

Excellence for Generations.

Submittal

Job: 32701
 PORTLAND - BAXTER CSO

Spec Section No: 534
 Submittal No: 30
 Revision No: 1
 Sent Date: 4/29/2013

Spec Section Title: Precast structural concrete
 Submittal Title: 534.80 - Precast concrete building

Contractor:
 SARGENT CORPORATION

Vendor:
 * CALCULATIONS AND
 RE STAMPED REBAR
 DRAWINGS INCLUDED.

1. Coordinate vent opening with manufacturer.
2. Exterior surface shall be coordinated with City representative.
3. Finish floor elevation to be set at elevation 14.00.

Other:
 Portland Public Works
 Bradley Roland

Contractor's Stamp

SARGENT CORPORATION

By GJA

No Exception Taken
 Revise and Resubmit
 Approved as Noted
 Approved

Project No. 32701 Submittal No. 30-Rev 1

APR 29 2013

Reviewed only for conformance with the information given in the Contract Documents and compliance with the design concept for the Project. Review does not imply contractor/supplier has responsibility for errors, omissions or deviations from requirements of the Contract Documents. Sargent/contractor/supplier is responsible for dimensions to be constructed and verified in the field. For questions and details to the contractor, proceed to the primary architect, engineer and provide a written explanation.

Architect's Stamp

ENGINEER'S STAMP / DRAWING / SUBMITTAL REVIEW

Engineer's Review		Contractor's Response	
No exceptions taken <input type="checkbox"/>	Rejected <input type="checkbox"/>	Confirm <input type="checkbox"/>	
Note markings <input type="checkbox"/>	Comments Attached <input checked="" type="checkbox"/>	Resubmit <input type="checkbox"/>	

Engineer's review is for general conformance with the design concept and contract documents. Markings or comments shall not be construed as relieving the contractor from compliance with the project's plans and specifications, nor departures therefrom. The contractor remains responsible for details and accuracy, for confirming and correlating all quantities and dimensions, for selecting fabrication processes, for techniques of assembly, and for performing his work in a safe manner.

SEBAGO TECHNICS, INC. Date Received 4-29-13

By Craig Burgess Date Reviewed 5-13-13

PROJECT _____ MADE BY BCH DATE 4/17/13
FILE NO. 2017-056 CHKD BY _____ DATE _____

Control Station

$s_{now} = 45 \times 1.7 = 77 \text{ psf} \checkmark$

$roof \text{ slab} = \frac{113 \text{ psf} \times 1.4}{2.36} = \frac{159}{2.36}$

$M_w = .24 \left(\frac{9.5^2}{8} \right) = 2.71 \text{ K}'$

$F_y = 60 \quad f'_c = 4000 \text{ psi} \quad b = 12 \quad d = 7.25$

$A_s = .2 \quad \phi M_w = \overset{OK}{6.39} \text{ K}'$



ASSUME WIND ON WALLS = $40 \text{ psf} \checkmark$

$w_w = 40 \times 1.7 = 68$
↑ conservative
↑ conservative

$M_w = .068 \left(\frac{9.5^2}{8} \right) = .76 \text{ K}'$

$F_y = 60 \quad f'_c = 4000 \quad b = 12 \quad d = 2 \quad A_s = .2 \quad \phi M_w = 1.67 \text{ K}'$

load per ft of wall = $\frac{.24 (10.33)^2}{4 (8.5')} = .75 \text{ K}'$

$\frac{P}{A} = \frac{.75}{6 (12)} = .01 \text{ ksi}$ negligible

bm @ top of wall $\frac{E_c (.068)}{8} = .273 \text{ K}'$

$M_w = .273 \left(\frac{9.5^2}{8} \right) = 3.08 \text{ K}'$

$F_y = 60 \quad f'_c = 4 \text{ ksi} \quad b = 12 \quad d = 2 \quad A_s = .62 \quad \phi M_w = \overset{OK}{4.31} \text{ K}'$



American Concrete Industries
 1717 Stillwater Ave. Yeazie, ME
 Tel: 207-947-8334
 Fax: 207-947-3580

1022 Minot Ave. Anubum, ME
 Tel: 207-784-1388
 Fax: 207-783-4039

BILL OF MATERIALS

Qty	#	Item
1	1	10'-0" SQ base wt = 10,700 #
1	2	10' SQ body wt = 21,000 #
1	3	10'-4" SQ tapered top slab wt = 12,000#
1	4	3' x 5'-8" Steel Door
1	5	Vent opening
1	6	3' SQ x 8' Entrance slab wt = 900 #
12	7	8 ton filling "Doghouse"

Design Notes:

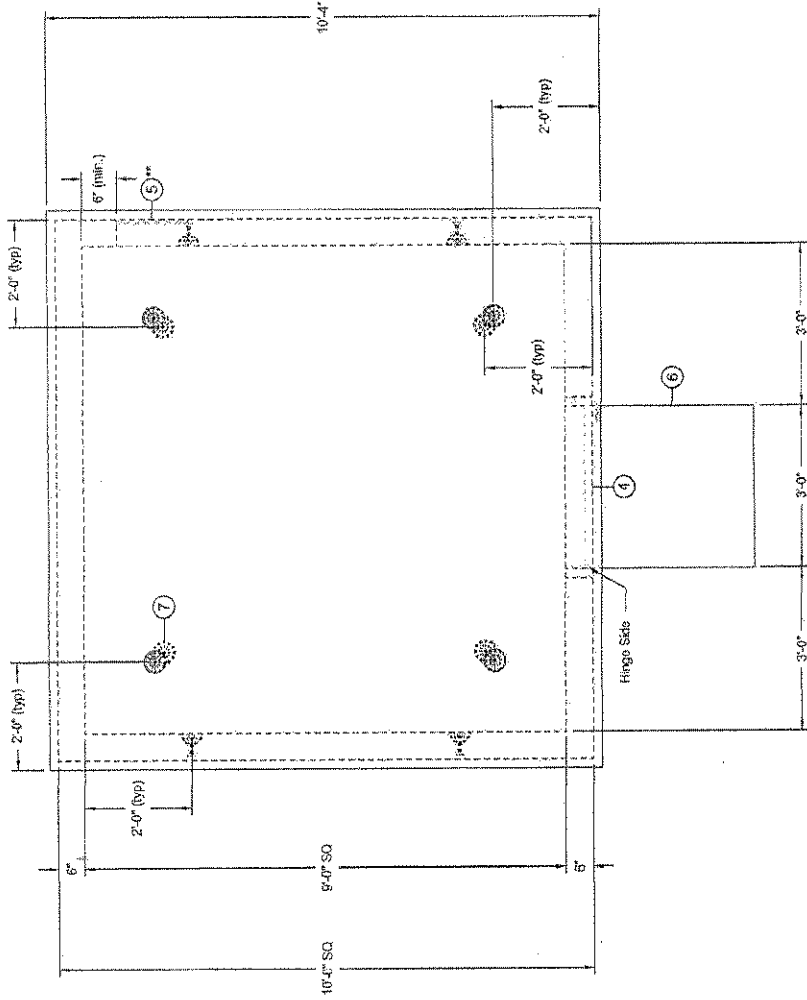
1. Concrete
 - 1.1. Comp. strength min. 5,000psi @ 28 days
 - 1.2. Cement to be Type III per ASTM C-150
 - 1.3. Air-Entrainment min. 5.5%
2. Bar Clearances / Protection:
 - 2.1. Interior 2" CLR
 - 2.2. Exterior 2" CLR
3. Manufacturing & Materials
 - 3.1. Conform strictly to ASTM C1433

STRUCTURE NAME: CSO Control Station
 JOB NAME: Baxter Boulevard
 LOCATION: Portland, ME
 CONTRACTOR: Sargent Corp.
 ENGINEER: Sebago Technics

DRAWN BY: B.R.W.
 DATE: 4/23/13

REV #:
 DATE:

007-27



Plan View

Notes:

- 1) If brick notch in each corner so brick veneer will be flush with exterior concrete
- Contractor to verify size of vent opening

Scale: (Symbol Dimensions) 2"=1'



American Concrete Industries
 1717 Sawwater Ave. Veazie, ME
 Tel: 207-947-8334
 Fax: 207-947-5580

1022 Minot Ave. Auburn, ME
 Tel: 207-784-1388
 Fax: 207-783-4039

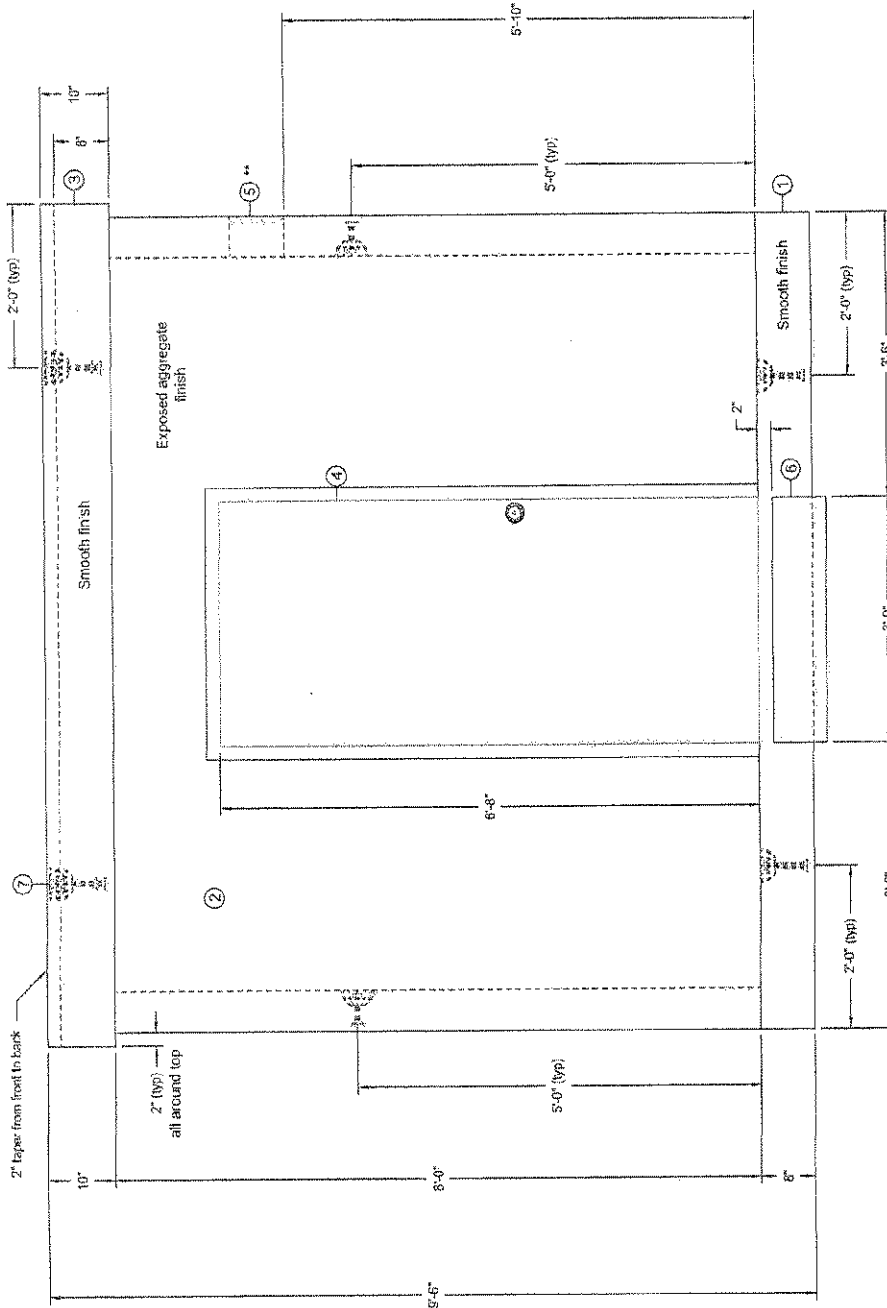
BILL OF MATERIALS

Qty	#	Item
1	1	10'-0" SQ base wt = 10,700 #
1	2	10' SQ body wt = 21,000 #
1	3	10'-4" SQ tapered top slab wt = 12,000#
1	4	3' x 8' 8" Steel Door
1	5	Vent opening
1	6	3' SQ x 8' Entrance Slab wt = 900 #
12	7	8 ton lifting "Dogbone"

Design Notes:

1. Concrete
 - 1.1. Comp. strength: min. 4,000psi @ 28 days
 - 1.2. Cement to be Type II per ASTM C-150
 - 1.3. Air-Entrainment: min. 5.5%
2. Bar Clearance / Protection:
 - 2.1. Interior 2" CLR
 - 2.2. Exterior 2" CLR
3. Manufacturing & Materials
 - 3.1. Conform strictly to ASTM C1433

STRUCTURE NAME:	CSO Control Station
JOB NAME:	Baxter Boulevard
LOCATION:	Portland, ME
CONTRACTOR:	Sargent Corp.
ENGINEER:	Sabago Technics
DRAWN BY:	B.R.W
DATE:	4/23/13
REVA:	
DATE:	
	007-28



Front View

Notes:

- 1) 2" thick notch in each corner so brick veneer will be flush with exterior concrete
- 2) Contractor to verify size of vent opening

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

American Concrete Industries
 1711 Silchester Ave. Veazie, ME
 Tel: 207-947-8334
 Fax: 207-947-3580

1032 Minot Ave. Auburn, ME
 Tel: 207-784-1388
 Fax: 207-783-4039

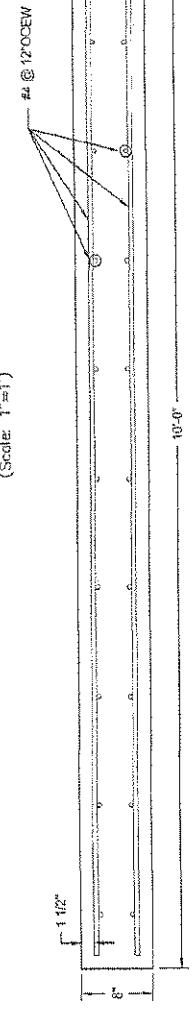
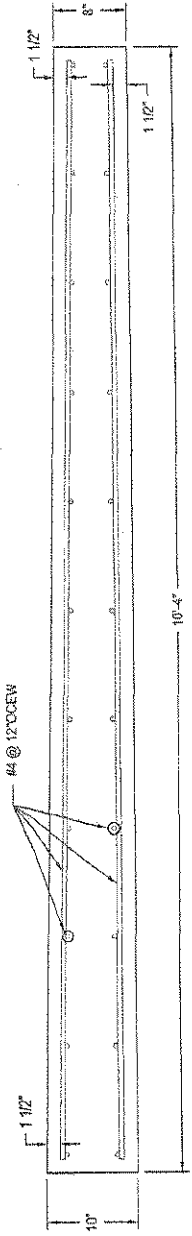
BILL OF MATERIALS

Qty	#	Item
1	1	10'-0" SQ base wt = 10,700 #
1	2	10' SQ body wt = 21,000 #
1	3	10'-4" SQ tapered top slab wt = 12,000#
1	4	3' x 8'-8" Steel Door
1	5	Vent opening
1	6	3' SQ x 8" Entrance Slab wt = 900 #
12	7	8 ton lifting "Dogbone"

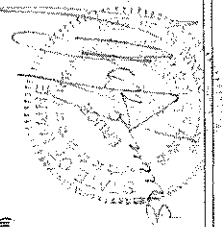
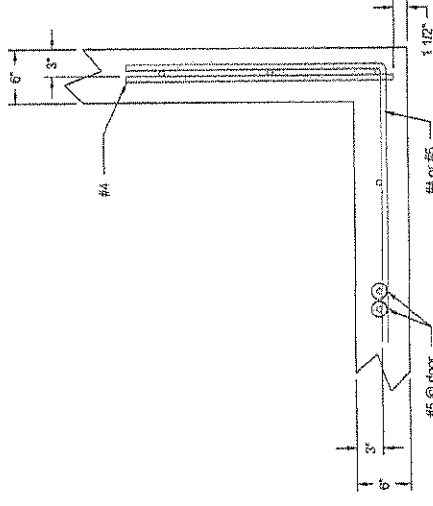
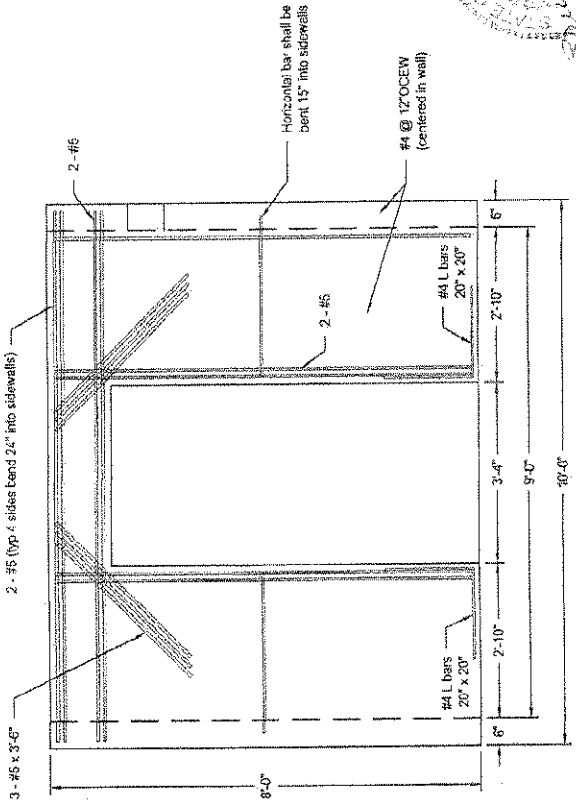
Design Notes:

- Concrete
 - Comp. strength min. 4,000psi @ 28 days
 - Cement to be Type III per ASTM C-150
 - Air-Entrainment: min. 5.5%
- Bar Clearance / Protection:
 - Interior 2" CLR
 - Exterior 2" CLR
- Manufacturing & Materials
 - Conform strictly to ASTM C1433

STRUCTURE NAME:	CSO Control Station
JOB NAME:	Baxter Boulevard
LOCATION:	Portland, ME
CONTRACTOR:	Sargent Corp.
ENGINEER:	Seabago Technics
DRAWN BY:	B.R.W
DATE:	4/23/13
REV#:	0.01
	DATE: 4/25/13
	007-29

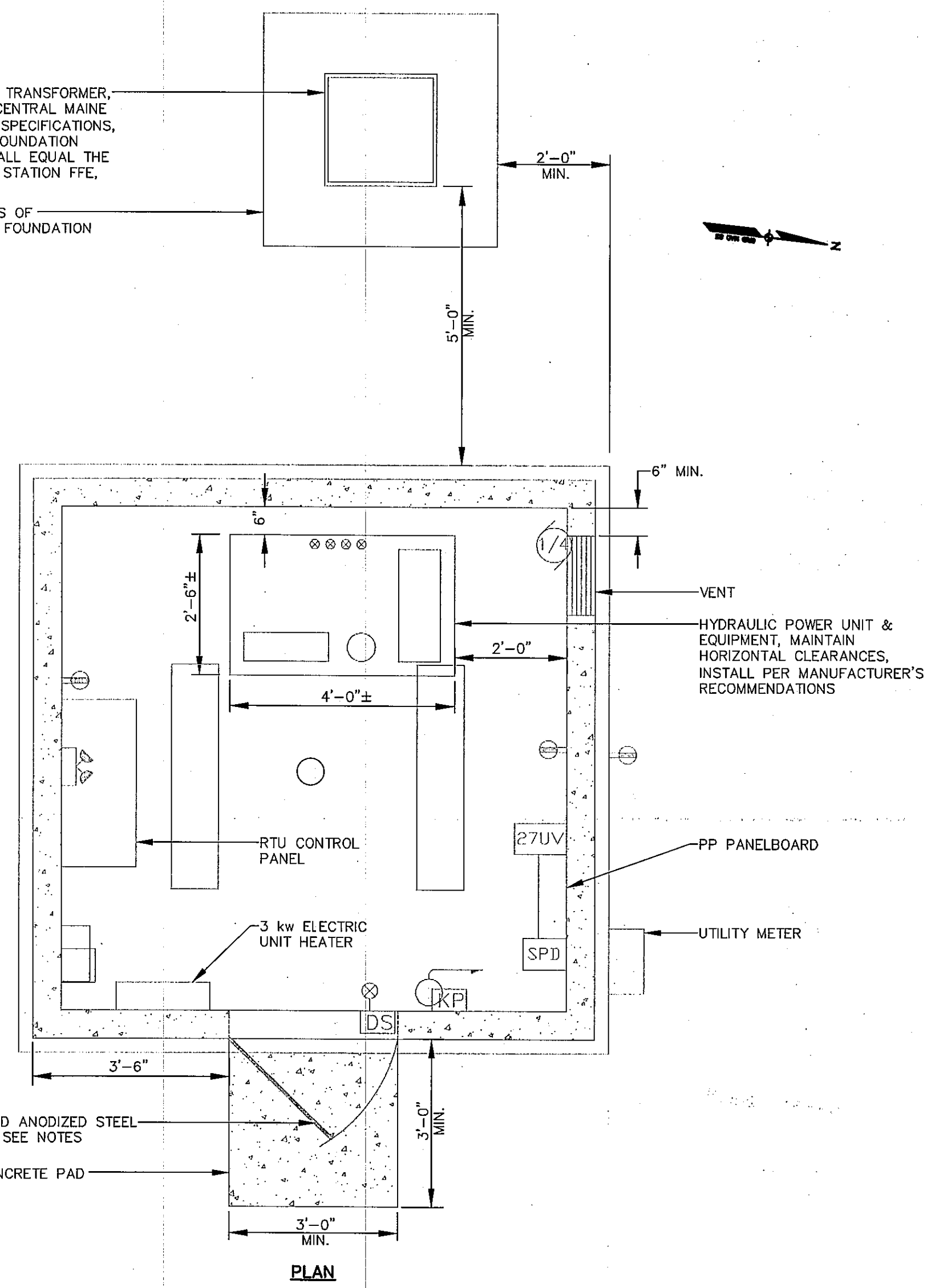


Building Detail

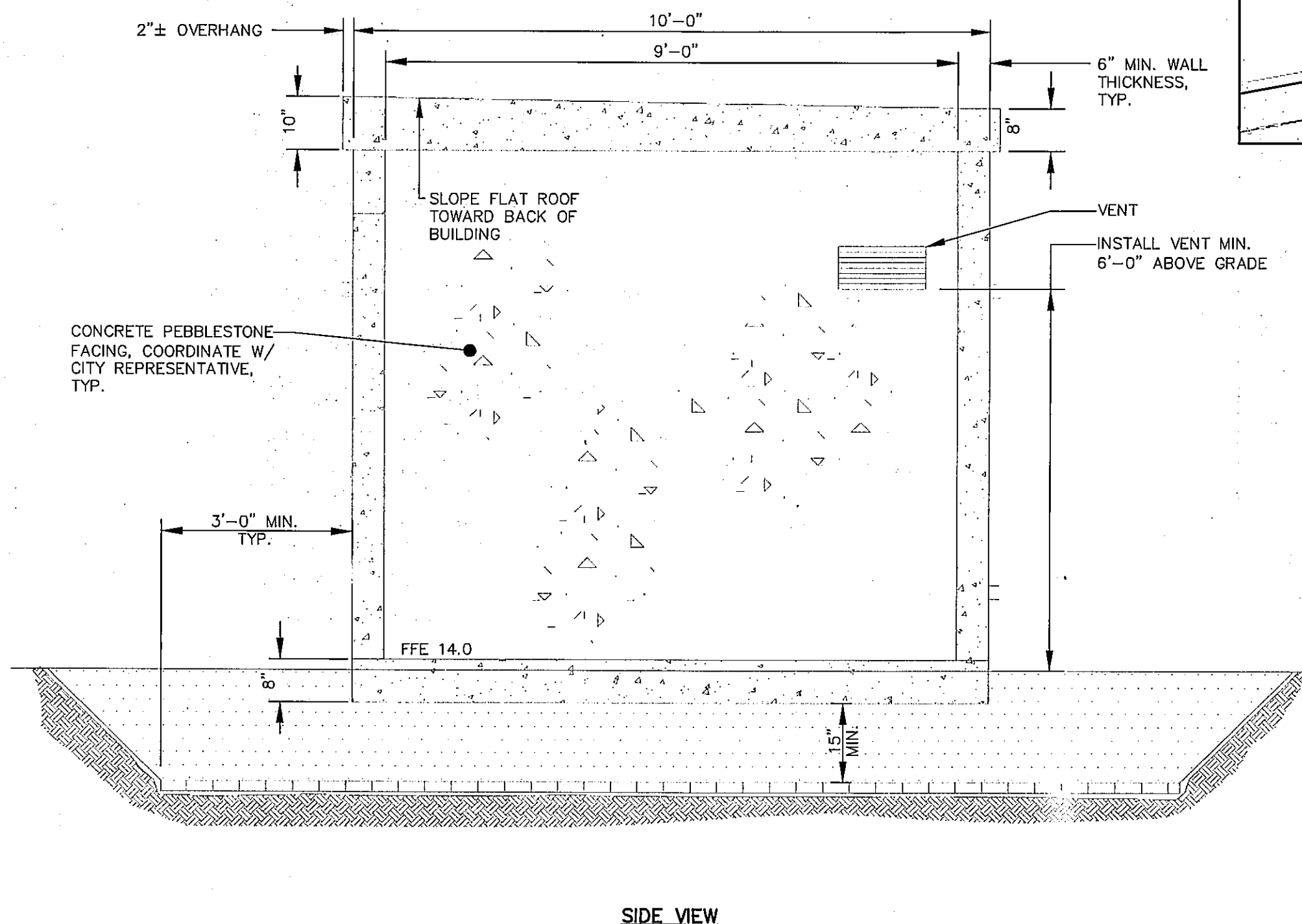
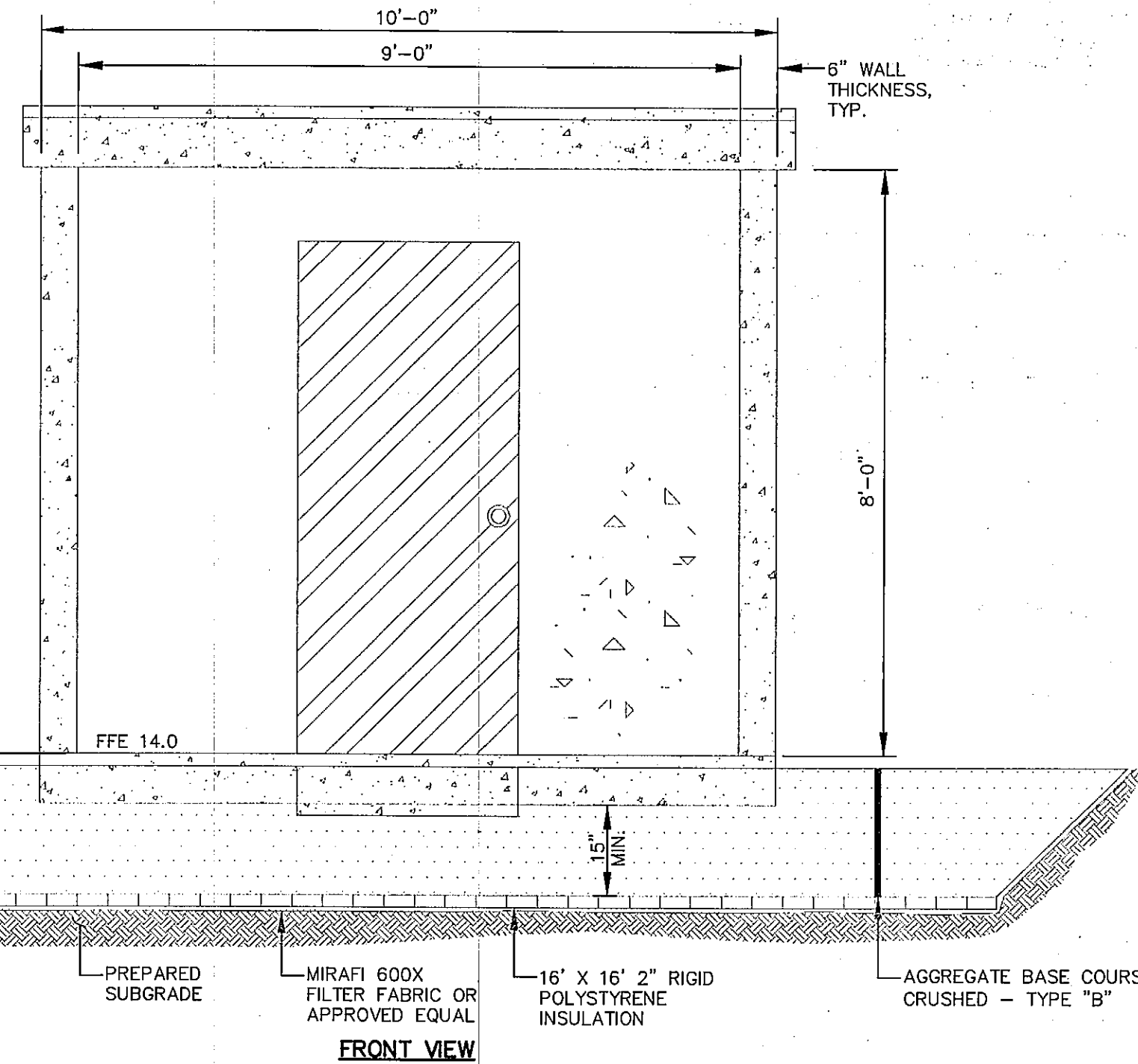


Scale: (Unless Otherwise Noted) 1"=1'

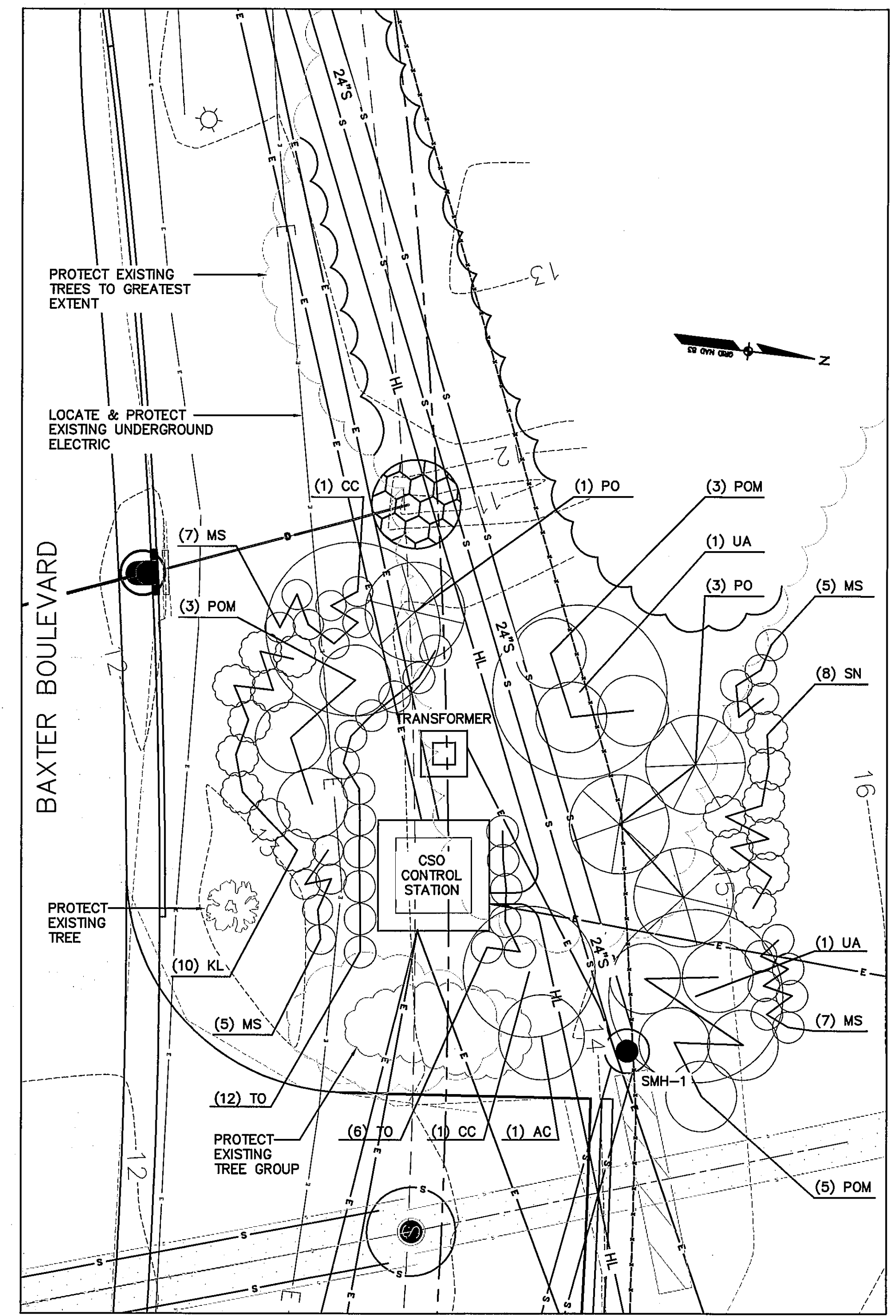
SINGLE PHASE TRANSFORMER, INSTALL PER CENTRAL MAINE POWER (CMP) SPECIFICATIONS, THE TOP OF FOUNDATION ELEVATION SHALL EQUAL THE CSO CONTROL STATION FFE, SEE SHEET 11
APPROX. LIMITS OF TRANSFORMER FOUNDATION



- NOTES:
1. PRECAST BUILDING DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
 2. INSTALL PRECAST CONCRETE BUILDING PER MANUFACTURER'S RECOMMENDATIONS.
 3. ROOF, FLOOR, AND WALL PANELS MUST EACH BE PRODUCED AS SINGLE COMPONENT MONOLITHIC PANELS. NO ROOF, FLOOR, OR VERTICAL WALL JOINTS WILL BE ALLOWED, EXCEPT AT CORNERS. WALL PANELS SHALL BE SET ON TOP OF FLOOR PANEL.
 4. ONE (1) SCREENED ALUMINUM VENT TO BE CAST IN REAR WALL PER DETAIL. VENT SHALL BE SUNVENT #168FL OR APPROVED EQUAL.
 5. ALL PANELS SHALL BE SECURELY FASTENED TOGETHER WITH 3/8" THICK STEEL BRACKETS. STEEL IS TO BE OF STRUCTURAL QUALITY, HOT-ROLLED CARBON COMPLYING WITH ASTM A283, GRADE C AND HOT DIPPED GALVANIZED AFTER FABRICATION. ALL FASTENERS TO BE 1/2" DIAMETER BOLTS COMPLYING WITH ASTM A307 FOR LOW-CARBON STEEL BOLTS; CAST-IN ANCHORS USED FOR PANEL CONNECTIONS TO BE DAYTON-SUPERIOR #6-53 OR EQUAL. ALL INSERTS FOR CORNER CONNECTIONS MUST BE SECURED DIRECTLY TO FORM BEFORE CASTING PANELS. NO FLOATING-IN OF CONNECTION INSERTS SHALL BE ALLOWED.
 6. DOOR AND FRAME SHALL COMPLY WITH STEEL DOOR INSTITUTE "RECOMMENDED SPECIFICATIONS FOR STANDARD STEEL DOORS AND FRAMES" (SDI-100) AND AS HEREIN SPECIFIED. THE BUILDING SHALL BE EQUIPPED WITH SINGLE 3'-0" X 6'-8" X 1-3/4", 18-GAUGE GALVANIZED/INSULATED DOMINION IMPERIAL RIGHT HAND REVERSE METAL DOORS WITH 16-GAUGE GALVANIZED FRAMES. DOOR AND FRAME SHALL BE BONDERIZED AND PAINTED ONE COAT OF RUST INHIBITIVE PRIMER AND ONE FINISH COAT OF ENAMEL PAINT; COLOR SHALL BE COORDINATED WITH CITY REPRESENTATIVE.
 7. INTERIOR OF BUILDING SHALL BE SMOOTH STEEL FORM FINISH ON ALL INTERIOR PANEL SURFACES.
 8. EXTERIOR SURFACE FINISH SHALL BE IMPRINTED IN TOP FACE OF PANEL. COORDINATE WITH CITY REPRESENTATIVE.
 9. PROVIDE POSITIVE DRAINAGE FOR THE BUILDING.
 10. COORDINATE KNOCKOUT LOCATIONS FOR HYDRAULIC EQUIPMENT AND ELECTRIC LINES WITH HYDRAULIC EQUIPMENT AND SCADA PANEL MANUFACTURERS.
 11. REMOVE ONLY ENOUGH VEGETATION NEEDED TO INSTALL THE PRECAST CONCRETE BUILDING. PROTECT ADJACENT TREES, PAYING CAREFUL ATTENTION TO THE 38" TREE SOUTH OF THE BUILDING AND ALONG BAXTER BOULEVARD. FINISHED GRADE AT PERIMETER OF BUILDING SHALL MATCH EXISTING GRADE.
 12. PRECAST BUILDING CONCRETE PAD, VENT, DOOR AND OTHER APPURTENANCES SHALL BE INCIDENTAL TO THE PRECAST BUILDING PAY ITEM.
 13. ANTENNAS FOR THE CSO CONTROL STATION SHALL BE MOUNTED ON THE SOLAR PANEL POLE SHOWN ON SHEET E-2. SEE SHEET IC-13 FOR ANTENNA INSTALLATION DETAILS.



CSO CONTROL STATION (PAY ITEM 534.80)
NOT TO SCALE



CSO CONTROL STATION LANDSCAPE PLAN
1"=8'

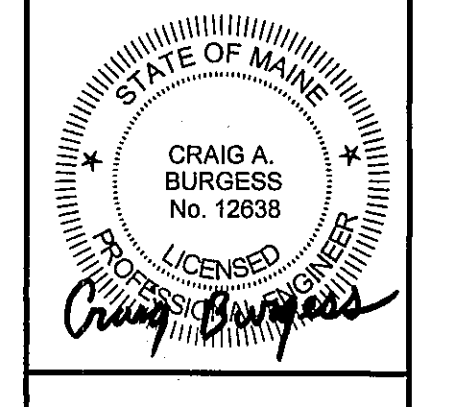
LANDSCAPE LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE
AC	ABIES CONCOLOR	WHITE FIR	6-8" HGT
CC	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	3" -CAL
KL	KALMIA LATIFOLIA 'BRIDESMAID'	MOUNTAIN LAUREL	4-36"
MS	MISCANTHUS SINENSIS 'MORNING LIGHT'	MAIDEN GRASS	#2
PO	PICEA OMORIKA	SERBIAN SPRUCE	6-8" HGT
POM	PHYSCARPUS OPULIFOLIUS 'MONLO'	DIABOLO NINEBARK	36"
SN	SPIREA NIPPONICA 'SNOWMOUND'	SNOWMOUND SPIREA	36"
TO	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	7-8" HGT
UA	ULMUS AMERICANA 'VALLEY FORGE'	VALLEY FORGE ELM	3" -CAL.

LDD PROJECT NAME:
BAXTER BOULEVARD
NORTH STORAGE CONDUIT
DRAWING NAME:
09006D
FIELD BOOK USED:
N/A

REFERENCES:
09006D.dwg, TAB: DETAILS

DESIGNED BY: OAM/CAB
DRAWN BY: CAB
CHECKED BY: OAM
SCALE: AS NOTED
DATE: 11-15-2012



BAXTER BOULEVARD
NORTH STORAGE CONDUIT
CSO CONTROL STATION
CONSTRUCTION DETAILS

CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING DIVISION



SHEET #
32 OF 54
PLAN NUMBER