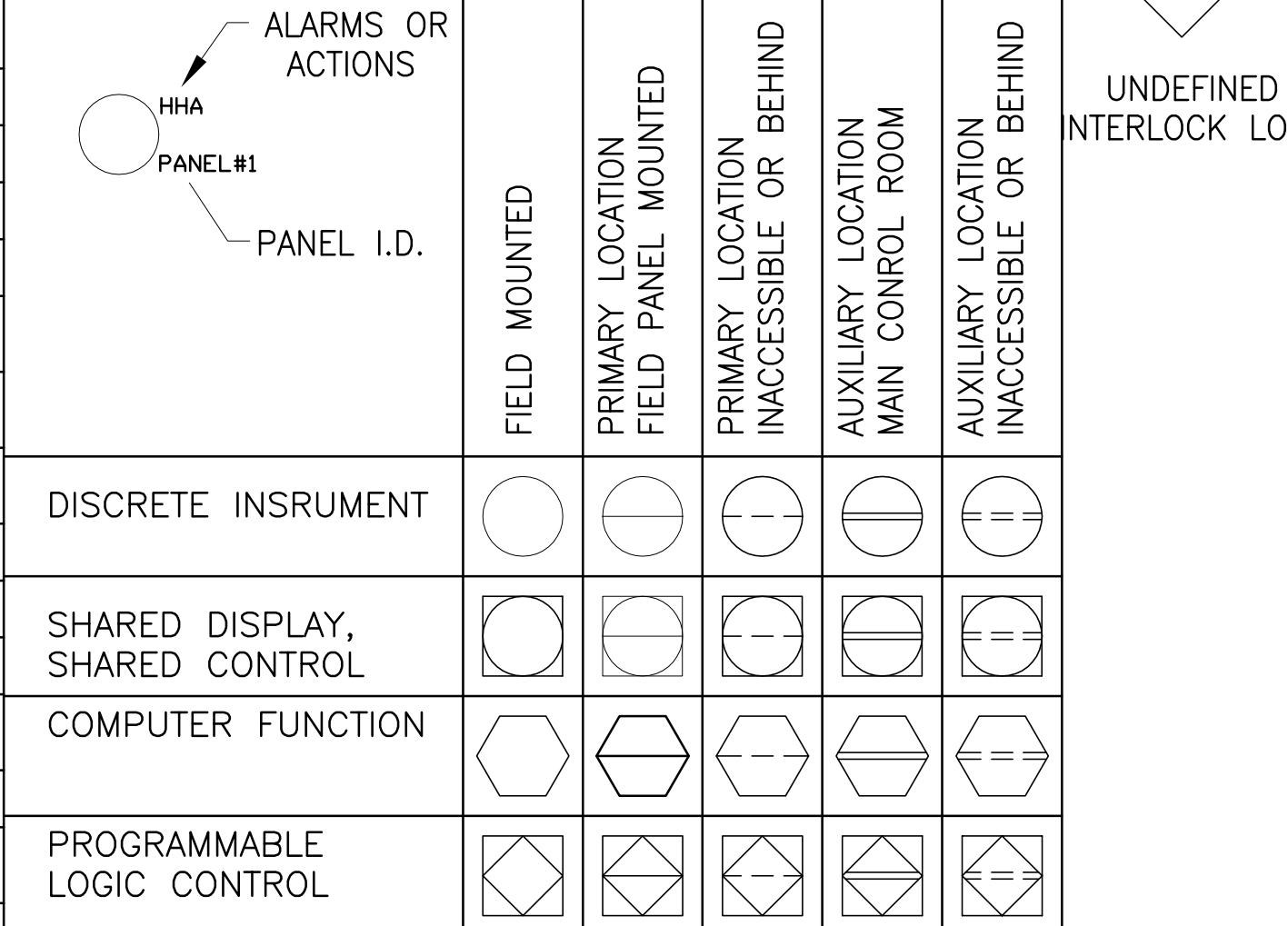
VALVE SYMBOLS

	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	M
A ANALYSIS		ALARM		
B BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER
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			MIDD INTER
N USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER
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	MULT
V VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W WEIGHT, FORCE		WELL		
X UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCL
Y EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT	

INSTRUMENT IDENTIFICATION



LINE NUMBERING SYSTEM

EXAMPLE: CSW 12" A2 10

SERVICE (SEE SERVICE TABLE)

NOMINAL PIPE SIZE

PIPING CLASS (SEE PIPING TABLE)

LINE NUMBER

INSULATION, NOTES, WHERE INCLUDED

PIPING CLASS

<u>SYMBOL</u>	<u>ANSI RATING</u>	<u>BASE MAT'L</u>
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	MIX TREATED WATER
FR	FRESH RESIN
HPA	HIGH PRESSURE AIR
OF	OVERFLOW
REC	RECYCLED RESIN
RBS	RINSE/BRINE/SUPERNATANT WAST
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

EXAMPLE ALARMS OR ACTIONS

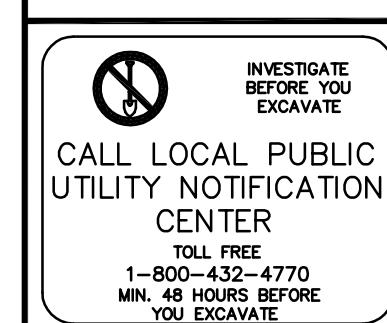
HA	HIGH ALARM	JOR	JOG/OFF/REMOTE
HHA	HIGH HIGH ALARM	LOR	LOCAL/OFF/REMOTE
HOA	HAND/OFF/AUTO	OO	ON/OFF
HOR	HAND/OFF/REMOTE		

LINE LEGEND

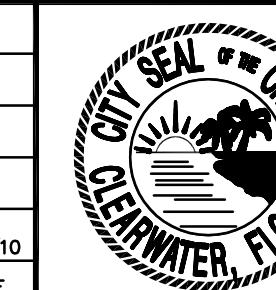
<u> </u>	EQUIPMENT BOUNDARY	<u> </u>	EQUIPMENT NOT BY WESTECH
<u> </u>	EXISTING	PA	PLANT AIR SUPPLY
	MAIN PROCESS FLOW DIRECTION OF FLOW SHOWN	IA	INSTRUMENT QUALITY AIR
<u> </u>	SECONDARY PROCESS FLOW	WS	PLANT WATER UION

NOTES

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



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			
REVISION BY			

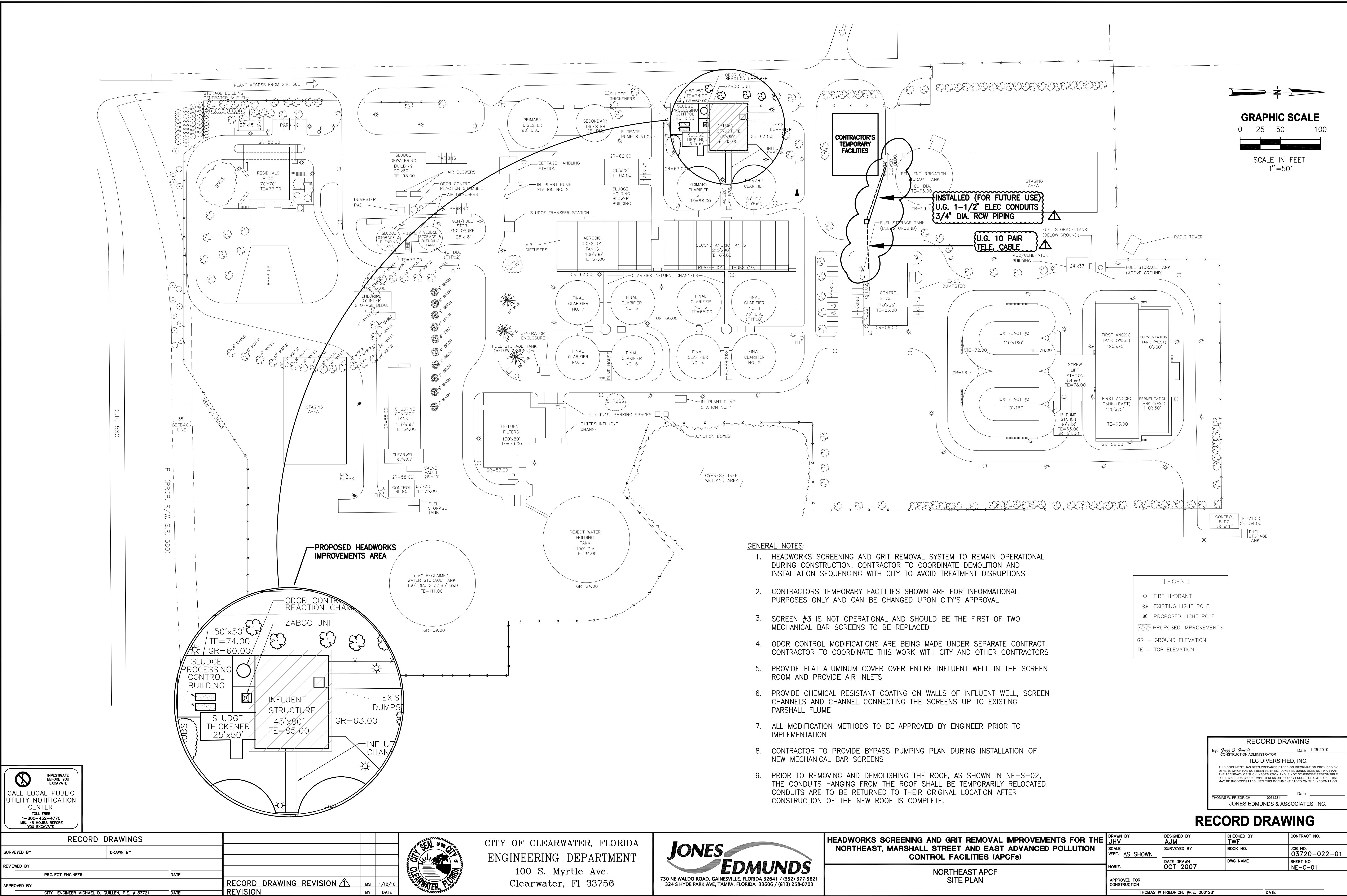


CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

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

RECORD DRAWING	
By: <u><i>Greg S. Fruelich</i></u>	Date <u>1-25-2010</u>
CONSTRUCTION ADMINISTRATOR	
TLC DIVERSIFIED, INC.	
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<hr/>	
THOMAS W. FRIEDRICH	Date <u> </u>
0061281	
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
- DESIGN PRESSURES: PER ASCE 7-02.	(ENCLOSED STRUCTURE)

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 THROUGH 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.

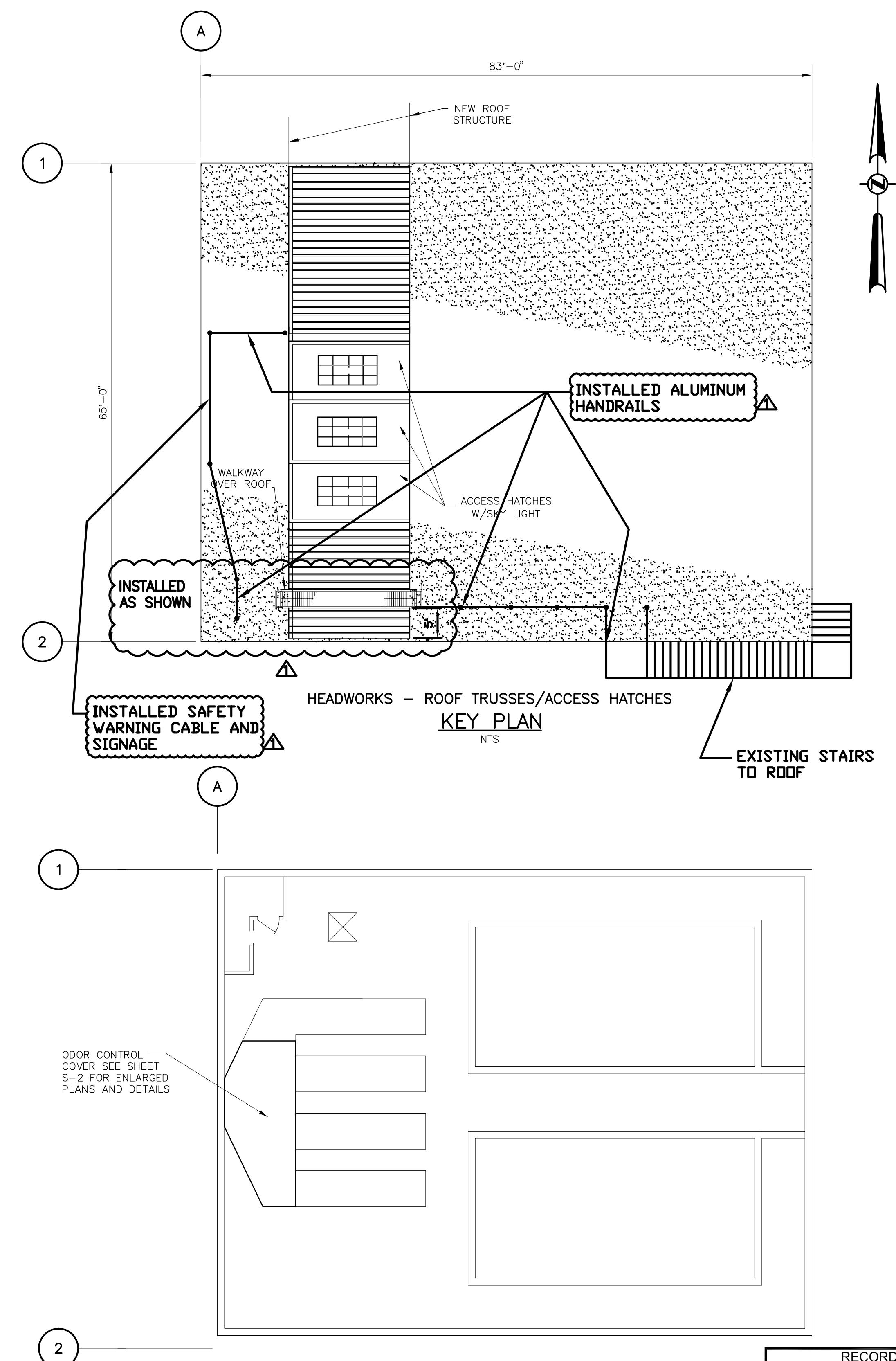
ALL LIGHT GAGE STEEL SHALL BE 16 GAGE

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.



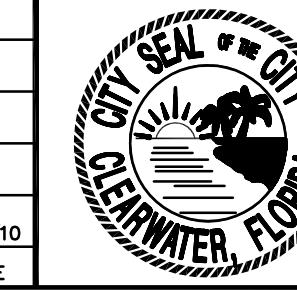
ABBREVIATIONS

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	JP	JOINT	SPECS	SPECIFICATIONS
CONC	CONCRETE	LP	LOW POINT	SS	STAINLESS STEEL
CONST JT	CONSTRUCTION JOINT	MAT'L	INTERVAL	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/S	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	
APPROVED BY	
RECORD DRAWING REVISION	
REVISION	MS 1/12/10
BY	DATE



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



HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
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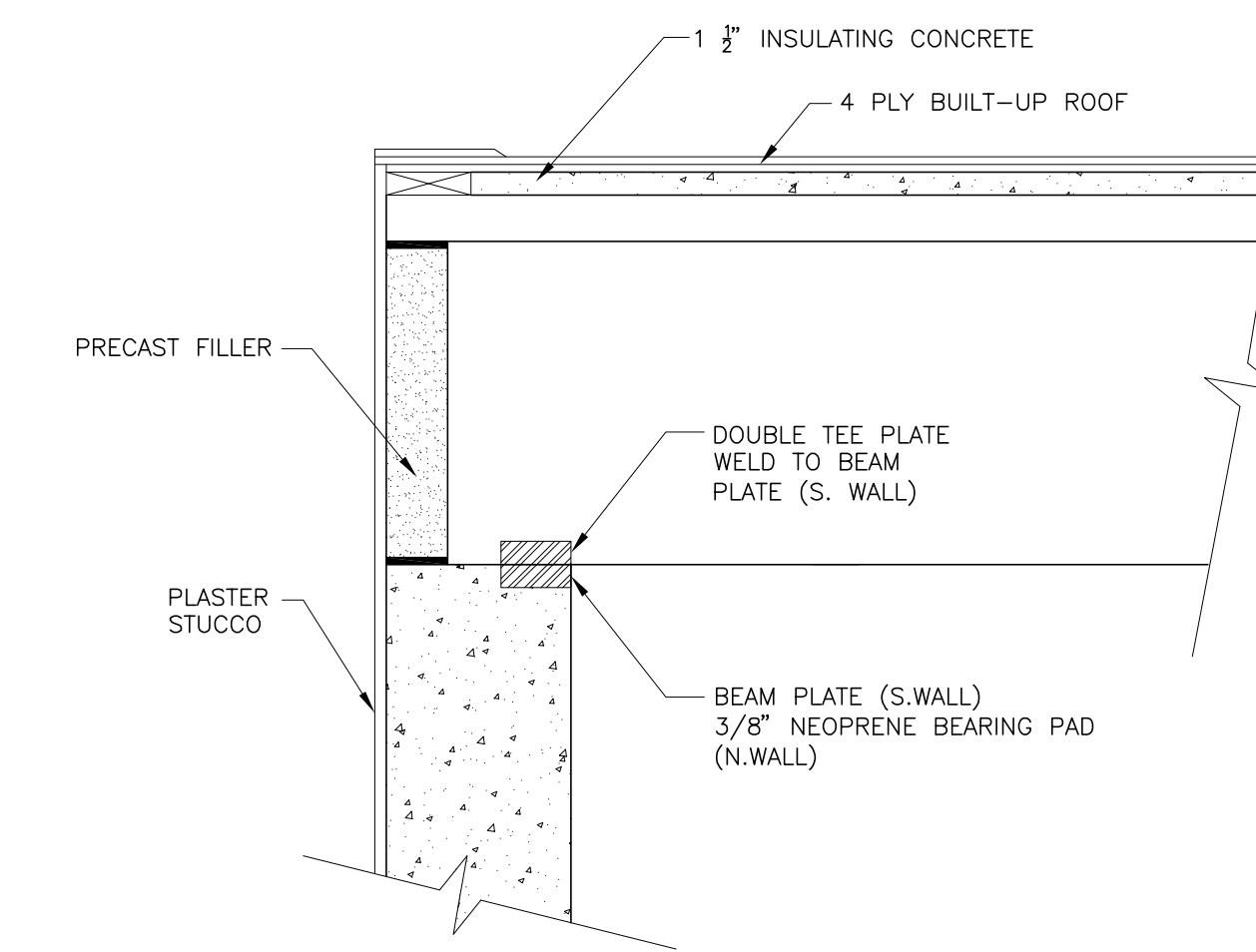
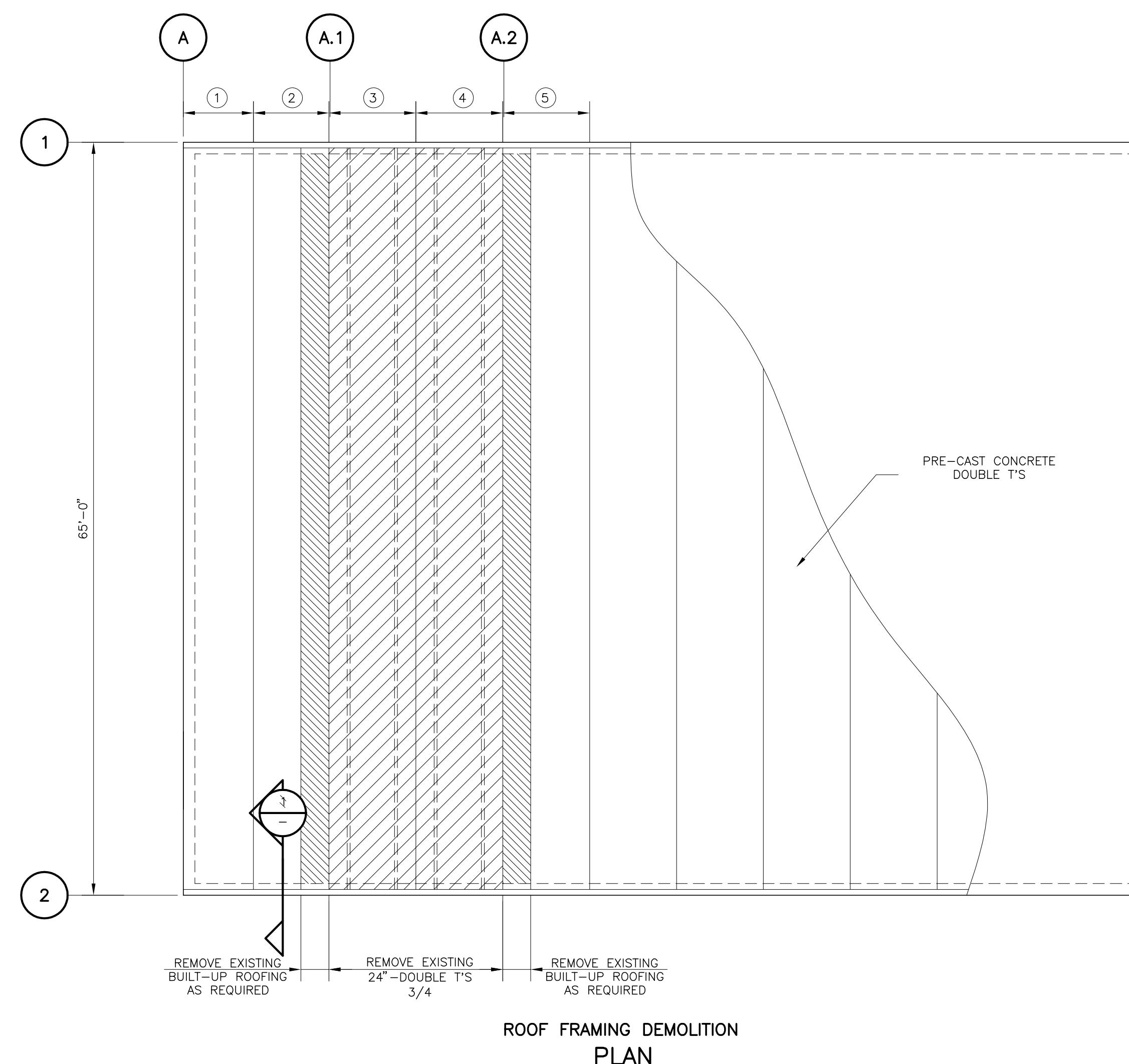
NORTHEAST APCF
GENERAL STRUCTURAL
PLAN VIEW AND NOTES

DRAWN BY J.H.V.
DESIGNED BY A.J.M.
CHECKED BY T.W.F.
CONTRACT NO. 03720-022-01
SURVEYED BY BOOK NO. JOB NO.
VERT. AS SHOWN DATE DRAWN DWG NAME SHEET NO.
HORIZ. OCT 2007 NE-S-01
APPROVED FOR CONSTRUCTION
THOMAS W. FRIEDRICH, #P.E. 0061281 DATE

RECORD DRAWING
By George S. Powell
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.
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By Thomas W. Friedrich
JONES EDMUNDIS & ASSOCIATES, INC.
Date 0061281
THOMAS W. FRIEDRICH, #P.E. 0061281
Date 03720-022-01
Date 0061281
Date 0061281

RECORD DRAWING



RECORD DRAWINGS

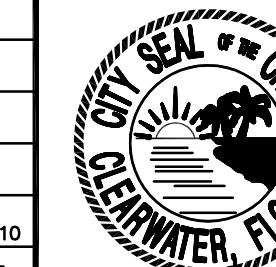
SURVEYED BY _____ DRAWN BY _____

REVIEWED BY _____ PROJECT ENGINEER _____ DATE _____

APPROVED BY _____ CITY ENGINEER MICHAEL D. QUILLIN, P.E. # 33721 DATE _____

RECORD DRAWING REVISION **A** MS 1/12/10

REVISION BY DATE



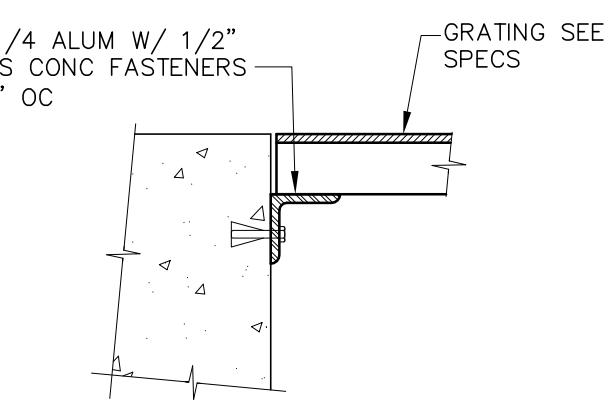
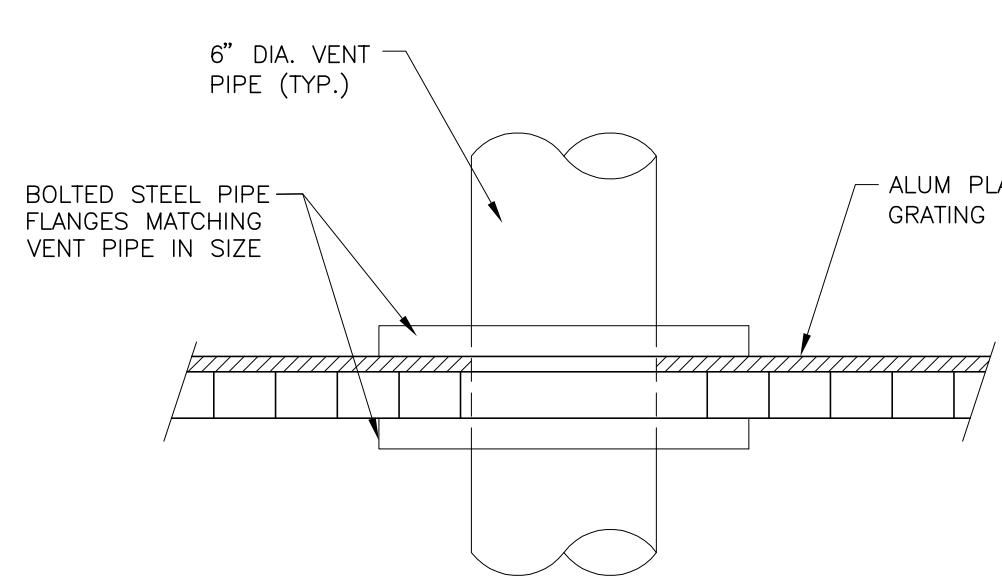
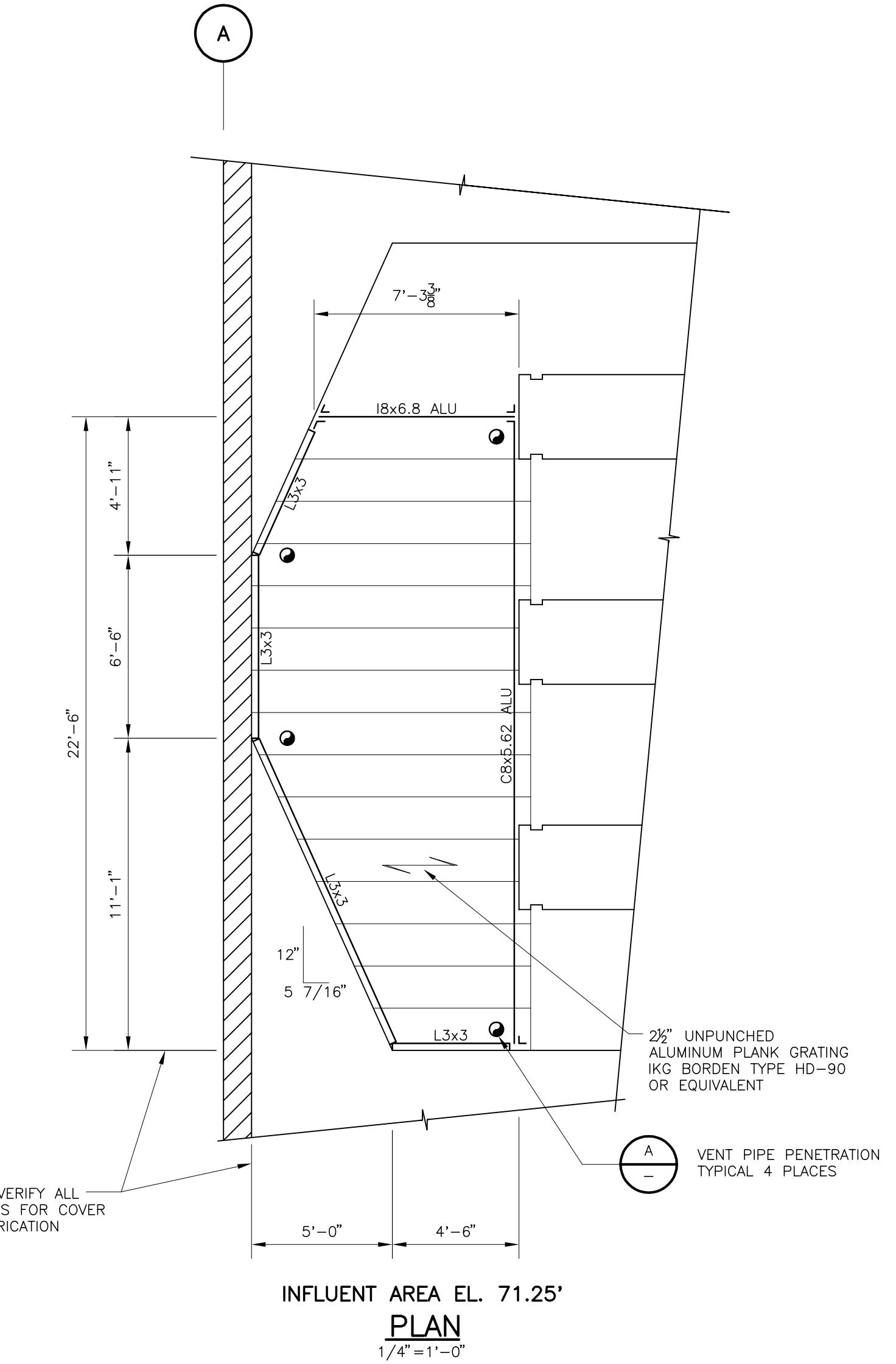
CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756



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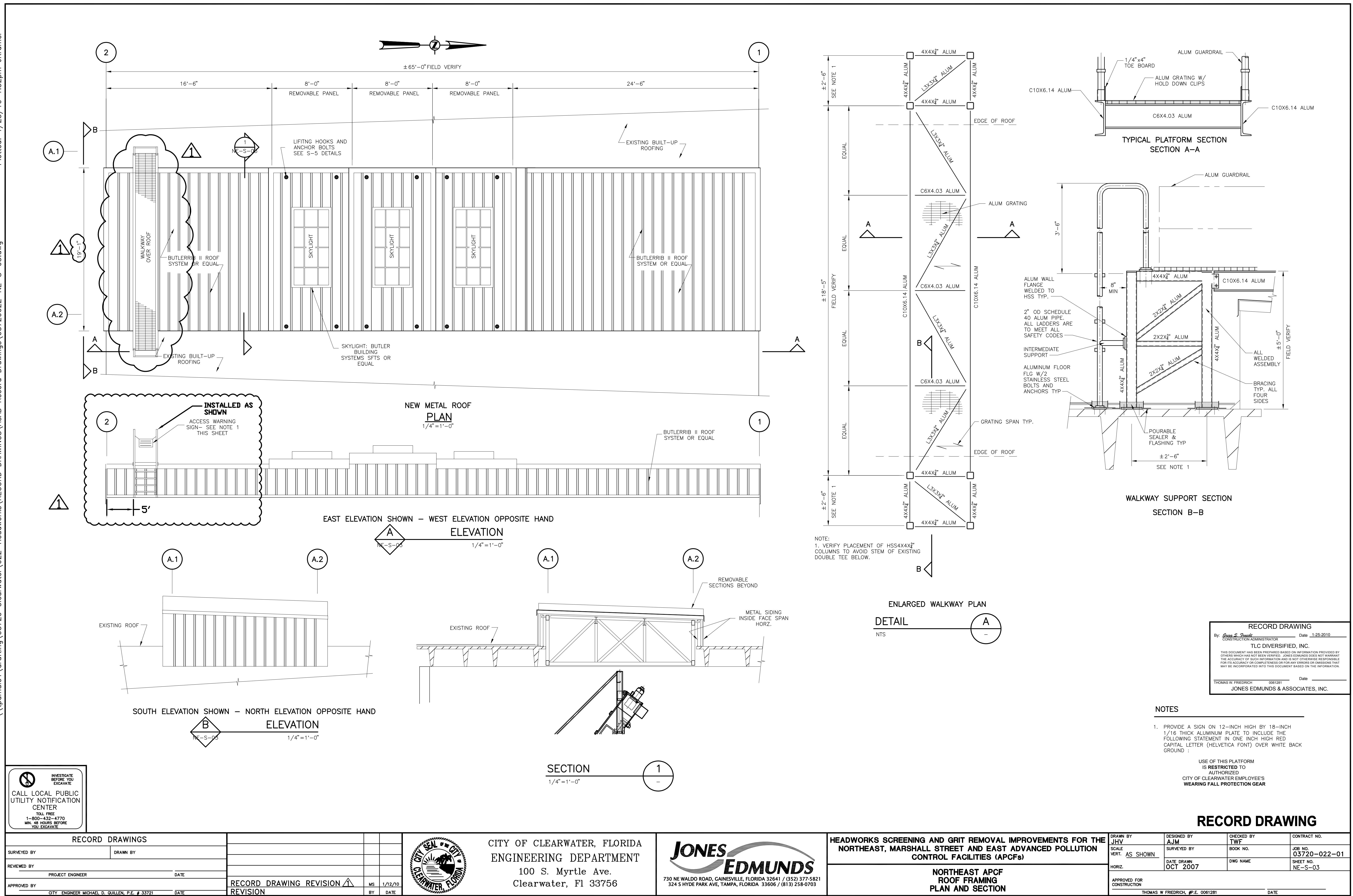
NORTHEAST APCF
ROOF AND SKYLIGHT
PLAN AND SECTION

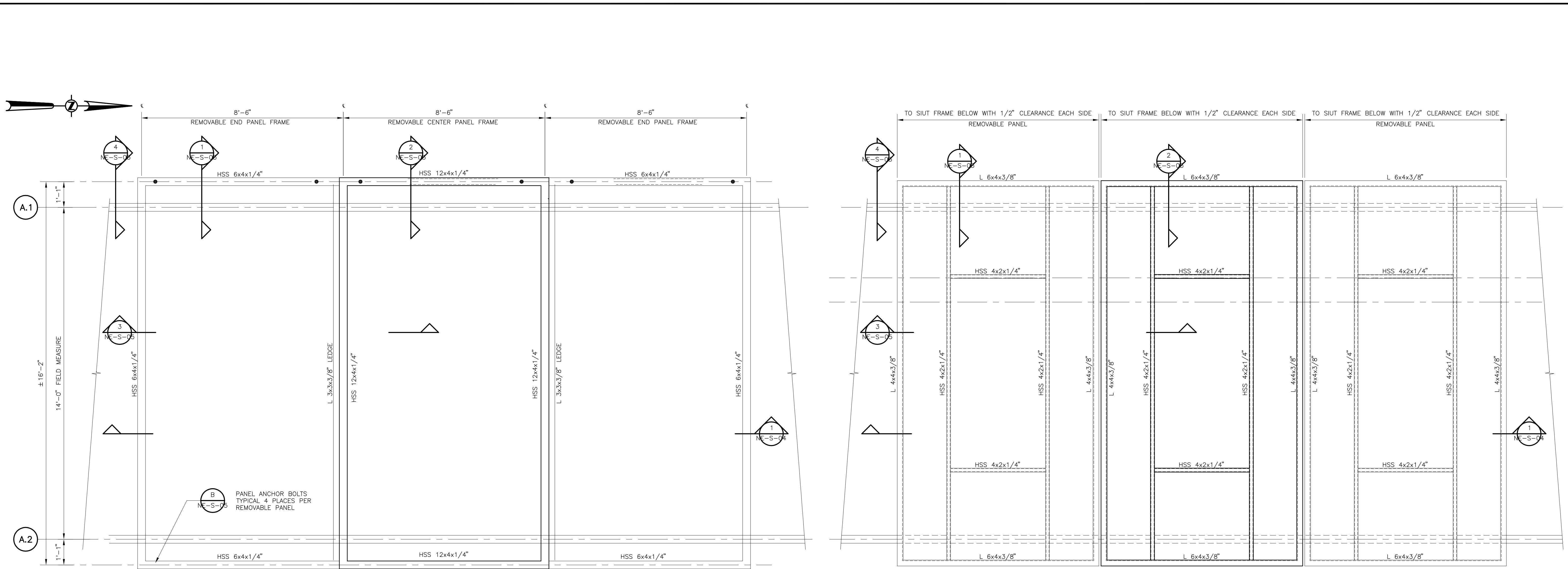
DRAWN BY JHV	DESIGNED BY AJM	CHECKED BY TWF	CONTRACT NO.
SCALE VERT. AS SHOWN	SURVEYED BY BOOK NO.	JOB NO.	
HORIZ.	DATE DRAWN DWG NAME	SHEET NO.	
		03720-022-01	
			NE-S-02
	APPROVED FOR CONSTRUCTION	THOMAS W. FRIEDRICH, #P.E. 0061281	DATE



RECORD DRAWING			
By George S. Purcell	CONSTRUCTION ADMINISTRATOR	Date 1-25-2010	
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THOMAS W. FRIEDRICH	0061281	Date	
JONES EDMUNDIS & ASSOCIATES, INC.			

RECORD DRAWING





REMOVABLE ROOF PANELS: RECEIVING FRAME

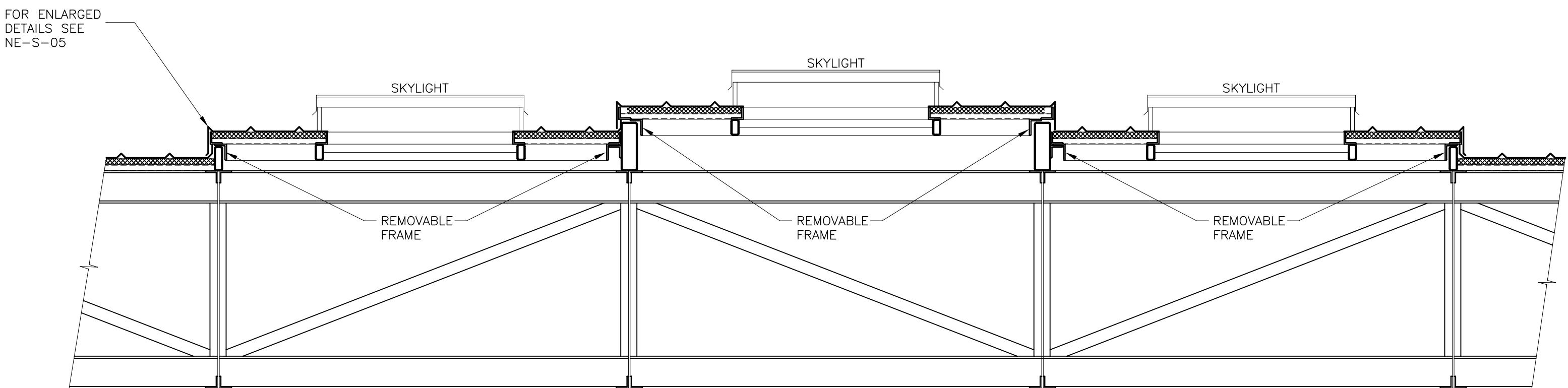
PLAN

1/2"=1'-0"

REMOVABLE ROOF PANEL FRAMING

PLAN

1/2"=1'-0"



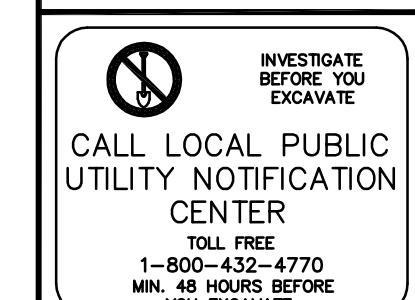
SECTION

1/2"=1'-0"

NE-S-04

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By <i>George S. Powell</i>	CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.	
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THOMAS W. FRIEDRICH	0051281
JONES EDMUND'S & ASSOCIATES, INC.	
Date	03720-022-01

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RECORD DRAWINGS

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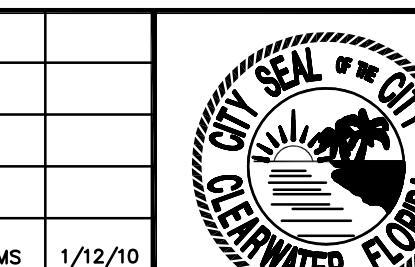
DATE

APPROVED BY

DATE

RECORD DRAWING REVISION MS 1/12/10

REVISION BY DATE



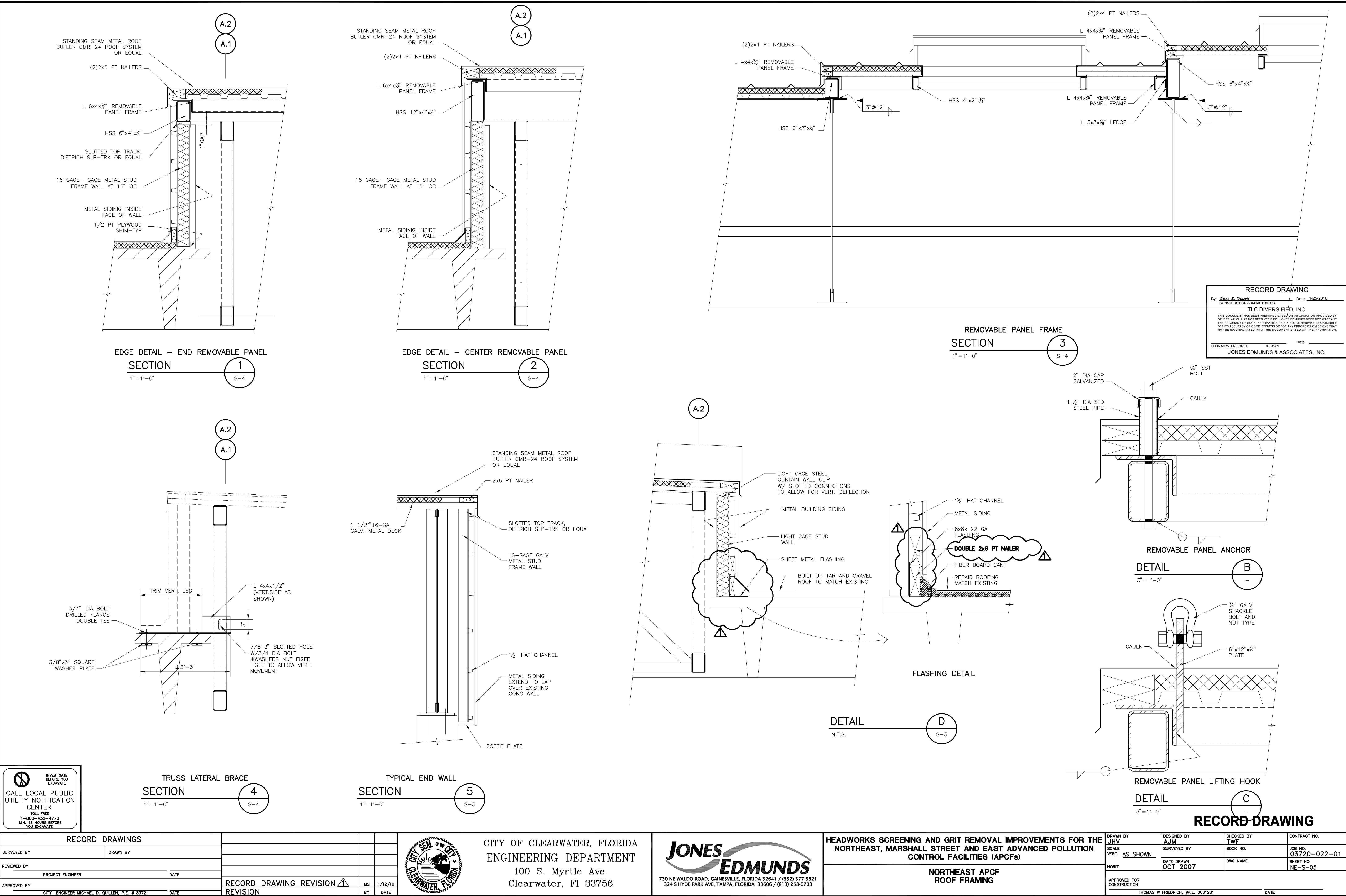
CITY OF CLEARWATER, FLORIDA
 ENGINEERING DEPARTMENT
 100 S. Myrtle Ave.
 Clearwater, Fl 33756

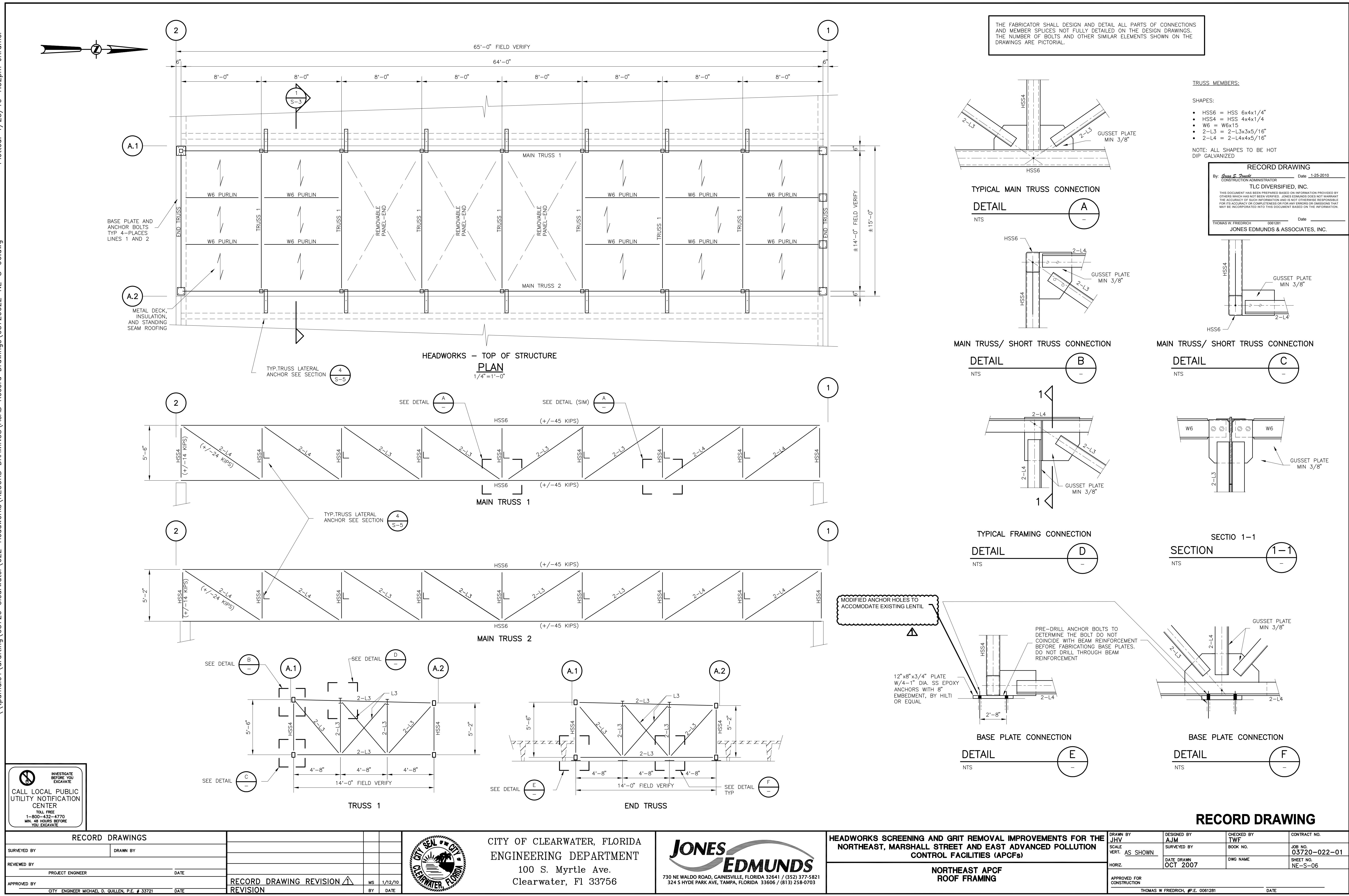


HEADWORKS SCREENING AND Grit REMOVAL IMPROVEMENTS FOR THE
 NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
 CONTROL FACILITIES (APCFs)

NORTHEAST APCF
 NEW CONSTRUCTION
 SKYLIGHT DETAILS

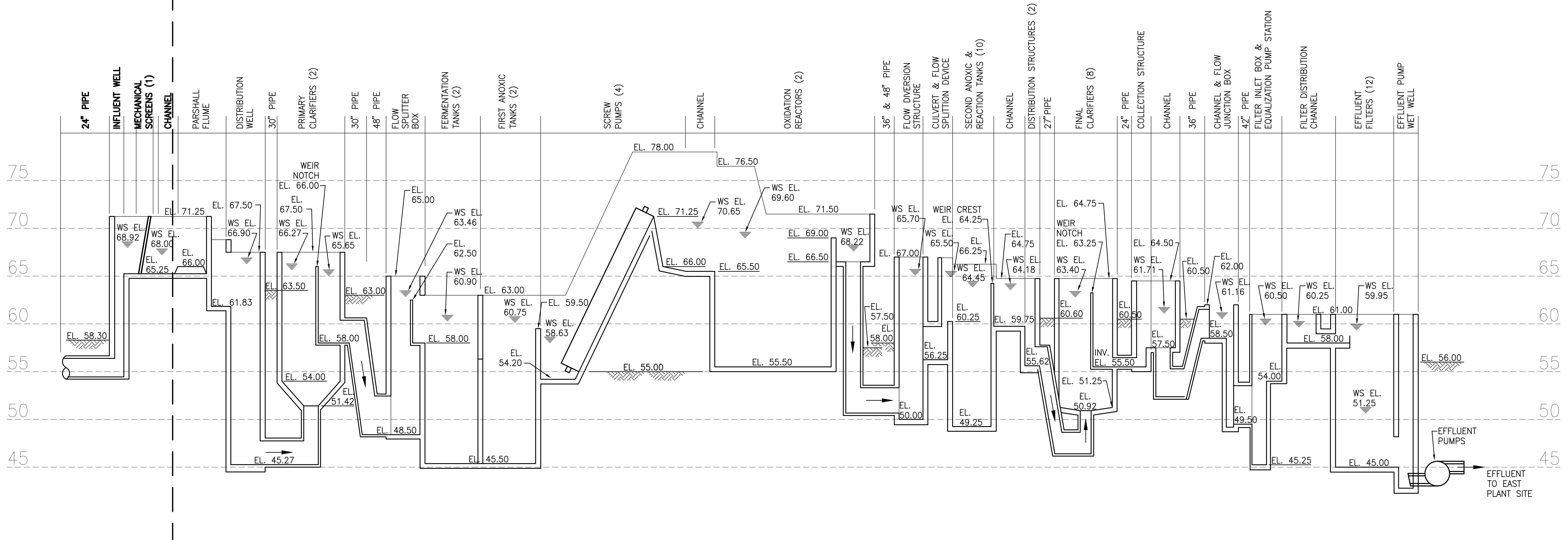
DRAWN BY	DESIGNED BY	CHECKED BY	CONTRACT NO.
SCALE	VERT. AS SHOWN	TWF	
SURVEYED BY	BOOK NO.	JOB NO.	
DATE DRAWN	DWG NAME		
HORIZ.	SHEET NO.		
OCT 2007		03720-022-01	
APPROVED FOR CONSTRUCTION			
THOMAS W. FRIEDRICH, #P.E. 0061281			





HYDRAULIC ELEVATIONS
 CALCULATED BY JONES EDMUNDS

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



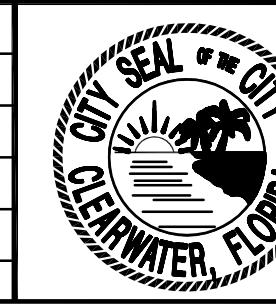
NOTES:

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.

RECORD DRAWING
 By George S. Purcell
 TLC DIVERSIFIED, INC.
 CONSTRUCTION ADMINISTRATOR
 Date 1-25-2010
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SURVEYED BY	HORIZ.	DATE DRAWN	DWG NAME
REVIEWED BY		DWG NAME	SHEET NO.
APPROVED BY		APPROVED FOR CONSTRUCTION	NE-M-01
Surveyed by	Drawn by		
Reviewed by			
Approved by			
Project Engineer	Date	Thomas W. Friedrich, #P.E. 0061281	Date
City Engineer Michael D. Quillen, P.E. # 33721	Date		
RECORD DRAWING REVISION ▲	MS 1/12/10		
REVISION	BY DATE		



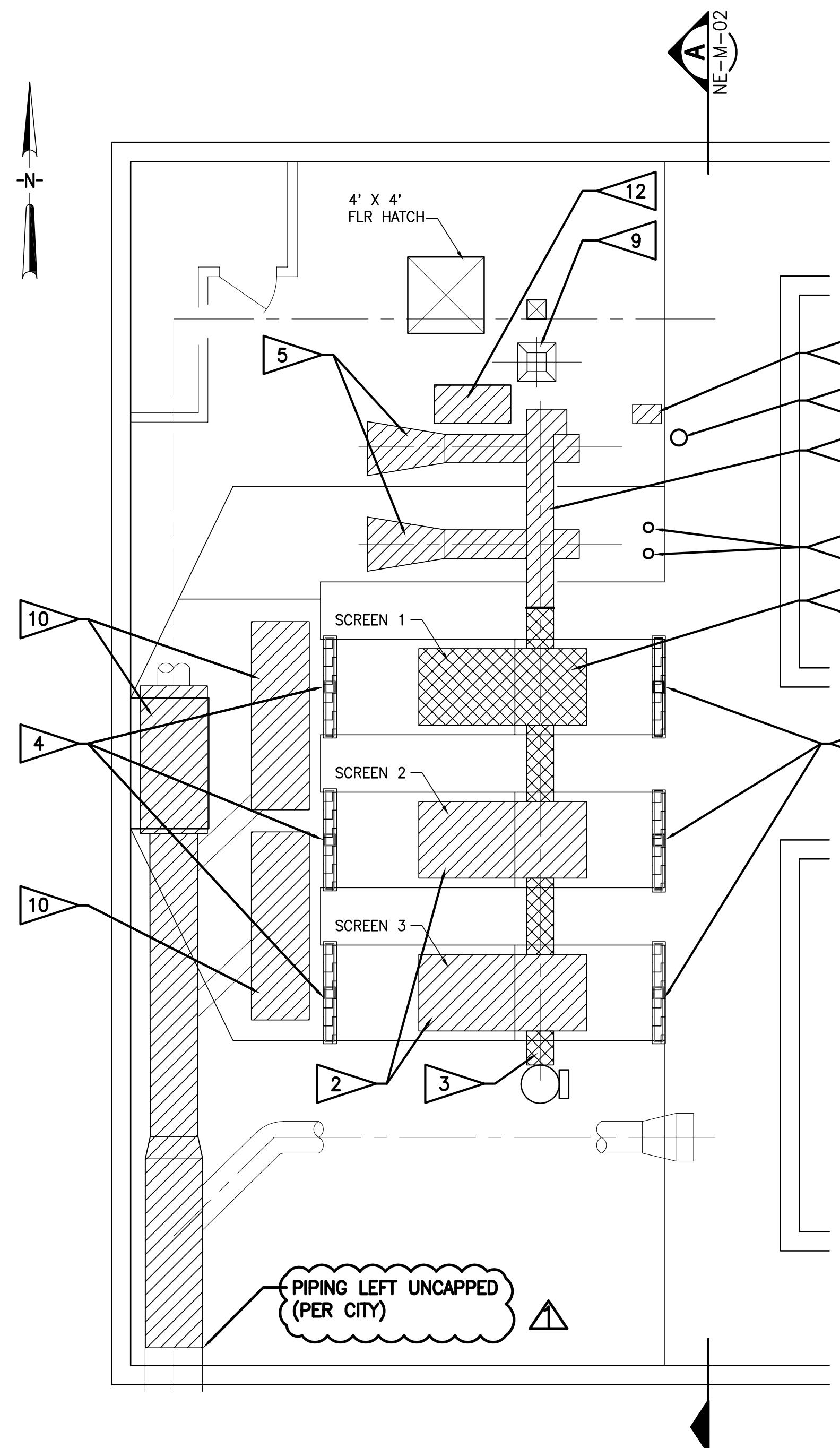
CITY OF CLEARWATER, FLORIDA
 ENGINEERING DEPARTMENT
 100 S. Myrtle Ave.
 Clearwater, FL 33756



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

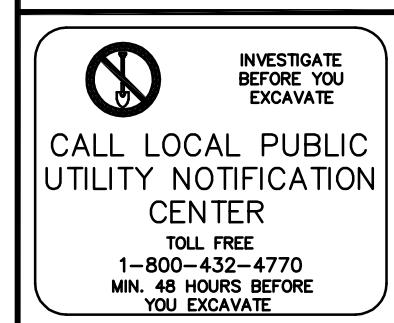
NORTHEAST APCF
 HYDRAULIC PROFILE

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SURVEYED BY	HORIZ.	DATE DRAWN	DWG NAME
			03720-022-01
			NE-M-01

**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

**RECORD DRAWINGS**

SURVEYED BY

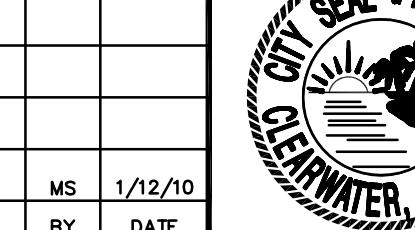
DRAWN BY

REVIEWED BY

DATE

APPROVED BY

DATE

RECORD DRAWING REVISION ▲
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CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

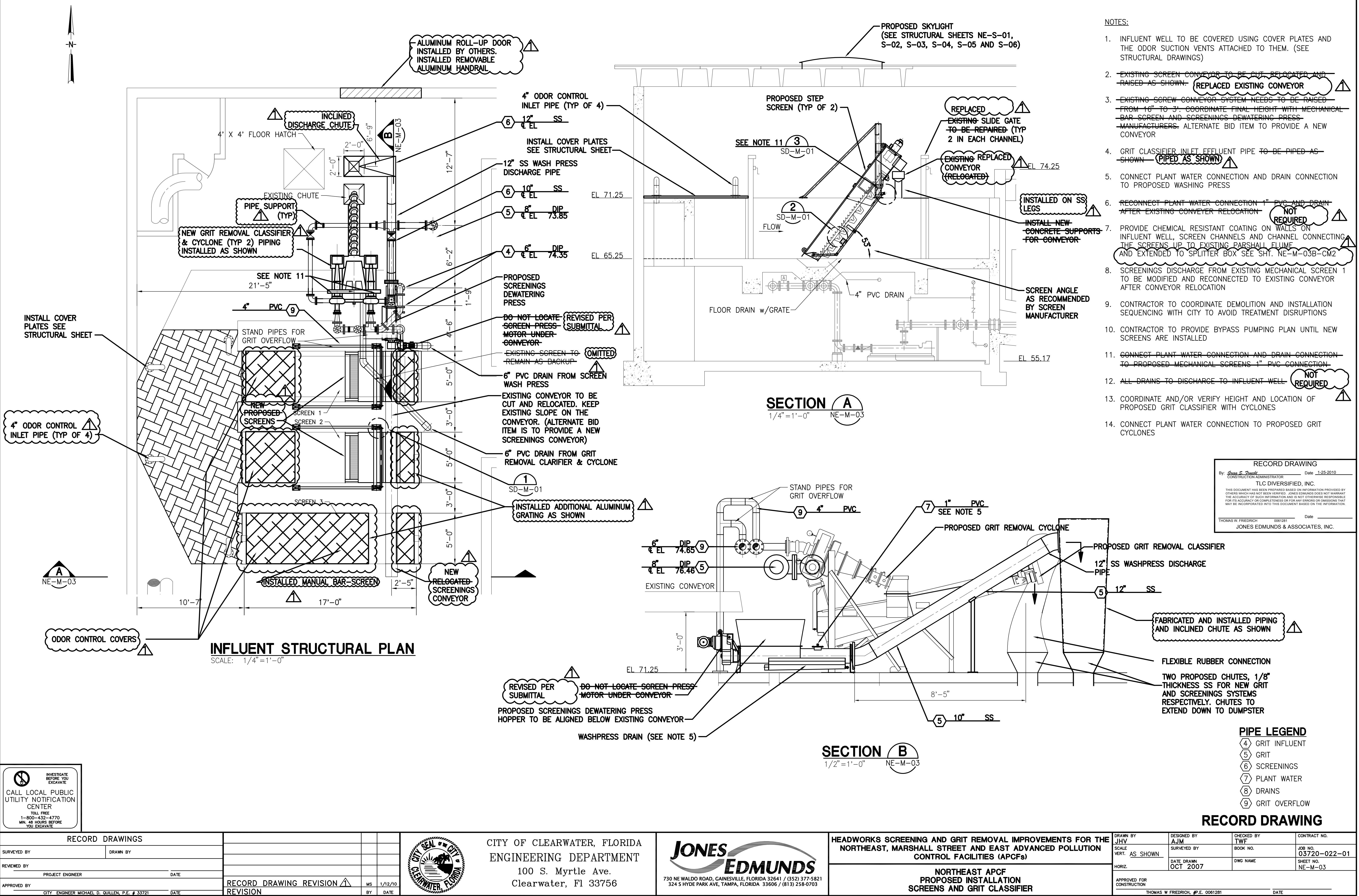
JONES
EDMUND'S
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

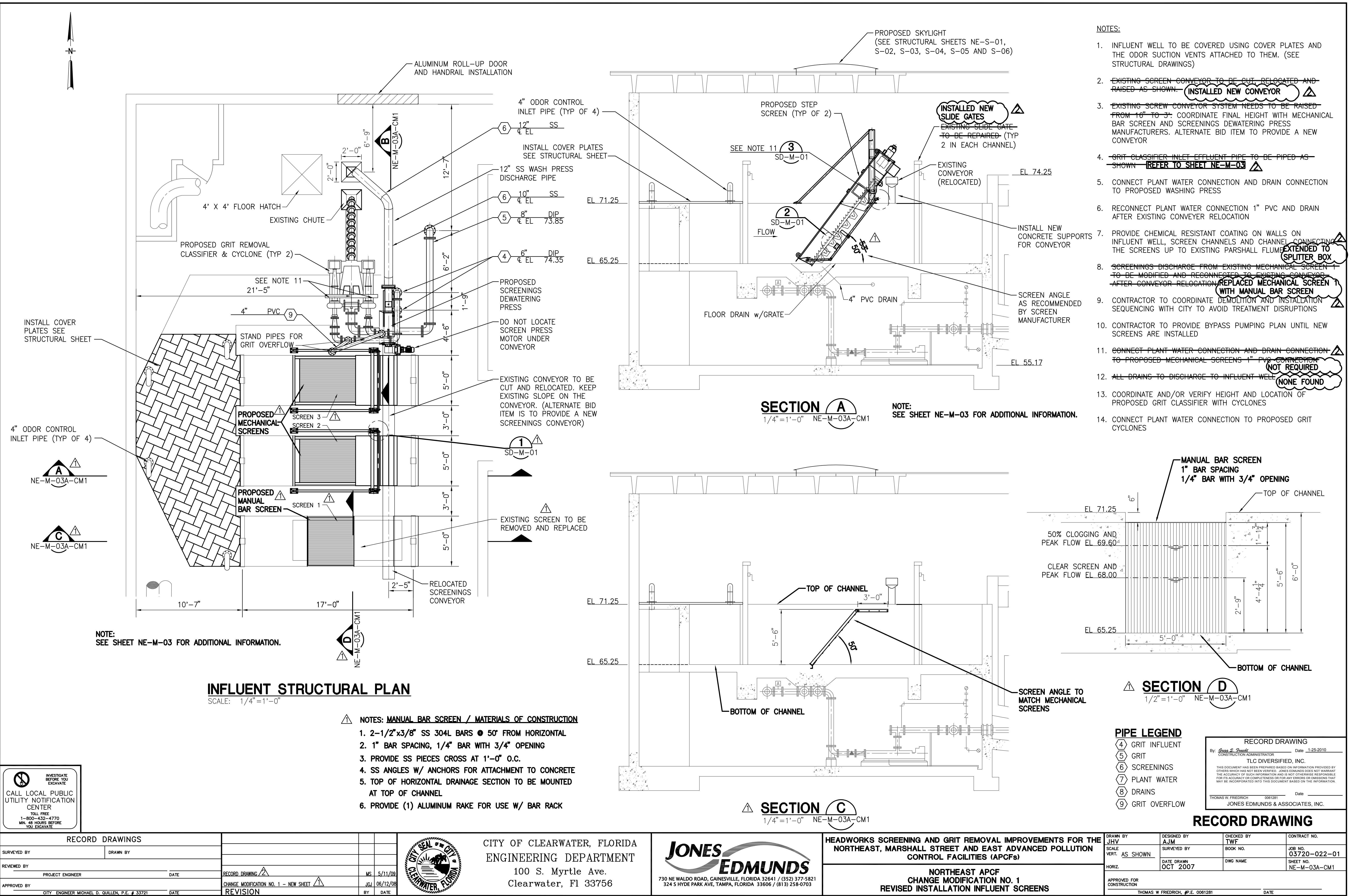
HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)
NORTHEAST APCF
DEMOLITION PLAN
SCREENS AND GRIT CLASSIFIER

RECORD DRAWING
By George S. Fiedrich
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.
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JONES EDMUND'S & ASSOCIATES, INC.

RECORD DRAWING

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





ELECTRICAL DRAWING LEGEND

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

<u>SYMBOL</u>	<u>DESCRIPTION</u>
(5)	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
MCC-3	CIRCUIT REFERENCE, SEE WIRING SCHEDULES
CFFE	CABLE FURNISHED WITH EQUIPMENT
[]	SAFETY SWITCH NEMA 4X STAINLESS STEEL 3 POLE UNLESS OTHERWISE NOTED WITH 2 FORM "C" AUX. CONTACTS
J	JUNCTION BOX
LS	ULTRASONIC LEVEL SENSOR
M	MOTOR-FACILITY PLANS
LSH	HIGH LEVEL FLOAT
SV	SOLENOID VALVE

UNDERGROUND DUCT BANK
(2) 2" PVC CONDUITS

GENERAL NOTES

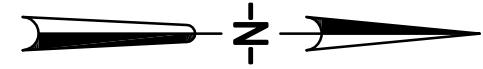
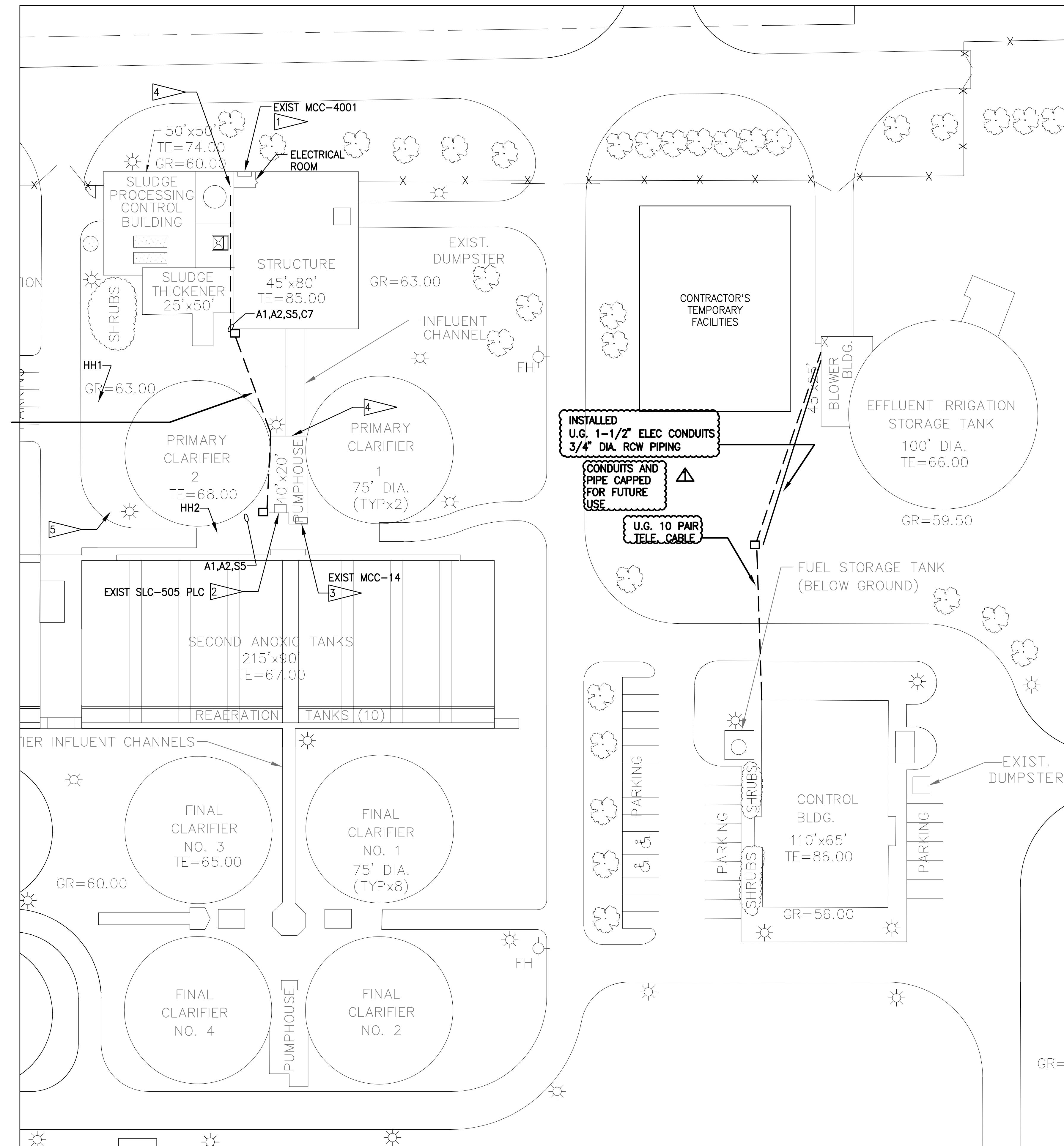
- ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC). GROUND ALL ELECTRICAL EQUIPMENT AND ENCLOSURES IN ACCORDANCE WITH THE NEC.
- COORDINATE NEW CONDUIT RUNS WITH NEW FACILITIES AND PIPING RUNS. PROVIDE 6" CLEARANCE AT PIPE CROSSINGS.
- THE CONTRACTOR SHALL PROVIDE AS-BUILT 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.



RECORD DRAWINGS	DRAWN BY
SURVEYED BY	
REVIEWED BY	
APPROVED BY	

RECORD DRAWING REVISION
REVISION

MS 1/12/10
BY DATE

**GRAPHIC SCALE**

0 15 30 60

SCALE IN FEET

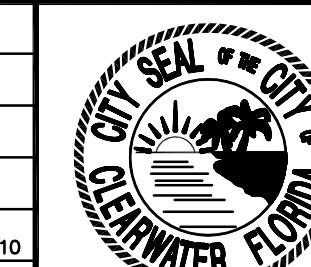
1"=30'

- NOTES:
1. PROVIDE POWER CIRCUITS FROM MCC-4001 TO NEW EQUIPMENT CONTROL PANELS (BSCP & GSCP).
 2. 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.
 3. 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.
 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.
 5. CONTRACTOR MAY SUBMIT ALTERNATE CONDUIT ROUTING AT THIS LOCATION FOR ENGINEER APPROVAL PRIOR TO INSTALLATION.

RECORD DRAWING	By George S. Friedrich	Date 1-25-2010
TLC DIVERSIFIED, INC.		
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THOMAS W. FRIEDRICH 0051281 Date _____		
JONES EDMUNDIS & ASSOCIATES, INC. Date _____		

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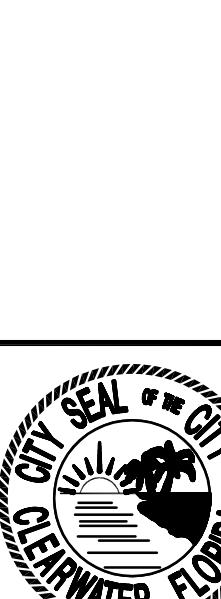
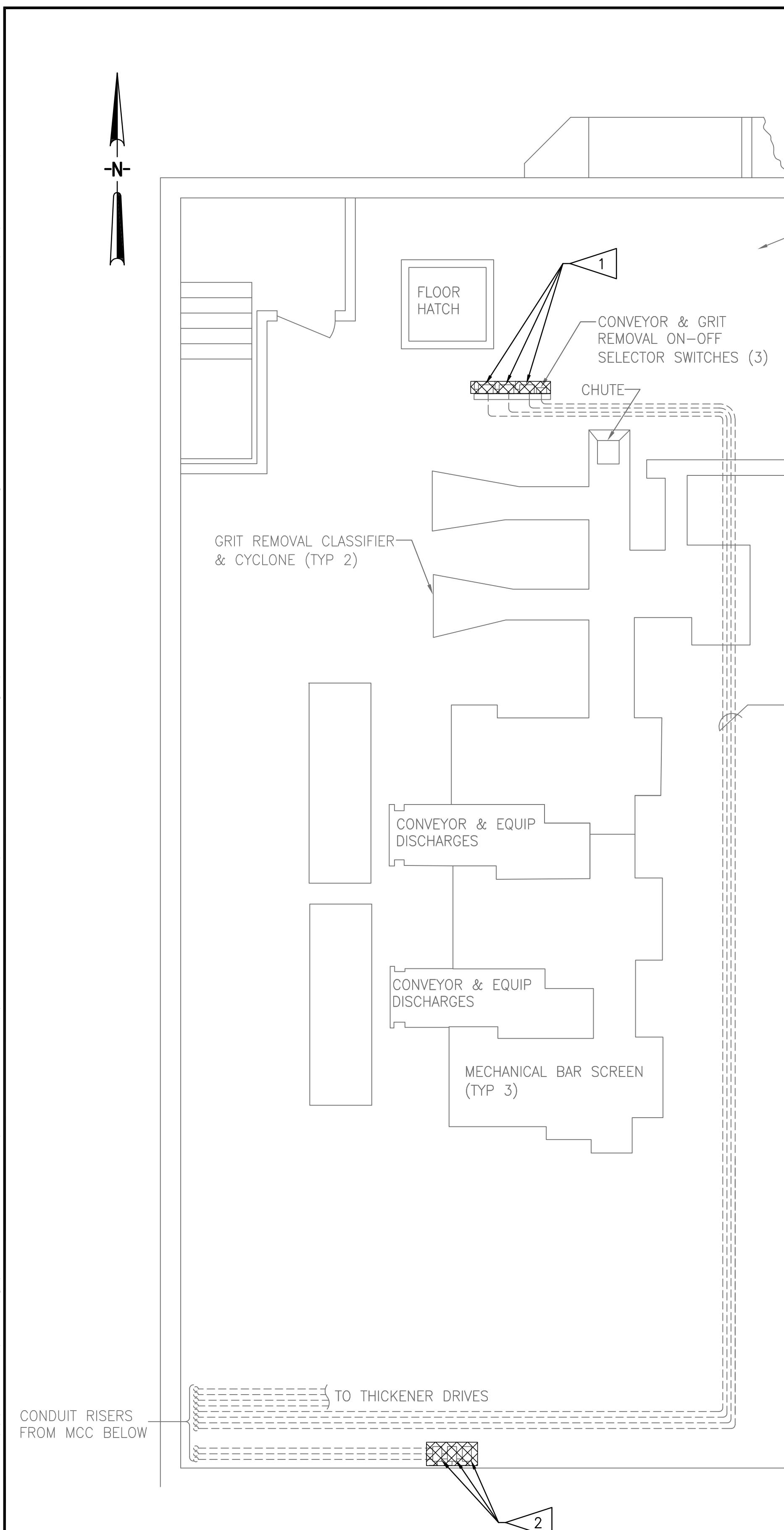
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SCALE VERT. AS SHOWN	SURVEYED BY BOOK NO.	CONTRACT NO.
HORIZ.	DATE DRAWN DWG NAME	JOB NO.
	OCT 2007	03720-022-01
		SHEET NO.
		NE-E-01
APPROVED FOR CONSTRUCTION	MALCOLM L. KOROS, P.E. 0053622	DATE



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)
NORTHEAST APCF
ELECTRICAL
SITE PLAN

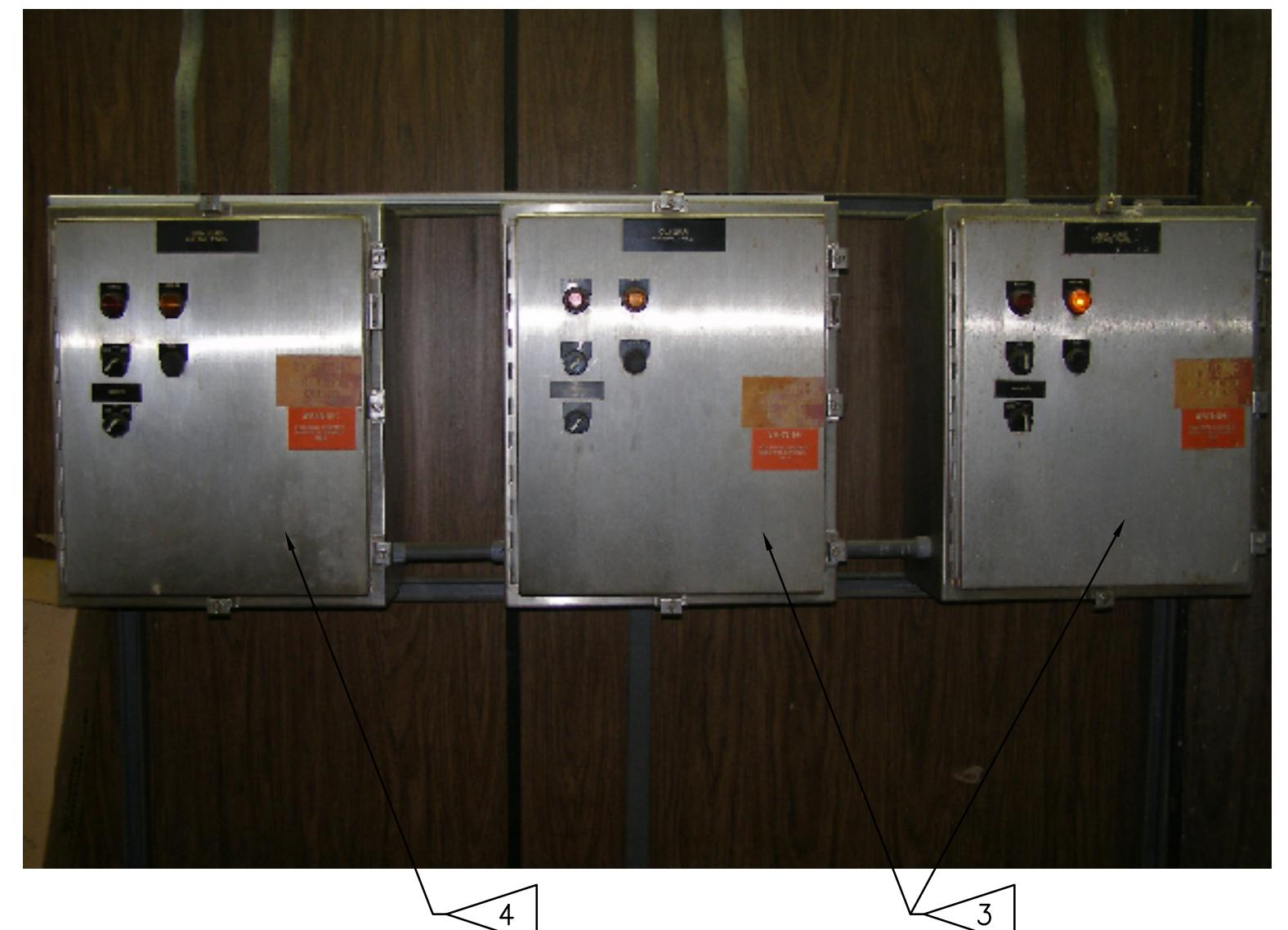
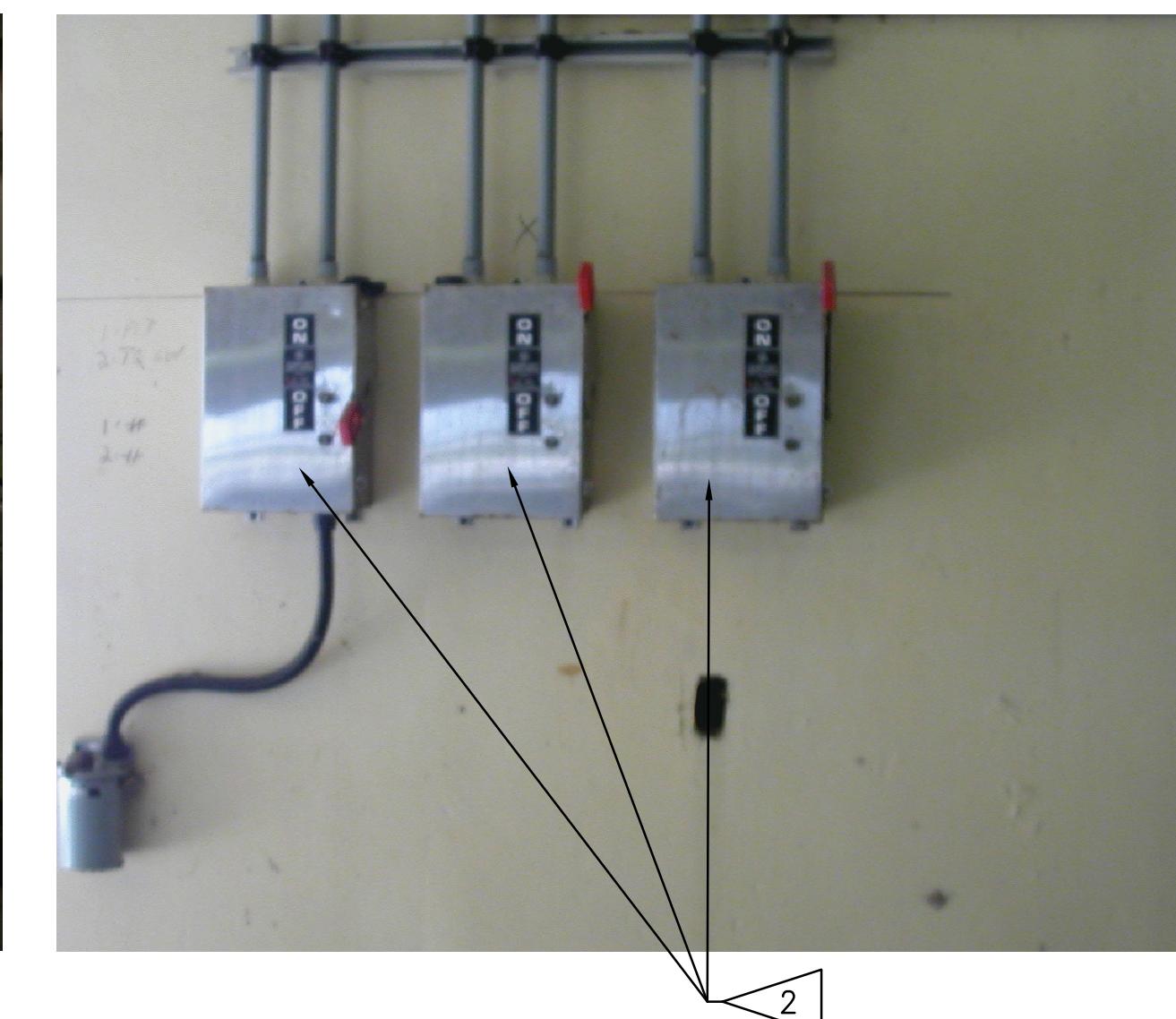
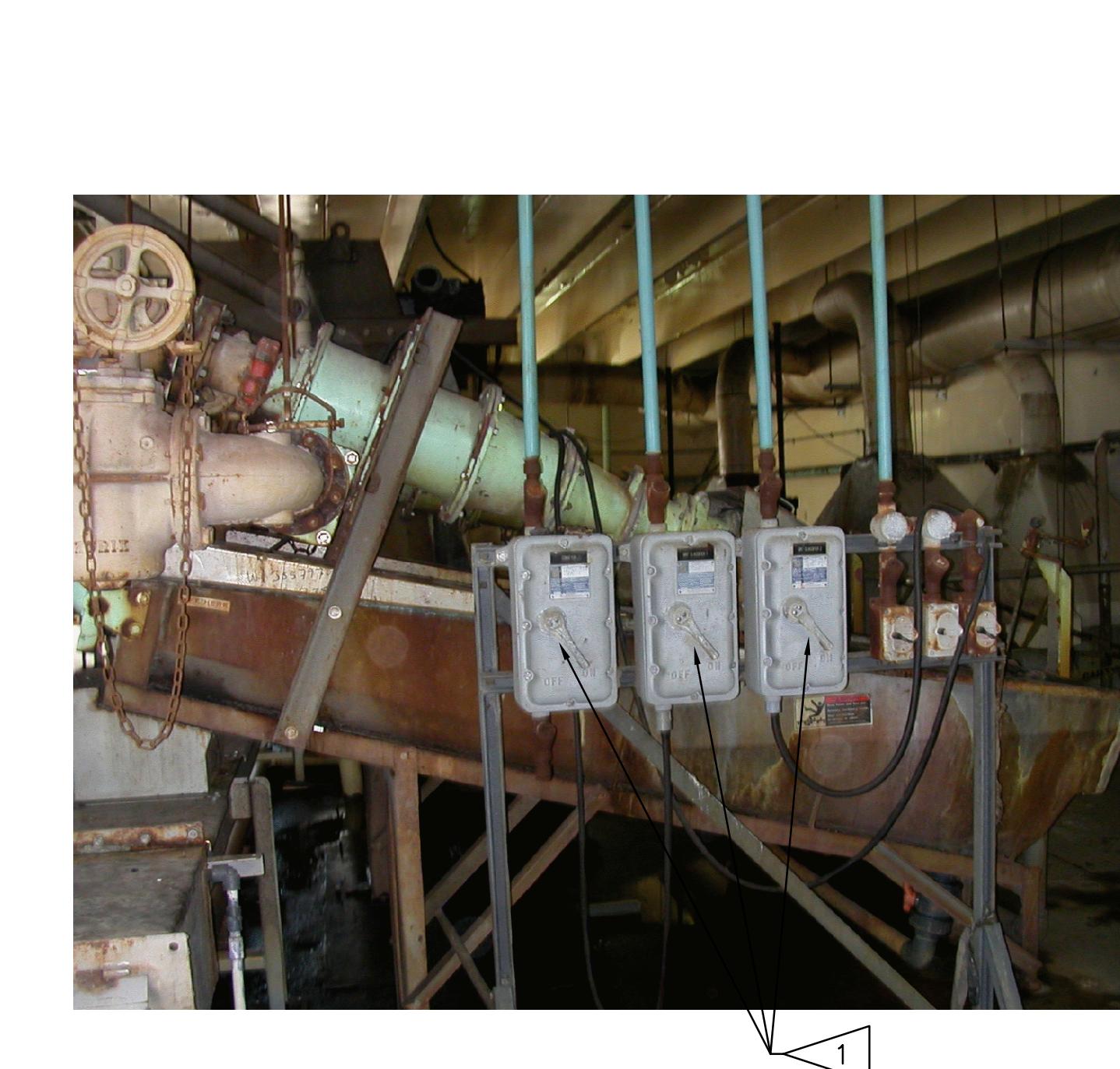


CITY OF CLEARWATER, FLORIDA
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HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
324 S HYDE PARK AVE, TAMPA, FLORIDA 33606 / (813) 258-0703

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SURVEYED BY	DRAWN BY	BOOK NO.	JOB NO.
REVIEWED BY	DATE	DWG NAME	NE-02
PROJECT ENGINEER		DATE DRAWN	OCT 2007
APPROVED BY	RECORD DRAWING REVISION ▲	APPROVED FOR CONSTRUCTION	THOMAS W. FRIEDRICH, #P.E. 0061281
CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	MS 1/12/10	DATE	
	BY DATE		



FLAG NOTES

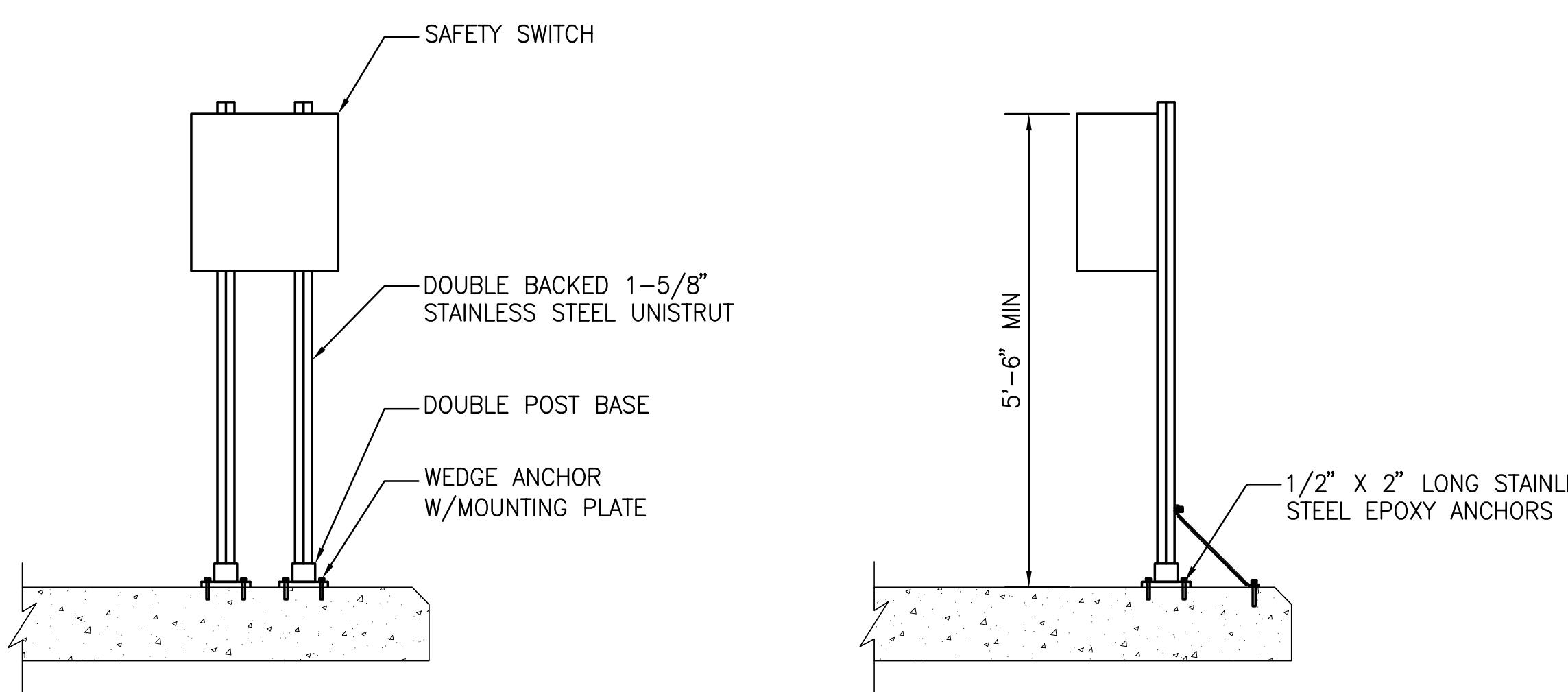
- | | |
|----------|--|
| [Flag 1] | CLASSIFIER DISCONNECT & HOA SWITCH TO BE DEMOLISHED & REPLACED. GRIT HANDLING SYSTEM TO REMAIN IN OPERATION DURING CONSTRUCTION. PROVIDE TEMPORARY POWER & CONTROL CIRCUITS, ROUTED IN A PROTECTED LOCATION ALONG WALL OR FLOOR. PROTECT CIRCUITS WITH CONDUITS IN HIGH TRAFFIC & HEAVY CONSTRUCTION AREAS. REMOVE TEMPORARY CONDUITS & CABLING ONCE PERMANENT INSTALLATION IS COMPLETE. |
| [Flag 2] | BARSCREEN DISCONNECT SWITCH TO BE DEMOLISHED & REPLACED |
| [Flag 3] | BARSCREEN CONTROL PANEL TO BE DEMOLISHED & REPLACED |
| [Flag 4] | BARSCREEN #1 CONTROL PANEL TO REMAIN IN SERVICE |

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By *George S. Powell*
CONSTRUCTION ADMINISTRATOR
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THOMAS W. FRIEDRICH 0061281
JONES EDMUNDIS & ASSOCIATES, INC.

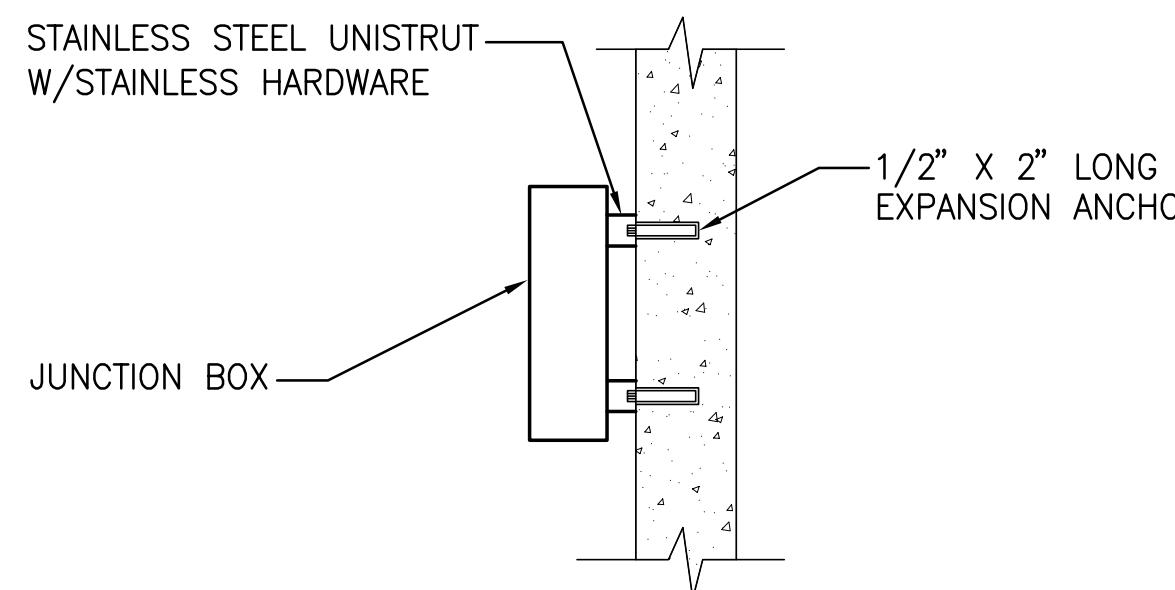
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SURVEYED BY	DRAWN BY	BOOK NO.	JOB NO.
REVIEWED BY	DATE	DWG NAME	NE-02
PROJECT ENGINEER		DATE DRAWN	OCT 2007
APPROVED BY	RECORD DRAWING REVISION ▲	APPROVED FOR CONSTRUCTION	THOMAS W. FRIEDRICH, #P.E. 0061281
CITY ENGINEER MICHAEL D. QUILLEN, P.E. # 33721	MS 1/12/10	DATE	
	BY DATE		



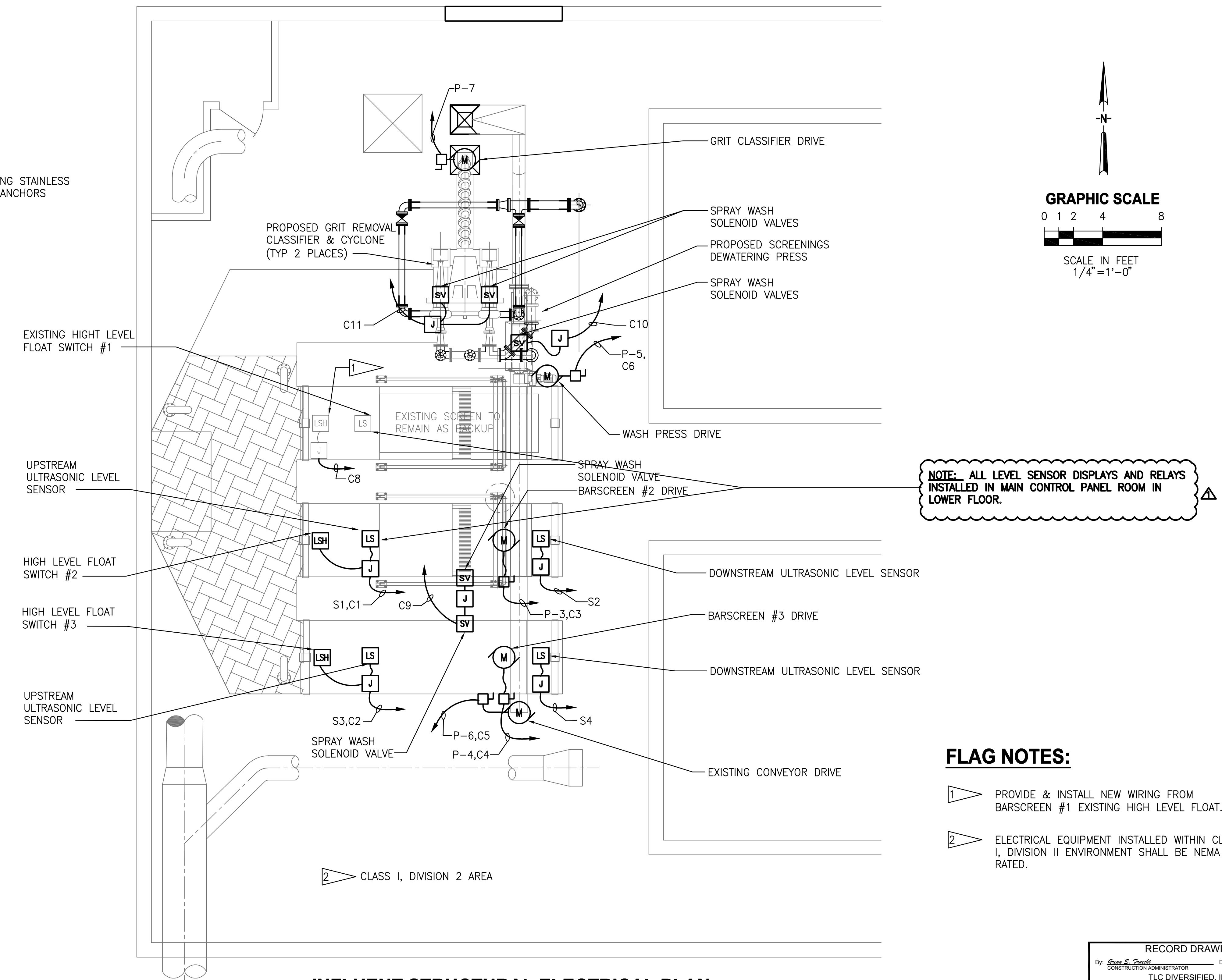
SAFETY SWITCH SUPPORT DETAIL

NONE



JUNCTION BOX SUPPORT DETAIL

NONE



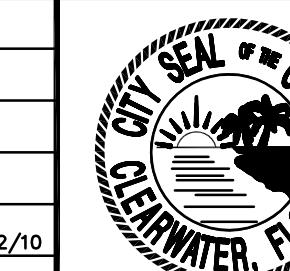
INFLUENT STRUCTURAL ELECTRICAL PLAN

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



RECORD DRAWINGS	
SURVEYED BY	DRAWN BY
REVIEWED BY	
PROJECT ENGINEER	DATE
APPROVED BY	RECORD DRAWING REVISION ▲

MS 1/12/10
BY DATE
REVISION BY DATE



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ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756



730 NEW 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
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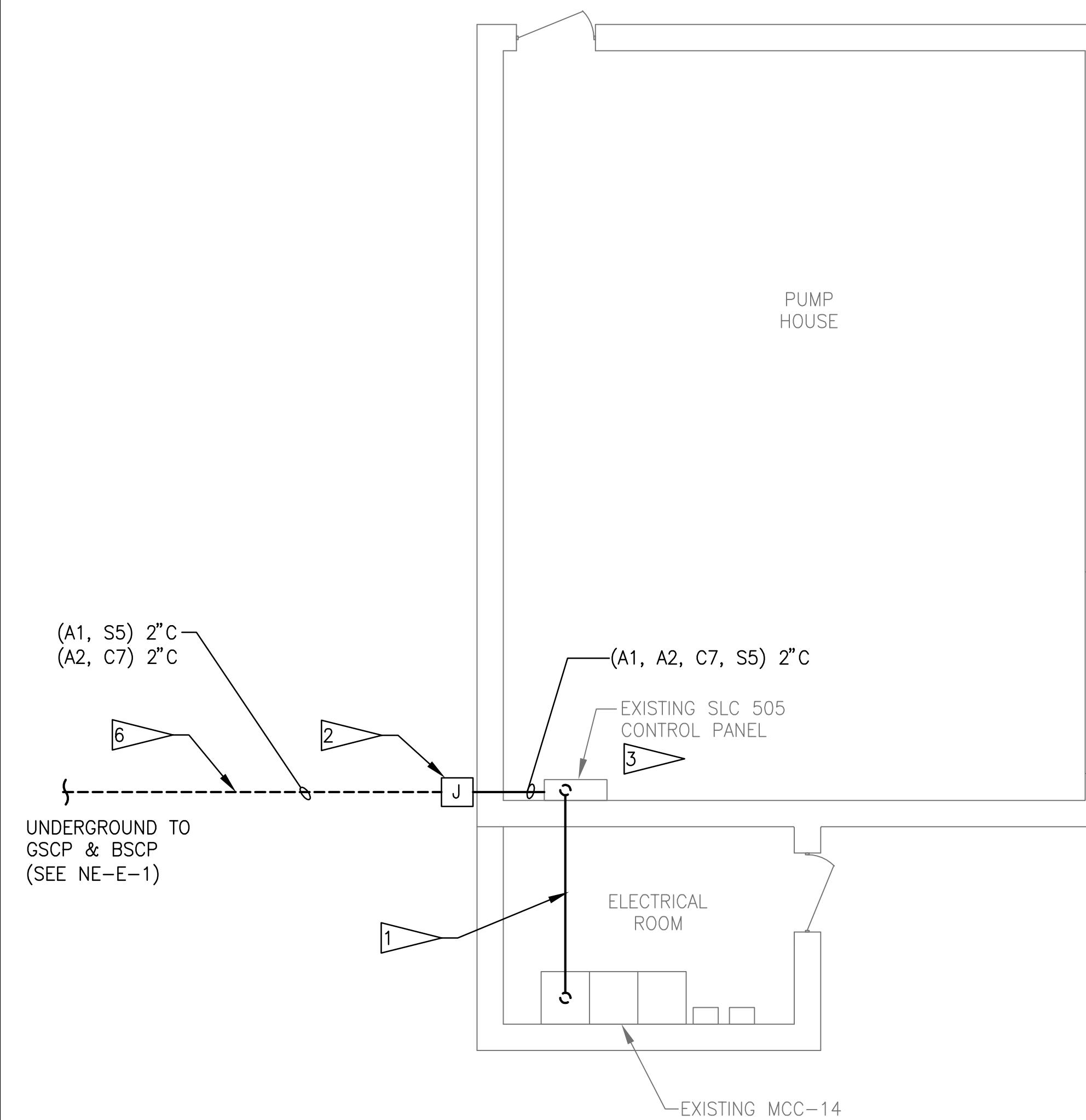
NORTHEAST APCF
PROPOSED ELECTRICAL PLAN
INFLUENT ELECTRICAL PLAN

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SCALE VERT. AS SHOWN	SURVEYED BY BOOK NO.	JOB NO.	
HORIZ.	DATE DRAWN DWG NAME	NE-E-03	
	APPROVED FOR CONSTRUCTION	MALCOLM L. KOROS, P.E. 0053622	DATE

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THOMAS W. FRIEDRICH 0051281
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By Date 1-25-2010
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RECORD DRAWING
By Date 1-25-2010
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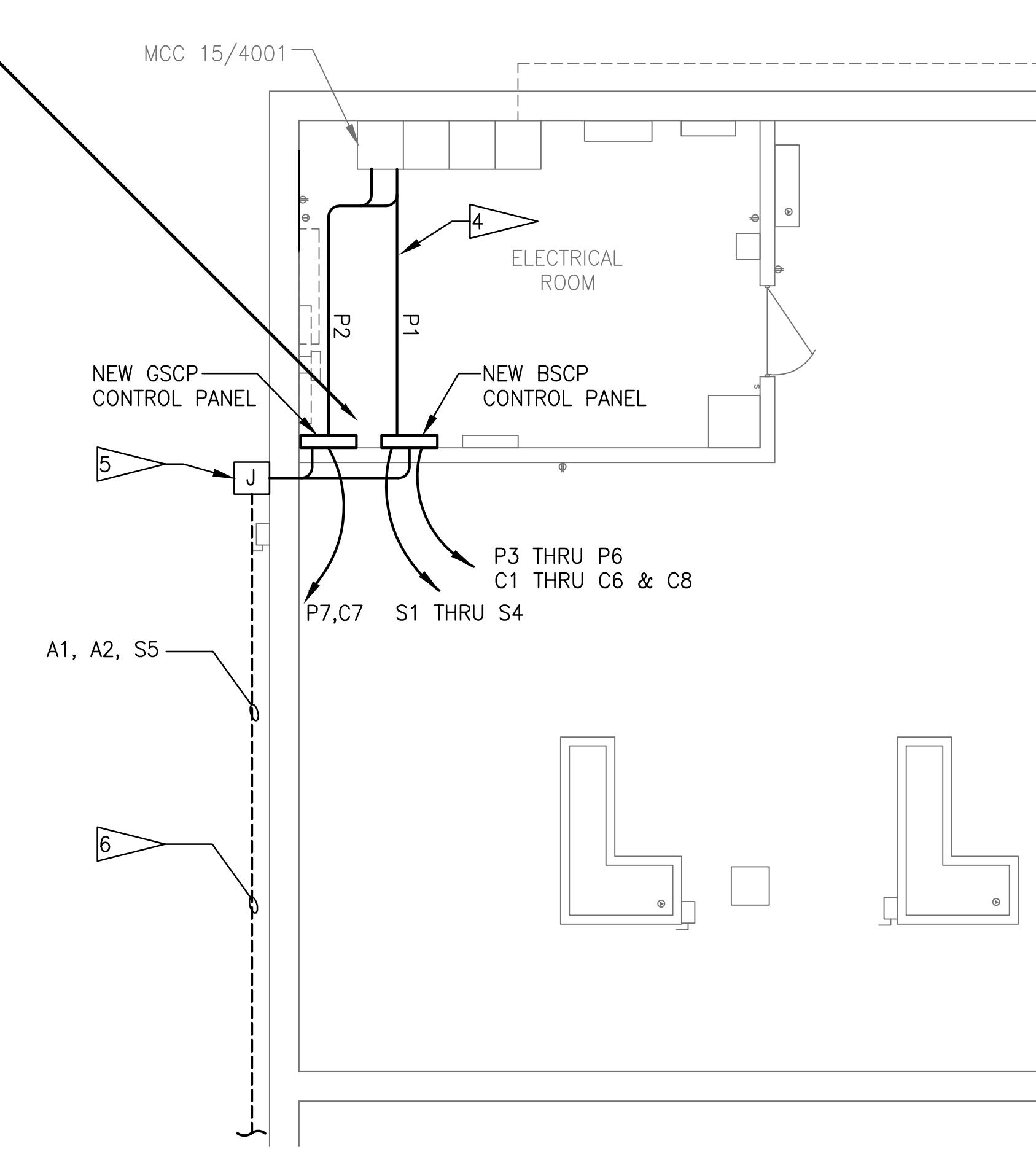


PRIMARY CLARIFIER PUMP HOUSE-UPPER LEVEL PLAN

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

GRAPHIC SCALE
 0 1 2 4
 SCALE IN FEET
 3/8"=1'-0"

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



INFLUENT STRUCTURE-LOWER LEVEL ELECTRICAL PLAN

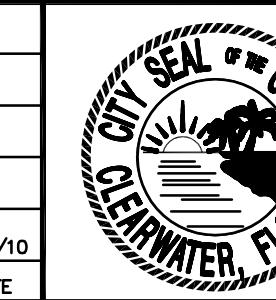
SCALE: 3/8"=1'-0"

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.



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



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



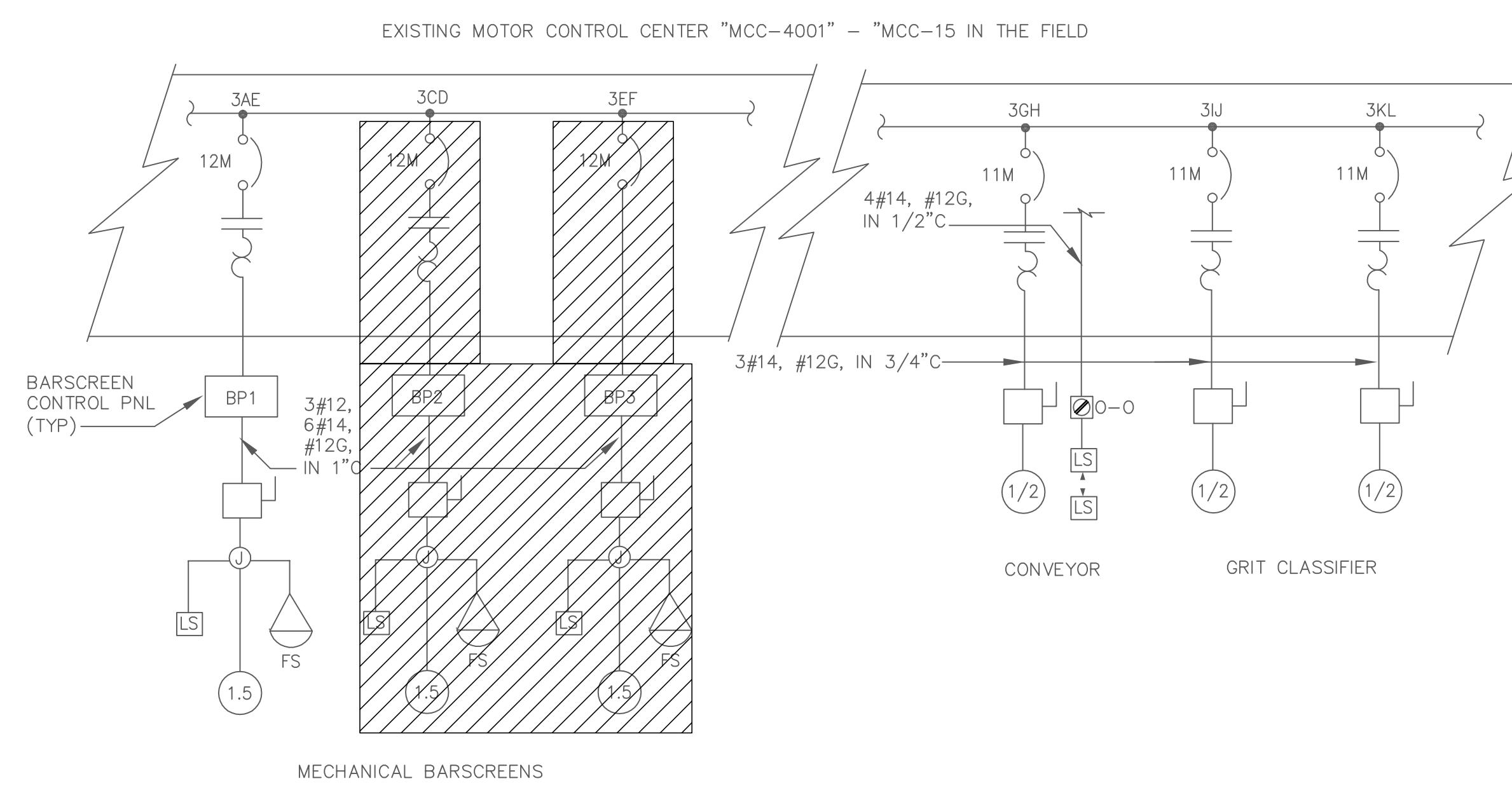
HEADWORKS SCREENING AND GRIT REMOVAL IMPROVEMENTS FOR THE
NORTHEAST, MARSHALL STREET AND EAST ADVANCED POLLUTION
CONTROL FACILITIES (APCFs)

DRAWN BY	DESIGNED BY	CHECKED BY	CONTRACT NO.
JHV	AJM	TWF	03720-022-01
SCALE	BOOK NO.		
VERT. AS SHOWN	JOB NO.		
HORIZ.	DWG NAME		
	NE-E-04		

APPROVED FOR
CONSTRUCTION
THOMAS W. FRIEDRICH, #P.E. 0061281
DATE

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

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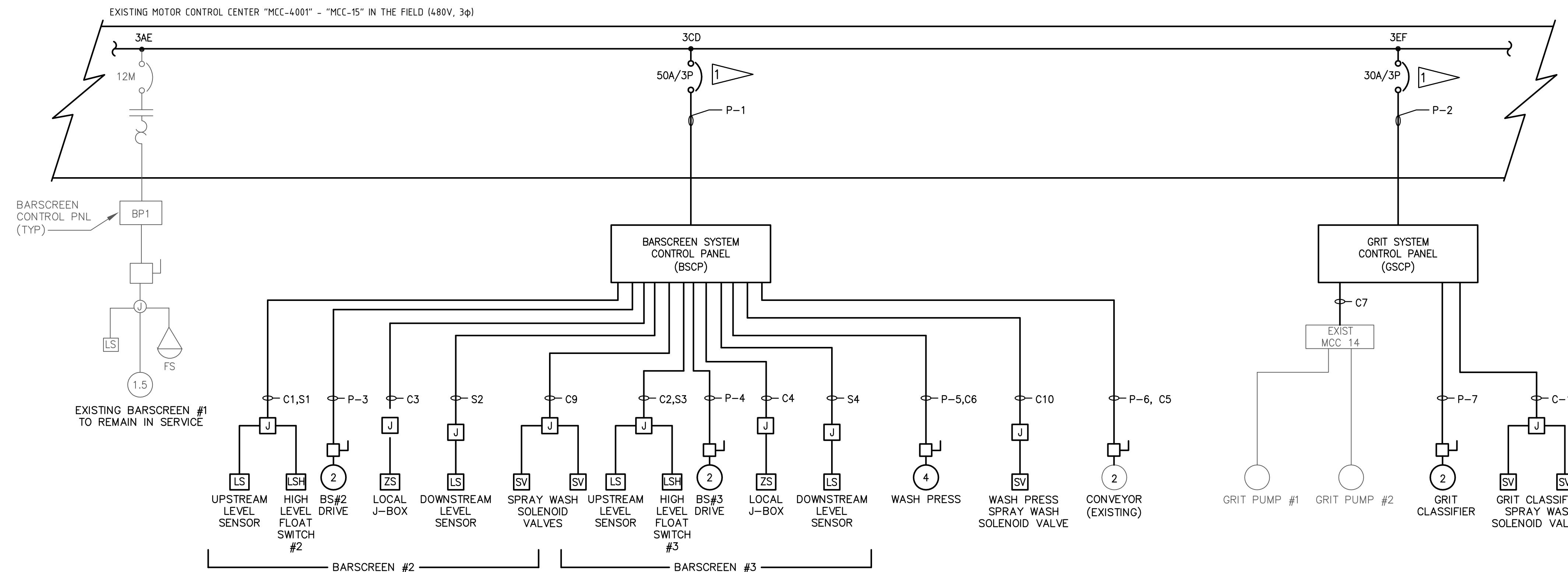
EXISTING MOTOR CONTROL CENTER "MCC-4001" ONE-LINE DIAGRAM

CIRCUIT NUMBER	FROM	TO	VOLTS	CONDUCTORS			CONDUIT ①	ALARM OR FUNCTION
				ANALOG	DISCRETE	GROUND		
A1	BARSCREEN CONTROL PANEL	EXISTING SLC5/05 PANEL	120	-	6#14	-	2"	BARSCREEN ALARM AND STATUS
A2	GRIT SYSTEM CONTROL PANEL	EXISTING SLC5/05 PANEL	120	-	12#14	-	3/4"	GRIT SYSTEM ALARM AND STATUS
C1	BARSCREEN CONTROL PANEL	FLOAT SWITCH #2	120	-	2#14	1#14	3/4"	STATUS
C2	BARSCREEN CONTROL PANEL	FLOAT SWITCH #3	120	-	2#14	1#14	3/4"	STATUS
C3	BARSCREEN CONTROL PANEL	BARSCREEN #2 LOCAL J-BOX	120	-	12#14	-	3/4"	STATUS AND CONTROL
C4	BARSCREEN CONTROL PANEL	BARSCREEN #3 LOCAL J-BOX	120	-	12#14	-	3/4"	STATUS AND CONTROL
C5	BARSCREEN CONTROL PANEL	SCREENING CONVEYOR	120	-	12#14	-	3/4"	STATUS AND CONTROL
C6	BARSCREEN 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	BARSCREEN CONTROL PANEL	FLOAT SWITCH #1	120	-	2#14	-	3/4"	STATUS
C9	BARSCREEN CONTROL PANEL	BAR SCREEN SOLENOIDS	120	-	4#14	2#14	3/4"	CONTROL
C10	BARSCREEN 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	BARSCREEN #2 UPSTREAM LEVEL SENSOR	BARSCREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S2	BARSCREEN #2 DOWNSTREAM LEVEL SENSOR	BARSCREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S3	BARSCREEN #3 UPSTREAM LEVEL SENSOR	BARSCREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S4	BARSCREEN #2 DOWNSTREAM LEVEL SENSOR	BARSCREEN CONTROL PANEL	-	CFWE	-	-	3/4"	ULTRASONIC LEVEL SIGNAL
S5	BARSCREEN CONTROL PANEL	EXISTING SLC5/05	-	4 TSP#16	-	-	3/4"	BARSCREEN ANALOG SIGNALS

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.

CIRCUIT NUMBER	BREAKER NO. POLES	TRIP AMPS	STARTER SIZE	POWER			CONDUIT SIZE	NAME PLATE
				PHASE CNDCT	NEUTRAL CNDCT	GND WIRE		
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"	BARSCREEN #2
P-4	3	-	-	3#12	-	1#12	3/4"	BARSCREEN #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



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

FLAG NOTES

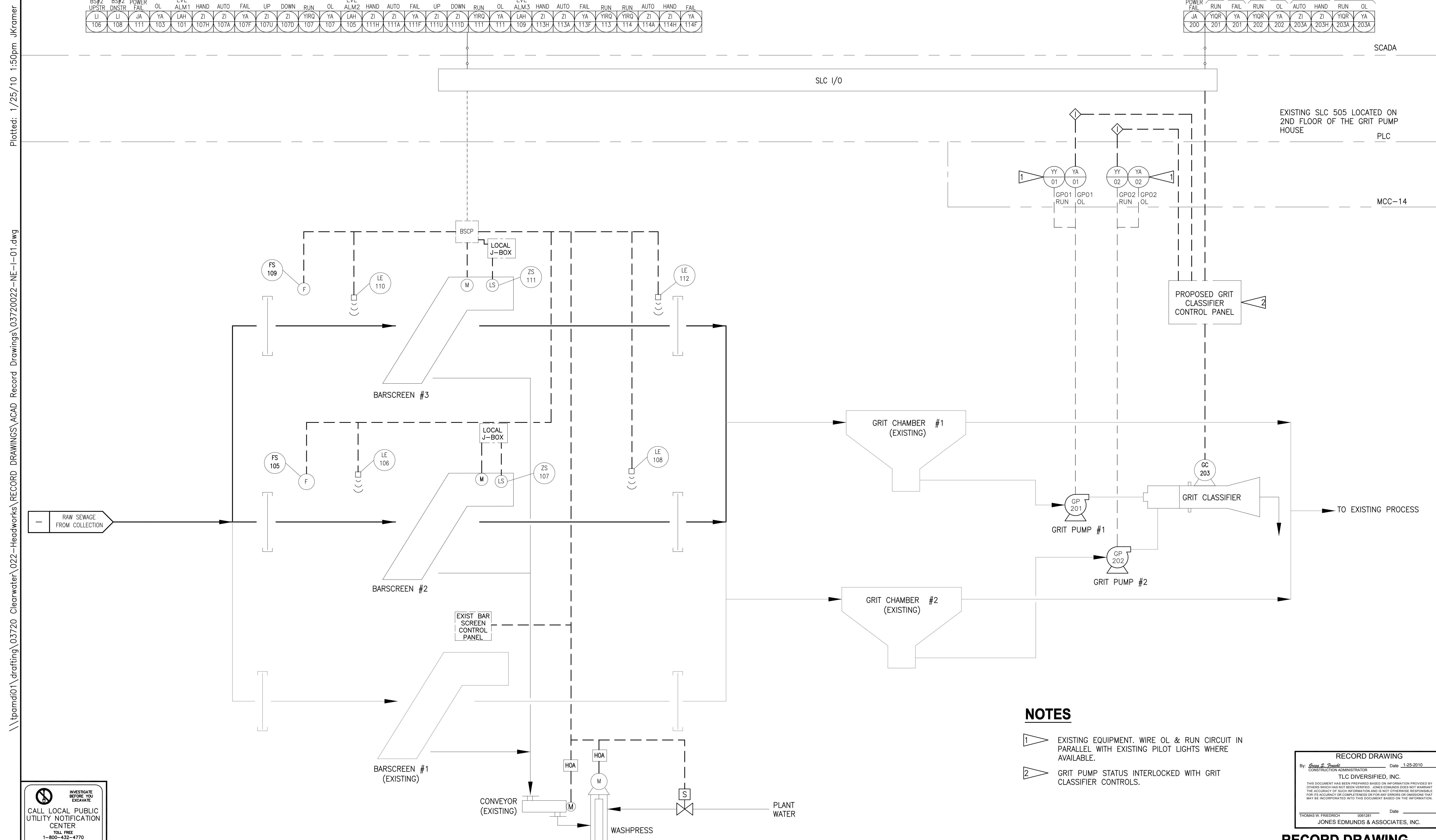
- 1 ▲ REPLACE EXISTING MOTOR STARTER UNIT WITH MCC COMPATIBLE CIRCUIT BREAKER OF SIZE INDICATED.
- 2 ▲ TOTAL OF FIVE SPRAY WASH SOLENOID VALVES. ONE FOR NEW WASHING PRESS, TWO FOR NEW SCREENS, & TWO FOR GRIT CYCLONES.

RECORD DRAWING
By George S. Powell
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.
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THOMAS W. FRIEDRICH 0051281
JONES EDMUND'S & ASSOCIATES, INC.

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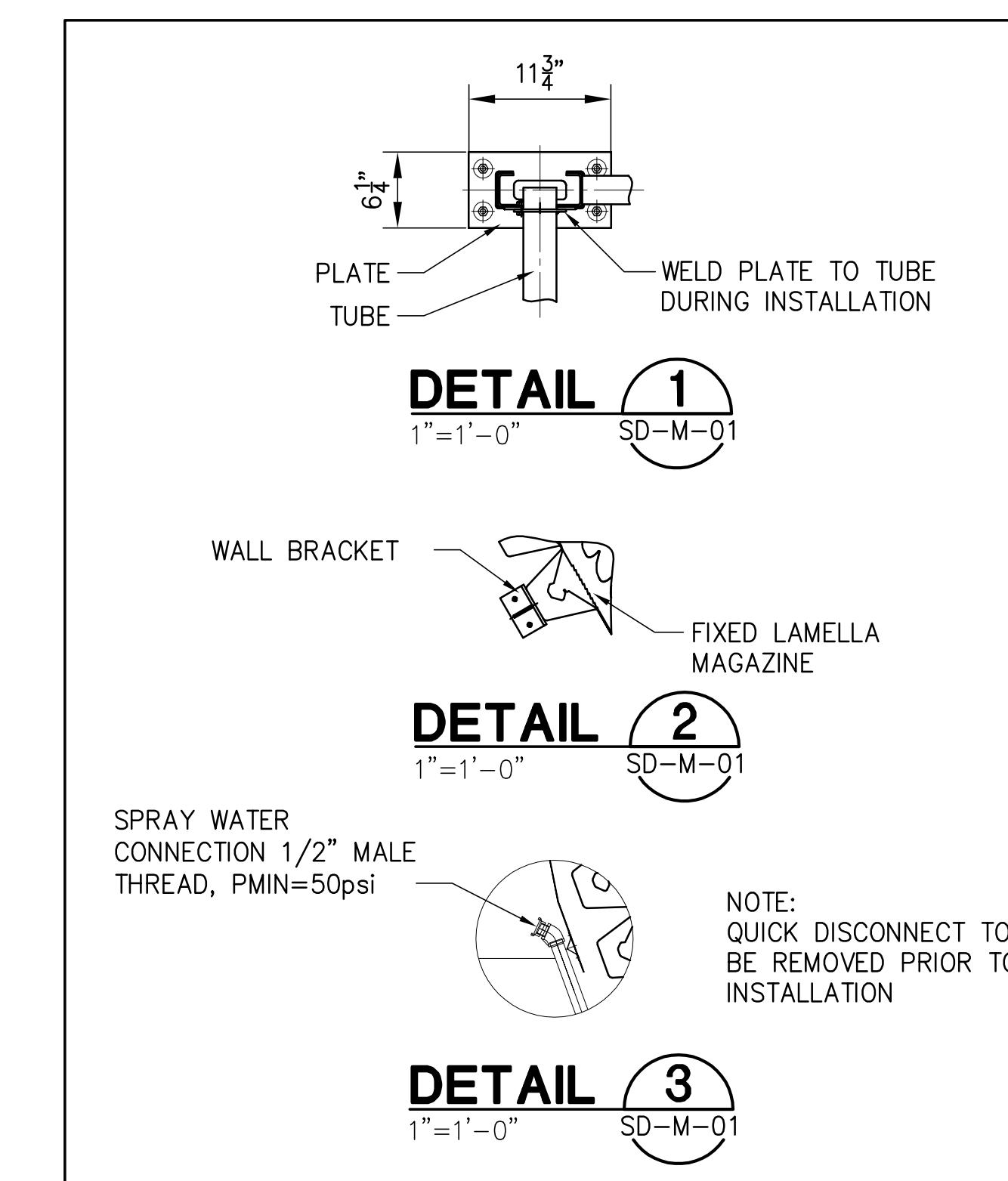
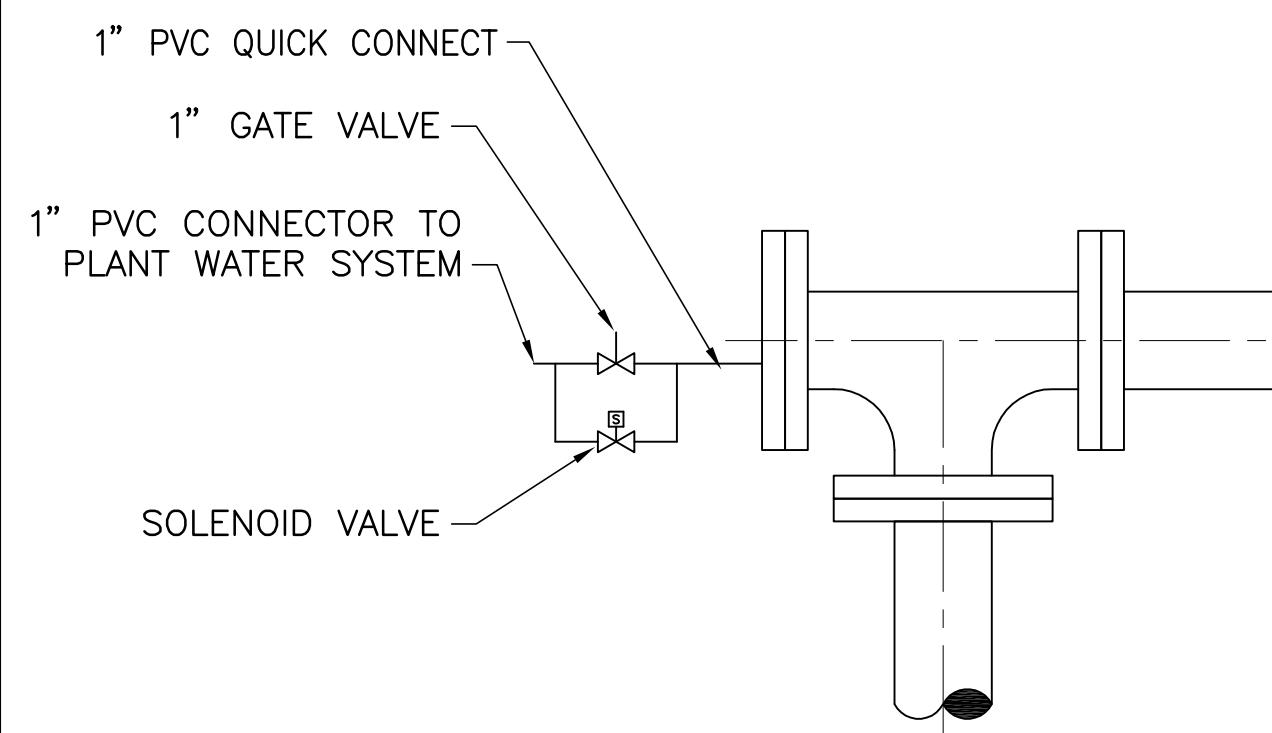
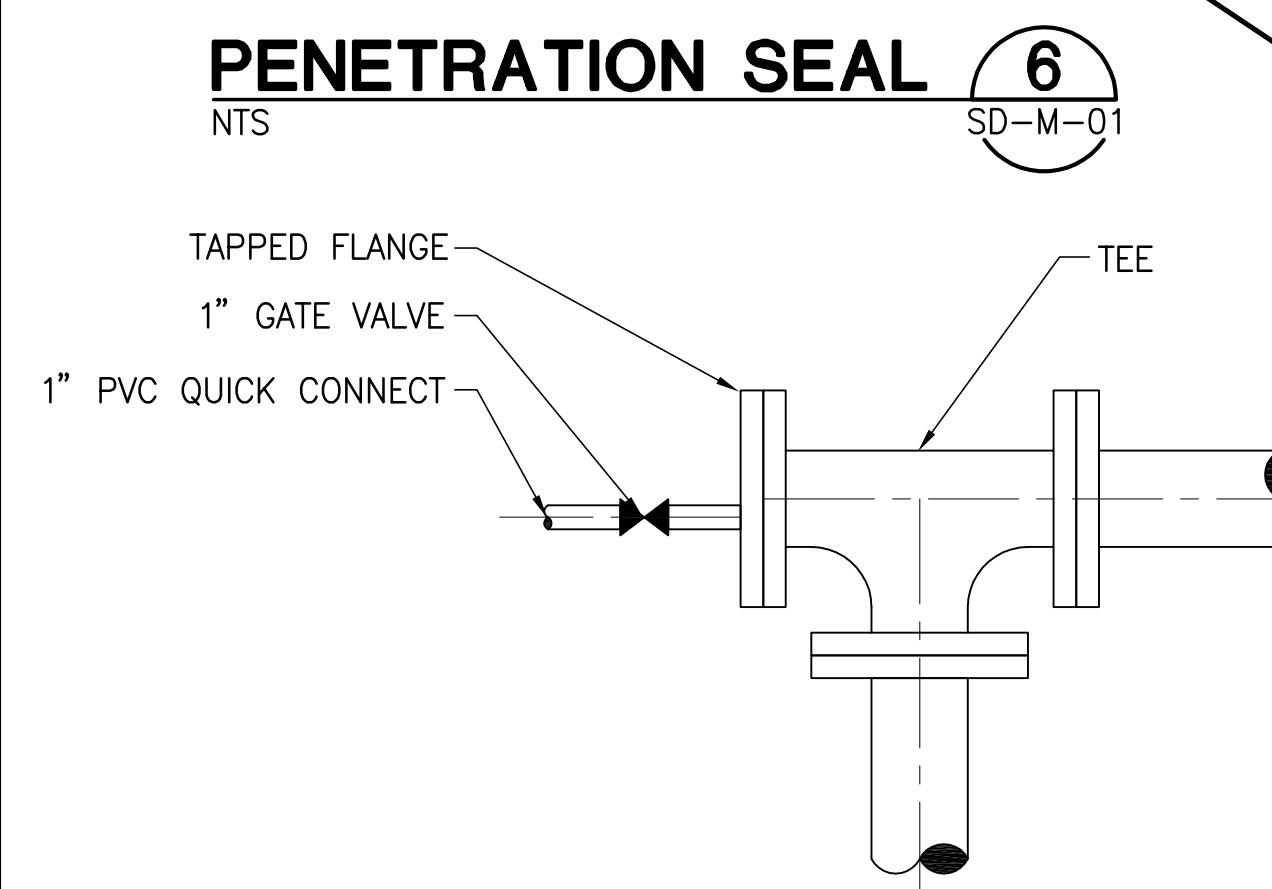
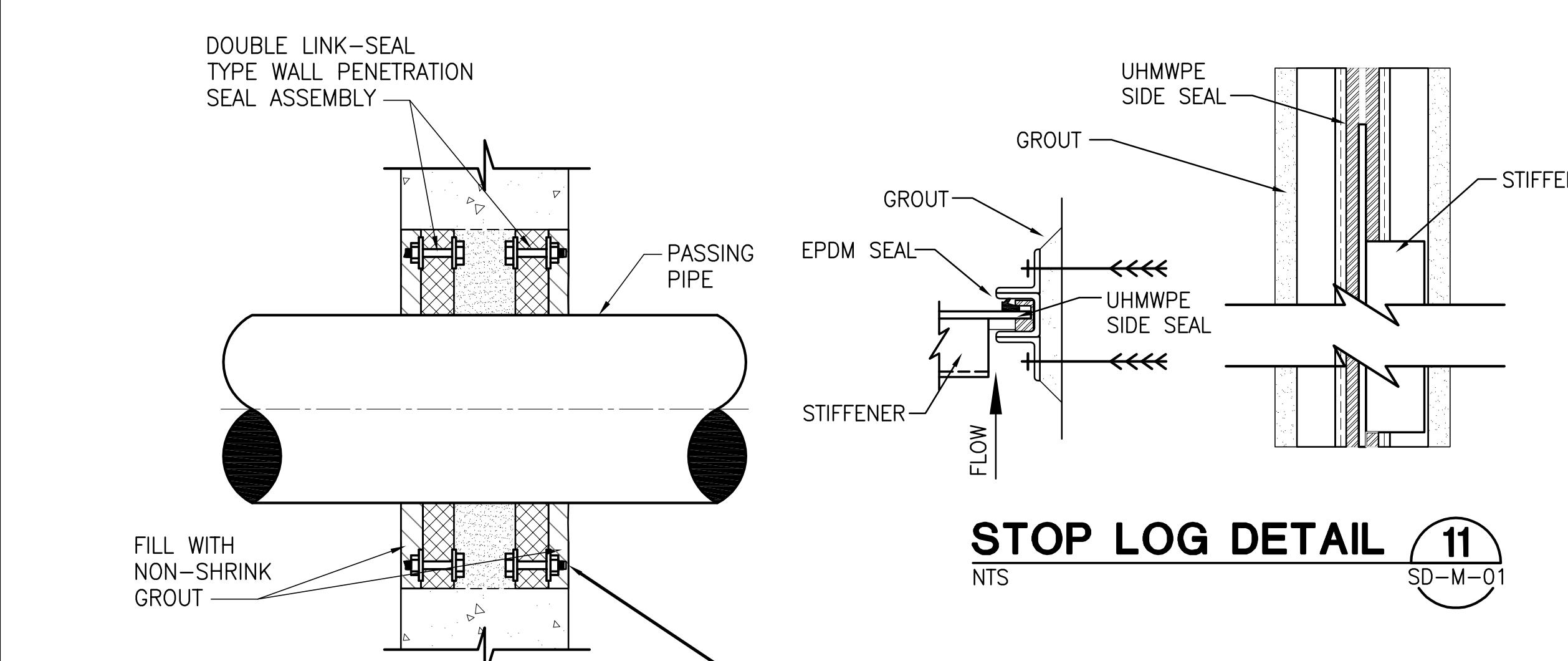
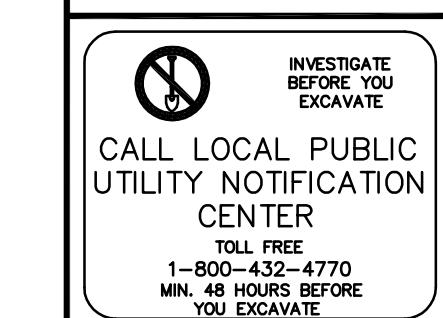
RECORD DRAWINGS	DRAWN BY	DESIGNED BY	CHECKED BY
SURVEYED BY		JRA/MLK	CONTRACT NO.
REVIEWED BY		SCALE	
APPROVED BY	RECORD DRAWING REVISION ▲ REVISION	VERT. AS SHOWN	JOE NO.
CITY ENGINEER MICHAEL D. QUILLIN, P.E. # 33721	MS 1/12/10	HORIZ.	03720-022-01
REVISION	BY DATE	APPROVED FOR CONSTRUCTION	DATE
CITY OF CLEARWATER, FLORIDA ENGINEERING DEPARTMENT 100 S. Myrtle Ave. Clearwater, FL 33756			
CITY SEAL CLEARWATER, FLORIDA			
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 DGP SURVEYED BY BOOK NO. DATE DRAWN DWG NAME SHEET NO. APPROVED FOR CONSTRUCTION MALCOLM L. KOROS, P.E. 0053622 DATE			



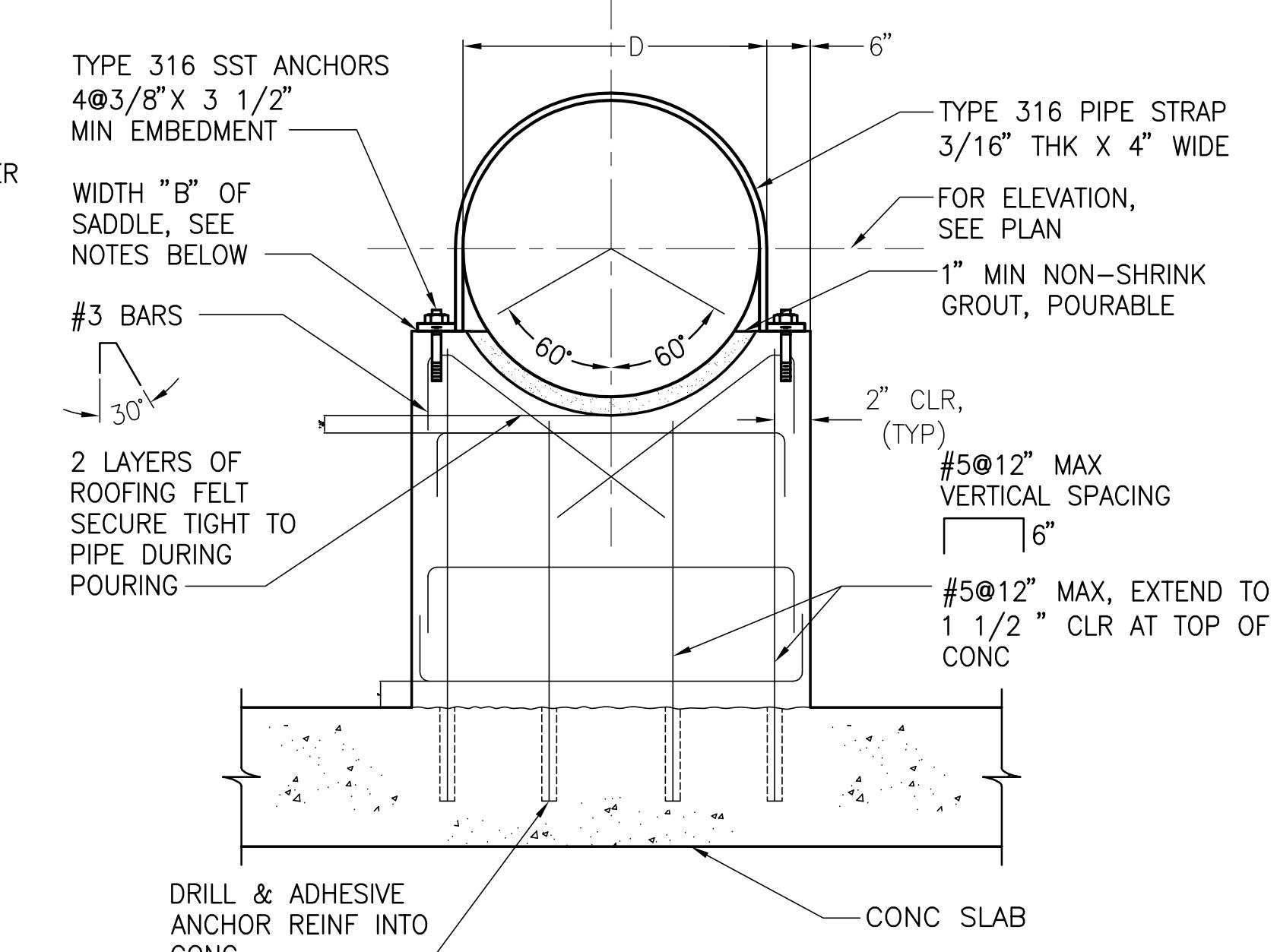
CITY OF CLEARWATER, FLORIDA
ENGINEERING DEPARTMENT
100 S. Myrtle Ave.
Clearwater, Fl 33756

JONES
EDMUND'S

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

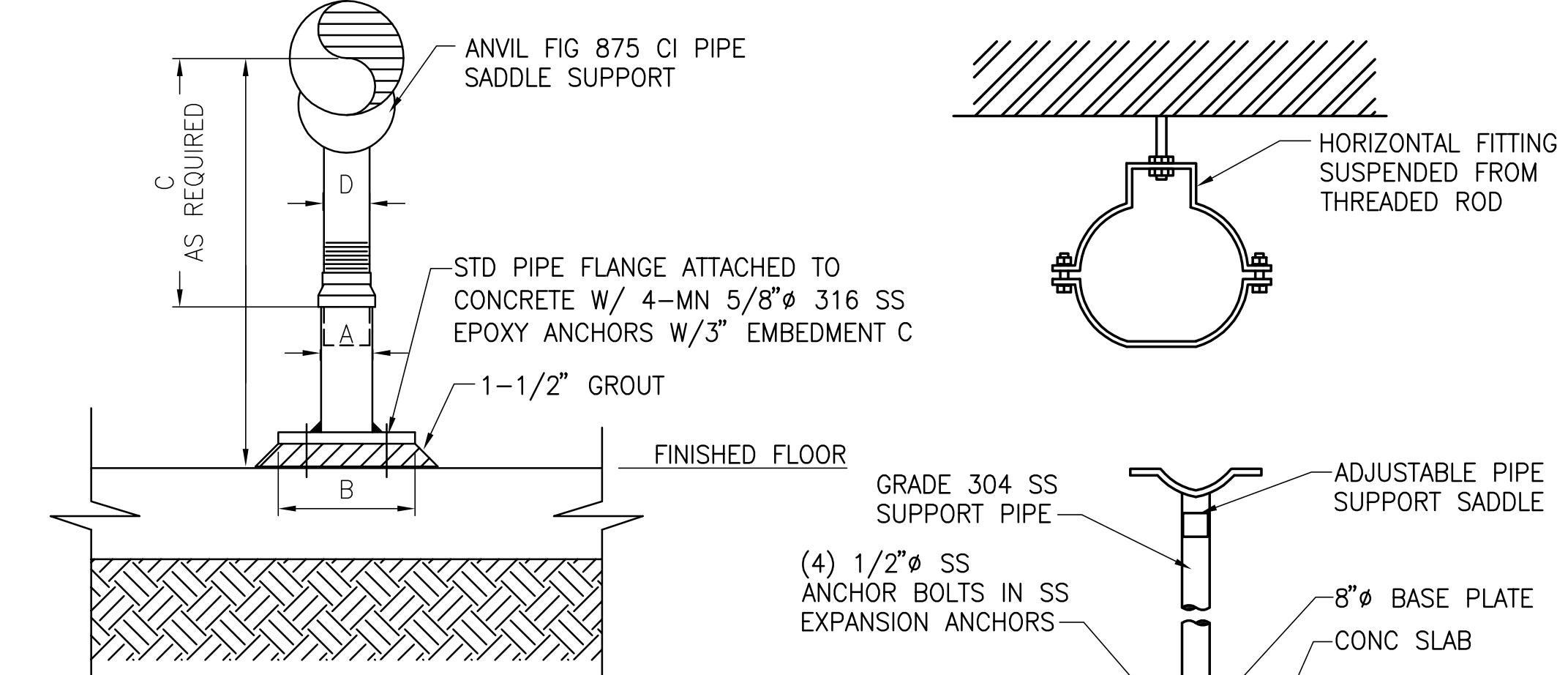


SCREEN DETAILS



CONCRETE DIP PIPE SUPPORT 7

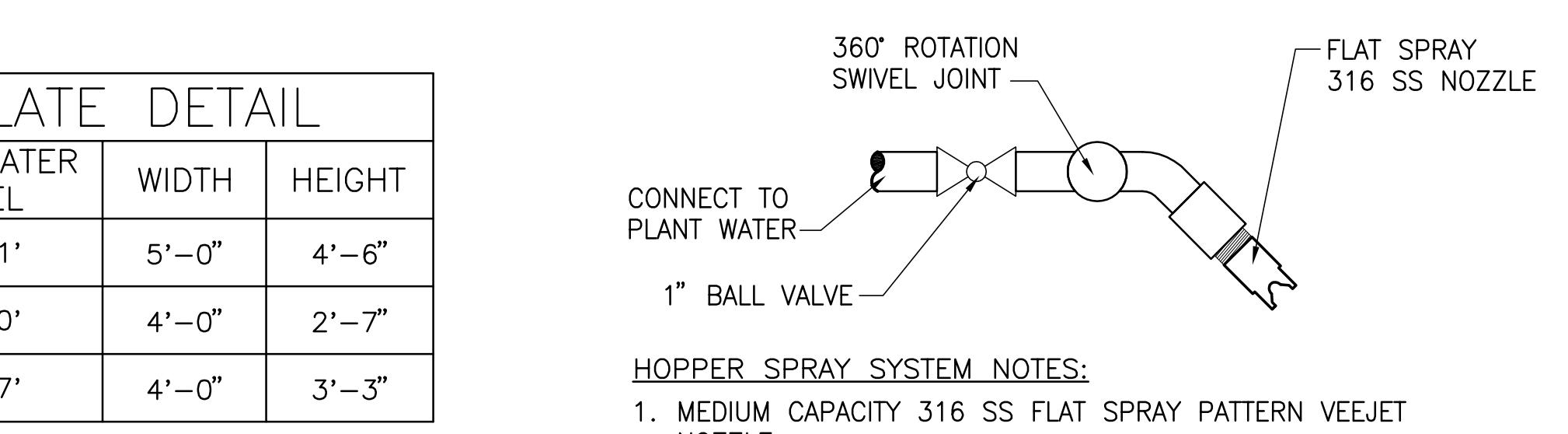
NTS SD-M-01



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	11-1/2	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



HOPPER SPRAY WASH SYSTEM 10

NTS SD-M-01

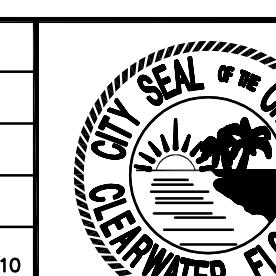
RECORD DRAWING
SD-M-01

By George S. Friedrich
CONSTRUCTION ADMINISTRATOR
TLC DIVERSIFIED, INC.

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THOMAS W. FRIEDRICH 0061281
JONES EDMUND'S & ASSOCIATES, INC.

RECORD DRAWING	
RECORDED BY	George S. Friedrich
DRAWN BY	Date 1-25-2010
SURVEYED BY	Surveyor Book No. 03720-022-01
REVIEWED BY	Reviewer DWG Name
APPROVED BY	Approver SHEET NO. SD-M-01
RECORD DRAWINGS	Contract No.
SURVEYED BY	DRAWN BY
REVIEWED BY	DESIGNED BY
APPROVED BY	CHECKED BY
RECORD DRAWING REVISION	CONTRACT NO.
REVISION	TDW
MS 1/12/10	DATE
BY DATE	BOOK NO.
RECORD DRAWING REVISION	JOB NO.
REVISION	03720-022-01
MS 1/12/10	DATE
BY DATE	DWG NAME
RECORD DRAWING REVISION	SHEET NO.
REVISION	SD-M-01
MS 1/12/10	DATE
BY DATE	THOMAS W. FRIEDRICH, P.E. 0061281



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)

STANDARD DETAILS
MECHANICAL
DETAILS & SECTIONS

DRAWN BY	George S. Friedrich	DESIGNED BY	TDW
SCALE	1:100	CONTRACT NO.	03720-022-01
VERT. AS SHOWN		BOOK NO.	
HORIZ.		DWG NAME	
		SHEET NO.	SD-M-01
APPROVED FOR		DATE	
CONSTRUCTION		THOMAS W. FRIEDRICH, P.E. 0061281	