CITY OF PORTSMOUTH
NEW HAMPSHIRE

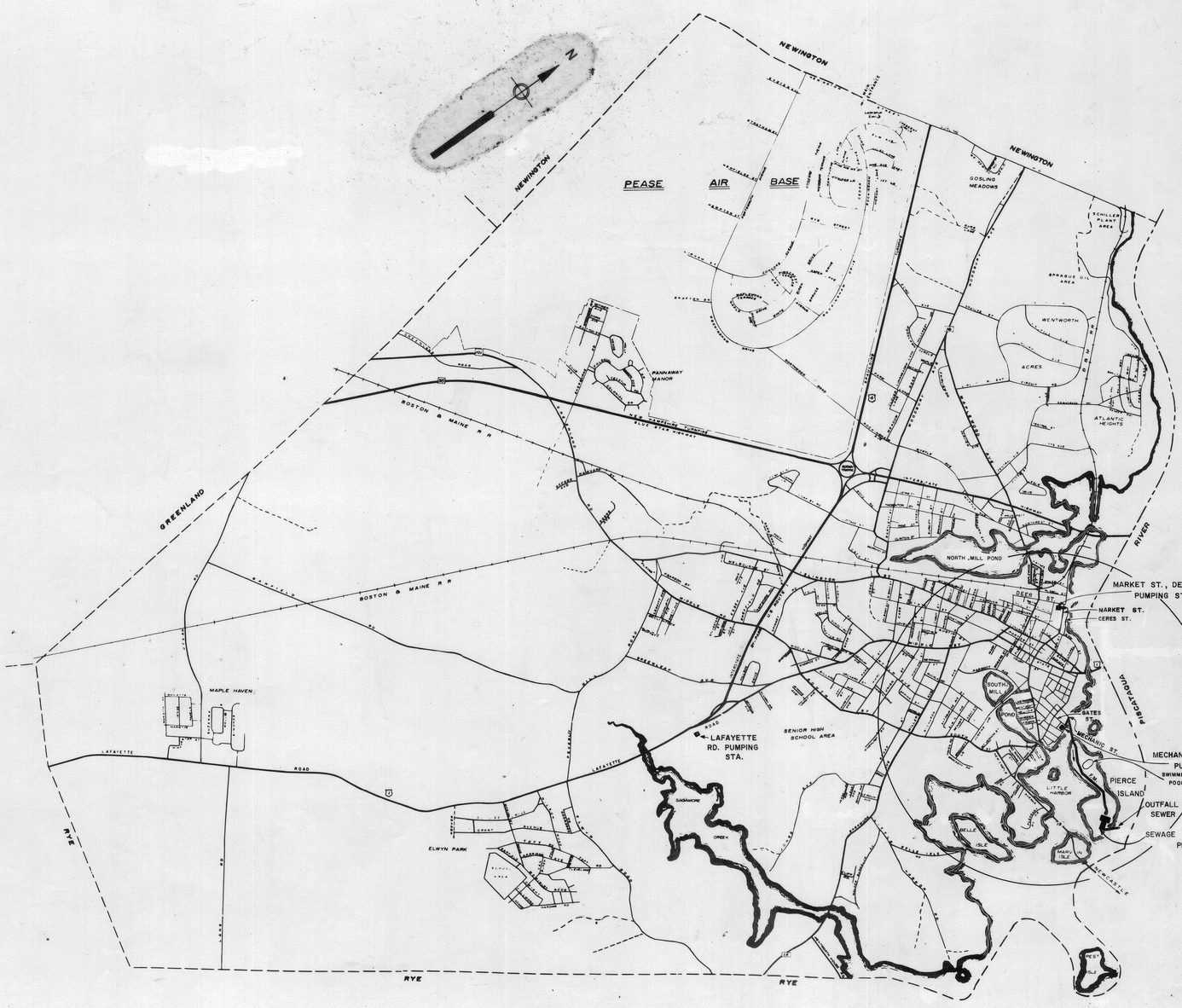
SEWAGE TREATMENT PLANT
PUMPING STATIONS
AND
APPURTENANT WORK

CONTRACT DRAWINGS
CONTRACT 1963-1

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

RECORD DRAWING

H-36019-1



LOCATION PLAN

1000 0 1000 2000

SCALE IN FEET

LIST OF DRAWINGS

SHEET NO.	TITLE
CIVIL	
C-1	LOCATION PLAN & INDEX
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C-3	OUTSIDE PIPING PLAN & DETAILS
C-4	SEWER AND FORCE MAIN - STA. 0 + 00 TO STA. 12 + 00
C-5	FORCE MAIN - STA. 12 + 00 TO STA. 22 + 00
C-6	FORCE MAIN - STA. 22 + 00 TO STA. 33 + 30 SEWER - STA. 0 + 00 TO STA. 3 + 06
C-7	BRIDGE CROSSING - SECTIONS & DETAILS
C-8	OUTFALL SEWER PROFILE & DETAILS
C-9	SERVICE ROAD PROFILE & MISCELLANEOUS DETAILS
C-10	DEER & MARKET STREET PUMPING STATION SITE PLAN & TIDE GATE CHAMBER
C-11	GATES & MECHANIC STREET PUMPING STATION SITE PLAN & OVERFLOW
C-12	TYPICAL DETAILS FOR SEWERS
ARCHITECTURAL	
A-1	OPERATIONS BUILDING - PLANS & ELEVATIONS
A-2	OPERATIONS BUILDING - WALL & BUILDING SECTIONS
A-3	OPERATIONS BUILDING - INTERIOR & STAIR DETAILS
A-4	OPERATIONS BUILDING - DOOR & WINDOW DETAILS
A-5	OPERATIONS BUILDING - FINISH SCHEDULE & MISCELLANEOUS DETAILS
A-6	DEER & MARKET STREET PUMPING STATION - PLANS & BUILDING SECTIONS
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A-8	PUMPING STATIONS - BUILDING ELEVATIONS & MISCELLANEOUS DETAILS
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S-3	OPERATIONS BUILDING - BASEMENT PLANS & SECTIONS
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S-6	SEDIMENTATION TANKS - PLANS & SECTIONS
S-7	SEDIMENTATION TANKS - PLANS & SECTIONS
S-8	DEER & MARKET STREET PUMPING STATION - PLANS & SECTIONS
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S-10	GATES & MECHANIC STREET PUMPING STATION - PLANS & SECTIONS
S-11	STRUCTURAL STANDARD DETAILS
MECHANICAL	
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M-2	OPERATIONS BUILDING - PROCESS PIPING & PLUMBING, PLANS
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M-5	OPERATIONS BUILDING - DETAILS & DIAGRAMS
M-6	SEDIMENTATION TANKS - PLANS & SECTIONS
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ELECTRICAL	
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E-7	GATES & MECHANIC STREET PUMPING STATION - POWER & LIGHTING PLAN
E-8	SYMBOLS & GENERAL NOTES

REVISION	MADE BY	CHECKED BY	DESCRIPTION
② 6-65	E.B.M.	D.A.D.	Revised for Record Drwgs.
⚠ 5-9-63	JMS	DES	REMOVE CHLOR. TK., S-6, S-7, M-6

RECORD DRAWING

THE STATE OF NEW HAMPSHIRE · JOHN S. BETHEL JR. No. 750 · REGISTERED PROFESSIONAL ENGINEER

DRAWN BY C.K.W. VAB Jr.
TRACED BY C.K.W. VAB Jr.
CHECKED BY D.A.D.

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. — 4-17-63

REG. PROF. ENGR. N.H. NO. 750 — DATE

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT

LOCATION PLAN & INDEX

CIVIL

SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36020 1

CONTRACT 1963-1 — SHEET C-1

DENSE R 196 TRACING CLOTH — B. L. M. INC. 60606

PISCATAQUA RIVER

℄ OUTFALL SEWER (FOR PROFILE SEE SHEET C-8)

N

END OF PAVED GUTTER

APPROX. HIGH WATER LINE

APPROX. TOP OF SLOPE

LIMIT OF SEEDED TOPSOIL

LEDGE

APPROX HIGH WATER LINE

LIMIT OF SEEDED TOPSOIL

BIT. CONC. PAVEMENT

INLET GRATE Rim El. 15.1

BIT. CONC. PAVEMENT

C.B. Rim El. 18.6

M.H. Rim El. 16.6

CHAIN LINK FENCE

SEEDED TOPSOIL

CHLORINE STORAGE AREA (BIT. CONC. PAV.)

RETAINING WALL

SEDIMENTATION TANKS

GRIT CHAMBER (& V WALL)

INLET GRATE Rim El. 19.8

OPERATIONS BUILDING

"6" PEAT MOSS BED

BIT. CONC. WALK

HYD.

EXISTING WHITE CHANNEL LIGHT TOWER

BM × 37.91 U.S.C.&G.S.

TOP OF BREASTWORKS

SEEDED TOPSOIL

GRANITE CURB (SEE DETAIL SH. C-9)

FLAG POLE SEE DETAIL SH. C-9

CONC. WALK

EL. 24.8

PARKING AREA

Ent.

Ext.

20'-0" TYP.

EXISTING BREASTWORKS

SEEDED TOPSOIL

CHAIN LINK FENCE

BEGINNING OF PAVED GUTTER

EXISTING BREASTWORKS

SERVICE ROAD BIT. CONC. PAVEMENT

SERVICE POLE

SEEDED TOPSOIL

DOUBLE SWING GATE 12'-0" WIDE

CHAIN LINK FENCE

LIMIT OF BIT. CONC. PAVEMENT

LIMIT OF SEEDED TOPSOIL SHOULDER

LEDGE

ACCESS ROAD

EXISTING GRAVEL ROAD

EXISTING GRAVEL ROAD

EXISTING BLACK CHANNEL LIGHT TOWER

APPROX. HIGH WATER LINE

LITTLE HARBOR

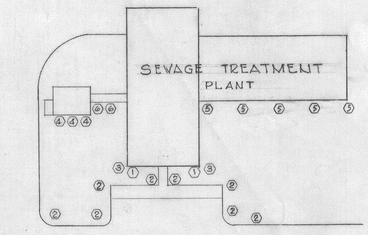
GRADING PLAN

SCALE: 1"=20'

LIST OF PLANTS

KEY	No.	NAME
1	2	TAXUS CUSPIDATA NANA – JAPANESE YEW
2	8	JUNIPERUS CHINENSIS PFITZERIANA – PFITZER'S JUNIPER
3	2	THUJA OCCIDENTALIS ROBUSTA – AMERICAN ARBOR VITAE
4	5	ILEX GLABRA – INKBERRY
5	5	EUONYMUS ALTA COMPACTA – SPINDLE TREE
6	2	PICEA ABIES PARSONSI – NORWAY SPRUCE

NOTE:
ALL EVERGREENS ~~ARE TO~~ HAVE ROOTS BALLED & COVERED W/ BURLAP



PLANTING PLAN

NO SCALE

LEGEND

- EXISTING CONTOURS
- NEW CONTOURS
- 15x7 NEW ELEVATIONS
- LEDGE

NOTES

1. FIELD SURVEY WAS PERFORMED BY METCALF & EDDY, FIELD PARTIES IN JULY, 1962.
2. ROAD PROFILE AND PAVEMENT CROSS SECTIONS ARE SHOWN ON SHEET C-9.
3. ALL GRADED AREAS EXCEPT AS SHOWN ~~ARE TO BE~~ WERE CLEARED AND GRUBBED AND HAVE 4 INCHES OF SEEDED TOPSOIL.
4. ~~ALL OBJECTS OF ANY HISTORIC INTEREST FOUND DURING EXCAVATION AND CONSTRUCTION TO REMAIN THE PROPERTY OF THE CITY OF PORTSMOUTH, N.H.~~
5. ROCK EXCAVATION FOR PAVED AND SEEDED AREAS ~~SHALL BE~~ PAID FOR UNDER ROCK EXCAVATION FOR STRUCTURES.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
②	6-65	E.B.M.	D.A.D.	Revised for Record Dwgs.
⚠	5-9-63	EJT	DES	REMOVE CHLOR. TK · MOVE FENCE

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 11/14/63
REG. PROF. ENGR. N.H. NO. 750 DATE

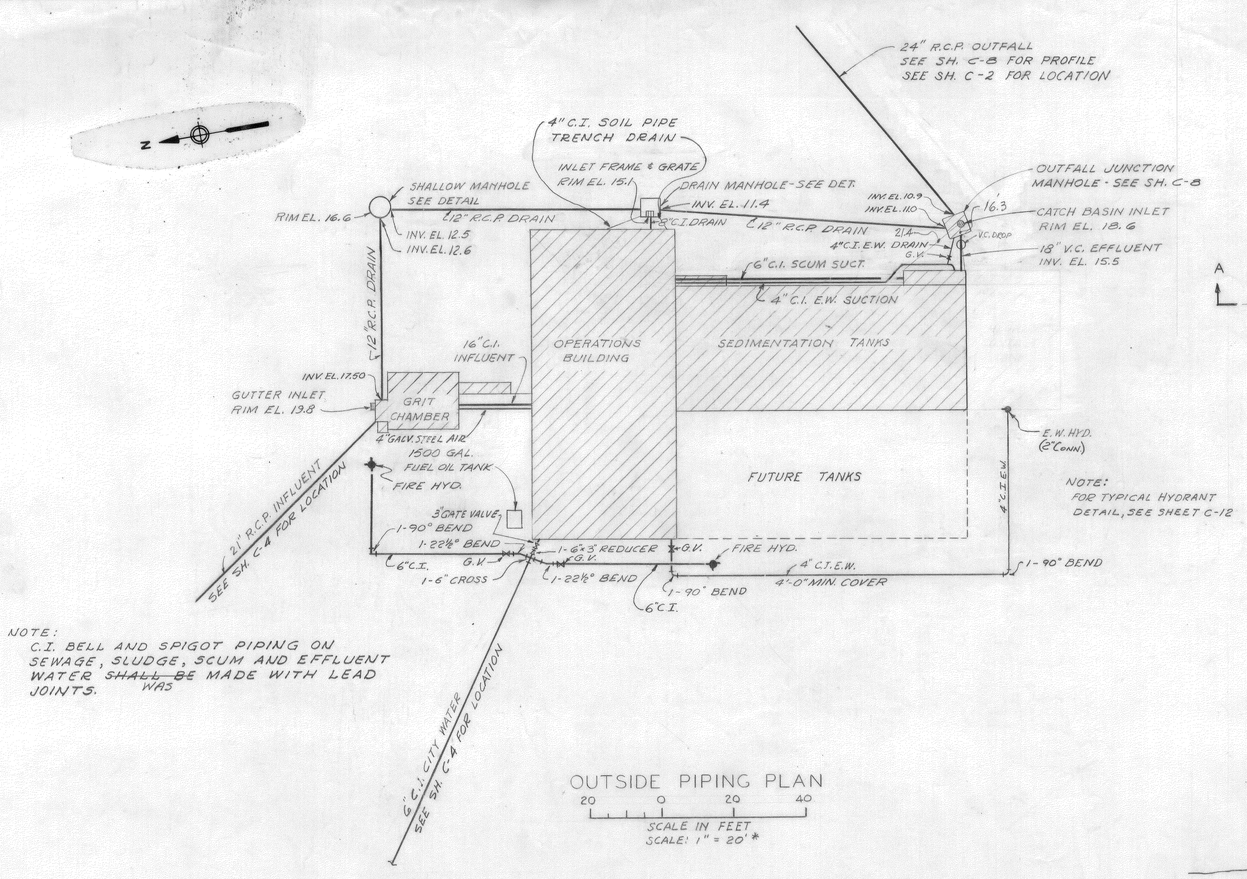
CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT
GRADING & PLANTING PLAN
CIVIL
SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36021 1

DRAWN BY D.E.S. C.K.W.
TRACED BY C.K.W. J.J.
CHECKED BY D.E.S. D.A.D.

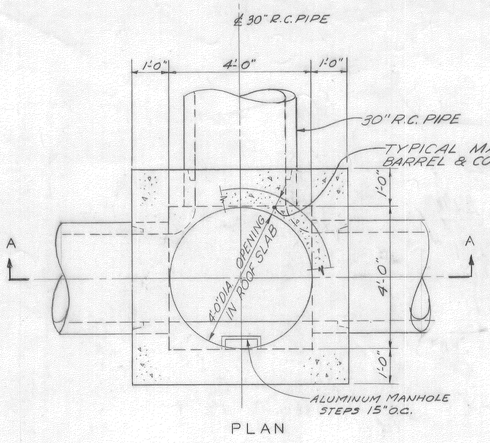
CONTRACT 1963-1 SHEET C-2



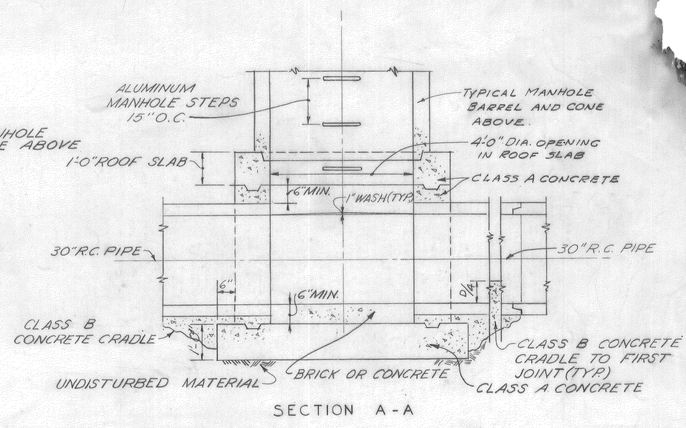
NOTE:
C.I. BELL AND SPIGOT PIPING ON SEWAGE, SLUDGE, SCUM AND EFFLUENT WATER ~~SHALL~~ WAS BE MADE WITH LEAD JOINTS.

OUTSIDE PIPING PLAN

20 0 20 40
SCALE IN FEET
SCALE: 1" = 20' *



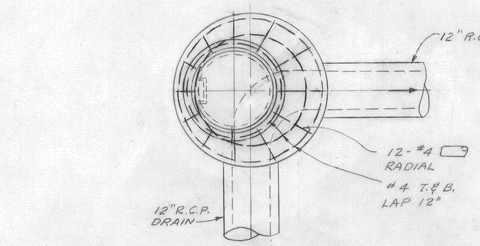
PLAN



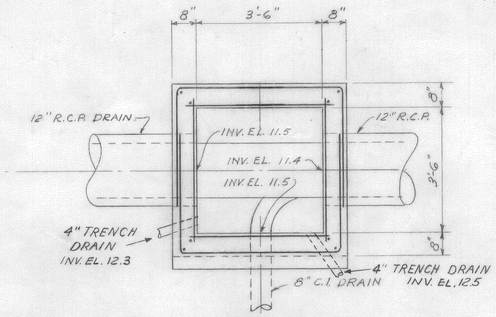
SECTION A-A

MANHOLE BASES FOR 30" PIPE

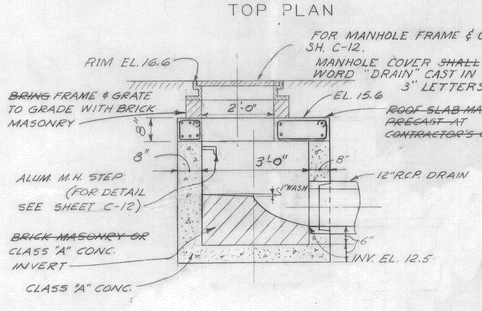
0 2 4 6
SCALE IN FEET
SCALE: ½" = 1'-0" *



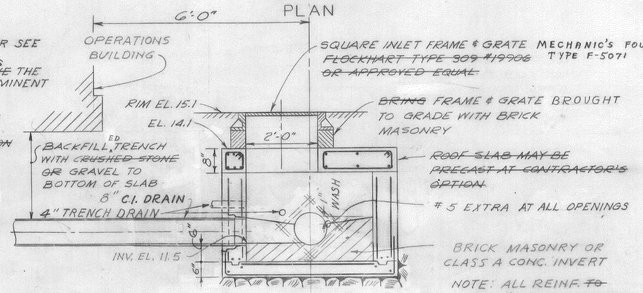
TOP PLAN



PLAN

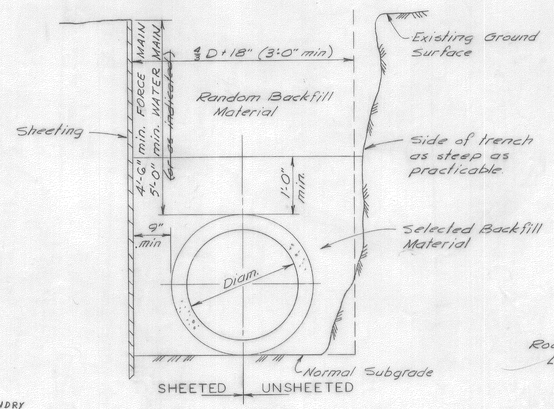


SECTION
SHALLOW M.H. DETAIL

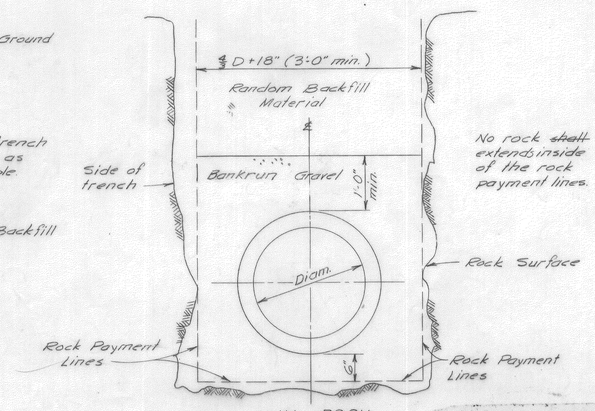


SECTION
DRAIN M.H. DETAIL

0 2 4 6
SCALE IN FEET
SCALE ½" = 1'-0" *



IN EARTH



IN ROCK

TYPICAL TRENCH SECTIONS FOR WATER & FORCE MAINS

0 1 2 3 4
SCALE IN FEET
SCALE: ½" = 1'-0" *

RECORD DRAWING

2	6-65	E.B.M.	D.A.D.	Revised for Record Dwgs
1	5-9-63	EJT	DES	CHANGE BYP TO DRAIN REMOVE CHLORINE TANK
REVISION		MADE BY	CHECKED BY	DESCRIPTION

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT

OUTSIDE PIPING PLAN & DETAILS

CIVIL

SCALE: AS SHOWN MARCH, 1963.

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 3G022 1

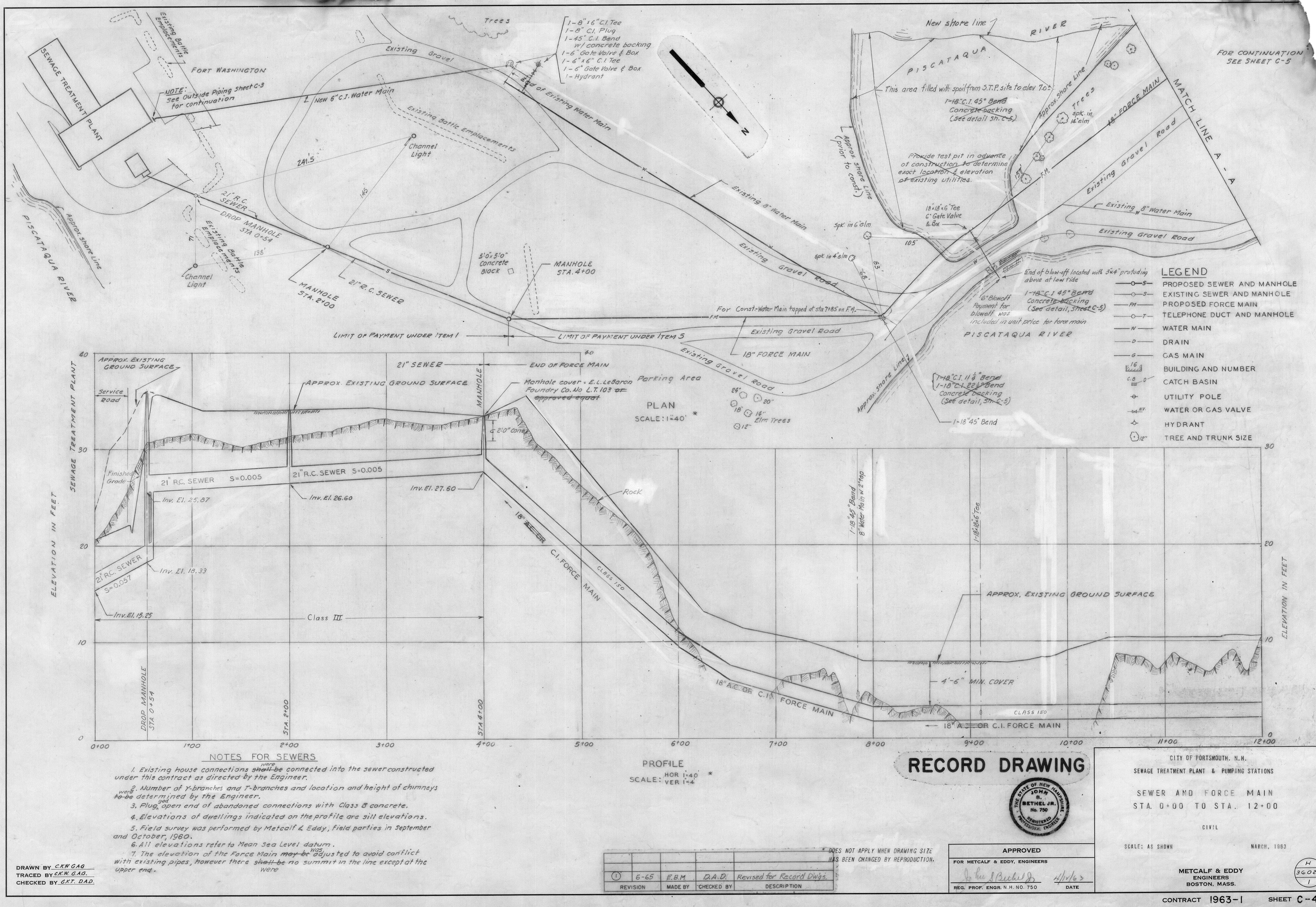
THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 11/1/63
REG. PROF. ENGR. N.H. NO. 750 DATE

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

DRAWN BY E.J.T.R.J. G.G.
TRACED BY E.J.T.R.J. G.G.
CHECKED BY G.K.T.

CONTRACT 1963-1 SHEET C-3



PROFILE
SCALE: HOR 1"=40' * VER 1"=4

NOTES FOR SEWERS

1. Existing house connections ~~shall be~~ were connected into the sewer constructed under this contract as directed by the Engineer.
2. Number of Y-branches and T-branches and location and height of chimneys ~~to be~~ were determined by the Engineer.
3. Plug~~ged~~, open end of abandoned connections with Class B concrete.
4. Elevations of dwellings indicated on the profile are sill elevations.
5. Field survey was performed by Metcalf & Eddy, field parties in September and October, 1960.
6. All elevations refer to Mean Sea Level datum.
7. The elevation of the Force Main ~~may be~~ was adjusted to avoid conflict with existing pipes, however there ~~shall be~~ were no summit in the line except at the upper end.

DRAWN BY C.K.W. G.A.G.
TRACED BY C.K.W. G.A.D.
CHECKED BY G.K.T. D.A.D.

REVISION	MADE BY	CHECKED BY	DESCRIPTION
1	6-65	E.B.M.	D.A.D. Revised for Record Dwgs.

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

RECORD DRAWING

JOHN B. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER THE STATE OF NEW HAMPSHIRE

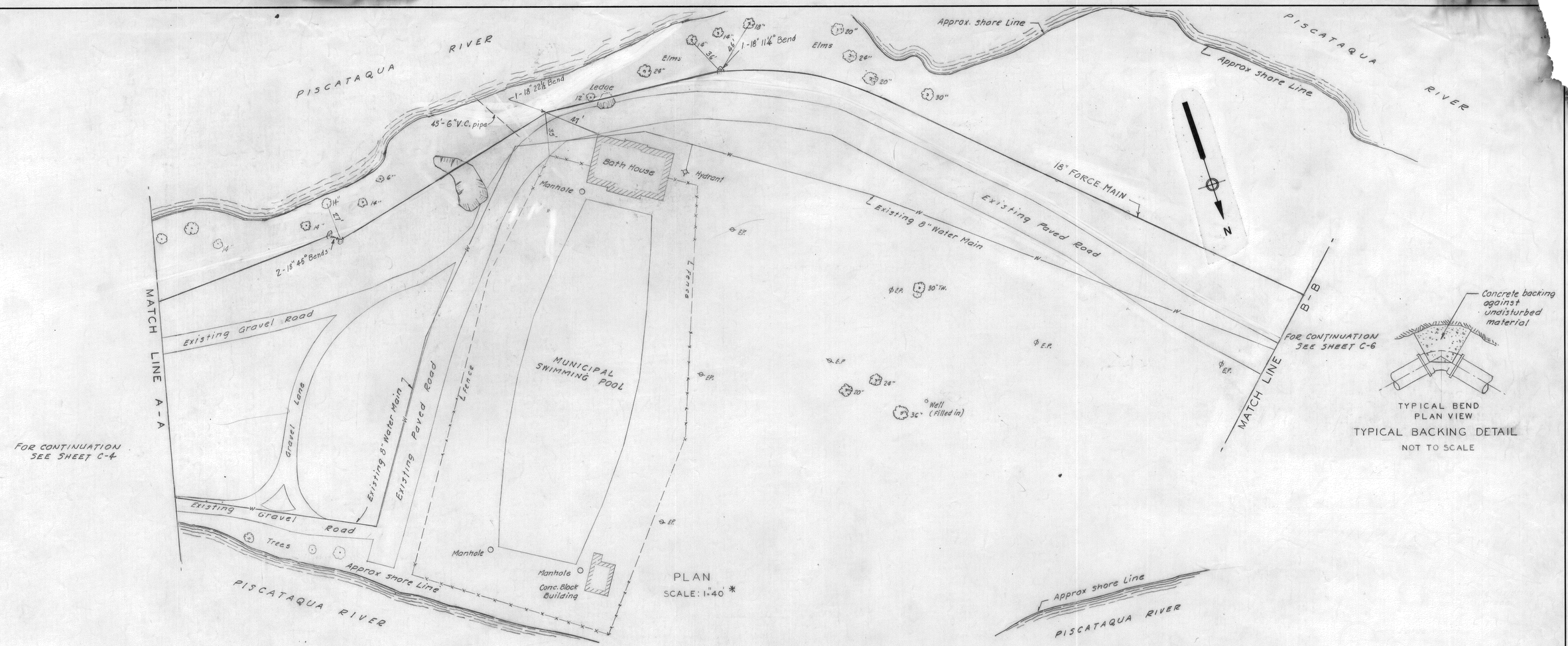
APPROVED
FOR METCALF & EDDY, ENGINEERS
REG. PROF. ENGR. N.H. NO. 750 — DATE 11/1/63

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT & PUMPING STATIONS
SEWER AND FORCE MAIN
STA. 0+00 TO STA. 12+00
CIVIL
SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36023 1

CONTRACT 1963-1 SHEET C-4



RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
①	6-65	E.B.M.	D.A.Q.	Revised for Record Dwgs

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT & PUMPING STATIONS

FORCE MAIN

STA. 12 + 00 TO STA. 22 + 00

CIVIL

SCALE: AS SHOWN

MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36024 1

THE STATE OF NEW HAMPSHIRE
JOHN S. BETHEL JR.
No. 750
REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/1/63
REG. PROF. ENGR. N.H. NO. 750 DATE

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

DRAWN BY G.K.T. G.G.
TRACED BY G.G. C.K.W.
CHECKED BY G.K.T.

CONTRACT 1963-1 SHEET C-5

FOR CONTINUATION SEE SHEET C-5

SMALL BOAT AREA

Tree

In line with No Parking Sign

18" FORCE MAIN

1-18" C.I. 45° Bend

Spk. in Pole

8" Water Main

MATCH LINE B-B

Existing Paved Road

Spk. in Guard Rail Post.

1-18" C.I. 45° Bend

PIERCE ISLAND

Spk. in 8" Elm.

Approx. Water Line

Rip-rap

Fill

Wood guard rail

PIERCE ISLAND BRIDGE (steel & concrete)

Railing

Curb

Sidewalk

8" Water Main

1-18"x16" C.I. Reducer

2-18" 45° C.I. Bends

This stretch of sidewalk raised with 12" of bank gravel and bituminous topping.

Approx. shore line

PISCATAQUA RIVER

PISCATAQUA RIVER

N

SEE SITE PLAN SHEET C-11

MANHOLE STA. 0+23

10" V.C. Stub & Stopper

PUMPING STATION

20' C.I. 32 Ft.

2-18" 45° C.I. Bends

SEWER MANHOLE STA. 0+48.3

OVERFLOW M.H. STA. 0+00

Pigeon Coop

GATES STREET

MANHOLE STA 0+92.6

Picket fence

M.H. STA. 0+89.5

OVERFLOW M.H.

30" R.C. OVERFLOW

Lobster Pound

Fence

18" A.C. OR C.I. FORCE MAIN

MECHANIC STREET

Garage

30" R.C. SEWER

PRESCOTT PARK

CEMETERY

Rip-rap

FOR GATE POST DETAIL SEE SHEET C-7

2-18" 45° C.I Bends

Wood guard rail

Wall

L.P.

Existing sewer

POTTERS

1-18" 45° C.I. Bend

MANHOLE STA. 3+10.3

16" FORCE MAIN UNDER (SEE SHEET C-7)

Wood guard rail

2-18" 45° C.I. Bends

1-18"x16" C.I. Reducer

Approx. water Line

LIMIT OF WORK UNDER THIS CONTRACT

This 1gth of 8" W.P. lowered to obtain 5ft cover

Floating Dock

PRESCOTT PARK (Asphalt Pavement)

granite block ret. wall

PLAN

SCALE : 1:40 *

1-18"x16" C.I. Reducer

2-18" C.I. 45° Bends

273'-0" c to c bearings

66'-6" | 70'-0" | 70'-0" | 66'-6"

AIR RELEASE VALVE

5-33" W.F. Stringers

1'-0" conc. slab

Ex. 6" H 13 @ 5'-0" O.C.

12" C.I.

16" C.I. FORCE MAIN (MECHANICAL JOINTS) CLASS 150

East Abutment

12"x12" H Piles

West Abutment

Bent

Bent

Bent

12" C.I.

El. 8.50

22'-6" W.I. casings

Stone Fill

Stone Fill

Mean Sea Level El. 0.0

Approx. Bottom

ELEVATION IN FEET

20 | 10 | 0 | -10

22+00 | 23+00 | 24+00 | 25+00 | 26+00

Paved Road

1-18" C.I. 45° Bend

1-18" C.I. 45° Bend

Rock

18" A.C. OR C.I. FORCE MAIN CLASS 150

30+00 | 31+00 | 32+00 | 33+00 | 34+00

1-18" 45° Bend

1-18" 45° Bend

SEWER MANHOLE

GATES STREET

1-18" 45° Bend

1-18" 45° Bend

PUMPING STATION

APPROX. EXISTING GROUND SURFACE

114

95

4'-6" MIN. COVER

Limit of Payment Item 3

18" A.C. OR C.I. FORCE MAIN CLASS 150

PROFILE

SCALE: HOR. 1" = 40' * VER. 1" = 4'

L PUMPING STATION

MANHOLE

MANHOLE

MANHOLE GATES STREET

MANHOLE MECHANIC STREET

Approx Existing Ground Surface

Existing 8" Water

Limit of Payment Item 3

30" R.C. OVERFLOW Inv. El. 1.00

Rock

20" C.I.

30" R.C. SEWER S=0.0016 CLASS III

Inv. El. -3.26

Inv. El. -3.12

Inv. El. -2.81

STA. 0+00 | STA. 0+23 | STA. 0+46.3 | STA. 0+00 | STA. 0+92.6 | STA. 3+10.3

0+00 | 1+00 | 2+00 | 3+00

PROFILE - MECHANIC STREET SEWER

SCALE: HOR. 1" = 40' * VER. 1" = 4'

Note: Minimum grade of new conn. ~~shall be~~ was 2.0% except that 1.0% to 1.5% ~~may be~~ was used where existing elevations necessitated.

~~Break~~ off existing conn. and plug with Class B concrete.

Existing house conn. ~~to~~ were ~~be~~ abandoned

6" V.C. pipe shown 6" A.C. pipe may be used.

6" Min. screened gravel all around pipe.

Length as req'd. and approved by the Engineer.

Proposed Sewer

Existing Drain

TYPE 1 CONNECTION

Note: Payment for any modifications to existing house connections ~~shall~~ were be under the lin. ft. price for Type 1 connections except where Type 2 connections ~~are~~ were applicable.

6" C.I. Pipe 8'-0" min. Laying Length

6" Class 'B' concrete collar all around

Reversed last section of existing V.C. pipe

Existing house conn. to be used.

Class 'B' concrete closure all around (6" Min)

~~Break~~ off existing conn. and plug with Class 'B' concrete

6" V.C. pipe shown 6" A.C. pipe may be used

Stoppers

Chimney (See Typ. detail Sh. C-12.

Proposed Sewer

Length as req'd and approved by the Engineer

Removed as much of crown as necessary for laying 6" C.I. Pipe.

TYPE 2 CONNECTION

NO SCALE

NOTES:

1. All bends on Force Main ~~to have~~ have concrete backing. See Detail Sheet C-5.
2. Manholes on Mechanic Steet ~~to~~ have bolted covers.

REVISION	MADE BY	CHECKED BY	DESCRIPTION
1 6-65	E.B.M.	D.A.D.	Revised for Record Drwgs.

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

DRAWN BY G.K.T. G.G.
TRACED BY G.G. C.K.W.
CHECKED BY G.K.T.

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S Bethel Jr 4/12/63
REG. PROF. ENGR. N.H. NO. 750 DATE

RECORD DRAWING

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT & PUMPING STATIONS

FORCE MAIN - STA. 22+00 TO STA. 33+30
SEWER - STA. 0+00 STA. 3+06

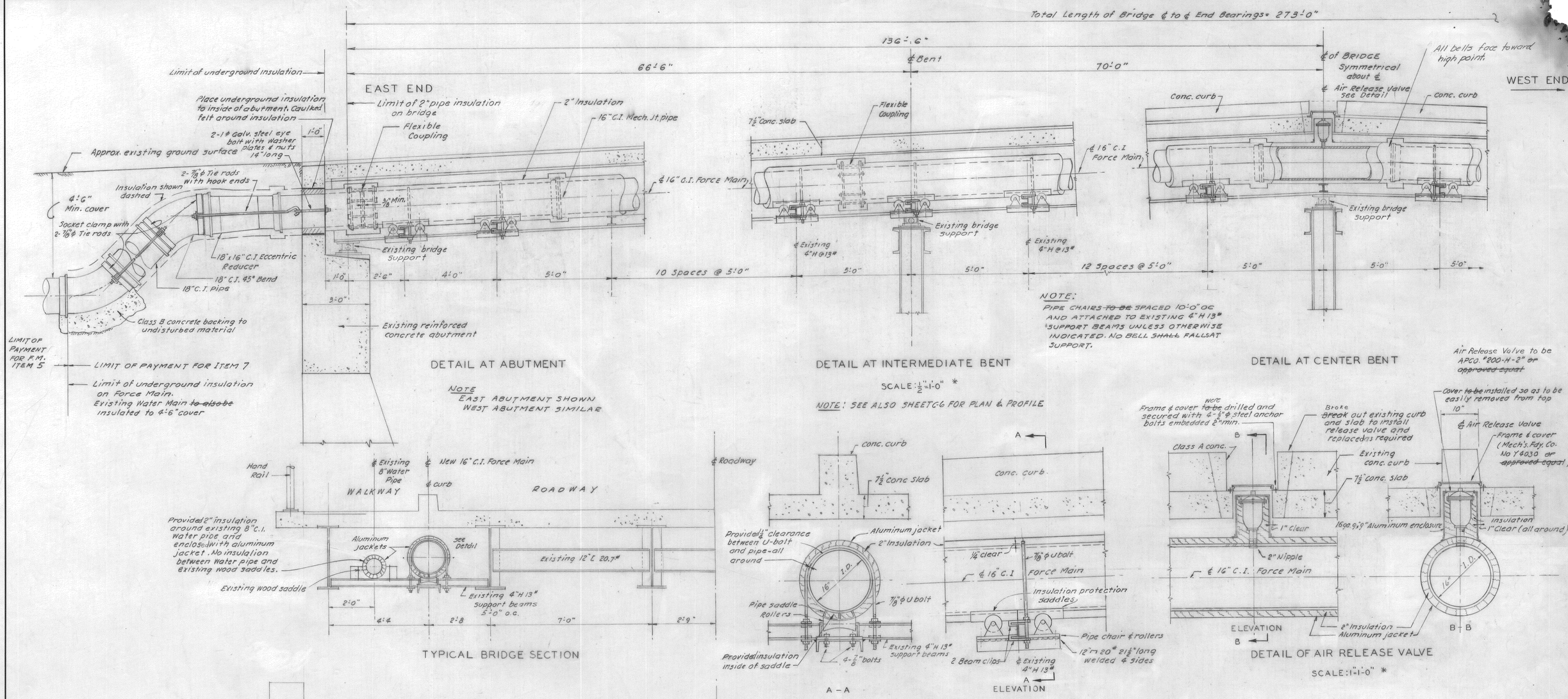
CIVIL

SCALE : AS SHOWN MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36025 1

CONTRACT 1963-1 SHEET C-6



* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

NOTE

At all mechanical joints a space of at least ⅛" ~~shall~~ was be left between the spigot end and inside bell end of the pipe.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
1	6-65	E.B.M.	D.A.D.	Revised for Record Drwgs.

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT & PUMPING STATIONS

BRIDGE CROSSING
SECTIONS & DETAILS

CIVIL

SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 360 PG 1

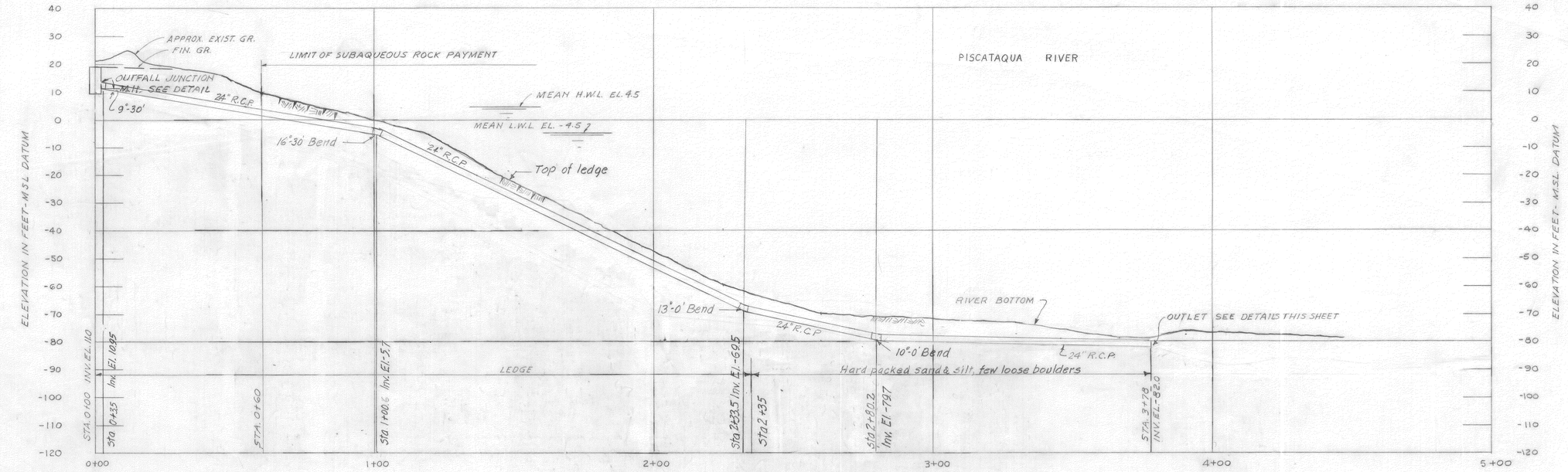
APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr.
REG. PROF. ENGR. N.H. NO. 750 — DATE 4/15/63

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

DRAWN BY G.K.T C.K.W.
TRACED BY C.K.W. V.A.B.
CHECKED BY D.E.S. D.A.D.

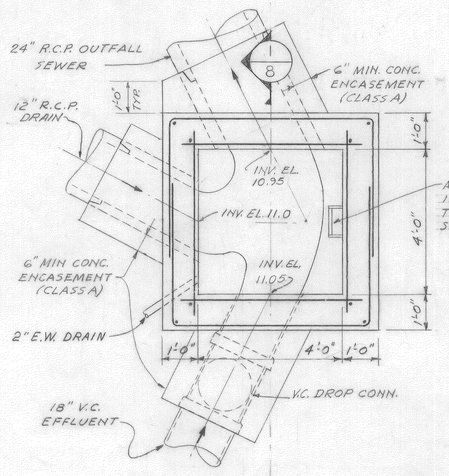
CONTRACT 1963-1 SHEET C-7

ENIX N160 B. L. M. INC.

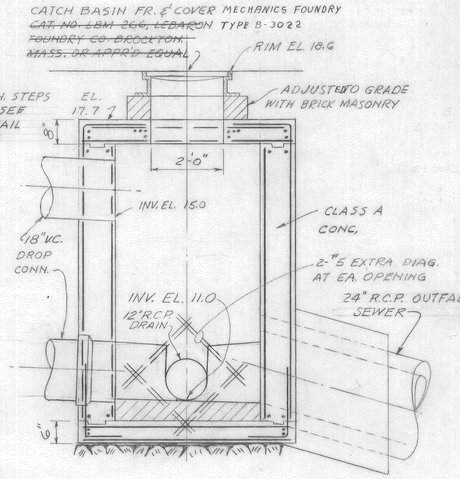


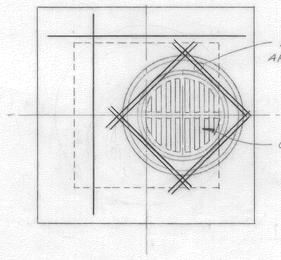
NOTE

PROFILE BASED ON UNDERWATER SURVEY CONDUCTED BY UNDERSEA ENTERPRISES INC. OF PORTSMOUTH, N.H. FROM STA. 1+35 TO END OF OUTFALL, GRANULAR MATERIAL WAS FOUND TO A DEPTH OF 3± FT. BASED ON PROBINGS.



SECTIONAL PLAN





TOP PLAN

SECTION (1/8)

NOTES:

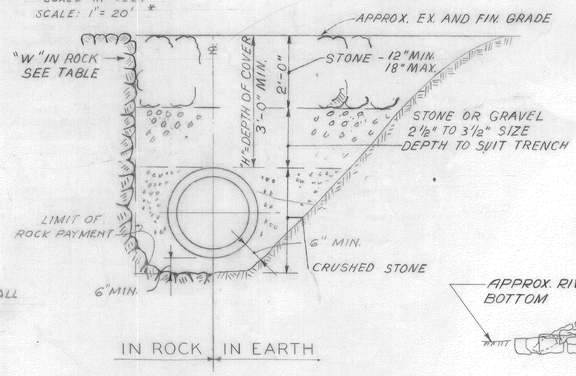
1. ALL REINF. ~~TO BE~~ #4 @ 12 UNLESS OTHERWISE NOTED.
2. FOR INVERT DETAILS AND DROP CONNECTION. SEE SHEET C-12
3. RIVER PROFILE SURVEY MADE OCT. 14, 1962.
4. FOR OUTFALL LOCATION SEE SH. C-2.
5. SURPLUS EXCAVATED MATERIAL FOR THE OUTFALL SEWER ~~SHALL BE~~ WAS DISPOSED OF BY THE CONTRACTOR WHO ~~SHALL~~ REMOVED SAME FROM THE SITE OF THE WORK.

PROFILE - OUTFALL SEWER

2 0 0 20 40

SCALE IN FEET

SCALE: 1" = 20' *



OUTFALL TRENCH SECTION

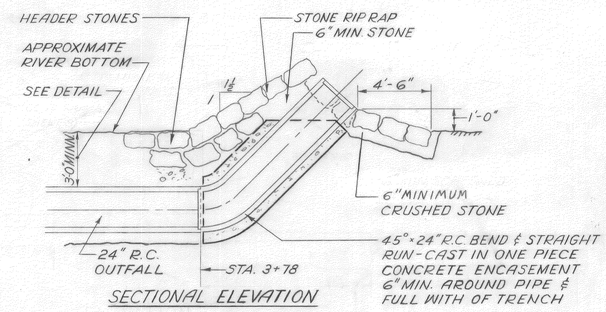
0 2 4 6

SCALE IN FEET

SCALE 1/2" = 1'-0" *

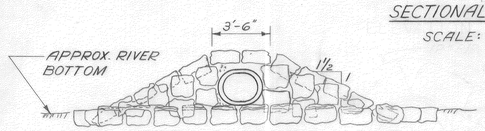
DEPTH OF COVER "H"	WIDTH OF TRENCH "W"
3'-0" TO 10'-0"	4'-6"
10'-0" TO 20'-0"	5'-6"
MORE THAN 20'-0"	7'-0"

OUTFALL SEWER PAYMENT WIDTH IN ROCK



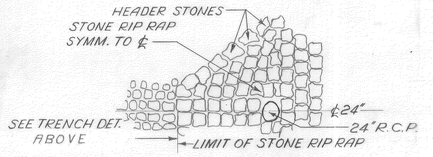
SECTIONAL ELEVATION

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



END VIEW

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



HALF PLAN

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

OUTFALL JUNCTION MANHOLE

0 2 4 6

SCALE IN FEET

SCALE: 1/2" = 1'-0" *

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2 6-65	E.B.M.	D.A.D.	Revised for Record Dwgs.
1 5-8-63	E.J.T.	DES.	CHANGE INVERTS OUTF. JUNCT. M.H.

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OUTFALL SEWER

PROFILE & DETAILS

CIVIL

SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY

ENGINEERS

BOSTON, MASS.

H 36027 1

RECORD DRAWING

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. REG. PROF. ENGR.

11/1/63 DATE

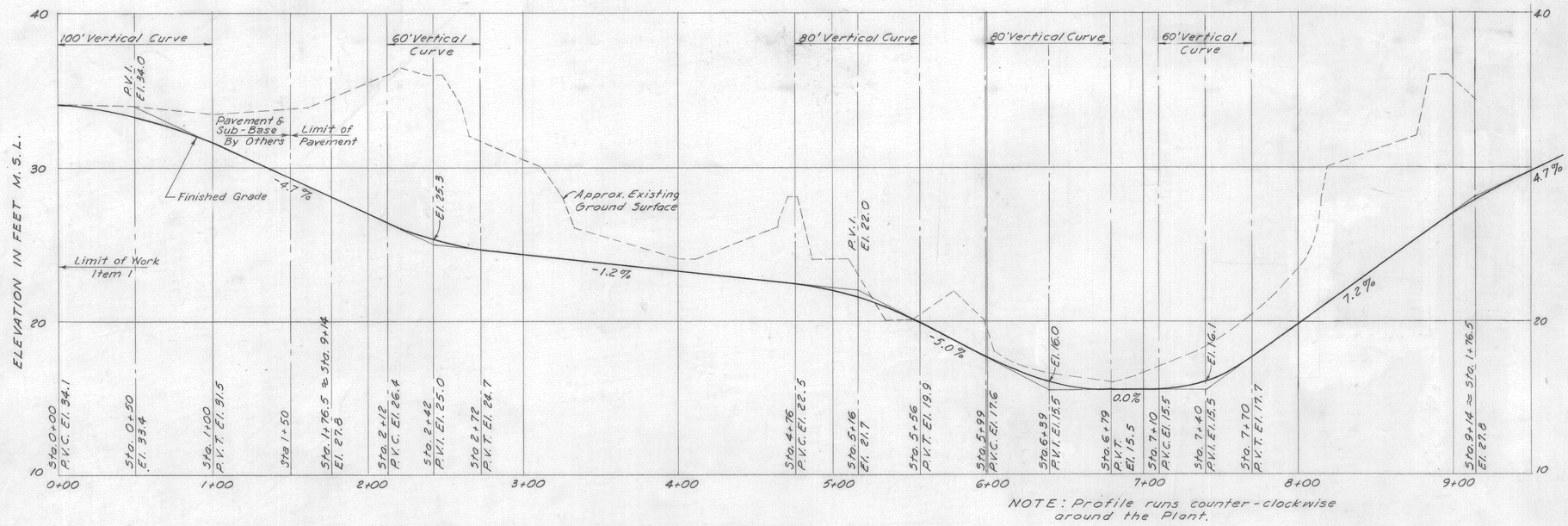
DRAWN BY R/ D.E.S.

TRACED BY R/

CHECKED BY D.E.S. D.A.D.

CONTRACT 1963 - 1 SHEET C-8

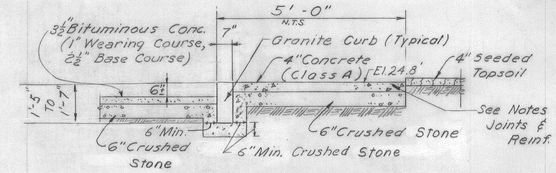
DEX N160 D. L. M. INC.



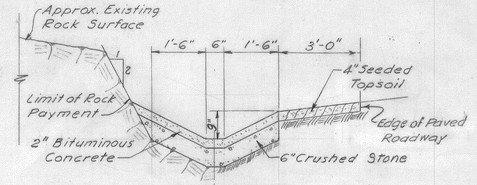
NOTE: Profile runs counter-clockwise around the Plant.

PROFILE: SERVICE ROAD

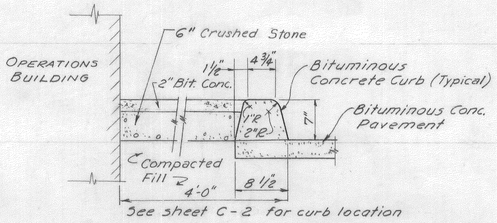
SCALE: HOR. 1" = 40'
VERT. 1" = 4'



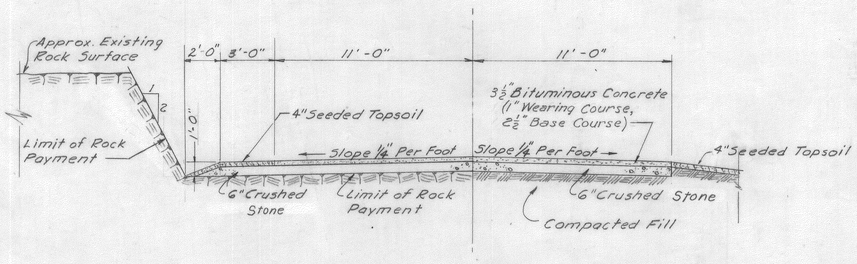
DETAIL AT PARKING AREA
SCALE: 3/8" = 1'-0" *

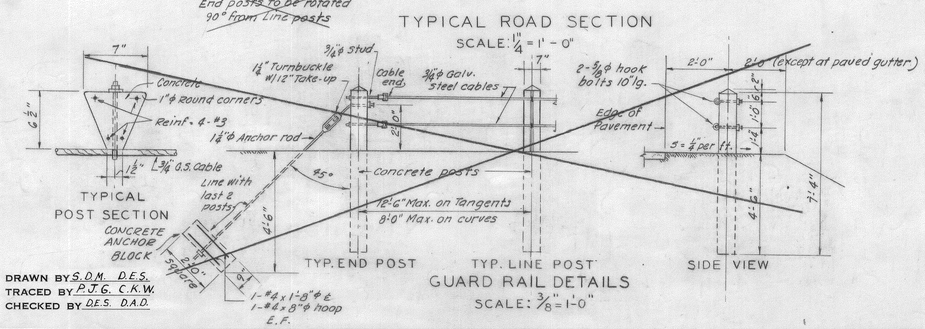


GUTTER DETAIL
SCALE: 3/8" = 1'-0" *

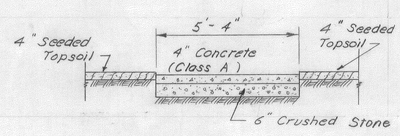


BITUMINOUS CURB DETAIL
SCALE: 1" = 1'-0"

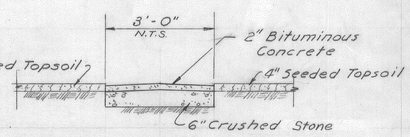




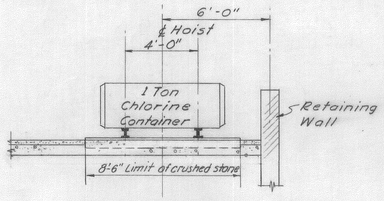
DRAWN BY S.D.M. D.E.S.
TRACED BY P.J.G. C.K.W.
CHECKED BY D.E.S. D.A.D.



CONCRETE WALK
SCALE: 3/8" = 1'-0" *

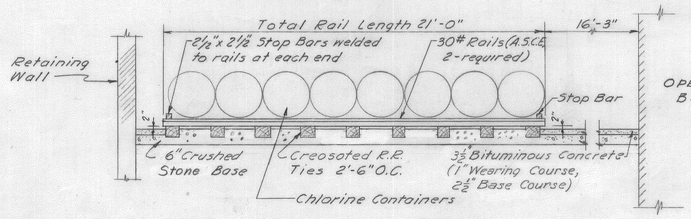


BITUMINOUS WALK
SCALE: 3/8" = 1'-0" *



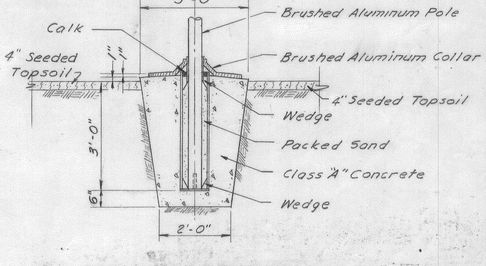
TRANSVERSE SECTION

NOTE:
1. Concrete walks to have #3 @ 12 reinforcement eachway.
2. Exp. joints for conc. walks shown on sheet C-2.
3. Conc. walks to have transverse scoring 5'-0" O.C.
4. For location of details see Sh. C-2.



LONGITUDINAL SECTION

DETAILS AT CHLORINE STORAGE AREA
SCALE: 1" = 1'-0" *



FLAGPOLE BASE DETAIL
SCALE: 1½" = 1'-0" *

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
① 6-65	E.B.M.	D.A.D.	Revised for Record Dwgs.

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/15/63
REG. PROF. ENGR. N.H. NO. 750 DATE

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT

SERVICE ROAD PROFILE & MISCELLANEOUS DETAILS

CIVIL

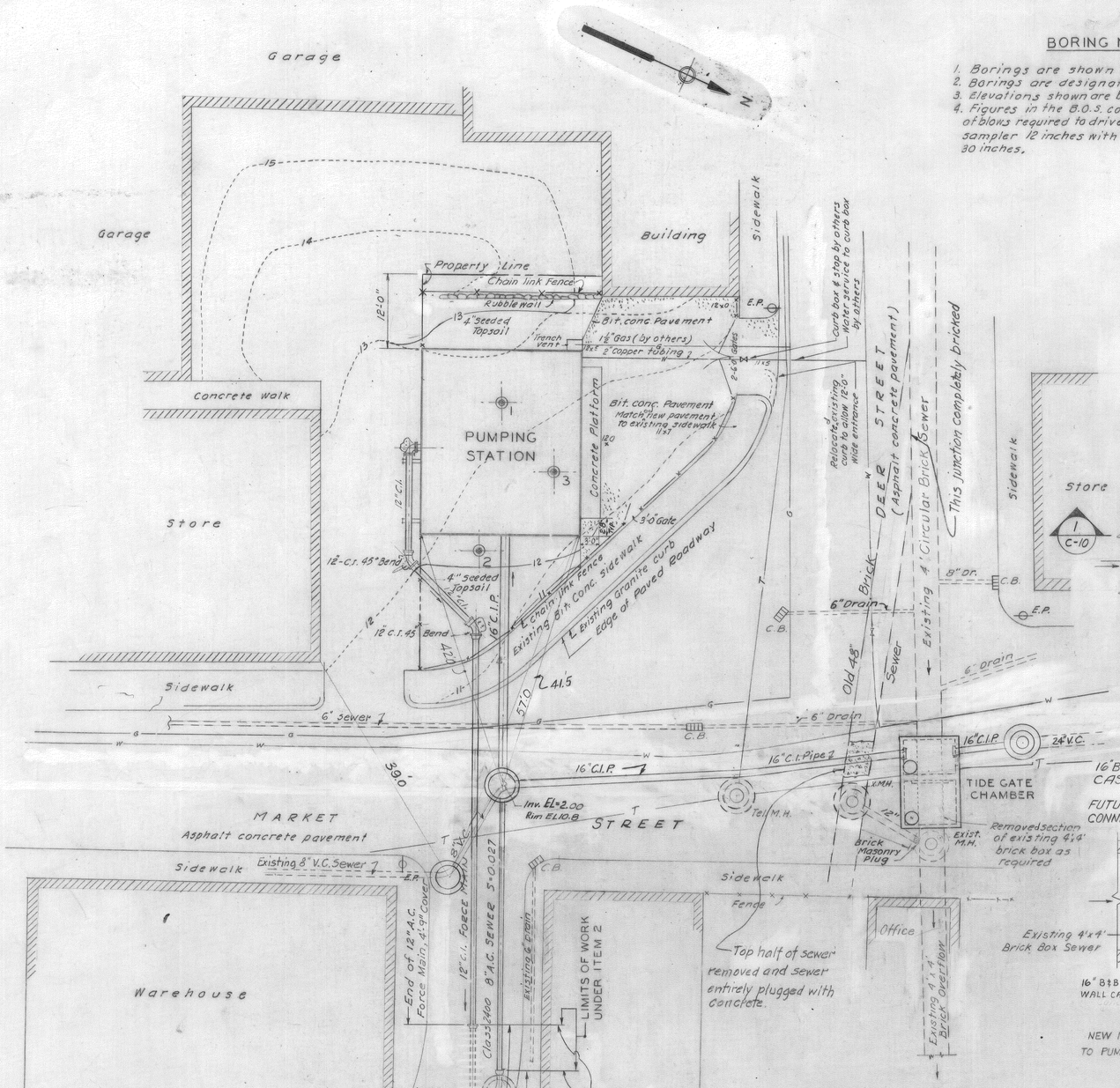
SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36028 1

CONTRACT 1963-1 SHEET C-9

DRIX N166 B. L. M. INC.



SITE PLAN

SCALE: 1"=10' *

BORING NOTES

1. Borings are shown on Site Plan, thus. ◉1
2. Borings are designated by numbers 1, 2 & 3.
3. Elevations shown are based on U.S.G.S. datum.
4. Figures in the B.O.S. column indicate number of blows required to drive a 2 inch O.D. split sampler 12 inches with a 140 lb. weight falling 30 inches.

BORINGS

NO. 1 — El. 12.9'

		B.O.S.
0.0'	Sand, gravel & cinders - Fill	14
2.0'	***	15
2.5'	Very fine sand and some medium gravel	38
5.0'	Fine sand and little medium gravel	44
Water 7.5'		98
11.0'	Cored rock Run No.1 Recovered 24" - Diorite -	C
14.0'		

Bottom of Boring 14.0'

*** Very fine sand and trace of clay

10 / 24 / 62

NO. 2 — El. 11.4

		B.O.S.
0.0'	Sand gravel and brick fill	24
		7
Water 7.0'	Fine sand medium gravel - fill -	38
9.0'	Cored rock Run No.1 Recovered 36" Diorite	C
14.0'		

Bottom of Boring 14.0'

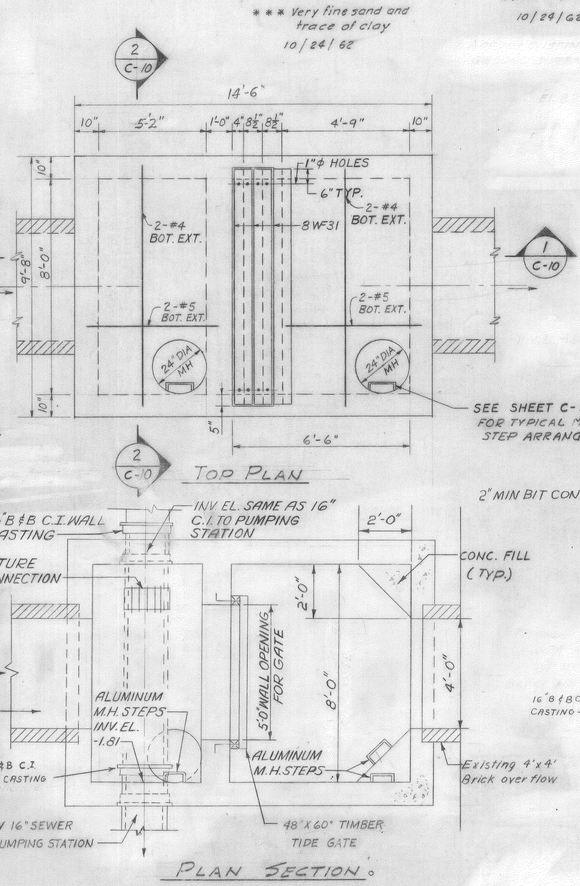
10 / 24 / 62

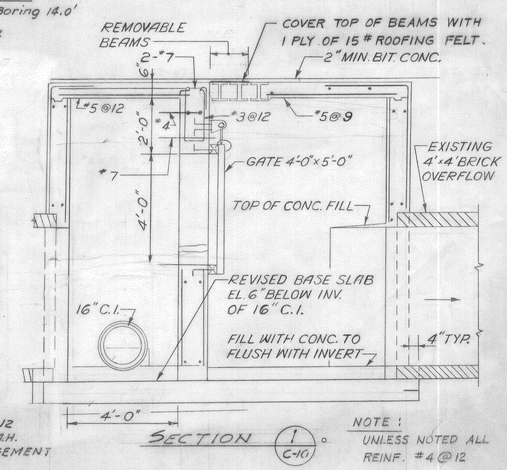
NO. 3 — El. 11.3

		B.O.S.
0.0'	Fine to medium sand & some medium coarse gravel fill	36
4.0'	Sand, gravel and cinders - fill -	7
Water 6.9'		
8.9'		

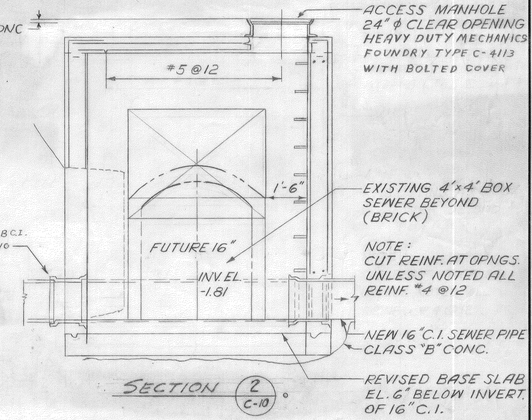
Refusal at 8.9'

10 / 25 / 62





NOTE: UNLESS NOTED ALL REINF. #4 @ 12



NOTE:

1. For Legend see Sheets C-2 and C-4
2. Field survey was performed by Metcalf & Eddy field party in September, 1962.
3. For Outside Electrical Work see Sheet E-7
4. All bends on Force Main ~~to~~ have concrete backing, for detail see Sheet C-5
5. The entire graded area within the fence except paved surfaces ~~shall have~~ 4" of seeded topsoil has

TIDE GATE CHAMBER

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

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
① 6-65	E.B.M.	D.A.D.	Revised for Record Dwgs.

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. — REG. PROF. ENGR. N.H. NO. 750 — 4/17/63 DATE

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

DEER & MARKET STREET

SITE PLAN & TIDE GATE CHAMBER

CIVIL

SCALE: AS SHOWN — MARCH, 1963

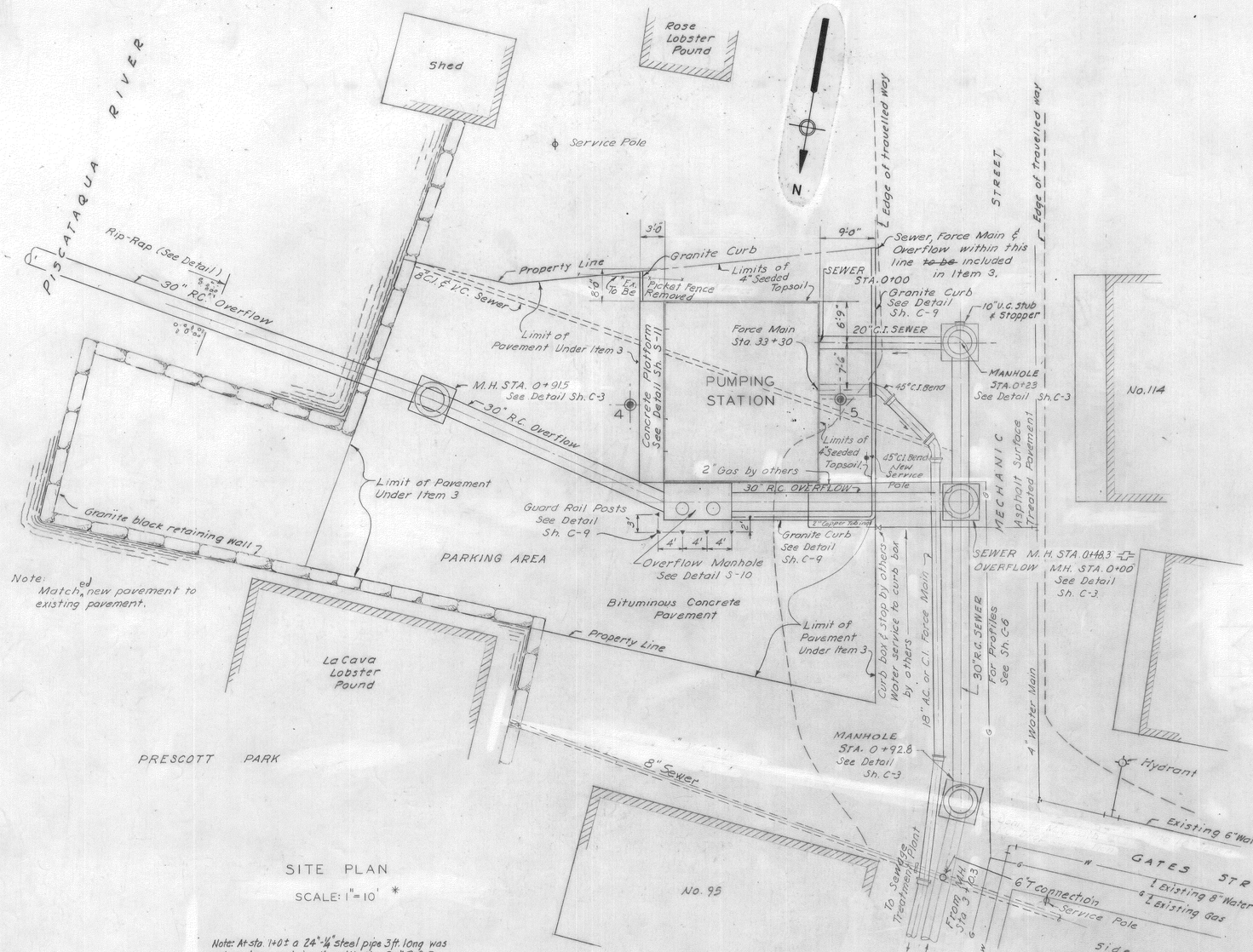
METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36029 1

DRAWN BY D.S. C.K.W.
TRACED BY S.D. C.K.W.
CHECKED BY D.E.S. D.A.D.

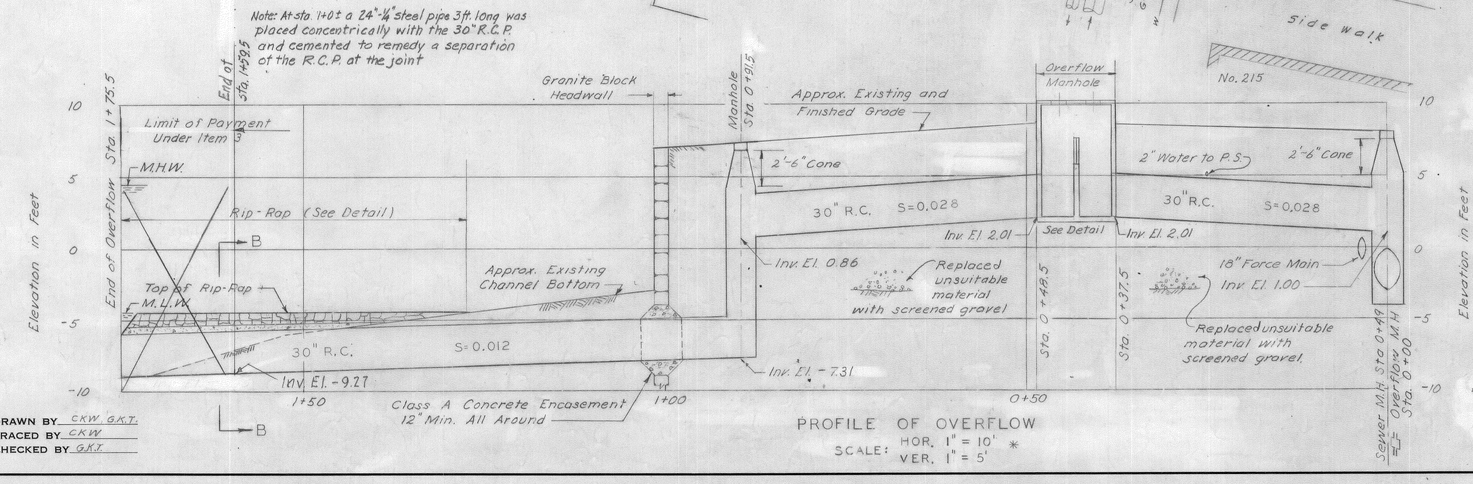
CONTRACT 1963-1 SHEET C-10

ENIX N168 B. L. M. INC.



SITE PLAN

SCALE: 1" = 10' *



PROFILE OF OVERFLOW

SCALE: HOR. 1" = 10' *
VER. 1" = 5'

BORINGS

NO. 4 — El. 7.8

		B.O.S.
0.0'	Sand, gravel & cinder Fill	24
2.0'	Cinder Fill	2
Water 6.4'		
8.0'	Fine Sand	9
10.0'	Fine to Medium Sand & some Medium coarse gravel	24
15.0'	Fine to Medium Sand and Some Medium gravel	36
18.4'	Cored Rock Run No. 1 Recovered 27" Badly Fractured Shale	C
23.4'	Bottom of Boring	

10/25/62

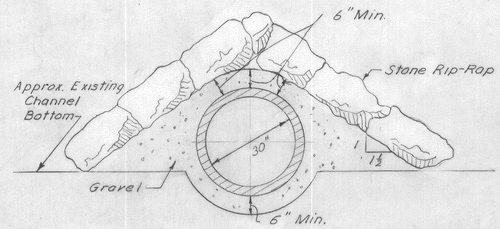
NO. 5 — El. 7.5

		B.O.S.
0.0'	Sand & cinder Fill	10
2.0'	Fine sand and Organic silt	3
Water 4.5'		
8.0'	Fine to Medium Sand & little Medium gravel	14
14.0'	Fine to Medium Sand & some Medium coarse gravel	29
23.0'	Cored Rock Run 1 Recovered 14" Shale badly Fractured	C
26.4'		

10/26/62

BORING NOTES

1. Borings are shown on Site Plan, thus ⊙5
2. Borings are designated by numbers 4 & 5
3. Elevations shown are based on U.S.C.G.S. datum.
4. Figures in the B.O.S. column indicate number of blows required to drive a 2 inch O.D. split sampler 12 inches with a 140 lb. weight falling 30 inches.



SECTION B-B

SCALE $\frac{1}{2}$" = 1'-0" *

RECORD DRAWING

REVISION.	MADE BY.	CHECKED BY	DESCRIPTION
② 6-6-63	E.B.M.	G.K.T.	Revised for Record Dwgs.
⚠ 8-15-63	D.E.S.	G.K.T.	CHANGE GAS LINE DIA.

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

GATES & MECHANIC STREET
SITE PLAN & OVERFLOW

CIVIL

SCALE, AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 360.30 / 1

CONTRACT 1963-1 — SHEET C-11

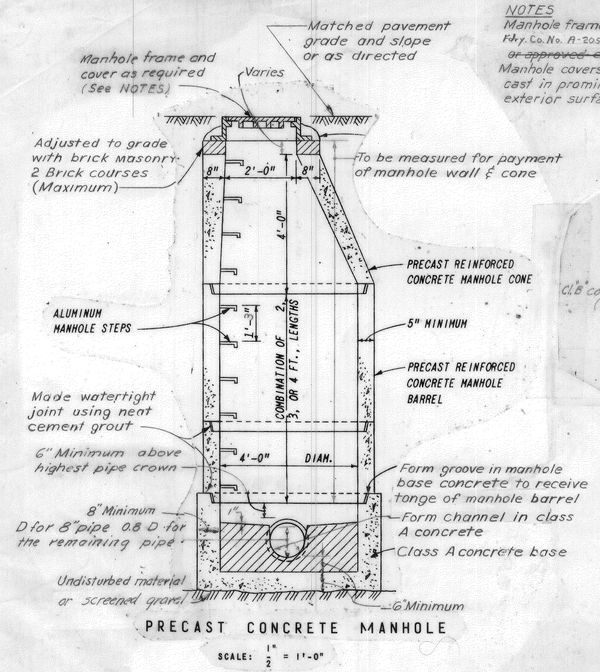
THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S Bethel Jr — 4/1/63
REG. PROF. ENGR. N.H. NO. 750 — DATE

DRAWN BY CKW G.K.T.
TRACED BY CKW
CHECKED BY G.K.T.

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

XEROX N-168 B. L. M. INC.



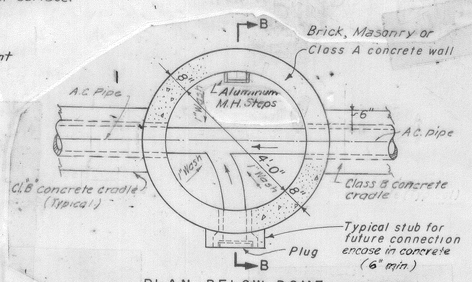
PRECAST CONCRETE MANHOLE

SCALE: 1" = 1'-0"

NOTES

Manhole frames and covers ~~shall be~~ Mechanics Fdry. Co. No. A-2050 ~~or~~ E.L. LeBaron Fdry. Co. No. LK-110 ~~or approved equal.~~

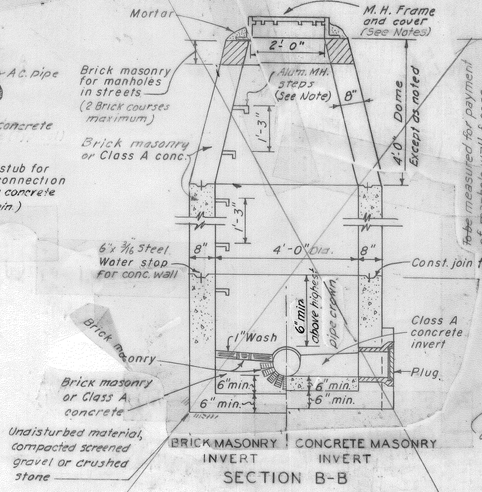
Manhole covers ~~shall~~ have the word, "SEWER" cast in prominent 3" letters raised on the exterior surface.



PLAN BELOW DOME

NOTE:

Aluminum manhole steps ~~shall be~~ Aluminum Company of America Stock No. 12653 B ~~or approved equal.~~

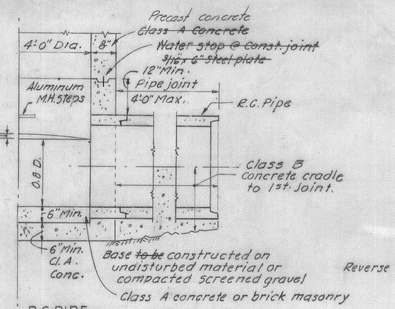


BRICK MASONRY INVERT | CONCRETE MASONRY INVERT

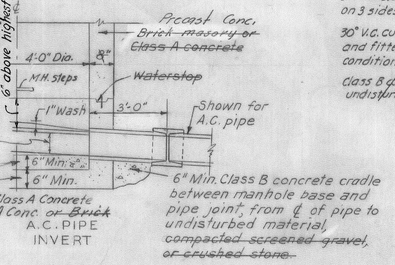
SECTION B-B

BRICK OR CONCRETE MASONRY MANHOLE

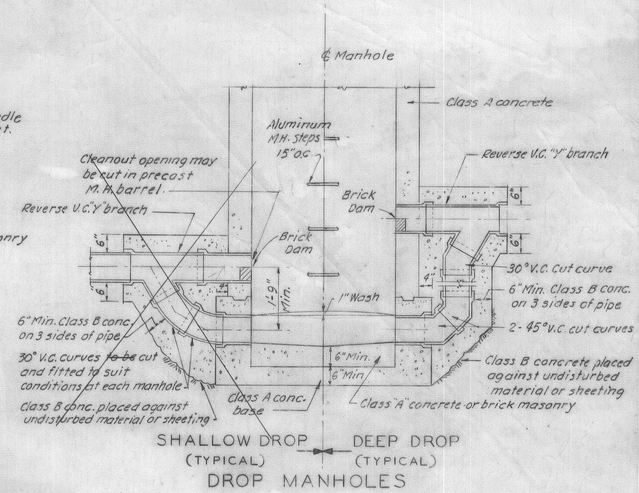
NOT TO SCALE



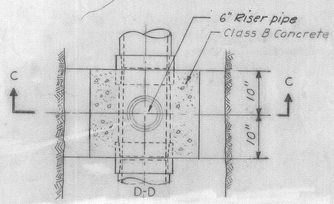
R.C. PIPE INVERT

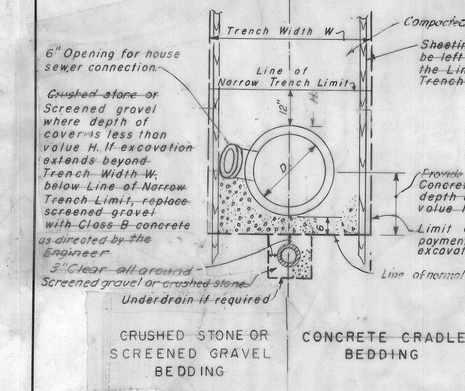


A.C. PIPE INVERT

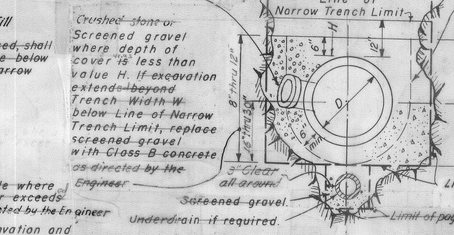


DROP MANHOLES





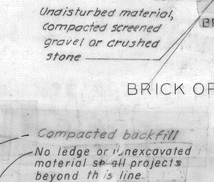
CRUSHED STONE OR SCREENED GRAVEL BEDDING | CONCRETE CRADLE BEDDING



CRUSHED STONE OR SCREENED GRAVEL BEDDING | CONCRETE CRADLE BEDDING

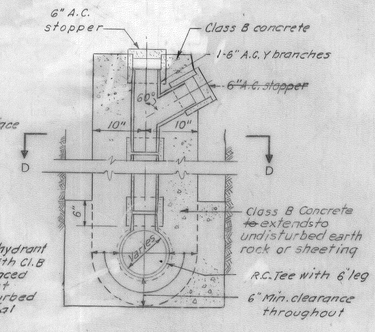
SEWER PIPE SECTION IN ROCK

NO SCALE



TYPICAL HYDRANT AND VALVE DETAIL

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



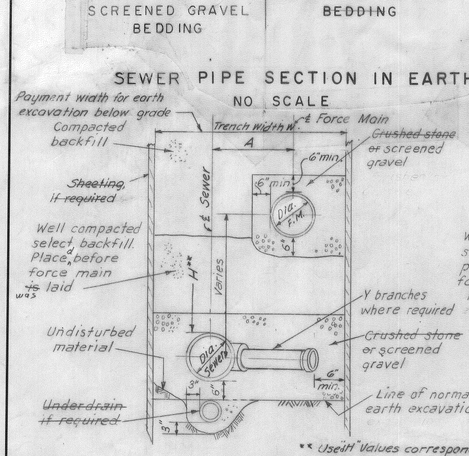
SECTION C-C

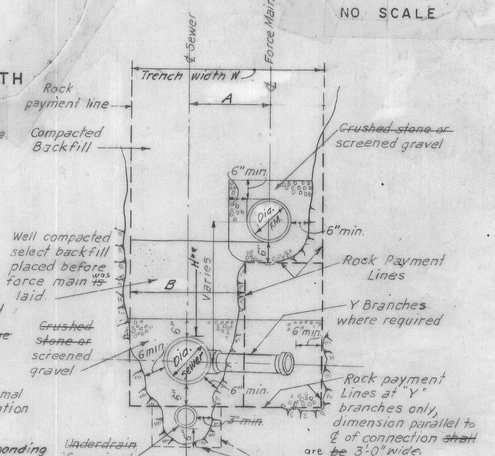
SEWER CHIMNEY FOR HOUSE CONNECTIONS

SCALE: 3/4" = 1'-0"

NOTE:

R.C. Pipe ~~to have~~ has 6" tee stub. Material for chimney shall be A.C. pipe.





** Use H Values corresponding to Trench Width W from table

SEWER AND FORCE MAIN IN SAME TRENCH

NOT TO SCALE

MAX. PERMISSIBLE COVER "H" AND TRENCH WIDTH "W" FOR SEWER PIPES

Diam. & Type	Class	Unsheeted Trench		Sheeted Trench	
		Trench Width W	Max. Perm. Cover H	Trench Width W	Max. Perm. Cover H
12" R.C.	III	3'-0"	9'-0"	4'-0"	9'-0"
21" R.C.	III	3'-9"	13'-6"	4'-0"	10'-6"
24" R.C.	III	4'-0"	10'-6"	4'-6"	13'-6"
30" R.C.	IV	4'-6"	12'-0"	4'-9"	8'-0"

TRENCH DIMENSIONS FOR SEWER AND FORCE MAIN IN SAME TRENCH

Dia. Sewer	Dia. Force Main	Trench Width W	Dis. bet. ℄ pipes A	Sew. Tr. Width B
8"	12"	4'-0"	1'-6"	3'-0" (Rock only)
30"	18"	6'-0"	2'-6"	4'-6" (Rock only)

GENERAL NOTES

1. Sewer trenches may ~~be~~ have been excavated wider than the "Limit of Excavation" above the "Line of Narrow Trench Limit."
2. ~~Below the~~ "Line of Narrow Trench Width" the trench should ~~not be~~ excavated beyond the Trench Width W. In case material is loosened, becomes loosened, or is removed beyond the above mentioned limits the Contractor will be required to provide Class B concrete for the full width of the trench in place of the screened gravel at no additional cost to the Owner as directed by the Engineer.
3. If excavation and backfill below grade is required, sheeting shall be driven to a depth as determined by the Engineer and cut off at an elevation 1'-0" above the top of the sewer pipe, unless otherwise directed. The depth of excavation below grade, if required, shall ~~be~~ determined in the field by the Engineer.
4. Concrete cradle shall be constructed where cover exceeds the value H and shall extend between the sides of the trench or sheeting and from undisturbed earth at the bottom of the trench up to the center line of the pipe as directed by the Engineer.
5. Sheeting, if used, in all cases shall be left in place below a line 1'-0" above the top of the pipe.
6. Where manholes or drop manholes are more than 15'-0" deep from the top of the frame to the invert of the pipe, the wall shall be 12" thick below a point 12'-0" down from the top of the frame.
7. Exterior surface of brick walls shall be covered with 1/4" to 3/8" masonry cement plaster and coated with two coats of bituminous waterproofing.
8. All outside surfaces of manholes ~~shall be~~ were given two coats of bituminous waterproofing as specified.
9. Joints ~~shall be~~ were provided at the wall of structures on all pipelines. This ~~shall~~ was be accomplished by casting a bell ring in the concrete or by the use of bell end stubs.
10. Brick manholes ~~shall not be~~ were not used in locations subject to tidal infiltration.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
(2) 6-65	E.B.M.	G.K.T.	Revised for Record Dwgs
(1) 5-1963	E.J.T.	D.E.S.	CHANGE 18" to 21" R.C. PIPE TO 24" R.C. PIPE

DRAWN BY G.K.T. C.K.W.
TRACED BY A.M.B. C.K.W.
CHECKED BY G.K.T. D.A.D.

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. 4/1/63

REG. PROF. ENGR. N.H. NO. 750 DATE

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT & PUMPING STATIONS

TYPICAL DETAILS FOR SEWERS

CIVIL

SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36091

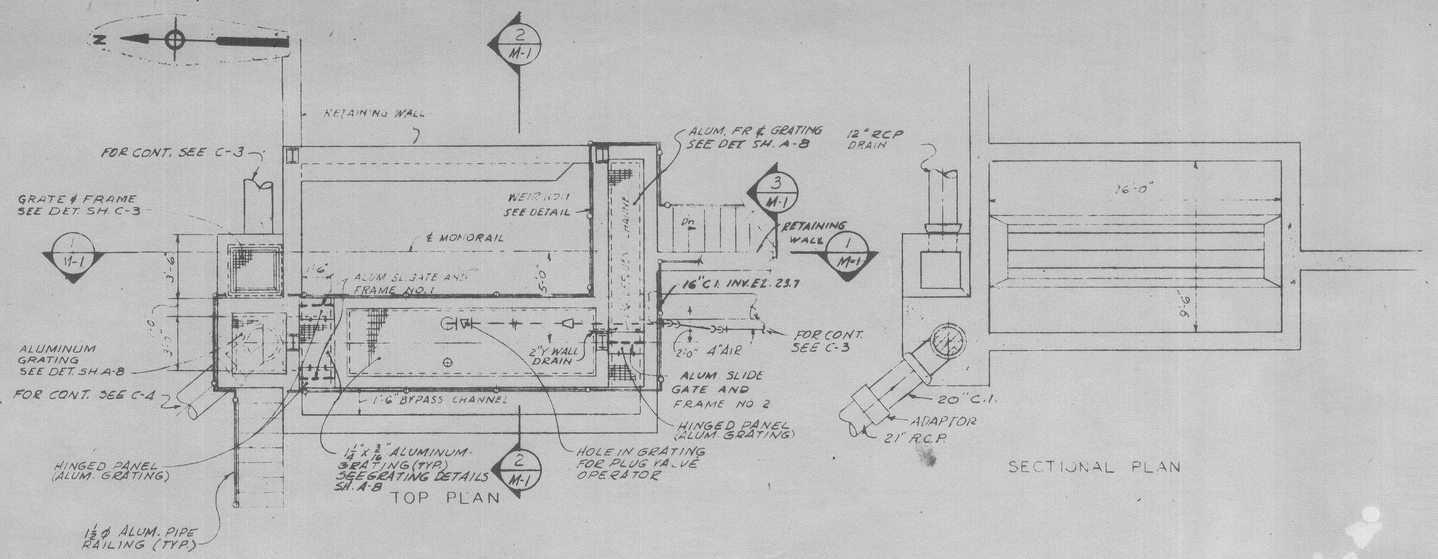
CONTRACT 1963-1 SHEET C-12

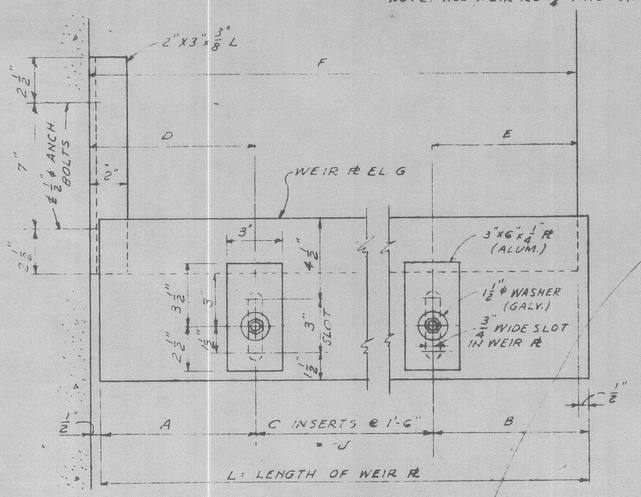
WIX N166 11/70 B. L. M. INC. 4805

ALUMINUM WEIR PLATE SCHEDULE

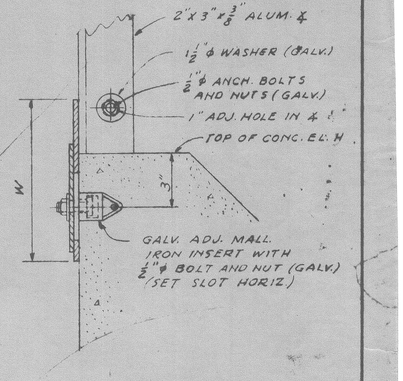
WEIR NO.	LOCATION	TYPE	NO. OF WEIRS	L	W	A	B	C	D	E	F	G	H	J
1	AERATED GRIT CHAMB.	STRAIGHT	1	7'-5"	9"	8½"	-	5	9"	-	7'-6"	25.15	24.90	6'-0"
2	SETTLING TANK - INF.	STRAIGHT	2	15'-0"	9"	8½"	9½"	10	9"	9"	15'-0"	24.10	23.85	13'-6"
3	SETTLING TANK - EFF.	NOTCHED	8	15'-11"	11"	5½"	-	11	6"	-	16'-0"	24.07	23.65	15'-0"

NOTE: ALL WEIR PLS ¼" THICK ALUM. PL





ELEVATION

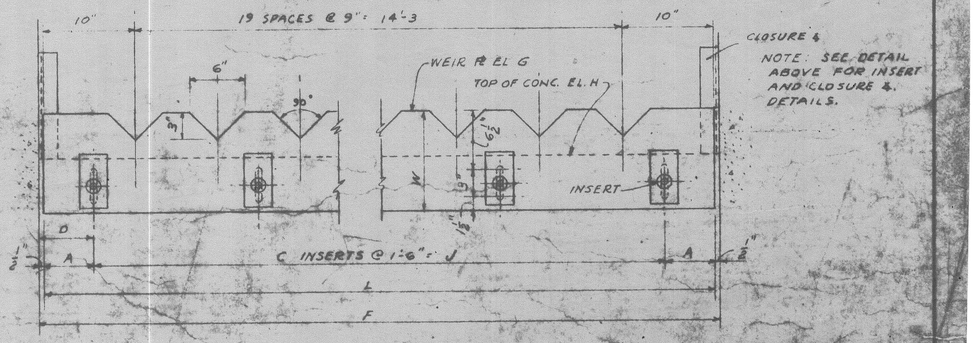


SECTION

TYPICAL STRAIGHT WEIR

SCALE IN FEET

SCALE: 3" = 1'-0"



ELEVATION

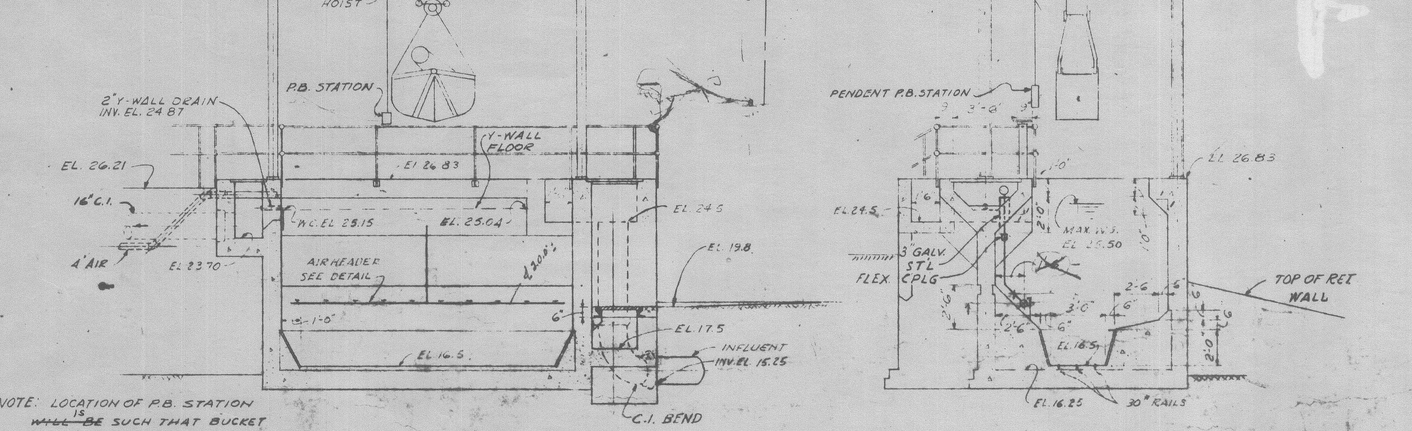
TYPICAL NOTCHED WEIR

SCALE IN FEET

SCALE: ½" = 1'-0"

NOTES

1. DETAILS OF SLIDE GATES ARE IN SH. M-2



NOTE: LOCATION OF P.B. STATION ~~WILL~~ IS BE SUCH THAT BUCKET CAN BE OPERATED CONVENIENTLY FROM SLIDE GATE PLATFORM WHEN LOADING TRUCK.

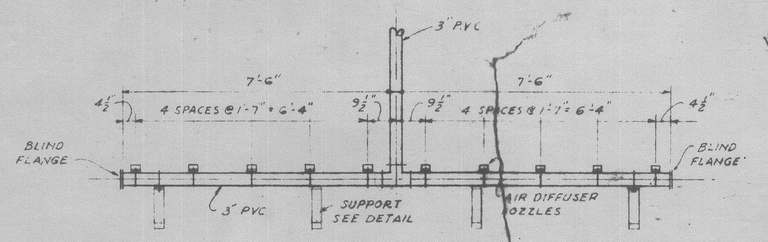
SECTION 1 / M-1

SECTION 2 / M-1

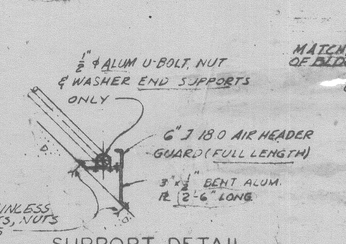
0 4 8 12

SCALE IN FEET

SCALE: ¼" = 1'-0"



AIR HEADER DETAIL (1 REQ'D)

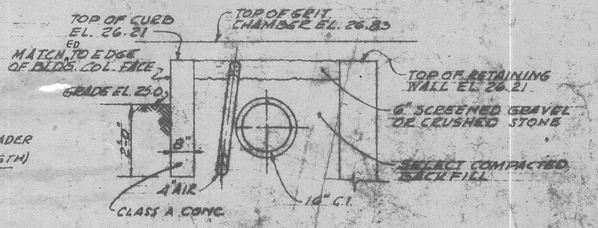


SUPPORT DETAIL

0 2 4 6

SCALE IN FEET

SCALE: ½" = 1'-0"



SECTION 3 / M-1

DRAWN BY HJ
TRACED BY HJ
CHECKED BY DES DAD

NO.	BY	DATE	APPD.	REVISIONS
2	R.G.B.	1 Em	C.E.S.	Revised for Record Drgs.

APPROVED

FOR METCALF & EDDY, ENGINEERS

Registered Engr. N.H. No. 700 — DATE 4/1/63

THE STATE OF NEW HAMPSHIRE JOHN G. BETHEL JR. NO. 700 REGISTERED PROFESSIONAL ENGINEER

RECORD DRAWING

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

AERATED GRIT CHAMBER & DETAILS

MECHANICAL

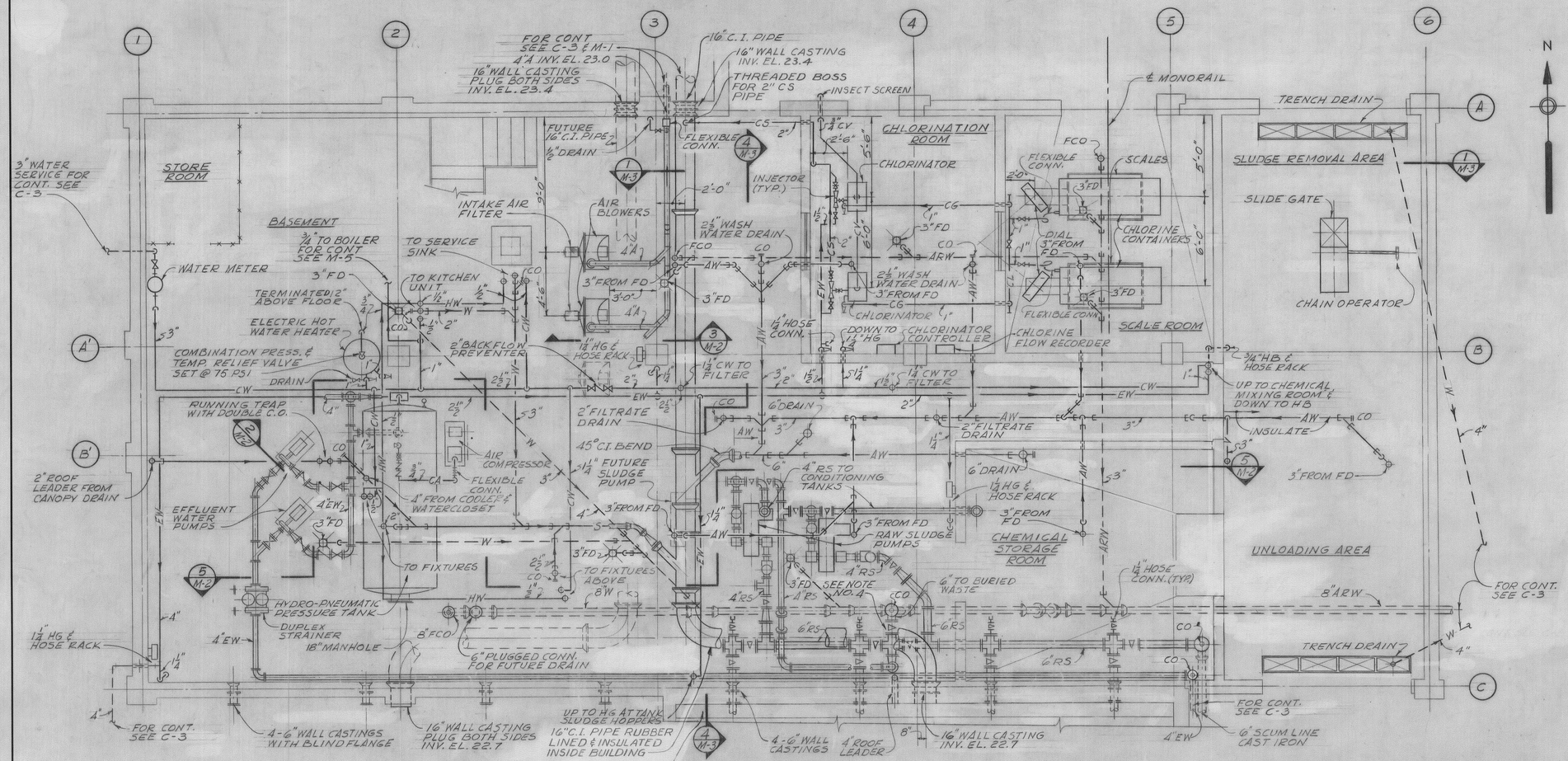
SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

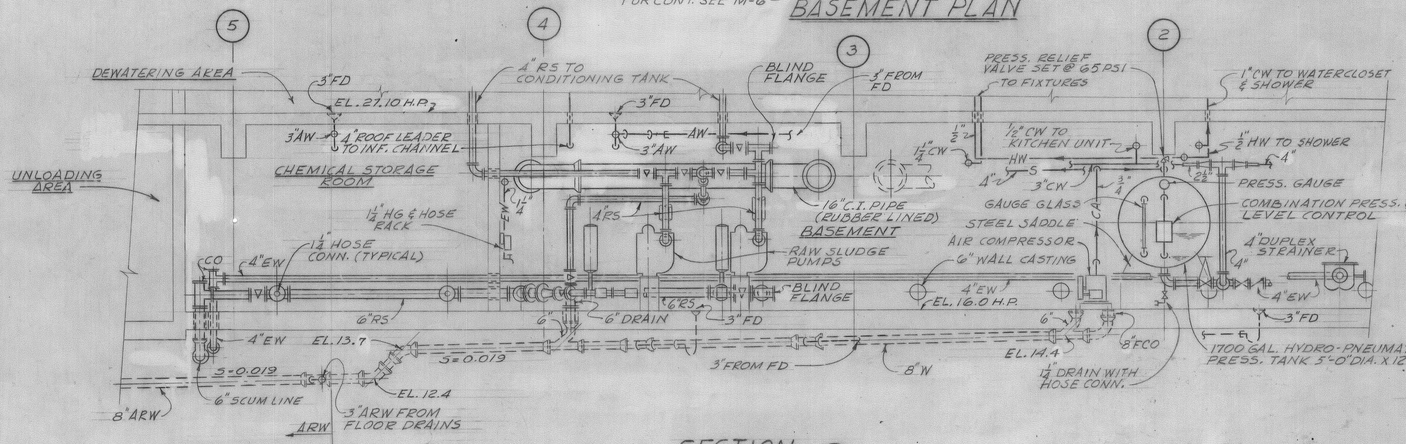
H 360 51 / 1

CONTRACT 1963-1 — SHEET M-1

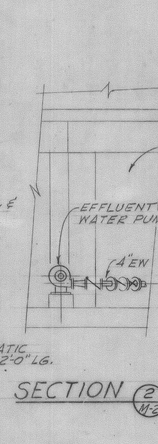
DOES NOT APPLY WHEN DRAWING HAS BEEN CHANGED BY REPRODUCTION



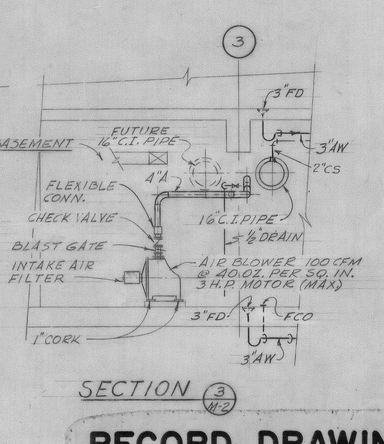
BASEMENT PLAN



SECTION (5 M-2)



SECTION (2 M-2)



SECTION (3 M-2)

LEGEND

SYMBOL	PIPING	MATERIAL
EW	EFFLUENT WATER	C.I. & GALV. STEEL
AW	ACID WASTE	PVC
CW	CITY WATER	COPPER
LS	LIME SLURRY	GALVANIZED STEEL
FC	FERRIC CHLORIDE	PVC
FD	FLOOR DRAIN	SEE SPECIFICATIONS
CL	CHLORINE LIQUID	EXTRA HEAVY W.I.
CG	CHLORINE GAS	EXTRA HEAVY W.I.
CS	CHLORINE SOLUTION	PVC
CV	CHLORINE VENT	PVC OR RUBBER HOSE
W	WASTE	C.I. SOIL PIPE
V	VENT	GALVANIZED STEEL
A	AIR	14 GAGE GAL. STEEL
RS	RAW SLUDGE	C.I.
* S	SEWAGE	C.I. OR R.C.
ARW	ACID RESISTANT WASTE	DURIRON
CA	COMPRESSED AIR	SCH. 40 GALV. STEEL
HW	HOT WATER	COPPER
CO	CLEAN OUT	SEE SPECIFICATIONS
FCO	FLOOR CLEANOUT	
HB	HOSE BIBB	
HG	HOSE GATE	
	GATE VALVE	
	GLOBE VALVE	
	CHECK VALVE	
	PLUG VALVE	
	STRAINER	
	REDUCER	
	DIAPHRAGM VALVE	
	HOSE COUPLING & PLUG VALVE	

GENERAL NOTES

1. FOR EXTERIOR WALL PENETRATIONS SEE DETAIL A SHEET M-3
2. UNLESS OTHERWISE INDICATED, ALL PIPING SHOWN DIAGRAMMATICALLY. EXACT LOCATION ~~TO BE~~ WAS DETERMINED IN FIELD.
3. FOR ROOF PENETRATIONS AND LOUVERS SEE ARCHITECTURAL DWGS.
4. THIS VALVE ~~TO BE~~ PROVIDED WITH SEAL APPROVED BY NEW HAMPSHIRE STATE HEALTH DEPARTMENT.
5. * 16" C.I. PIPE INSIDE BUILDING TO BE RUBBER LINED

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2	6-65	E.B.M.	G.F.T.	Revised for Record Dwgs.
1	5/16/63	JRF	EAL	ADDED FLOOR DRAINS & PIPING RELOCATED C.S. LINE.

RECORD DRAWING

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT

OPERATIONS BUILDING PROCESS PIPING & PLUMBING BASEMENT PLAN & SECTIONS

MECHANICAL

SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

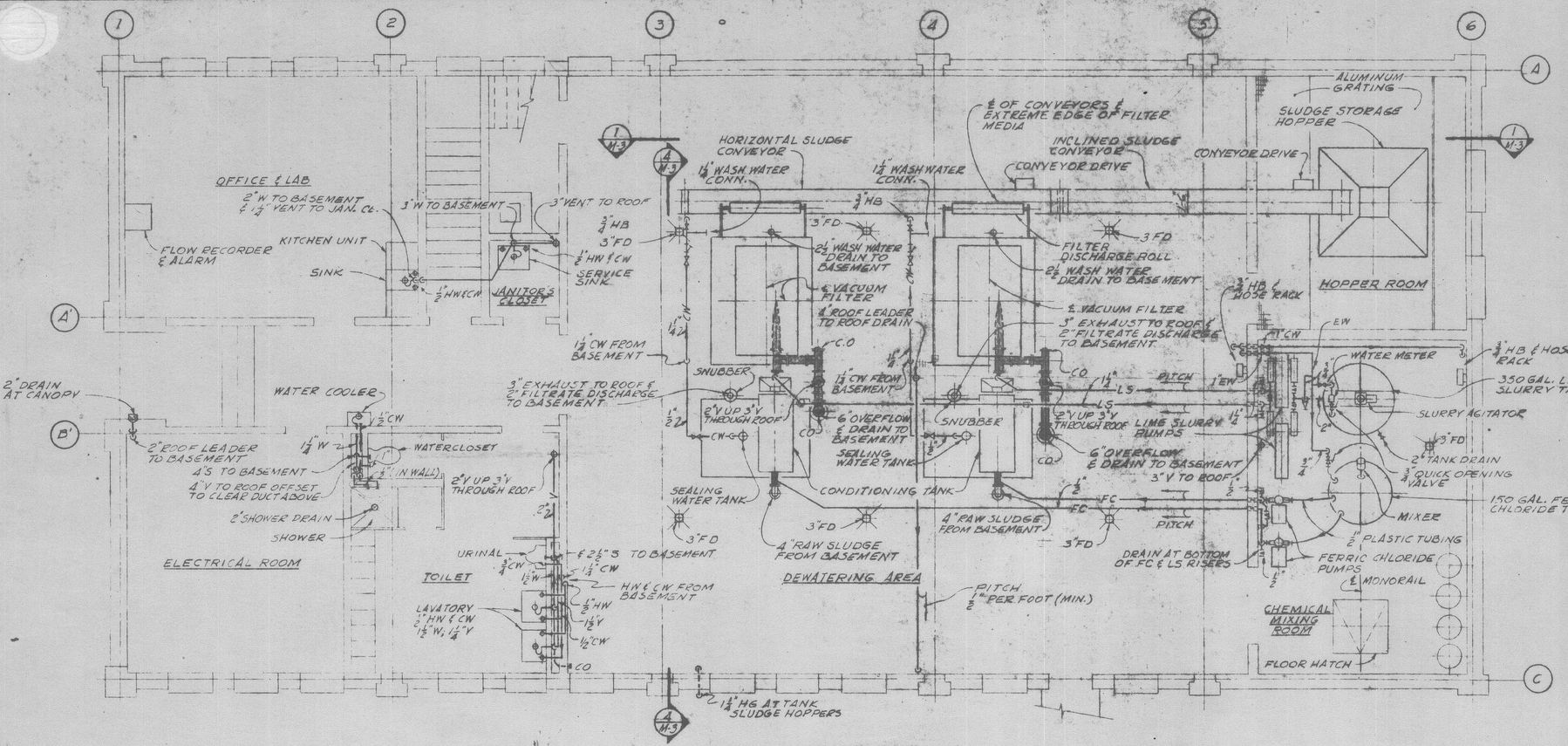
H 36052 1

DRAWN BY JRF
TRACED BY JRF
CHECKED BY EAL

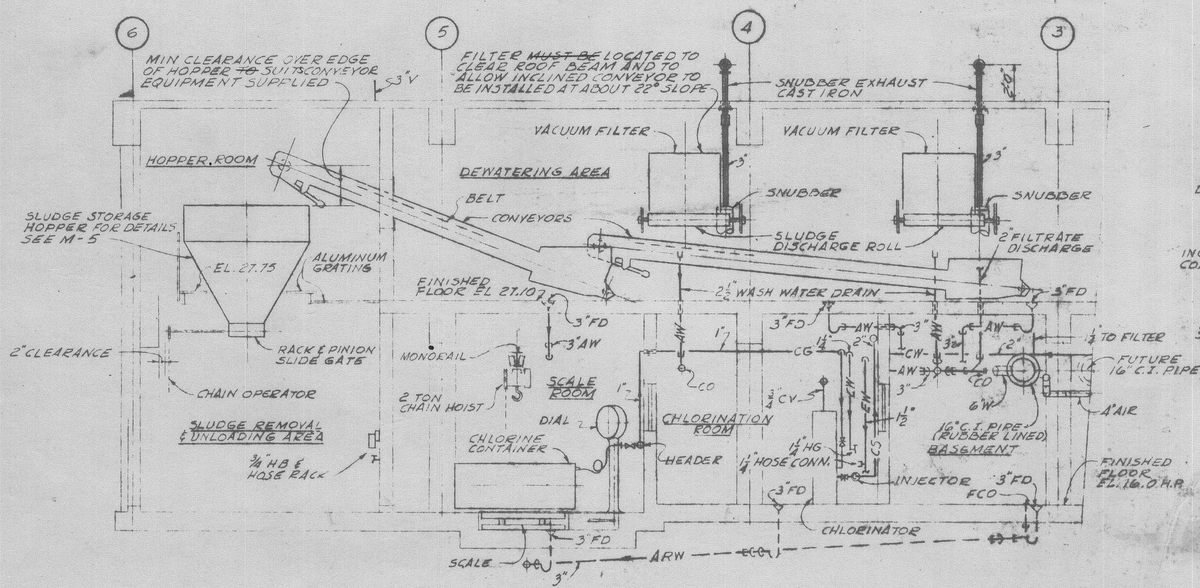
* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

APPROVED
FOR METCALF & EDDY, ENGINEERS
REG. PROF. ENGR. N.H. NO. 750 — DATE 4/17/63

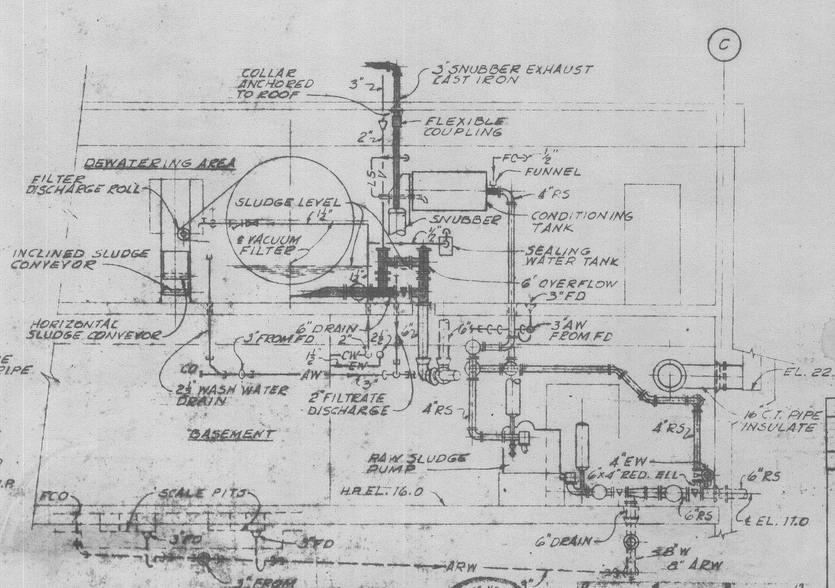
CONTRACT 1963-1 — SHEET M-2



FIRST FLOOR PLAN

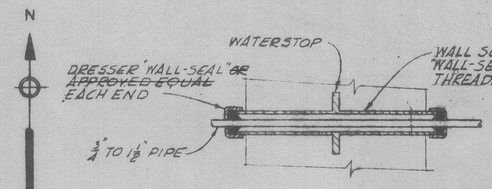


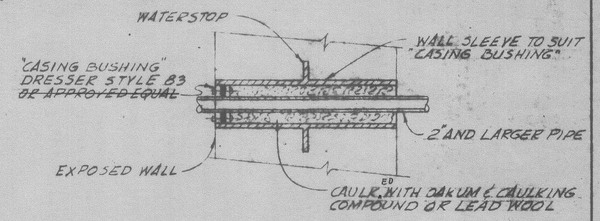
SECTION (1/M-2 1/M-3)



SECTION (4/M-2 4/M-3)

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.





DETAIL (A/—)

NO SCALE

NOTES

1. FOR GENERAL NOTES, LEGEND & PIPING MATERIAL SEE SHEET M-2
2. INSTALL CHEMICAL MIXING TANKS ON 2" PADS
3. PIPING SHOWN SHADED FURNISHED BY EQUIPMENT MFR.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
② 6-65	E.B.M.	G.E.T.	Revised for Record Dwgs.
⚠ 5/14/63	JRF	EAL	ADDED FLOOR DRAINS, F. DISCHARGE CS LINE, CONNECTED FCO & LS TO F.S.

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING
PROCESS PIPING & PLUMBING
FIRST FLOOR PLAN & SECTIONS

MECHANICAL

SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

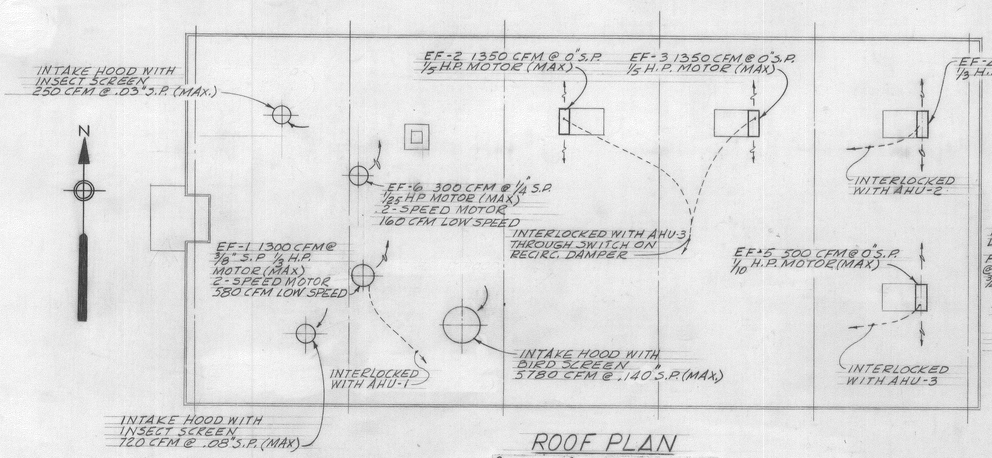
H 36053 1

APPROVED
FOR METCALF & EDDY, ENGINEERS
John J. Bethel Jr. — REG. PROF. ENGR. N.H. NO 750 — 4/17/63 DATE

THE STATE OF NEW HAMPSHIRE JOHN J. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

DRAWN BY JRF
TRACED BY JRF
CHECKED BY EAL

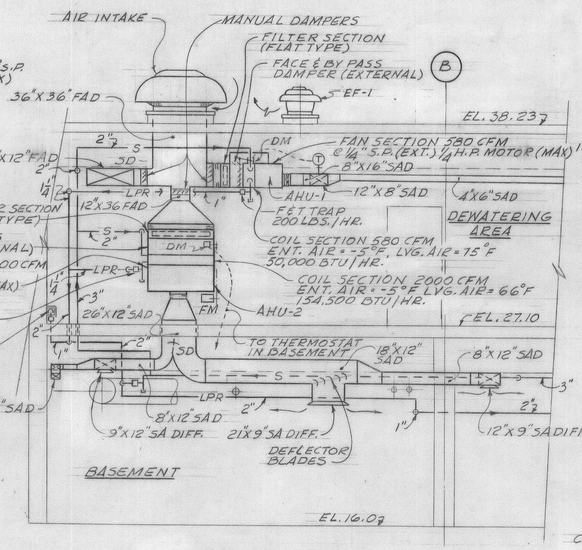
CONTRACT 1963-1 — SHEET M-3



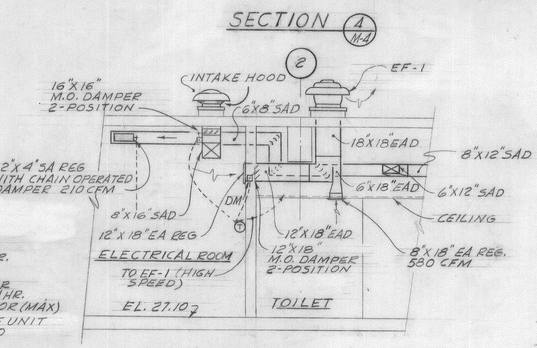
ROOF PLAN

SCALE IN FEET 0 8 16 24

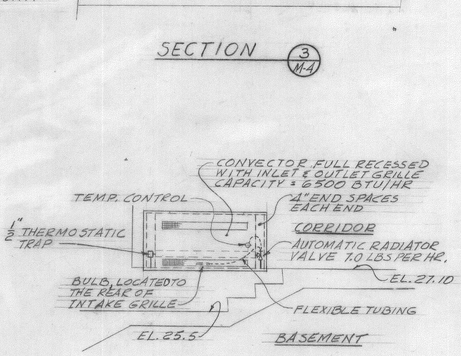
SCALE: 1/8" = 1'-0" *



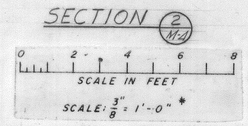
SECTION 4 / M-4

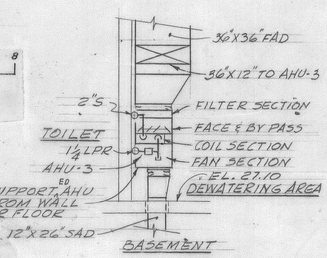


SECTION 3 / M-4

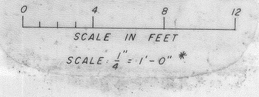


SECTION 2 / M-4

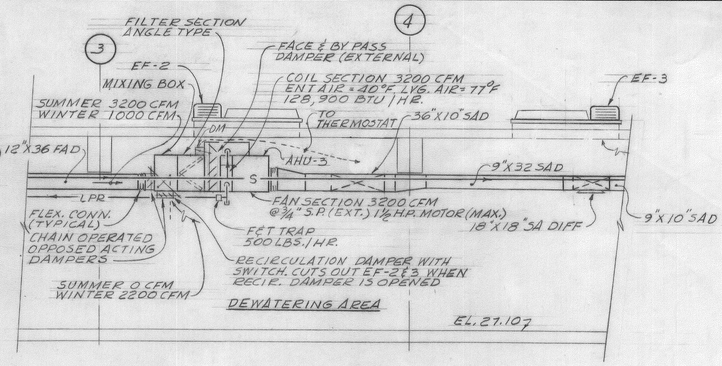




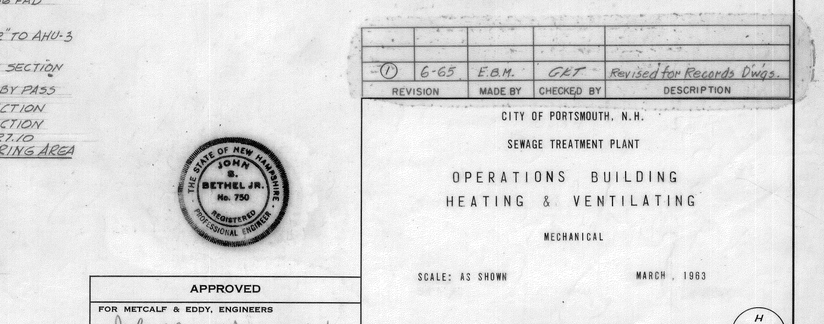
SECTION 6 / M-4



SECTION 5 / M-4



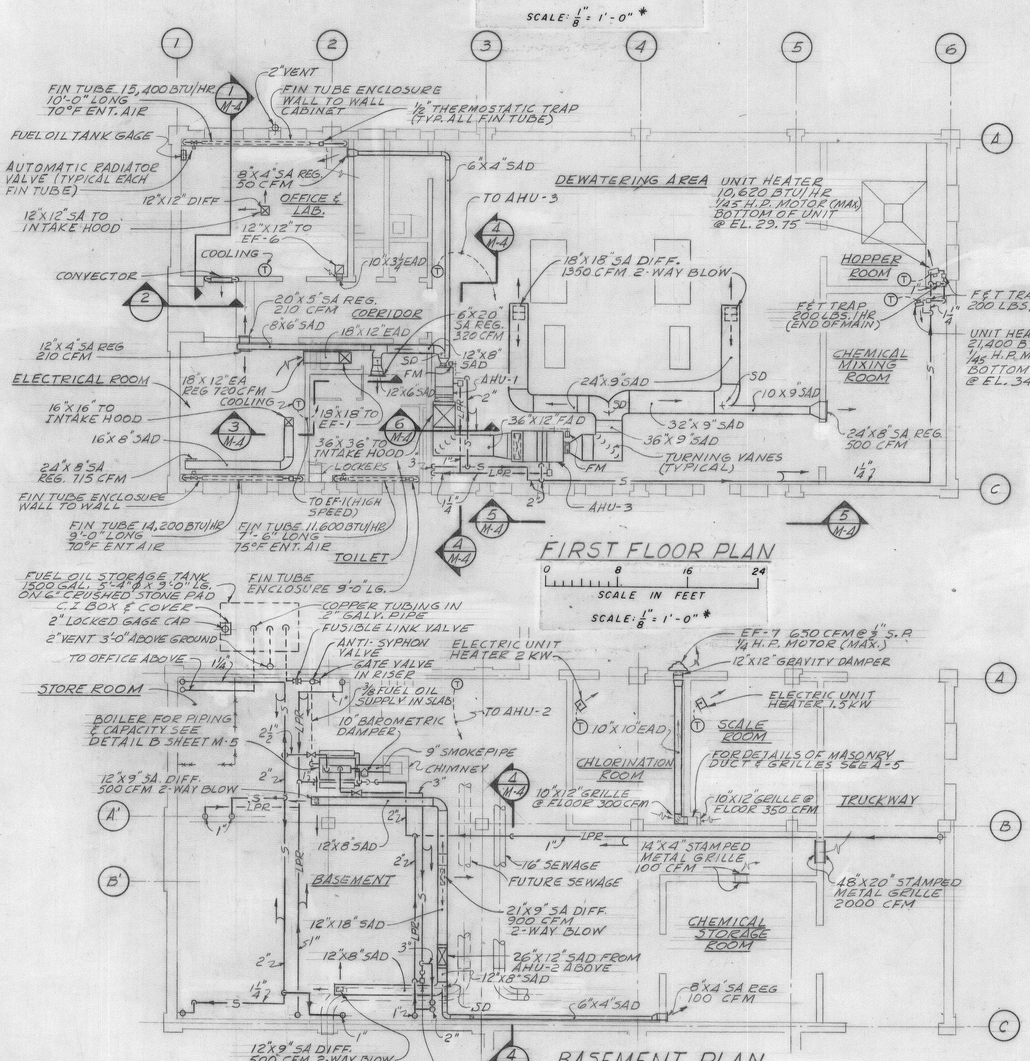
SECTION 1 / M-4



FIRST FLOOR PLAN

SCALE IN FEET 0 8 16 24

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



BASEMENT PLAN

SCALE IN FEET 0 8 16 24

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

LEGEND

AHU	AIR HANDLING UNIT
EF	EXHAUST FAN
FAD	FRESH AIR DUCT
EAD	EXHAUST AIR DUCT
SAD	SUPPLY AIR DUCT
DIFF	DIFFUSER
REG	REGISTER
DM	DAMPER MOTOR
S	STEAM
LPR	LOW PRESS. RETURN
SD	SPLITTER DAMPER
	GATE VALVE
T	THERMOSTAT
	PITCH
FM	FAN MOTOR

NOTES

1. FOR GENERAL NOTES SEE M-2
2. FOR PIPING AT AHU COILS, UNIT HEATERS, & END OF MAIN TRAPS SEE M-5
3. HEATING EQUIPMENT BASED ON 5 PSIG STEAM.
4. ALL E & T TRAP CAPACITIES INCLUDE SAFETY FACTOR AND ARE BASED ON 15 PSIG STEAM & 3 PSIG ΔP (MAX)

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
1	6-65	E.B.M.	GET	Revised for Records Dwgs.

DRAWN BY J.R.F.
TRACED BY J.R.F.
CHECKED BY EAL

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

APPROVED
FOR METCALF & EDDY, ENGINEERS
John A Bethel Jr 4/17/63
REG. PROF. ENGR. N.H. NO. 750 — DATE

THE STATE OF NEW HAMPSHIRE JOHN A. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING
HEATING & VENTILATING

MECHANICAL

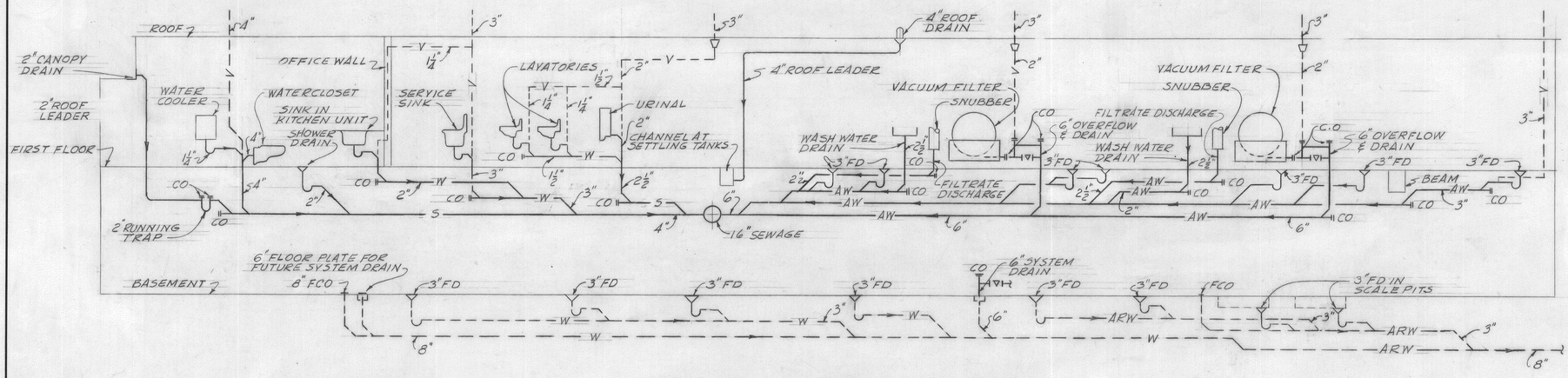
SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36054 1

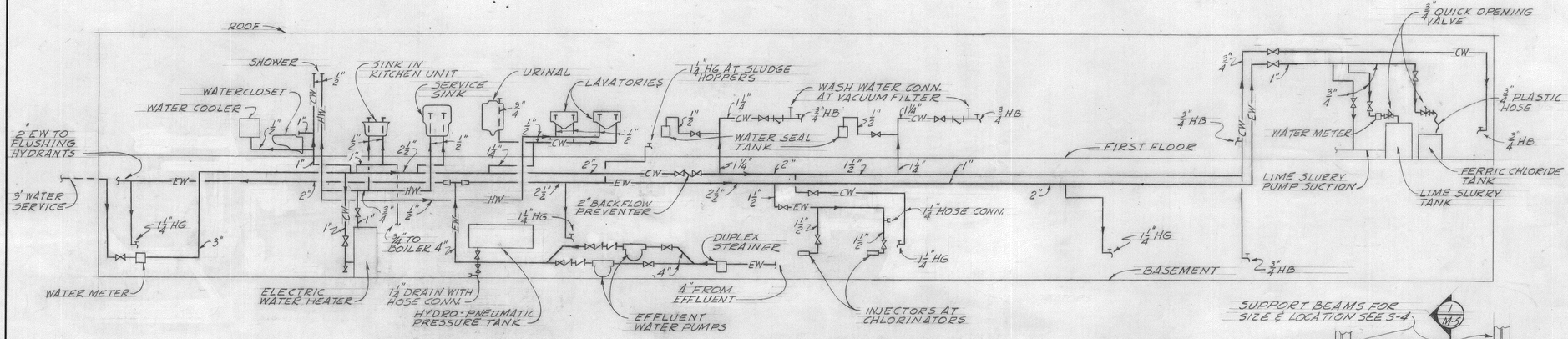
CONTRACT 1963-1 SHEET M-4

B. L. M. INC. 69980



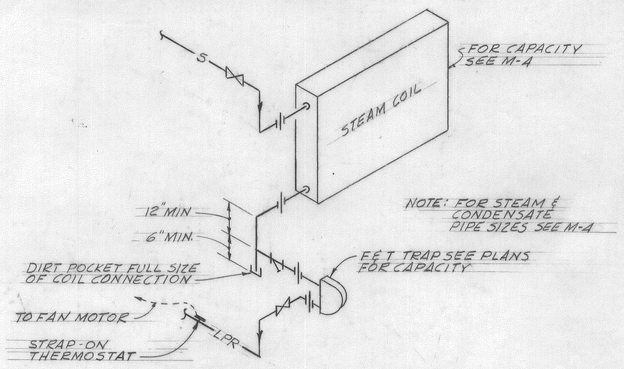
DRAINAGE AND VENT RISER DIAGRAM

NO SCALE



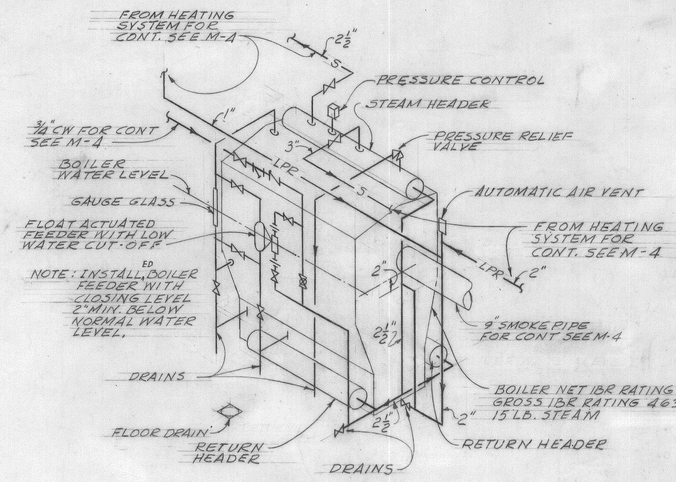
CW, HW & EW RISER DIAGRAM

NO SCALE



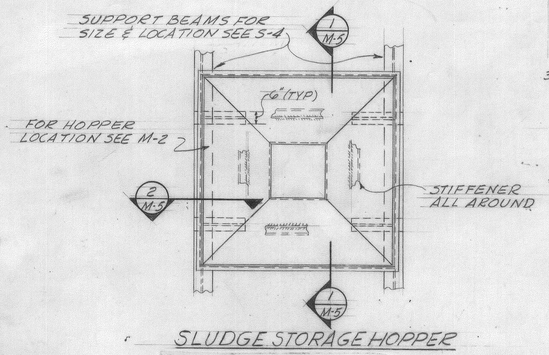
TYPICAL STEAM COIL PIPING

NO SCALE

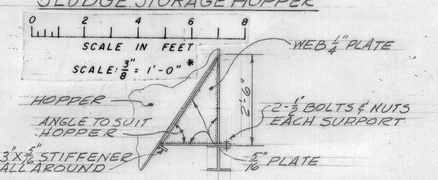


DETAIL (B M-4)

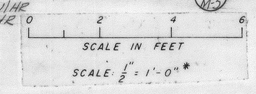
NO SCALE

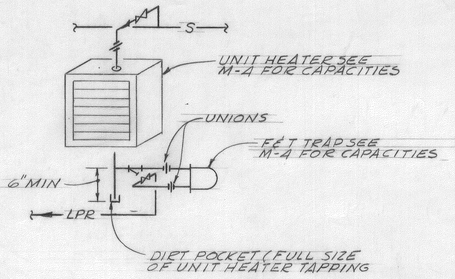


SLUDGE STORAGE HOPPER



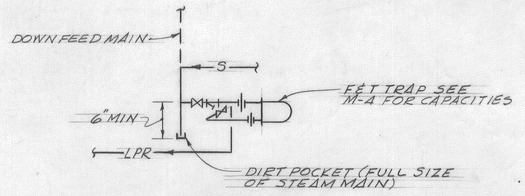
SECTION (2 M-5)





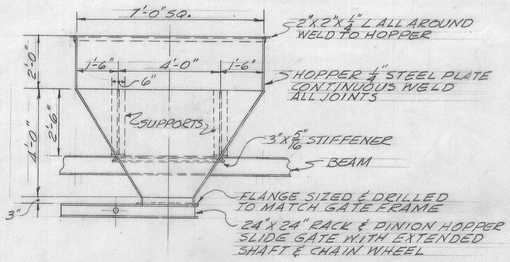
TYPICAL UNIT HEATER PIPING

NO SCALE

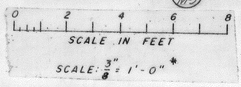


TYPICAL END OF MAIN DRIP

NO SCALE



SECTION (1 M-5)



NOTES

1. FOR GENERAL NOTES SEE M-2
2. FOR LEGENDS & PIPING MATERIAL SEE M-2 & 4

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

DRAWN BY JRF
TRACED BY JRF
CHECKED BY EAL

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2	6-65	E.B.M.	GAT	Revised for Record DWgs.
1	5/16/63	JRF	EAL	ADDED FLOOR DRAINS

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/1/63
REG. PROF. ENGR. N.H. NO. 750 DATE

THE STATE OF NEW HAMPSHIRE · JOHN S. BETHEL JR. · No. 750 · REGISTERED PROFESSIONAL ENGINEER

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING DETAILS & DIAGRAMS

MECHANICAL

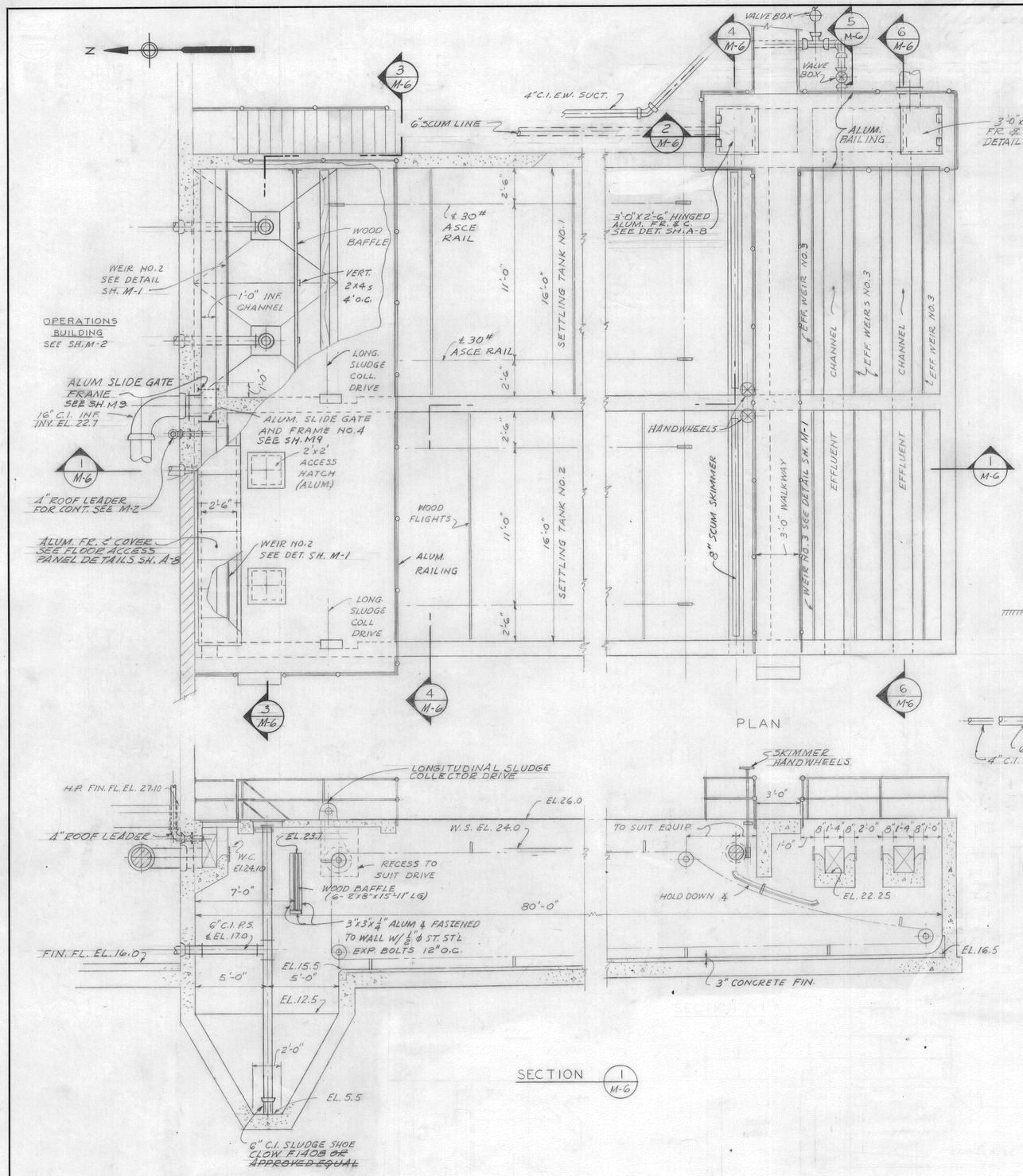
SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 39053 1

CONTRACT 1963-1 SHEET M-5

B. L. M. INC. 69380



DRAWN BY RJ
TRACED BY RJ
CHECKED BY DES. D.A.D.

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

DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

RECORD DRAWING

2	6-65	E.B.M.	G.K.T.	Revised for Record Dwgs.
1	5/17/63	R.J.	D.E.S.	REMOVED CHLOR. CONT. TANK
REVISION		MADE BY	CHECKED BY	DESCRIPTION

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr.
REG. PROF. ENGR. N.H. NO. 750
4/1/63
DATE

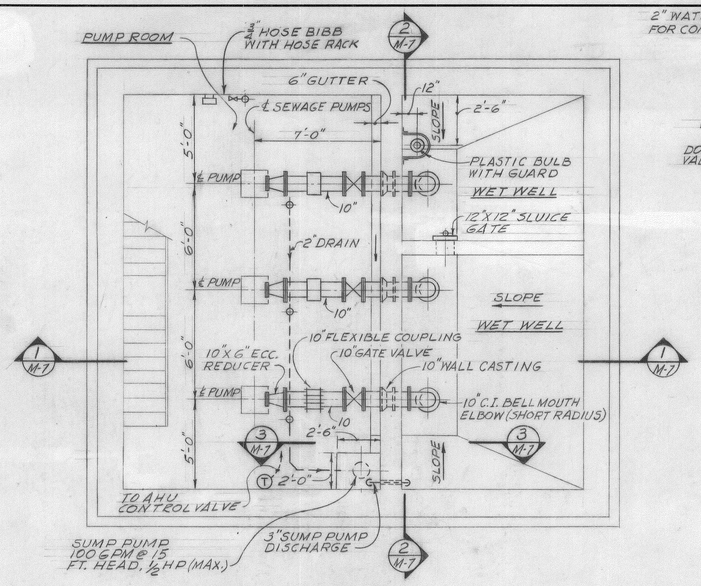
CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT
SEDIMENTATION TANKS
PLANS & SECTIONS
MECHANICAL
SCALE: AS SHOWN
MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

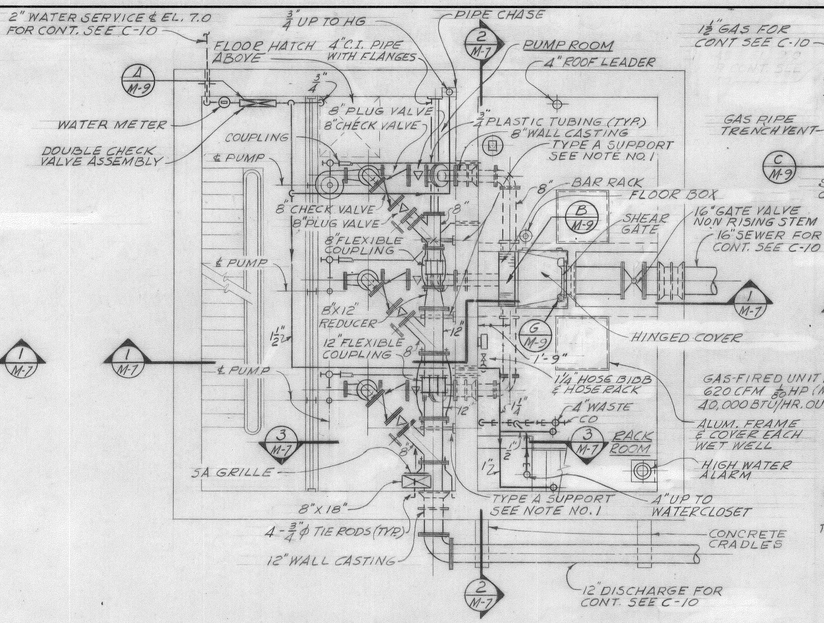
H 3G056 1

CONTRACT 1963-1 SHEET M-6

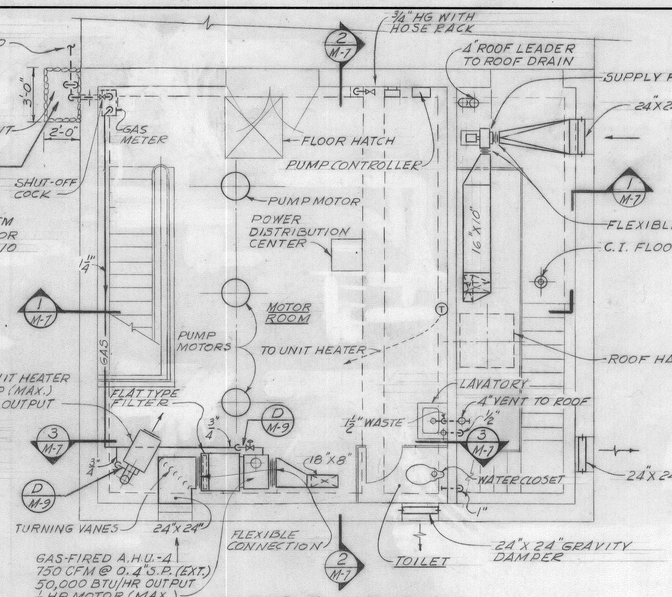
NIX N166 B. L. M. INC.



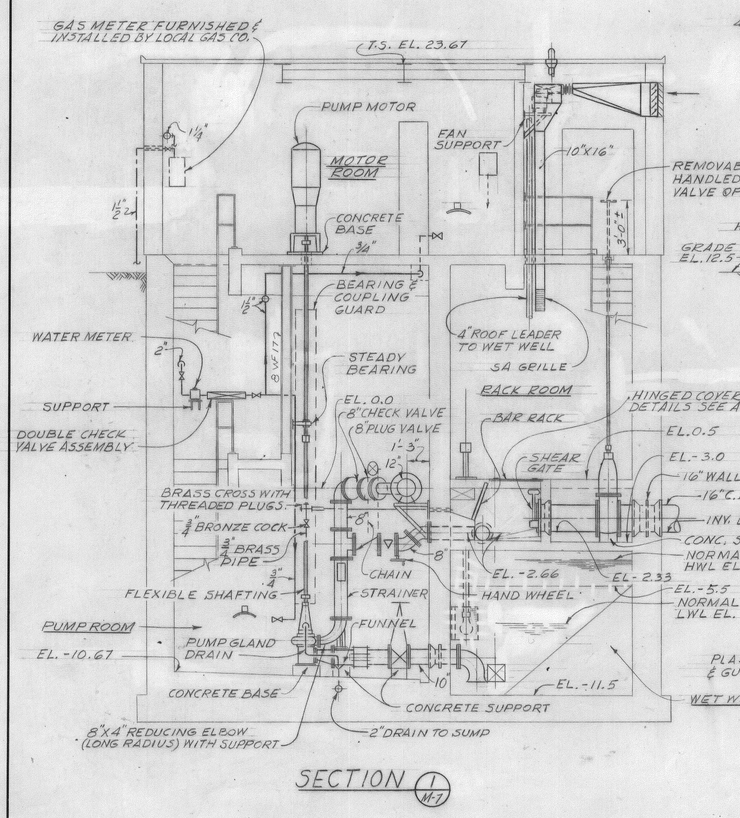
BASEMENT FLOOR PLAN



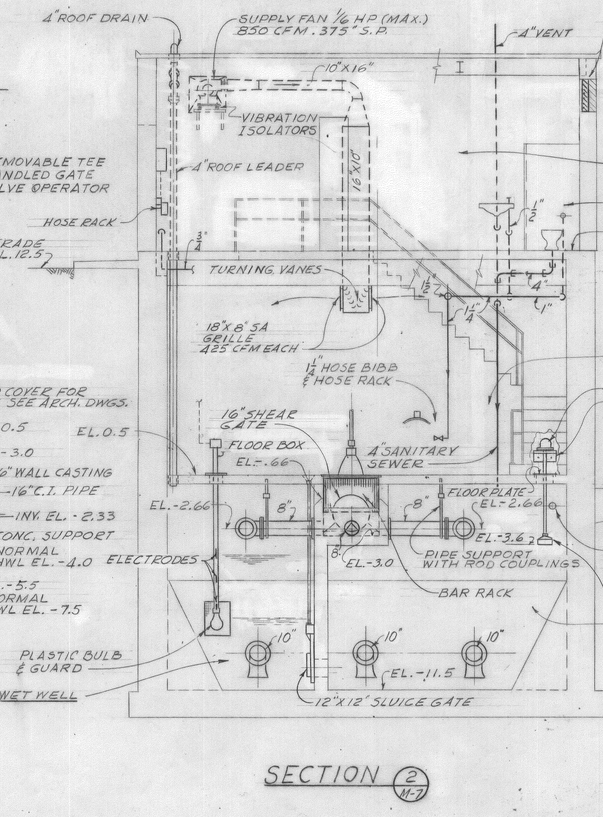
INTERMEDIATE FLOOR PLAN



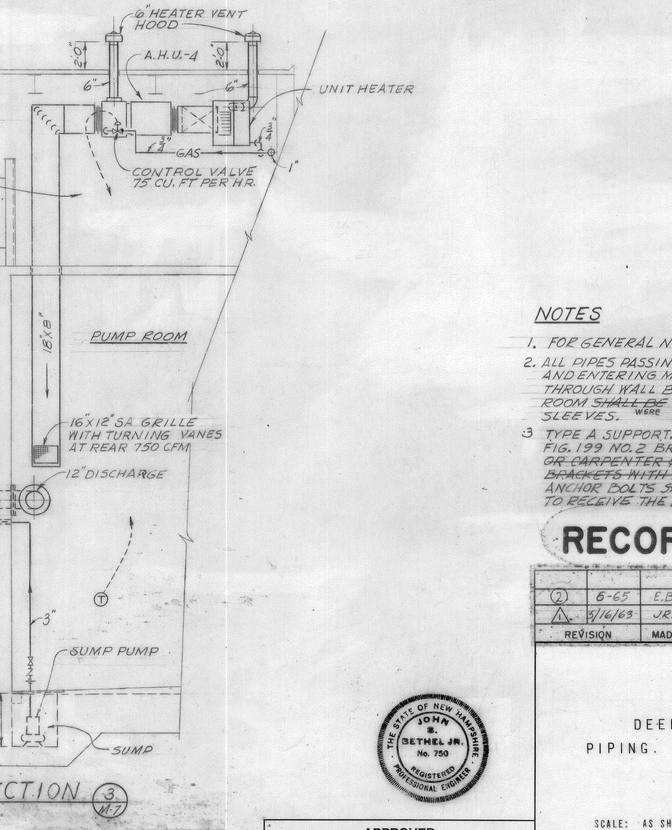
MOTOR FLOOR PLAN



SECTION 1 M-7



SECTION 2 M-7



SECTION 3 M-7

NOTES

1. FOR GENERAL NOTES SEE M-2.
2. ALL PIPES PASSING THROUGH FLOOR OVER RACK ROOM AND ENTERING MOTOR ROOM OR PIPES PASSING THROUGH WALL BETWEEN RACK ROOM AND PUMP ROOM ~~SHALL BE~~ WERE CAULKED GAS TIGHT IN THEIR SLEEVES.
3. TYPE A SUPPORTS ~~SHALL BE EQUAL TO~~ GRINNEL FIG. 199 NO. 2 BRACKET WITH FIG. 197 ANCHOR CHAIRS ~~OR CARPENTER & PATERSON INC. FIG 139 NO. 2 BRACKETS WITH FIG. 127 ANCHOR CHAIRS.~~ SUITABLE ANCHOR BOLTS ~~SHALL BE~~ ARE EMBEDDED IN THE CONCRETE TO RECEIVE THE BRACKETS. WERE

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2 6-65	E.B.M.	GET.	Revised for Record Dwgs.
1 5/16/63	J.R.F.	E.A.L.	DIVIDED WET WELL, ADDED FRAMES & COVERS, MIN. ALLOWED SLUICE GATE

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

DEER & MARKET STREET

PIPING, PLUMBING & HEATING

MECHANICAL

SCALE: AS SHOWN

MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36057 1

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. — REG. PROF. ENGR. N.H. NO. 750

4/15/63 DATE

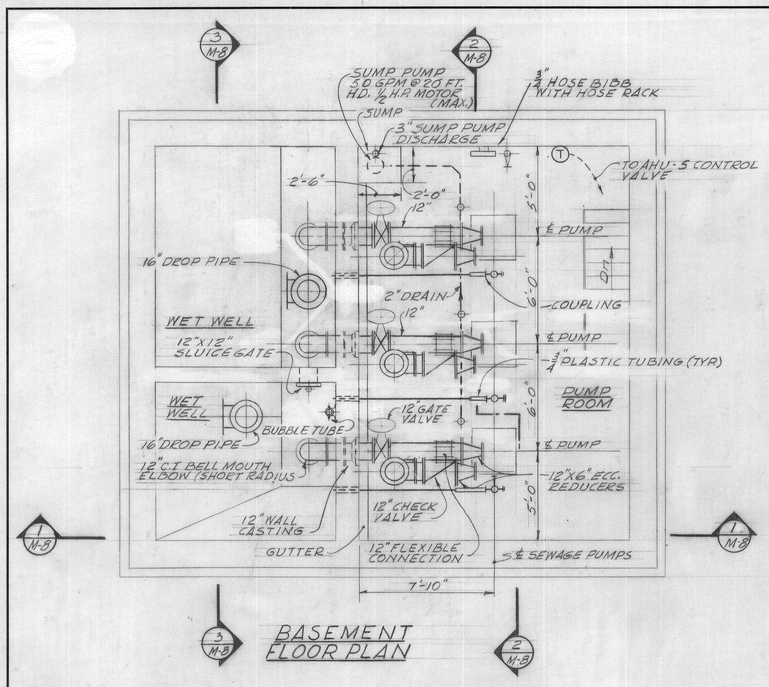
DRAWN BY J.R.F.
TRACED BY J.R.F.
CHECKED BY E.A.L.

SCALE IN FEET
SCALE: ¼" = 1'-0"

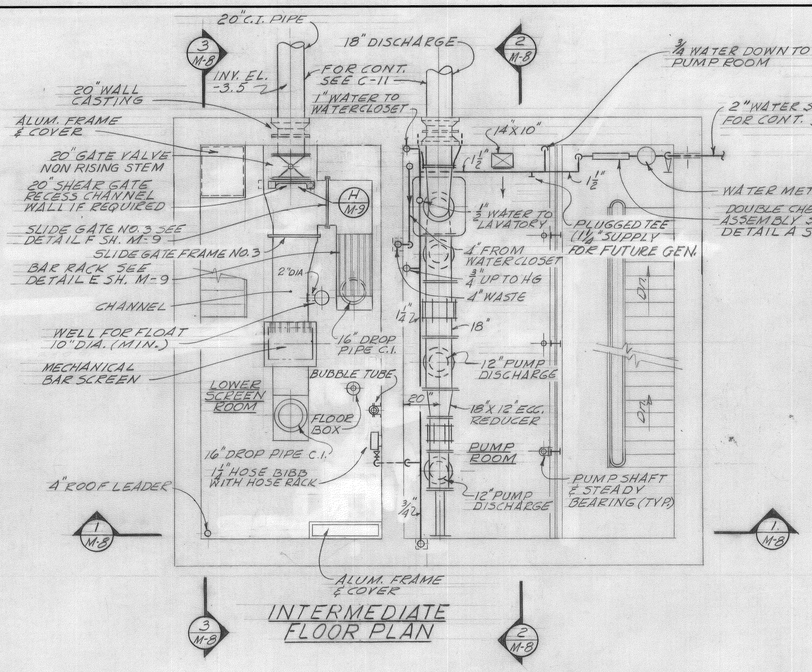
* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

CONTRACT 1963-1 SHEET M-7

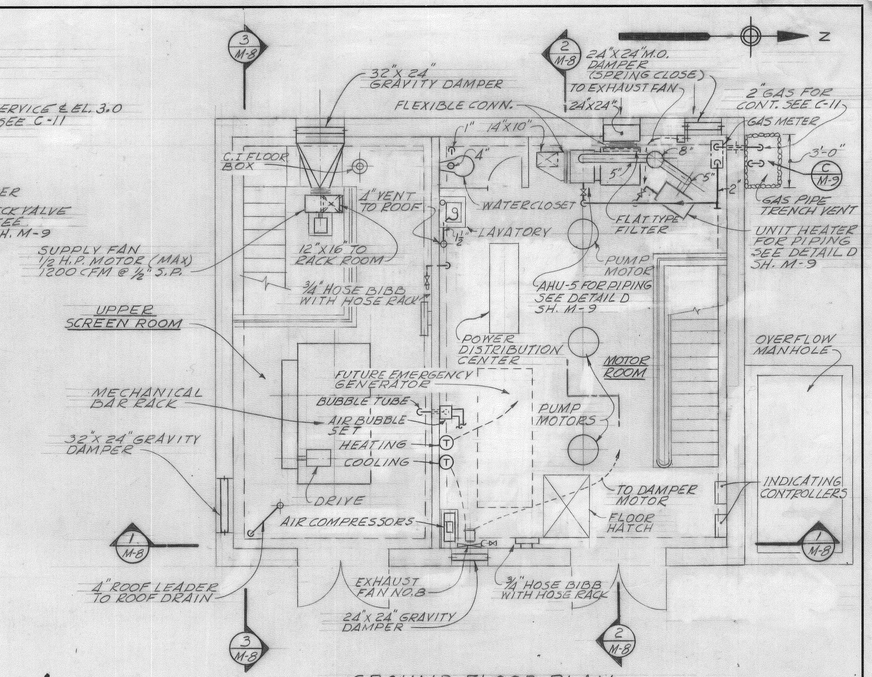
B. L. M. INC.



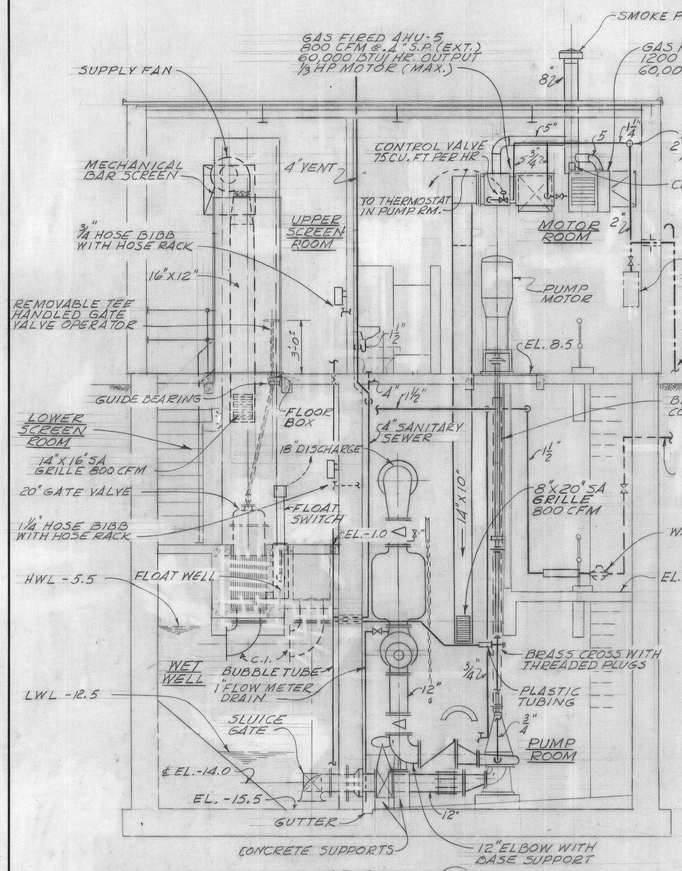
BASEMENT FLOOR PLAN

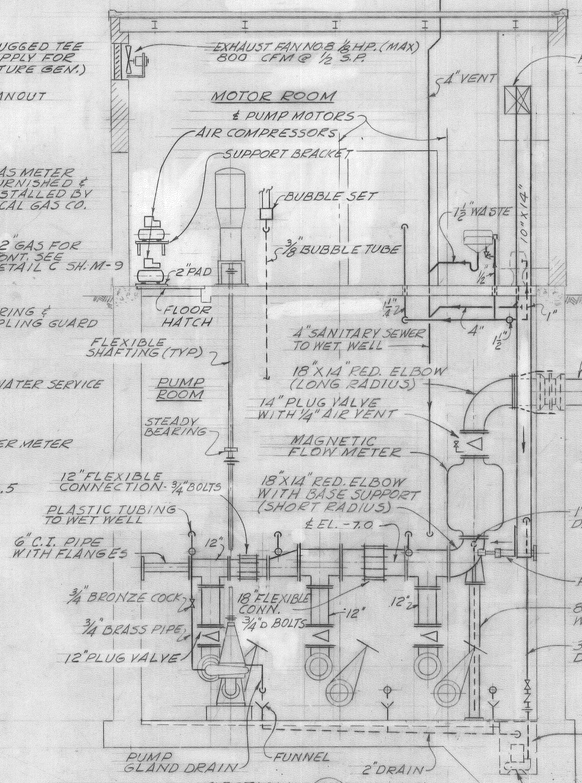


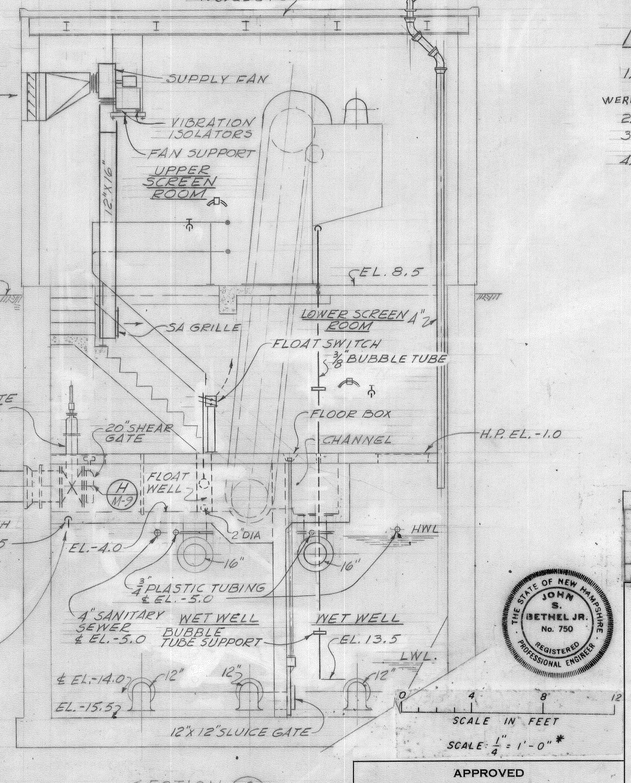
INTERMEDIATE FLOOR PLAN



GROUND FLOOR PLAN







NOTES

1. ALL PIPES PASSING THROUGH WALL BETWEEN SCREEN ROOMS AND PUMP ROOM ~~SHALL BE~~ WERE CAULKED GAS TIGHT IN THEIR SLEEVES.
2. FOR GENERAL NOTES SEE M-2
3. MECH. SCREEN ~~TO BE~~ FURNISHED IN SECTIONS TO PERMIT INSTALLATION & REMOVAL.
4. FOR PUMP CONTROL DIAGRAM SEE M-9

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

RECORD DRAWING

2	6-65	E.B.M.		Revised for Record Dwgs.
1	5/27/63	JRF	EAL	REVISED PUMP CONTROL & MOTOR ROOM FOR FUTURE GEN. DIVIDED WET WELL, ADDED WALL, FLOORS, PLUMB. SWITCH & SLUICE GATE
REVISION		MADE BY	CHECKED BY	DESCRIPTION

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/1/63
REG. PROF. ENGR. N.H. NO. 750 — DATE

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

SCALE IN FEET 0 4 8 12
SCALE: ¼" = 1'-0"

CITY OF PORTSMOUTH, N.H.
PUMPING STATION
GATES & MECHANICS STREET
PIPING PLUMBING & HEATING
MECHANICAL

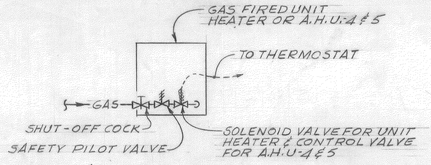
SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

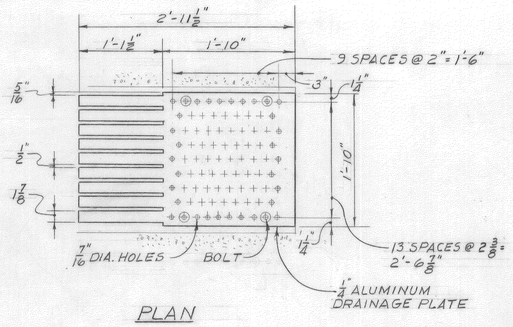
H 56058 1

CONTRACT 1963-1 SHEET M-8

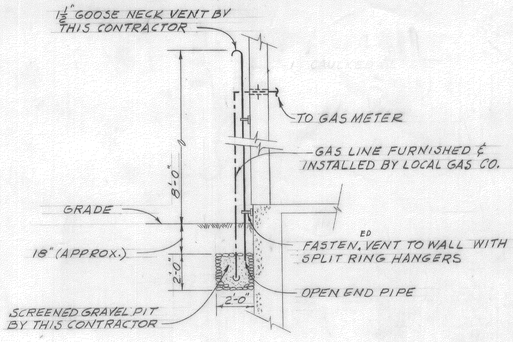
NIX N166 9. L. M. INC.



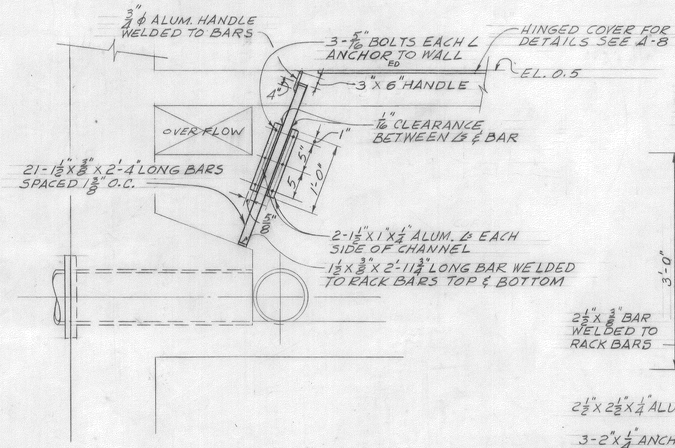
DETAIL (D M-7 / D M-8)
NO SCALE



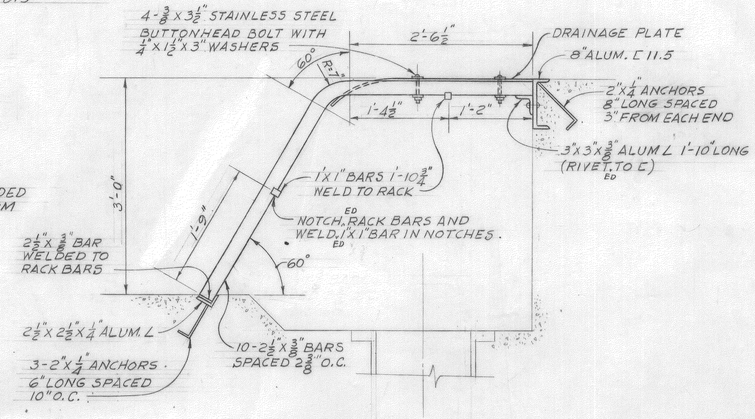
PLAN



DETAIL (C M-7 / C M-8)
NO SCALE

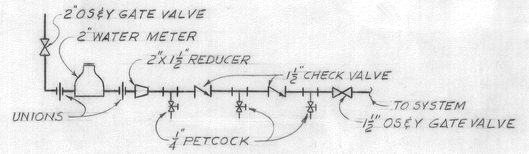


ELEVATION

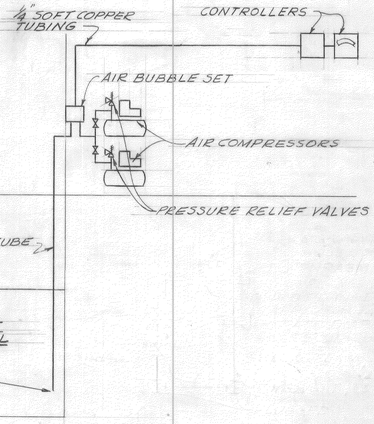


SECTION

ALUMINUM SLIDE GATES AND FRAMES								
MARK	FRAME			GATE			LOCATION	NO. STIFF. ENDS
	NO. REQ'D	W	D	NO. REQ'D	X	Y		
1	2	1'-6"	2'-4"	2	1'-7¾"	2'-0"	GRIT CHAMBER	1
2	1	1'-6"	3'-2"	1	1'-7¾"	2'-9"	GRIT CHAMBER	1
3	2	2'-6"	3'-0"	1	2'-7¾"	2'-10"	P.S., GATES & MECH. ST.	1
4	2	1'-0"	3'-4"	1	1'-1¾"	2'-9"	SETTLING TANKS	1



DETAIL (A M-7 / A M-8)
NO SCALE

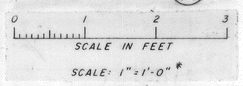


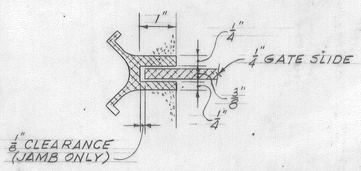
PUMP CONTROL DIAGRAM
NO SCALE

NOTES

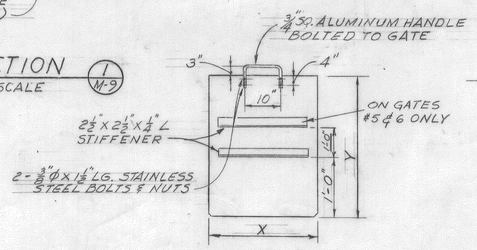
1. FOR GENERAL NOTES SEE M-2

DETAIL (B M-7)

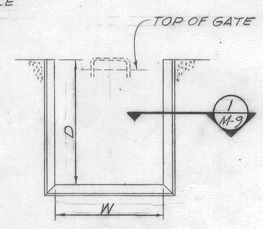




SECTION (I M-9)
NO SCALE

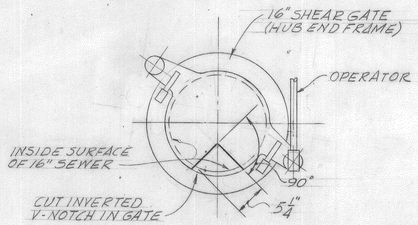


GATE

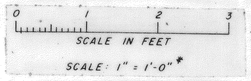


FRAME

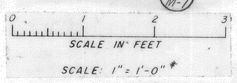
DETAIL (F M-8)
NO SCALE

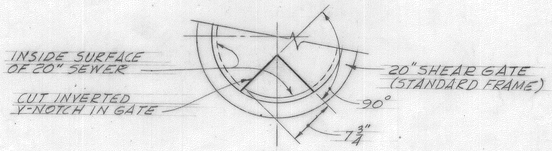


DETAIL (E M-8)

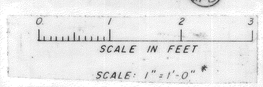


DETAIL (G M-7)





DETAIL (H M-8)



* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

DRAWN BY JRF
TRACED BY JRF
CHECKED BY EAL

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2	6-63	E.B.M.	DFT.	Revised for Record Dwgs.
1	5/27/63	JRF	EAL	REVISED PUMP CONTROL

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT & PUMPING STATIONS

DETAILS

MECHANICAL

SCALE: AS SHOWN MARCH, 1963

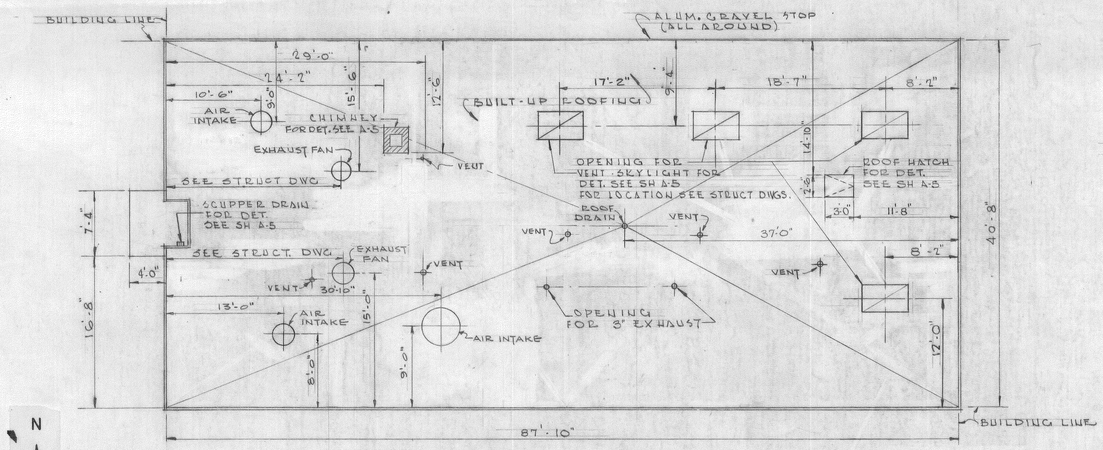
METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 5605.7 / 1

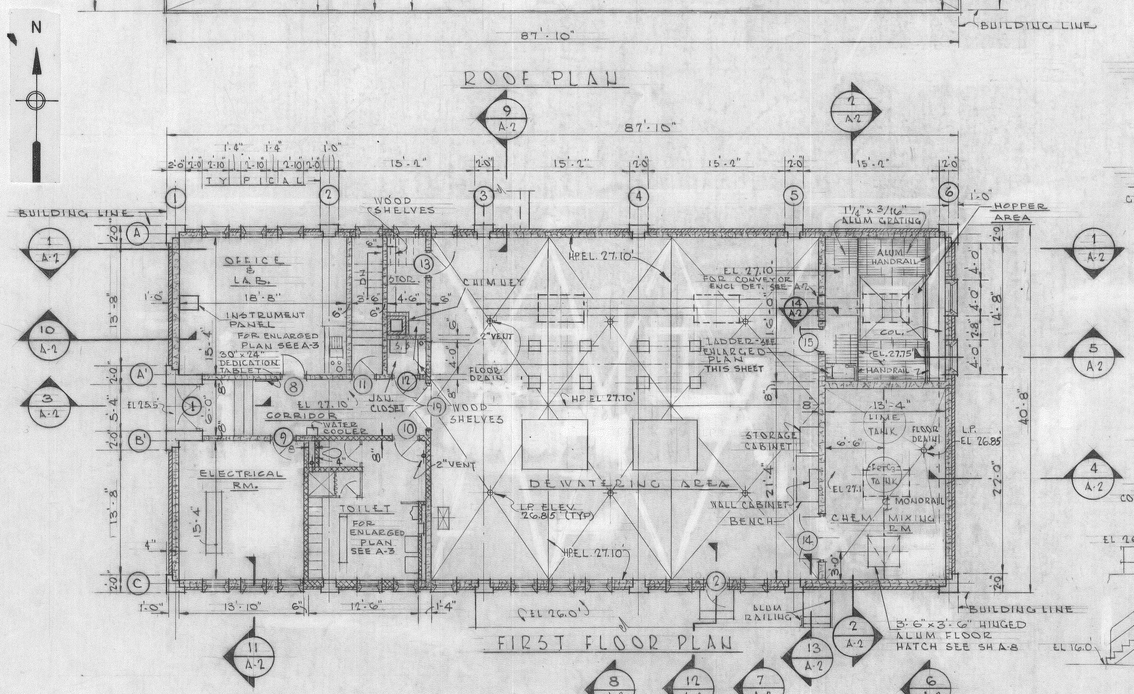
THE STATE OF NEW HAMPSHIRE — JOHN BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John L. Bethel Jr. 4/19/63
REG. PROF. ENGR. N.H. NO. 750 DATE

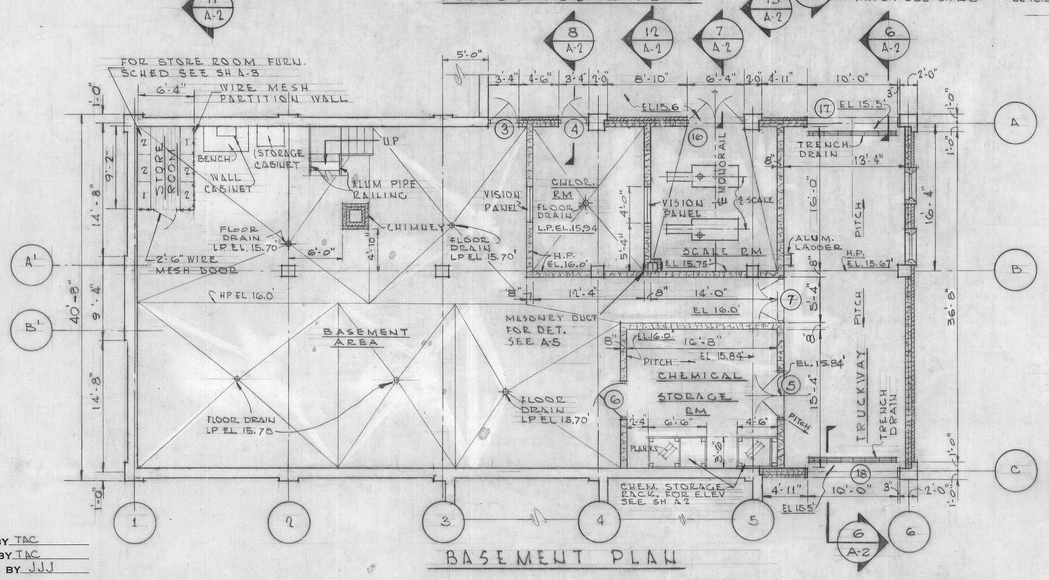
CONTRACT 1963-1 SHEET M-9



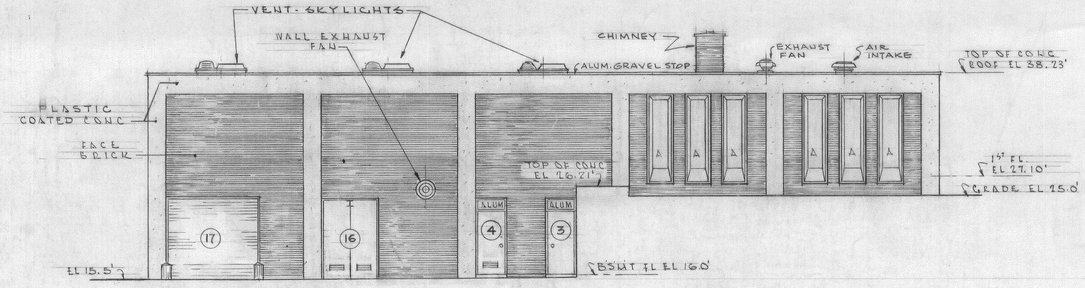
ROOF PLAN



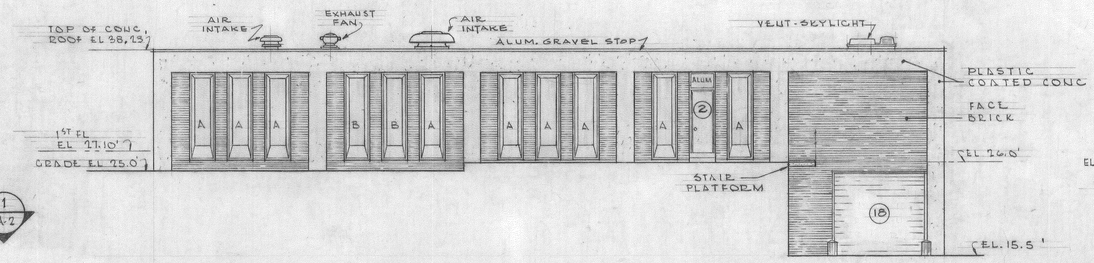
FIRST FLOOR PLAN



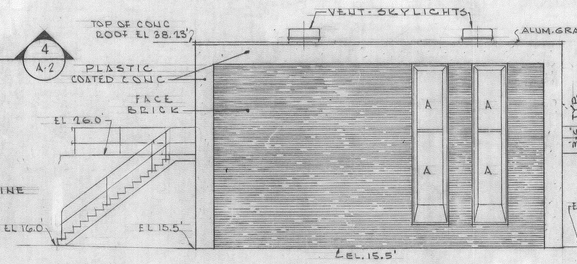
BASEMENT PLAN



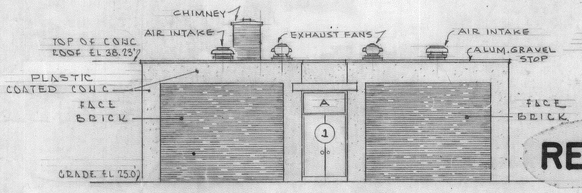
NORTH ELEVATION



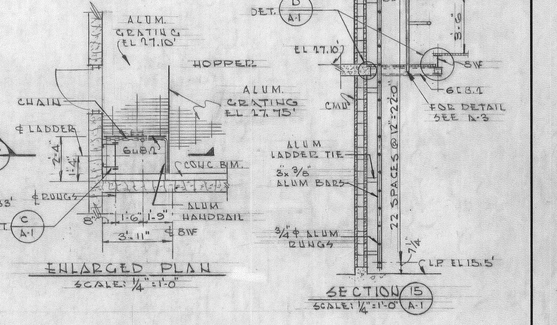
SOUTH ELEVATION

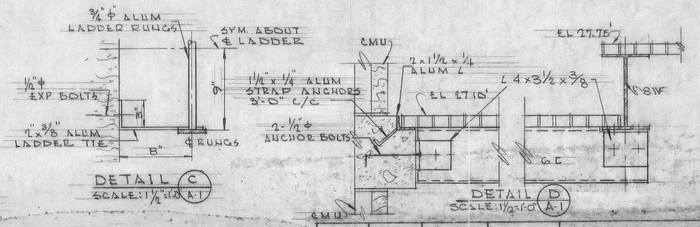


EAST ELEVATION



WEST ELEVATION





MASONRY SYMBOLS

- BRICK
- CMU- CONC MASONRY UNITS
- CMU- GLAZED MASONRY UNITS
- STRUCTURAL CONCRETE

NOTES:
LETTERS ON GLASS INDICATE GLASS TYPES, SEE SPECS.
ALL STAIRS TREADS ~~ARE TO~~ HAVE ALUM. NOSINGS: LENGTH OF NOSING 4" LESS THAN TREAD.

RECORD DRAWING

2	6-65	EBM	GAT	Revised for Record Dwgs
1	5/16/63	TAC	DES	REVISED FLOOR PITCHES
REVISION		MADE BY	CHECKED BY	DESCRIPTION

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING PLANS & ELEVATIONS

ARCHITECTURAL

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

MARCH, 1963

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. — REG. PROF. ENGR. N. H. NO. 750

4/11/63 — DATE

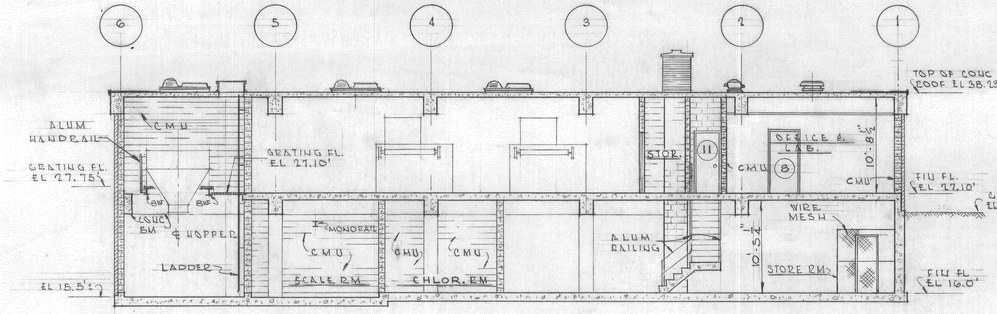
METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 360.32 1

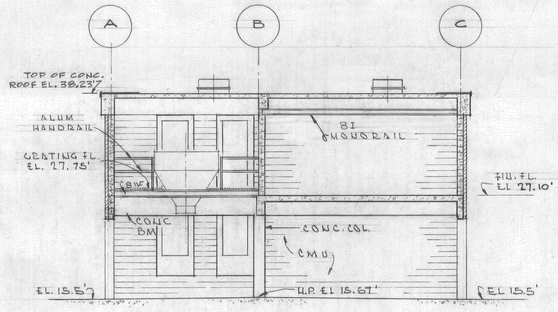
DRAWN BY TAC
TRACED BY TAC
CHECKED BY JJJ

CONTRACT 1963-1 SHEET A-1

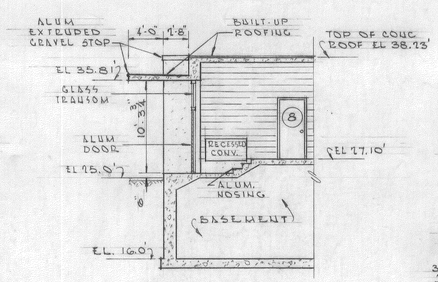
NIX N169 B. L. M. INC.



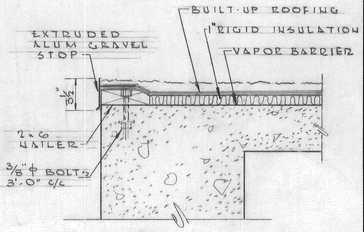
SECTION 1
SCALE: 1/8"=1'-0" A-1



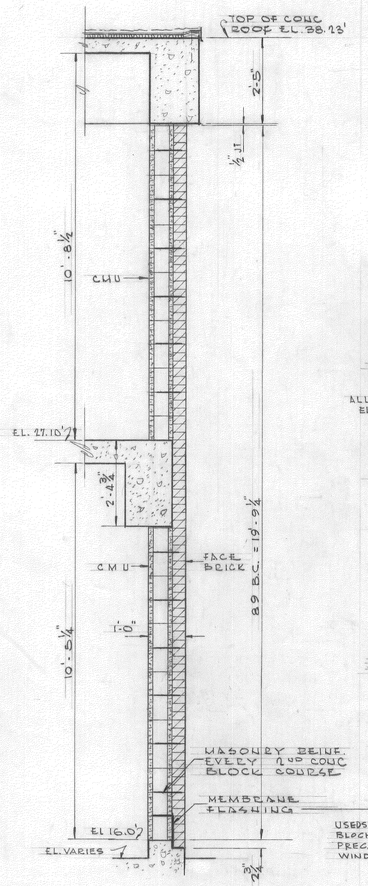
SECTION 2
SCALE: 1/8"=1'-0" A-1



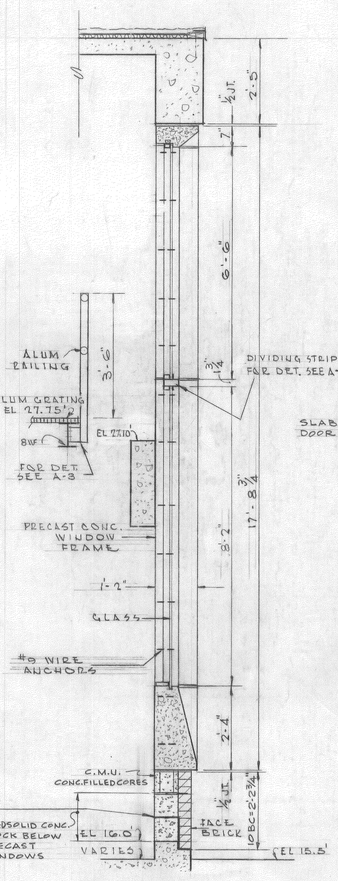
SECTION 3
SCALE: 1/8"=1'-0" A-1



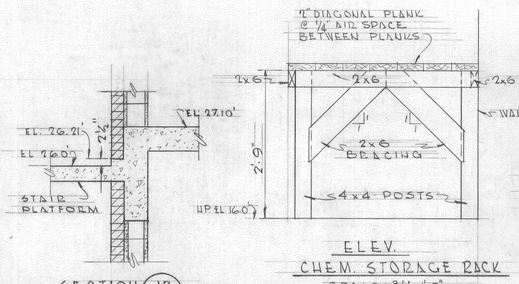
DETAIL A
SCALE: 1 1/2"=1'-0" A-2



SECTION 4
SCALE: 1/2"=1'-0" A-1

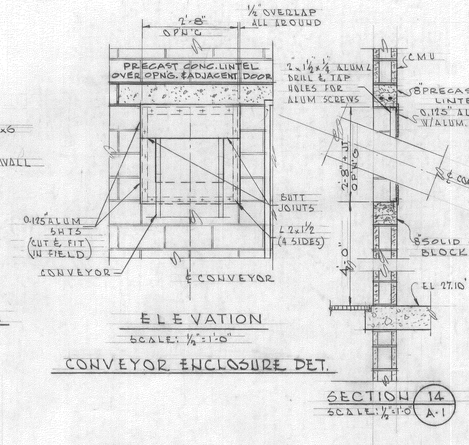


SECTION 5
SCALE: 1/2"=1'-0" A-1



ELEV.
CHEM. STORAGE RACK
SCALE: 3/4"=1'-0"

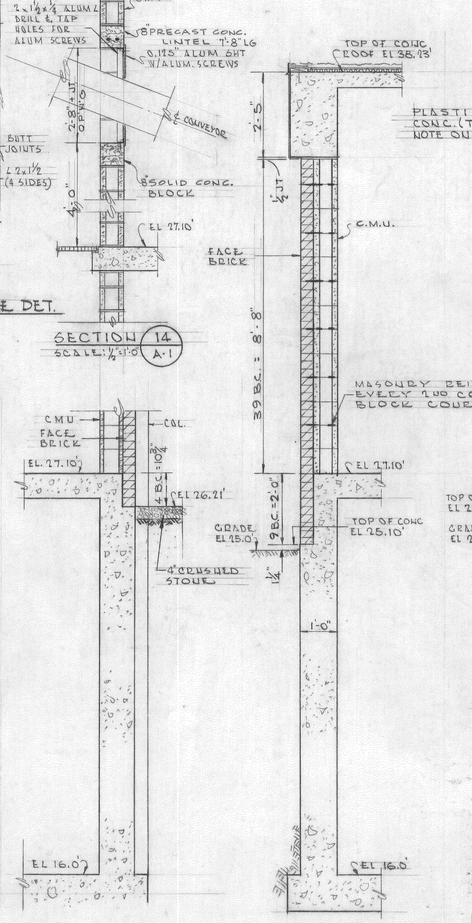
SECTION 13
SCALE: 1/2"=1'-0" A-1



ELEVATION
SCALE: 1/2"=1'-0"

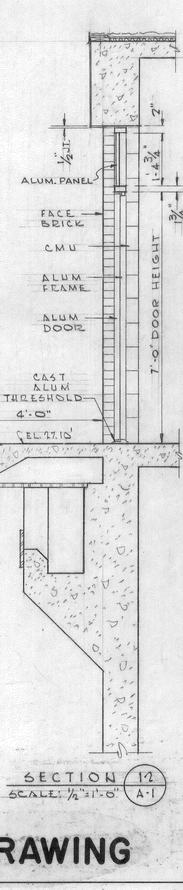
CONVEYOR ENCLOSURE DET.

SECTION 14
SCALE: 1/2"=1'-0" A-1



SECTION 10
SCALE: 1/2"=1'-0" A-1

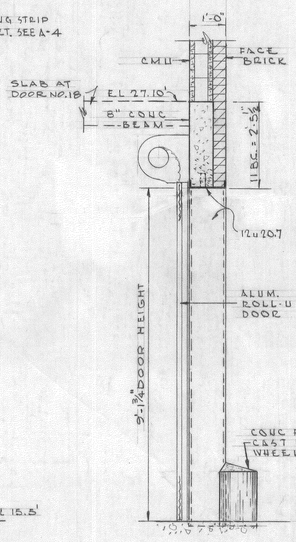
SECTION 11
SCALE: 1/2"=1'-0" A-1



SECTION 12
SCALE: 1/2"=1'-0" A-1

SECTION 4
SCALE: 1/2"=1'-0" A-1

SECTION 5
SCALE: 1/2"=1'-0" A-1



SECTION 6
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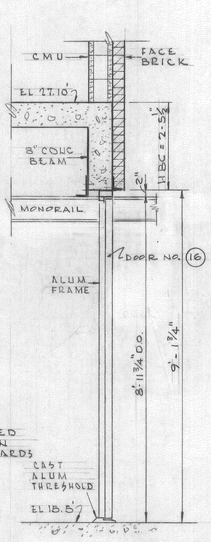

SECTION 7
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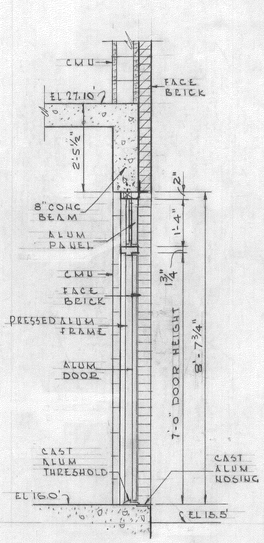


SECTION 8
SCALE: 1/2"=1'-0" A-1

SECTION 9
SCALE: 1/2"=1'-0" A-1

RECORD DRAWING

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING

WALL & BUILDING SECTIONS

ARCHITECTURAL

SCALE: AS SHOWN

MARCH, 1963

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S Bethel Jr 4/11/63

REG. PROF. ENGR. N. H. NO. 750 — DATE

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

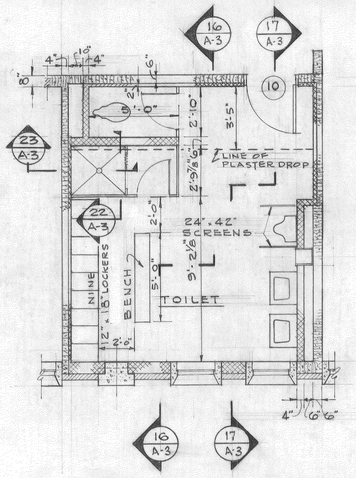
H 36033 1

REVISION		MADE BY	CHECKED BY	DESCRIPTION
1	6-65	E.B.M.	GAT.	Revised for Record Dwgs.

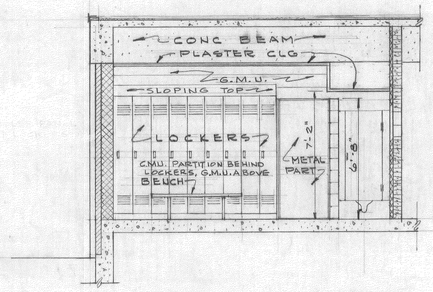
DRAWN BY TAC
TRACED BY TAC
CHECKED BY JJJ

CONTRACT 1963-1 SHEET A-2

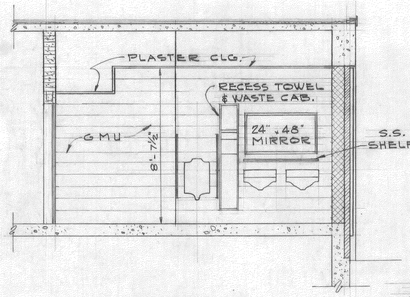
B. L. M. INC.



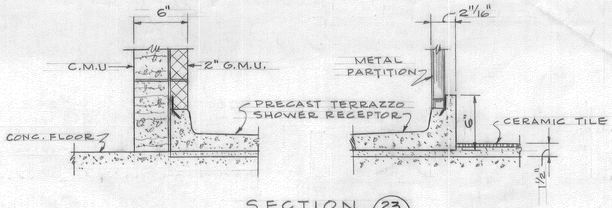
PLAN



SECTION 16 A-3



SECTION 17 A-3



SECTION 23 A-3

SCALE: 1½" = 1'-0"

TOILET, SHOWER & LOCKERS

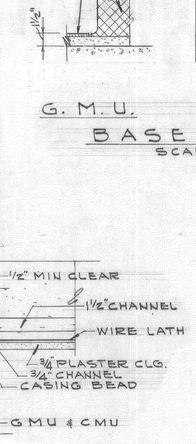
SCALE ¼" = 1'-0"

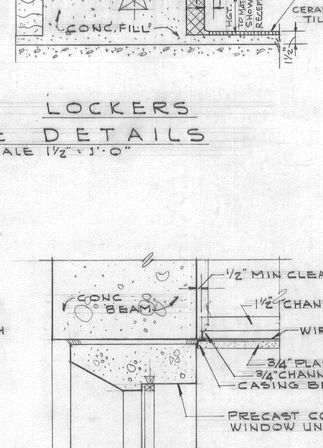
LABORATORY FURNITURE SCHEDULE

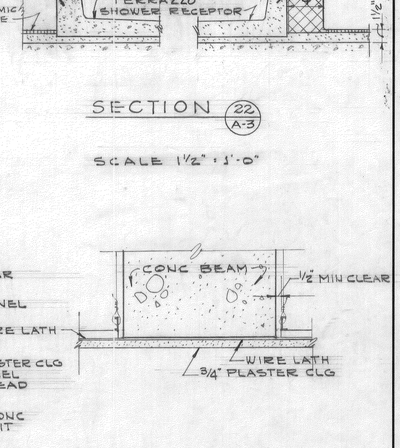
ITEM	CAT. NO.	DESCRIPTION OF ITEM	REMARKS
1	17-007	DRAWER CUPBOARD UNIT	
2	17-045	DRAWER UNIT	
3	17-120	LABORATORY STOOL	
4	14-782	SUPPORT DRAIN BOARD	
LAB FURNITURE CATALOG NOS ARE FROM FISHER CAT. NO. 61			

STORE RM FURNITURE SCHEDULE

1	3G10-B1	OPEN TYPE RACK	3'-0"W x 7'-0"H x 1'-6" DEEP
2	3G10-B2	OPEN TYPE RACK	3'-0"W x 7'-0"H x 1'-6" DEEP
	STORE RM CATALOG NOS ARE REPUBLIC CLIP SHELVING, REPUBLIC STEEL CORP., BERGER DIVISION NOS.		





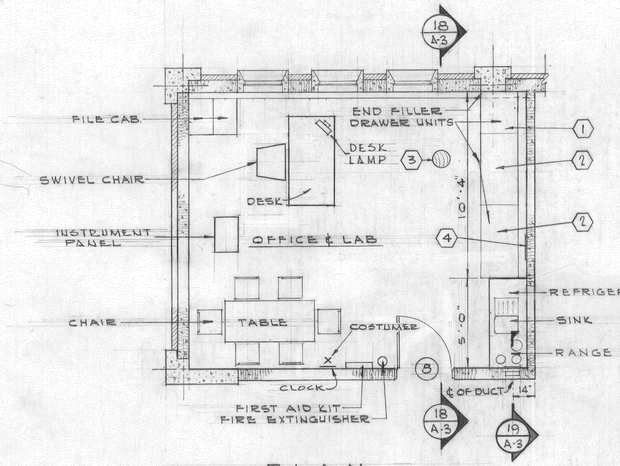


G.M.U. LOCKERS BASE DETAILS

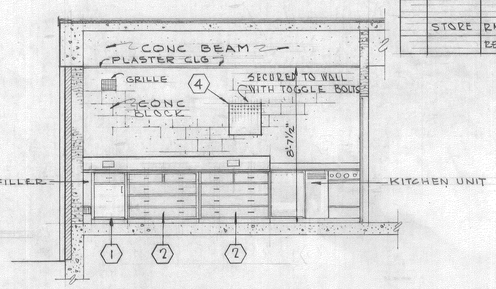
SCALE 1½" = 1'-0"

SECTION 22 A-3

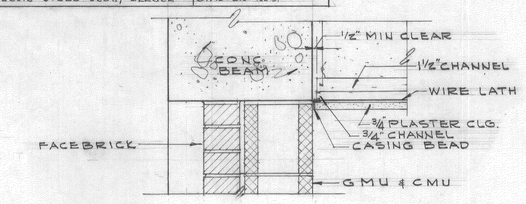
SCALE 1½" = 1'-0"



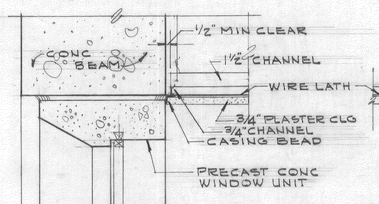
PLAN



SECTION 18 A-3



AT WALL

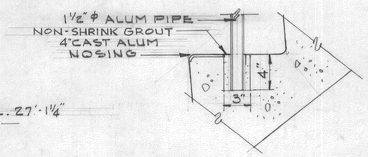


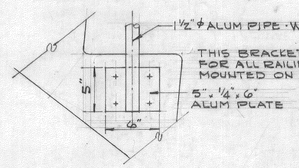
AT SASH

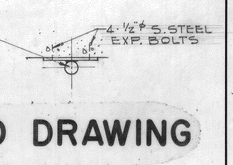
AT BEAM

HUNG PLASTER CEILING DETAILS

SCALE 1½" = 1'-0"



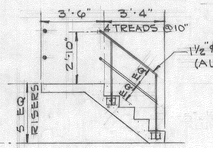




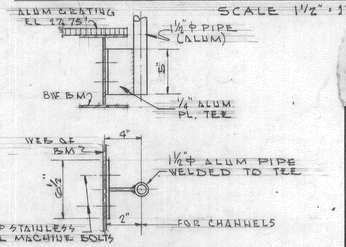
RECORD DRAWING

CONC. STAIR RAIL BRACKET DETAILS

SCALE 1½" = 1'-0"

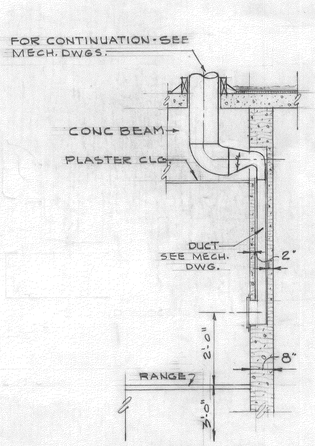


SECTION 21 A-3



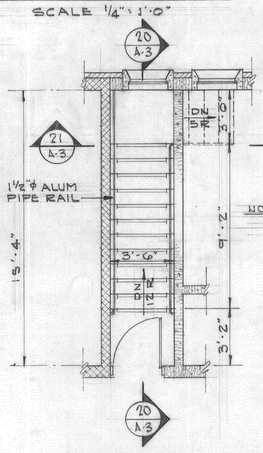
DETAIL of RAILING TO BEAM CONN.

SCALE: 1½" = 1'-0"



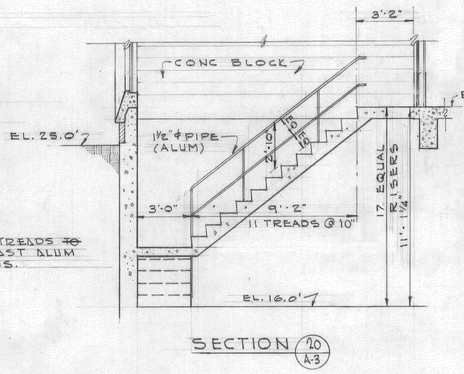
SECTION 19 A-3

SCALE ½" = 1'-0"



PLAN

NOTE: ALL TREADS ~~TO~~ HAVE CAST ALUM NOSINGS.



SECTION 20 A-3

STAIR DETAILS

SCALE ¼" = 1'-0"

1	6-65	E.B.M.	GET.	Revised for Record Dwgs.
REVISION	MADE BY	CHECKED BY	DESCRIPTION	

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING

INTERIOR & STAIR DETAILS

ARCHITECTURAL

SCALE: AS SHOWN

MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36034 1

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. — No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S Bethel Jr 4/1/63

REG. PROF. ENGR. N.H. NO. 750 — DATE

DRAWN BY PP
TRACED BY PP
CHECKED BY JJJ

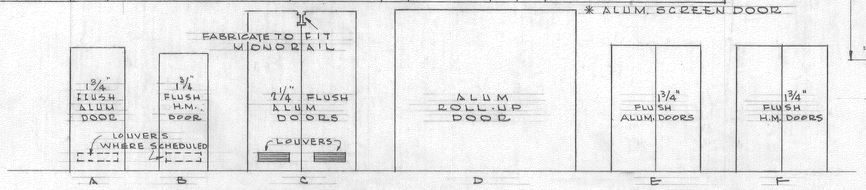
CONTRACT 1963-1 SHEET A-5

B. L. M. INC.

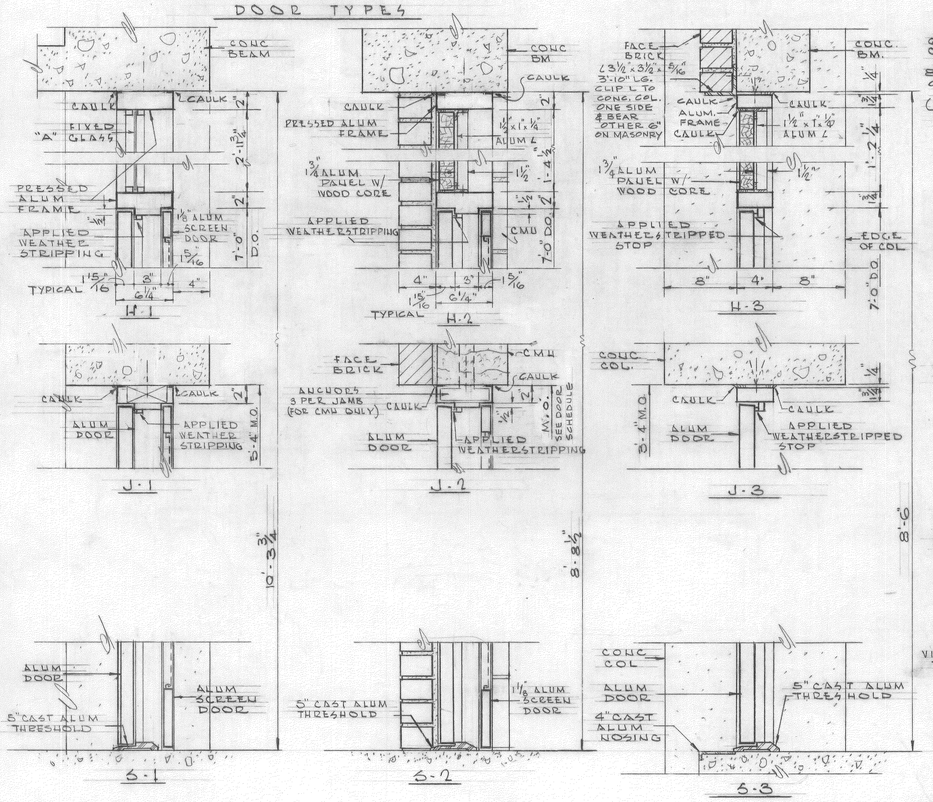
DOOR SCHEDULE

DOOR NO.	LOCATION	OPENING SIZE	TYPE	DETAIL HEAD	DETAIL JAMB	DETAIL SILL	WEATHERSTRIP	THRESHOLD	REMARKS
	OPERATIONS BUILDING								
1.	ENTRANCE	PR. 5'-0" x 7'-0"	E	H-1	J-1	S-1	●	●	*
2.	SOUTH ENTRANCE	1'-6" x 7'-0"	A	H-1	J-1	S-1	●	●	*
3.	BASEMENT ENTRANCE	3'-0" x 7'-0"	A	H-7	J-7	S-10	●	●	*
4.	CHLOR. RM.	3'-0" x 7'-0"	A	H-3	J-3	S-3	●	●	20"x7" LOUVER
5.	CHEM. STORAGE RM	PR. 5'-0" x 6'-8"	F	H-4	J-4	S-4		●	
6.	CHEM. STORAGE RM	3'-0" x 6'-8"	B	H-4	J-4	S-4			20"x5" LOUVER
7.	TRUCKWAY	PR 5'-0" x 6'-8"	F	H-4	J-4	S-4		●	
8.	OFFICE & LAB.	3'-0" x 6'-8"	B	H-4	J-4	S-7			20"x5" LOUVER
9.	ELECTRICAL RM.	3'-0" x 6'-8"	B	H-4	J-4	S-4			
10.	TOILET	2'-8" x 6'-8"	B	H-4	J-4	S-8		●	20"x5" LOUVER
11.	STAIRS	2'-8" x 6'-8"	B	H-4	J-4	S-4			
12.	JANITOR'S CLOSET	2'-6" x 6'-8"	B	H-4	J-4	S-4			20"x5" LOUVER
13.	STORAGE	3'-0" x 6'-8"	B	H-4	J-4	S-4			20"x5" LOUVER
14.	CHEM. MIXING RM	PR 5'-0" x 6'-8"	F	H-4	J-4	S-4			20"x5" LOUVER (EA. DOOR)
15.	HOPPER AREA	3'-0" x 6'-8"	B	H-4	J-4	S-9			EXTEND PRECAST CONC. LINTEL TO INCLUDE ADJACENT CONVEYOR OPG.
16.	SCALE RM	PR. 6'-0" x 8'-11 7/8"	C	H-6	J-6	S-6	●	●	2 @ 20"x5" LOUVERS
17.	TRUCK WAY	9'-1 3/8" x 10'-0"	D	H-5	J-5	S-5			
18.	TRUCK WAY	9'-1 3/8" x 10'-0"	D	H-5	J-5	S-5			
19.	DEWATERING AREA	PR. 5'-0" x 6'-8"	F	H-4	J-4	S-4			
	DEEP & MARKET STS PUMP STA.								
101	MOTOR ROOM	PR. 5'-0" x 7'-0"	E	SEE DWG #8			●	●	
102	RACK ROOM	3'-0" x 7'-0"	A	DO			●	●	
	GATES & MECHANICS STS PUMP STA.								
103	SCREEN ROOM	PR. 5'-0" x 7'-0"	E	DO			●	●	
104	MOTOR ROOM	PR. 5'-0" x 7'-0"	E	DO			●	●	

* ALUM. SCREEN DOOR

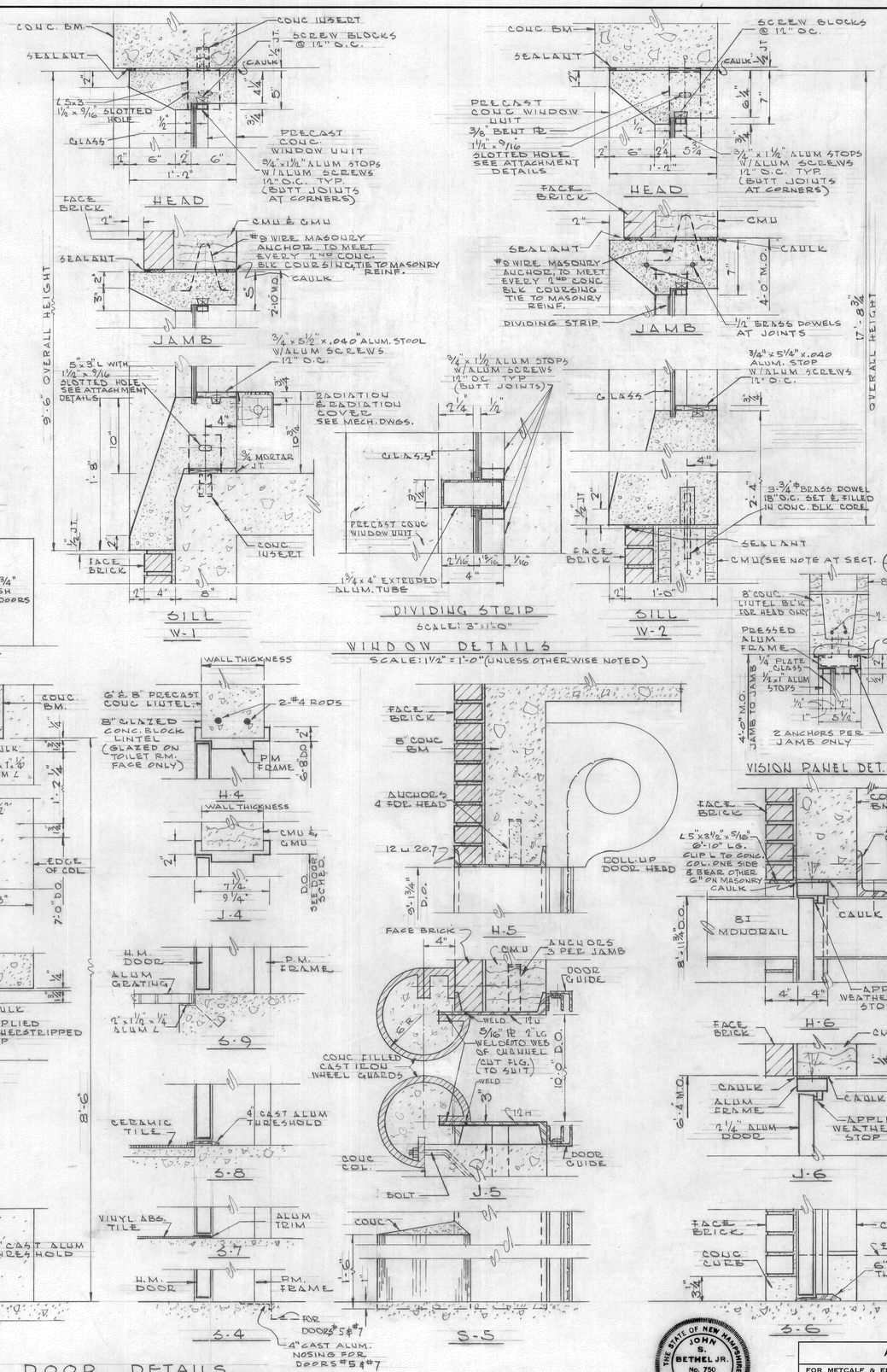


DOOR TYPES



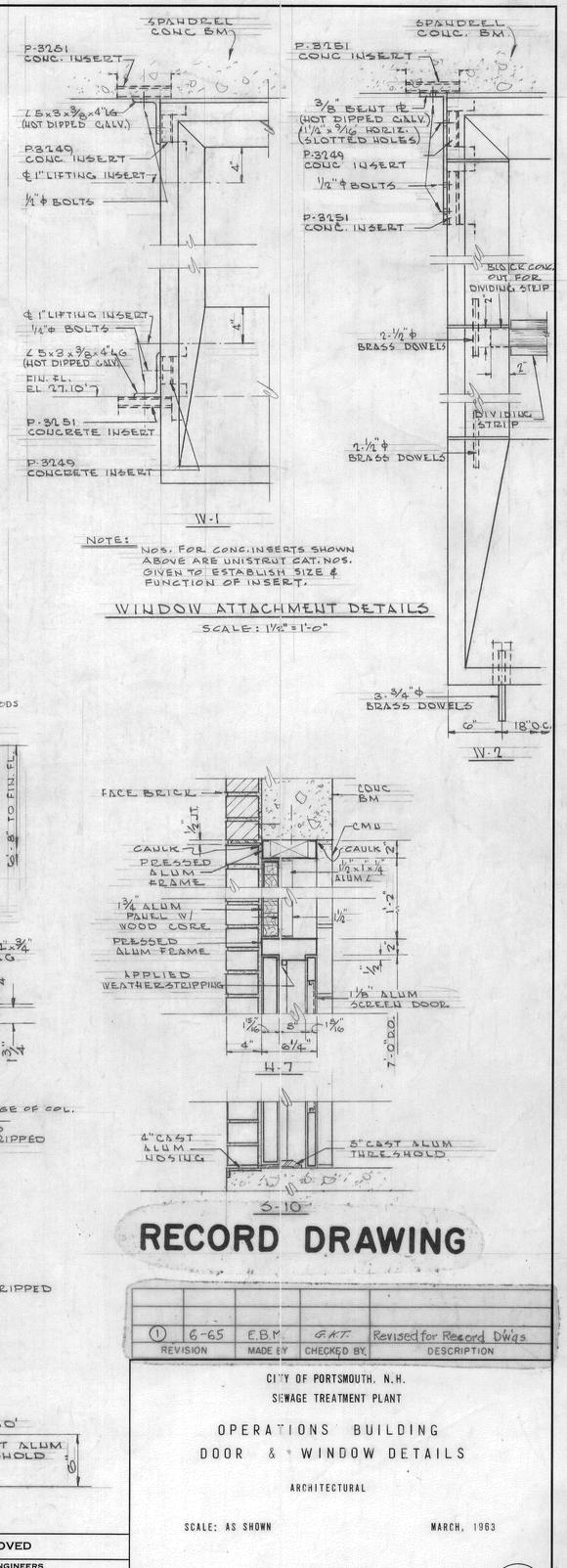
DOOR DETAILS

SCALE: 1 1/2" = 1'-0"



WINDOW DETAILS

SCALE: 1 1/2" = 1'-0" (UNLESS OTHERWISE NOTED)



WINDOW ATTACHMENT DETAILS

SCALE: 1 1/2" = 1'-0"

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
① 6-65	E.B.M.	G.A.T.	Revised for Record DWgs.

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT

OPERATIONS BUILDING
DOOR & WINDOW DETAILS

ARCHITECTURAL

SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36035 1

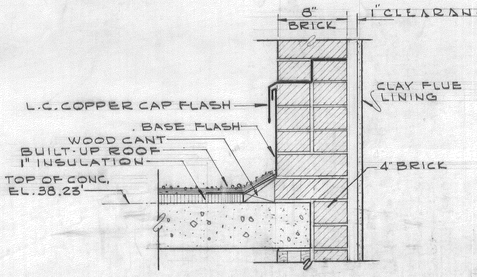
THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. — 4/11/63
REG. PROF. ENGR. N.H. NO. 750 — DATE

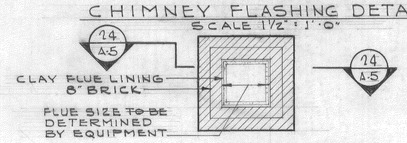
DRAWN BY TAC
TRACED BY TAC
CHECKED BY JJJ

CONTRACT 1963-1 SHEET A-4

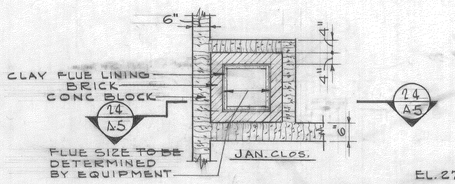
B. L. M. INC. 69990



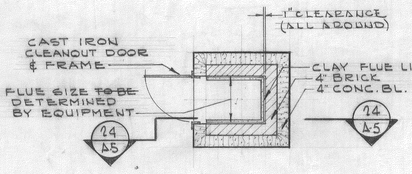
CHIMNEY FLASHING DETAIL
SCALE 1½" = 1'-0"



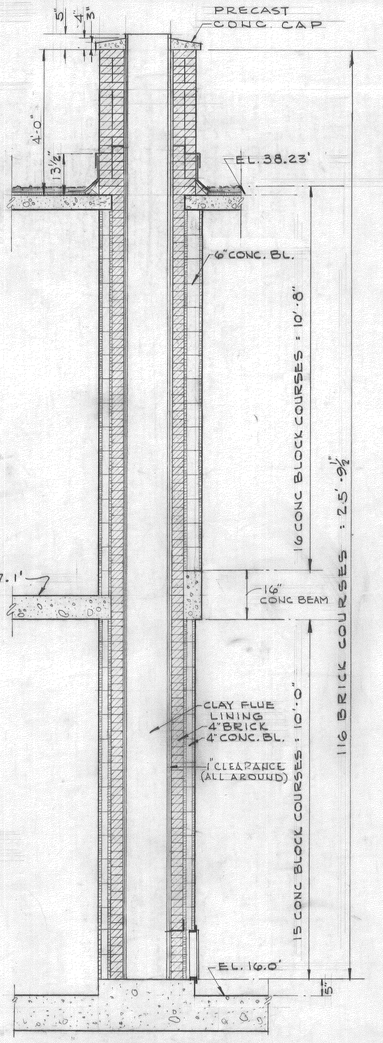
PLAN ABOVE EL. 38.42



PLAN AT EL. 28.0'

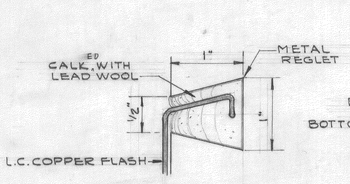


PLAN AT EL 17.0'

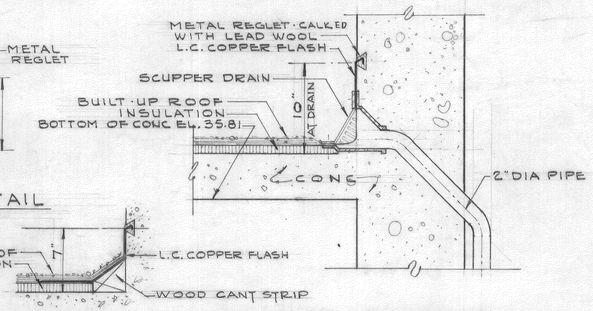


SECTION 14 A-5

CHIMNEY DETAILS
SCALE 1½" = 1'-0"

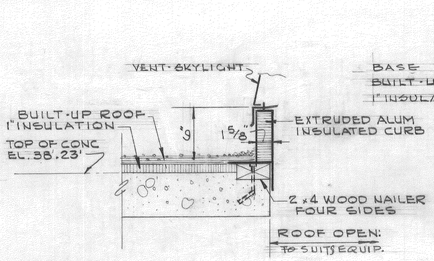


REGLET DETAIL
FULL SIZE

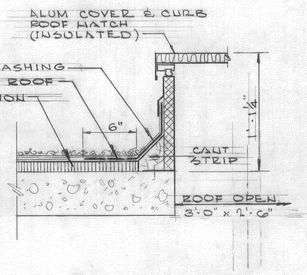


FLASHING DETAIL SCUPPER DRAIN DETAIL

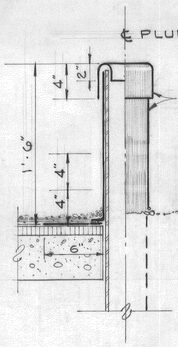
CANOPY DETAILS
SCALE 1½" = 1'-0"



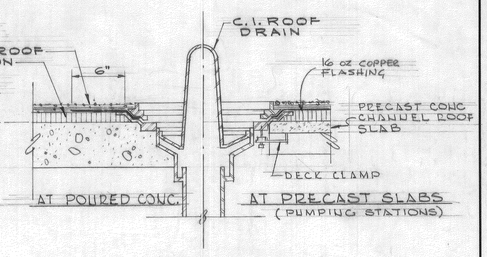
TYPICAL VENT-SKYLIGHT



ROOF HATCH DETAIL

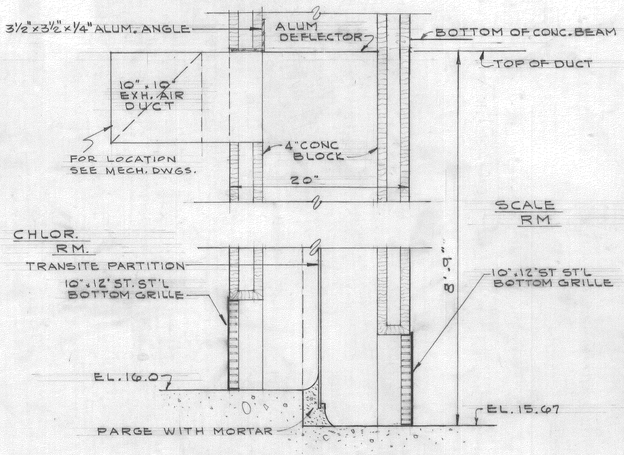


VENT DETAIL

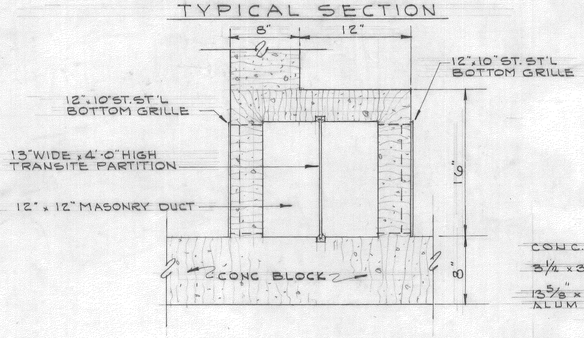


ROOF DRAIN DETAIL

TYPICAL ROOF PENETRATION DETAILS
SCALE 1½" = 1'-0"

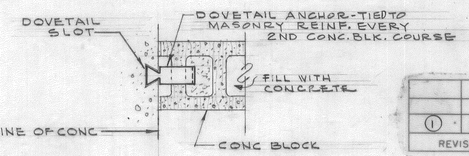


TYPICAL SECTION

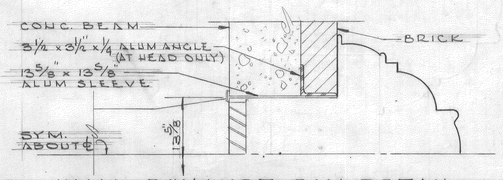


PLAN

MASONRY DUCT DETAIL
SCALE 1½" = 1'-0"



TYPICAL WALL ANCHORAGE DETAIL
SCALE 1½" = 1'-0"

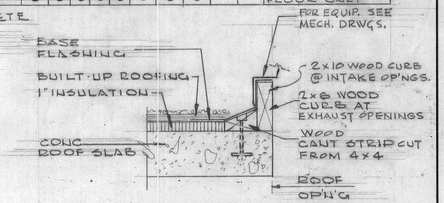


WALL EXHAUST FAN DETAIL
SCALE 1½" = 1'-0"

INTERIOR FINISH SCHEDULE

SPACE DESIGNATION	FLOOR: VINYL ASB TILE	FLOOR: CERAMIC TILE	FLOOR: CONC	BASE: G.M.U.	WALLS: C.M.U.	WALLS: G.M.U.	CEILING: CONC	CEILING: EXP. CONC	CEILING: PLASTER	CONC FINISH: STEEL TROWEL FL	CONC FINISH: RUBBED FINISH: WALLS	CONC FINISH: RUBBED FINISH: GDLS. & BEAMS CEILING	CONC FINISH: RUBBED FINISH: CURBS	PAINTING: WALLS	PAINTING: CEILING	PAINTING: EXPOSED ST'L. BMS.	REMARKS
OPERATIONS BUILDING																	
FIRST FLOOR: OFFICE & LAB.	●				●				●			*		●	●		* COL. ONLY
FIRST FLOOR: ELECT RM			●		●				●		●	●		●	●		
FIRST FLOOR: TOILET		●		●	●	●			●			*			●		* COL. ONLY
FIRST FLOOR: STAIRS			●		●				●		●	●		●	●		
FIRST FLOOR: JANITOR'S CLOS.			●		●				●		●			●	●		
FIRST FLOOR: STORAGE			●		●				●		●	●		●	●		
FIRST FLOOR: DEWATERING AREA			●		●				●		●	●		●	●		
FIRST FLOOR: CHEM. MIX RM.			●		●				●		●			●	●		
FIRST FLOOR: CORRIDOR			●		●				●		●	●		●	●		
FIRST FLOOR: HOPPER AREA			●		●				●			●		●	●		ALUM FLOOR GRATING
BASEMENT: CHEM STOR RM.			●		●		●		●		●	●		●	●		
BASEMENT: SCALE RM.			●		●				●		●	●		●	●		
BASEMENT: CHLOR. RM.			●		●				●		●	●		●	●		
BASEMENT: TRUCKWAY			●		●				●		●	●		●	●		
BASEMENT: BASEMENT AREA			●		●		●		●		●	●		●	●		
PUMPING STATIONS (DEER & MARKET STS.) (GATES & MECHANICS STS.)																	
MOTOR ROOM			●		●				●			●		●	●		PAINT TRIPPER SCREEN RM ONLY
UPPER & LOWER SCREEN RM			●		●		●		●			●		●	●		ALUM FLOOR GRATING
PUMP RM & METALLIZE			●		●				●			●		●	●		PAINT GROUND FLOOR ONLY
RACK ROOM			●		●		●		●			●		●	●		

NOTE: EXTERIOR PLASTIC COATING FOR CONCRETE SHALL BE APPLIED ON ALL EXPOSED EXTERIOR SURFACES OF CONCRETE SPANDREL BEAMS AND COLUMNS, AT OPERATIONS BUILDING ONLY.



TYPICAL ROOF CURB DETAIL AT INTAKE & EXHAUST OPENINGS
SCALE: 1½" = 1'-0"

RECORD DRAWING

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

REVISION	MADE BY	CHECKED BY	DESCRIPTION
① · 6-65	E.B.M.	G.E.T.	Revised for Record Dwgs.

APPROVED
. FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/11/63
REG. PROF. ENGR. N.H. 750 DATE

DRAWN BY PP
TRACED BY PP
CHECKED BY JJJ

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING
FINISH SCHEDULE & MISCELLANEOUS DETAILS

ARCHITECTURAL

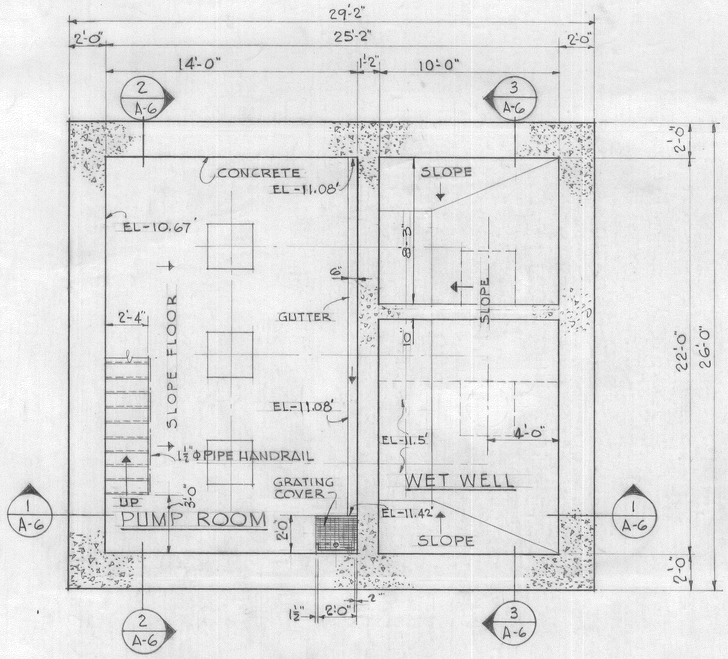
SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

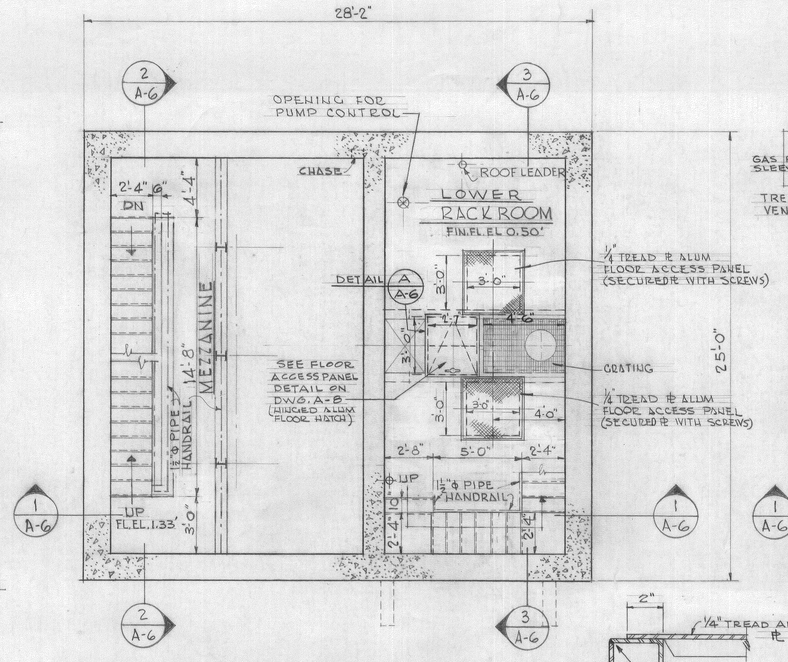
H 36036 1

CONTRACT 1963-1 SHEET A-5

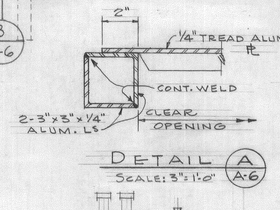
BUX N166 B. L. M. INC.



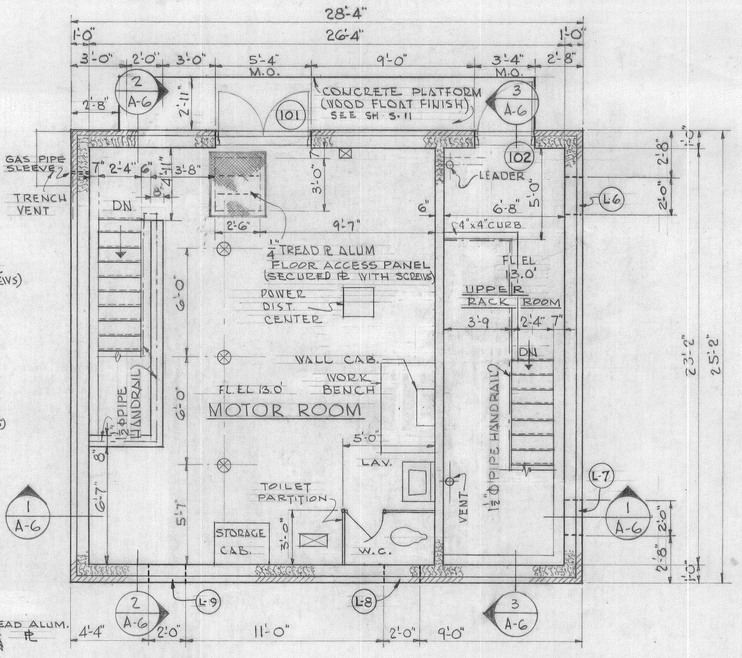
BASEMENT PLAN



INTERMEDIATE FLOOR PLAN

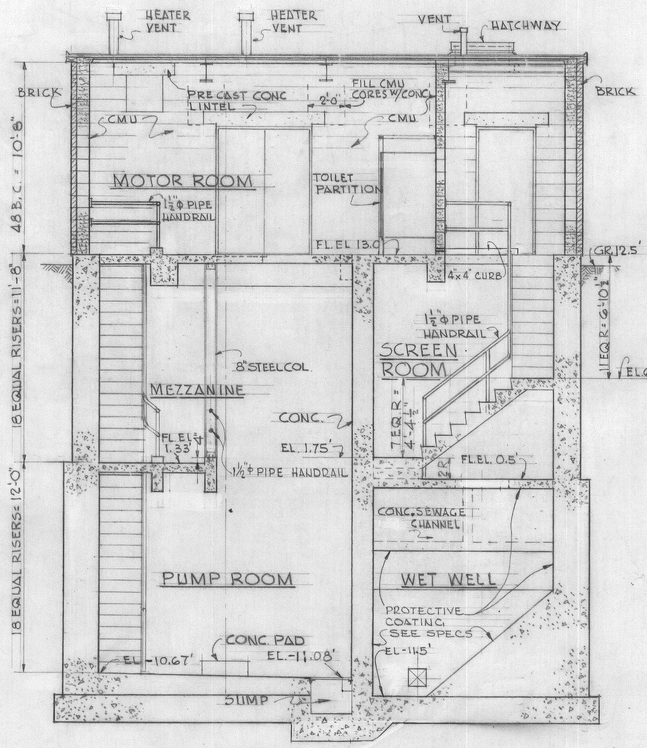


DETAIL A A-6
SCALE: 3"=1'-0"

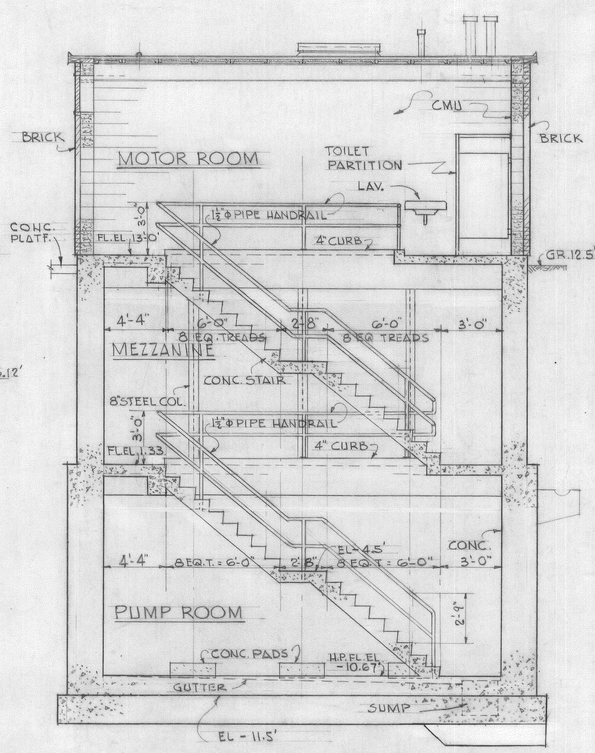


GROUND FLOOR PLAN

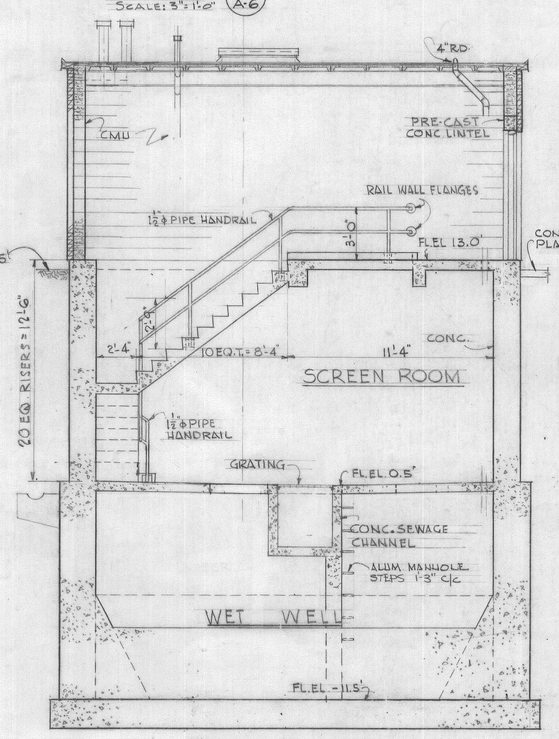
N



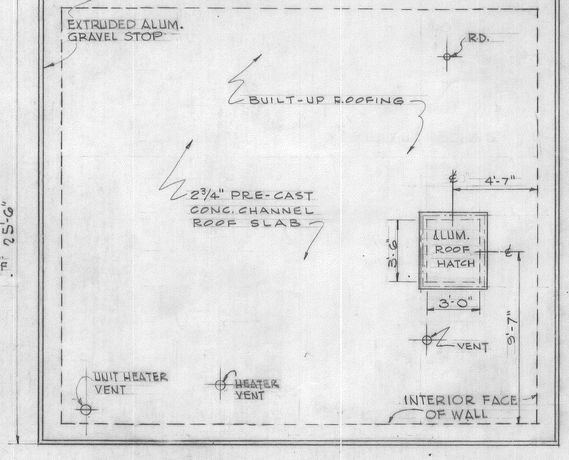
SECTION 1 A-6



SECTION 2 A-6



SECTION 3 A-6



ROOF PLAN

RECORD DRAWING

2	6-65	E.B.M.	GAT	Revised for Record Dwgs.
1	5/16/63	TAC	DES	DIVISION WALLS & OPENINGS MODIFIED
REVISION		MADE BY	CHECKED BY	DESCRIPTION

DRAWN BY MJG
TRACED BY M.J.G
CHECKED BY JJJ

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED	
FOR METCALF & EDDY, ENGINEERS	
John S. Bethel Jr.	4/11/63
REG. PROF. ENGR. N.H. NO. 750	DATE

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

DEER & MARKET STREET

PLANS & BUILDING SECTIONS

ARCHITECTURAL

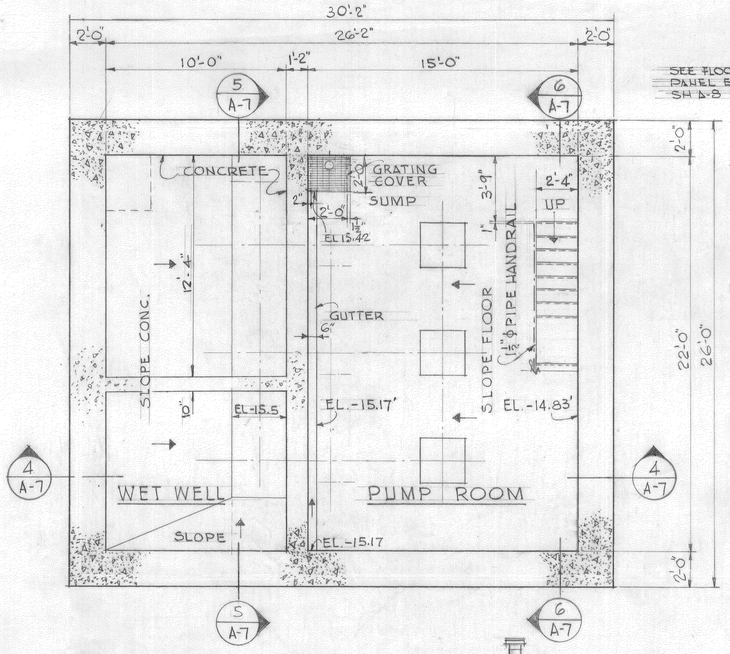
SCALE: 1/4" = 1'-0" MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

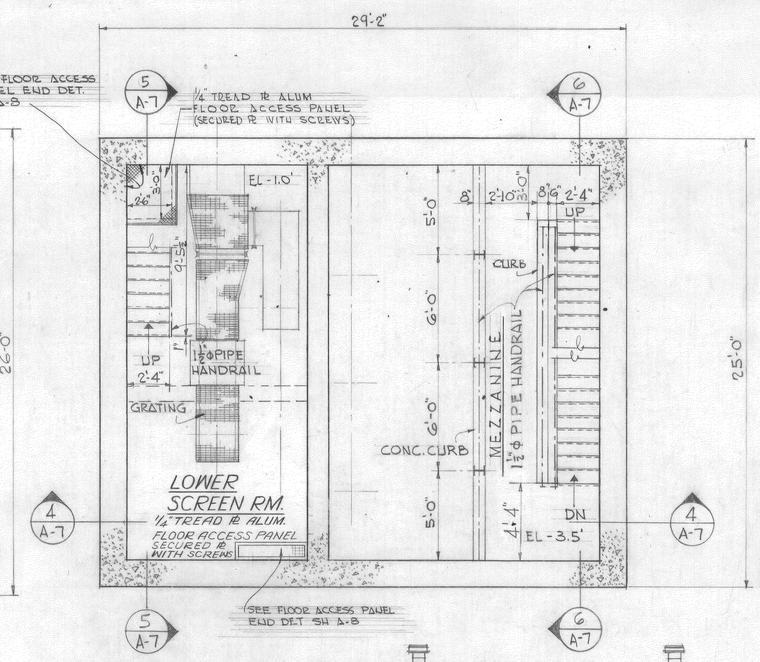
H 36037 1

CONTRACT 1963-1 SHEET A-6

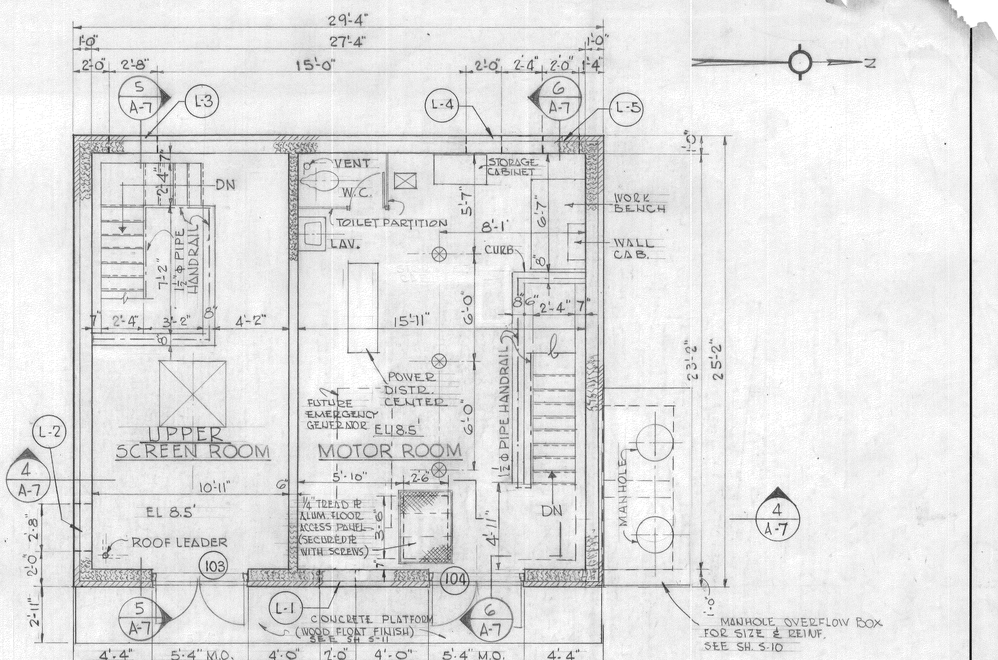
MIX N188 B. L. M. INC.



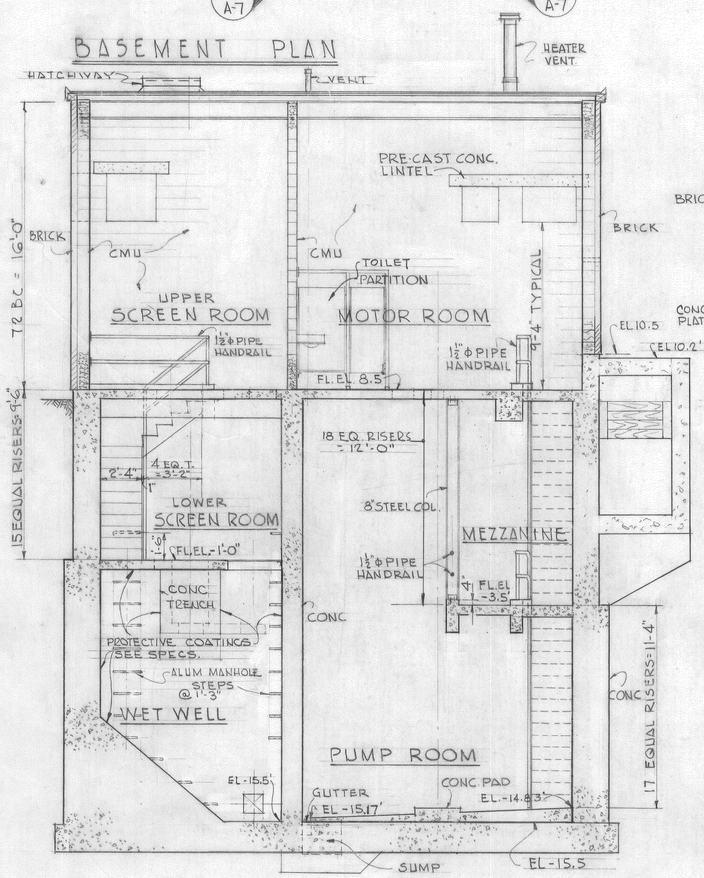
BASEMENT PLAN



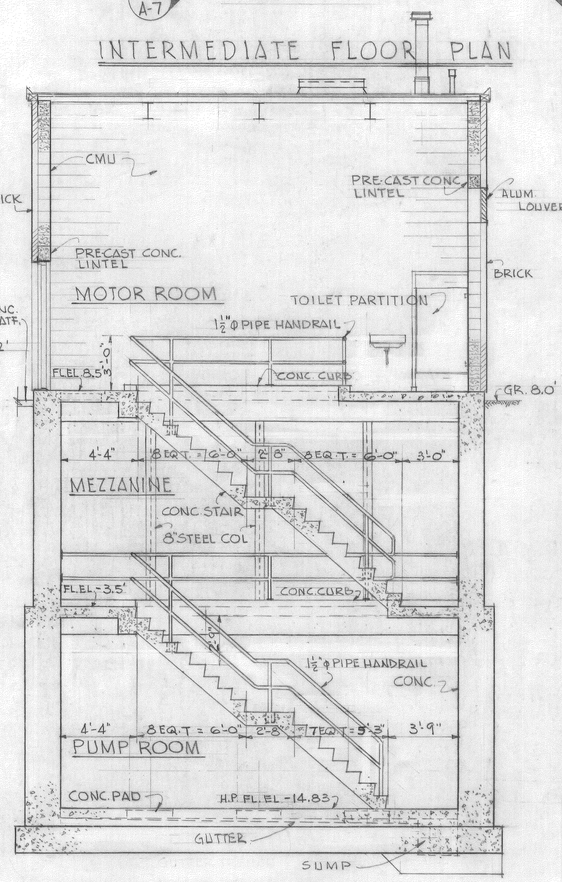
INTERMEDIATE FLOOR PLAN



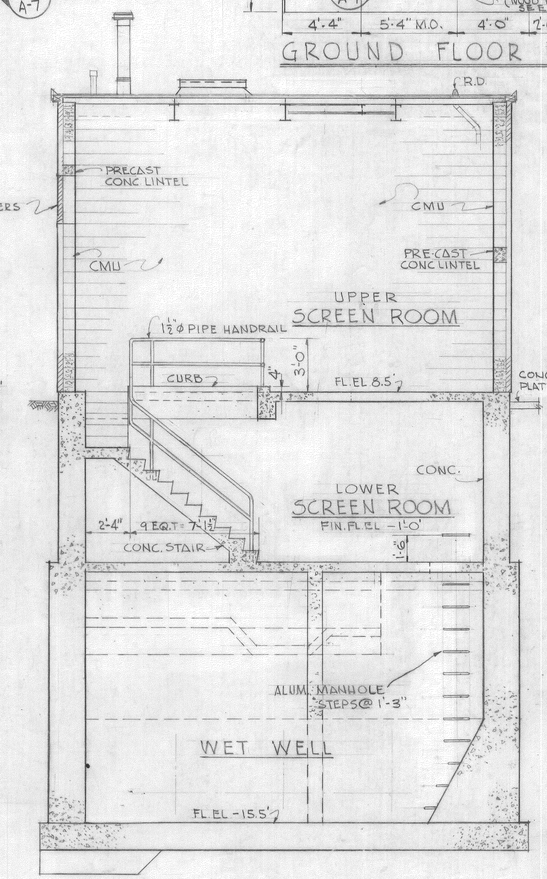
GROUND FLOOR PLAN



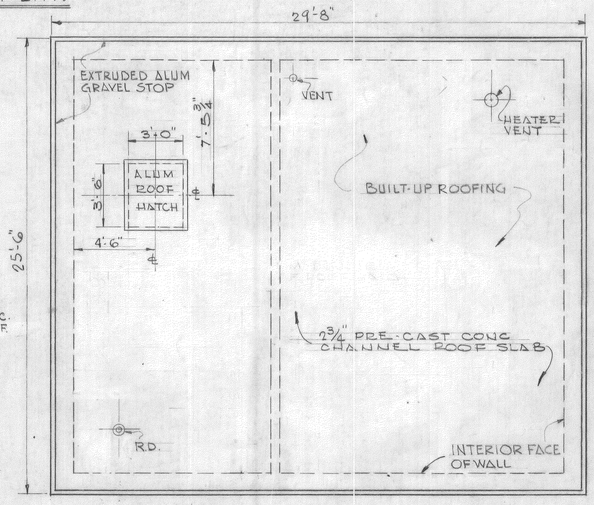
SECTION 4 A-7



SECTION 6 A-7



SECTION 5 A-7



ROOF PLAN

RECORD DRAWING

②	8-65	E.B.M.	GET	Revised for Record Dwgs.
①	5/16/63	TAC	DES	DIVIDING WALL & OPENINGS ADDED REVISED LOCATION OF EQUIP IN WHSE.
REVISION		MADE BY	CHECKED BY	DESCRIPTION

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

GATES & MECHANIC STREET

PLANS & BUILDING SECTIONS

ARCHITECTURAL

SCALE: ¼" = 1'-0" MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36038 1

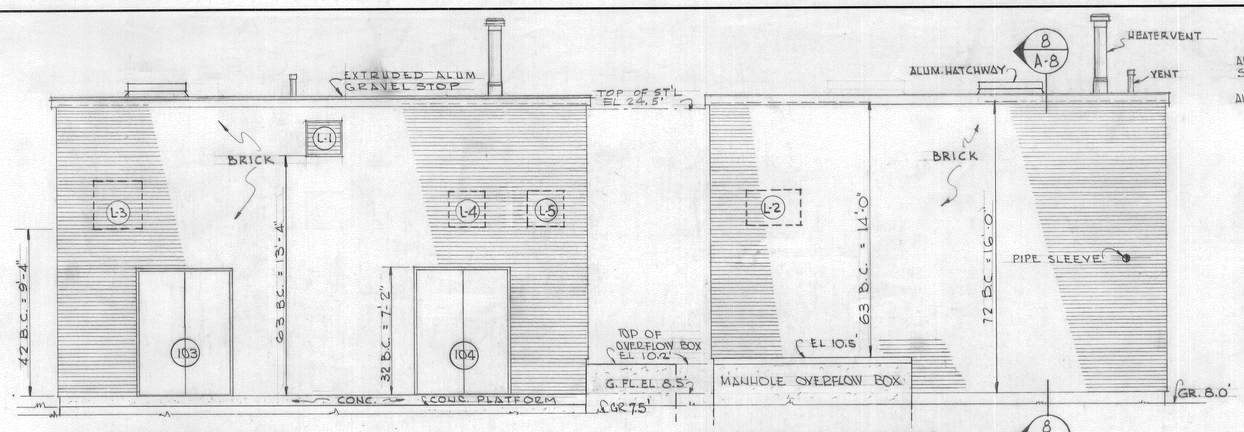
DRAWN BY M.J.G
TRACED BY M.J.G
CHECKED BY J.J.J

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/1/63
REG. PROF. ENGR. N.H. NO. 750 DATE

CONTRACT 1963 - 1 SHEET A-7

NIX N166 B. L. M. INC.



EAST ELEVATION

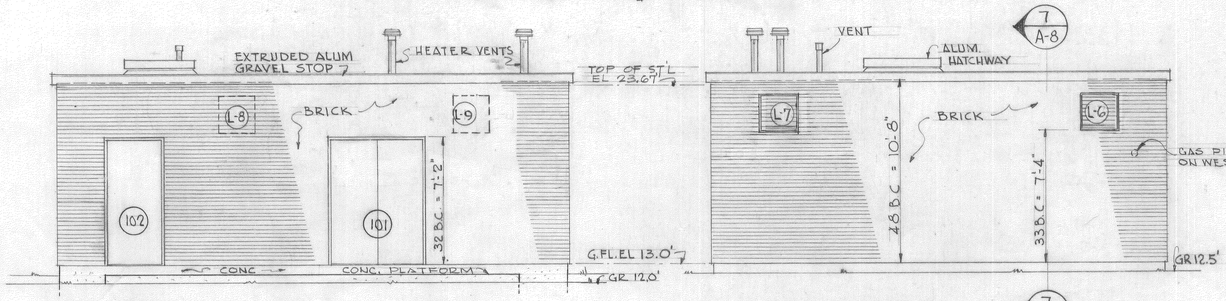
WEST ELEVATION OPENINGS SHOWN DOTTED

NORTH ELEVATION

SOUTH ELEVATION OPENING SHOWN DOTTED

GATES & MECHANICS STS. PUMPING STA.

SCALE 1/4" = 1'-0"



NORTH ELEVATION

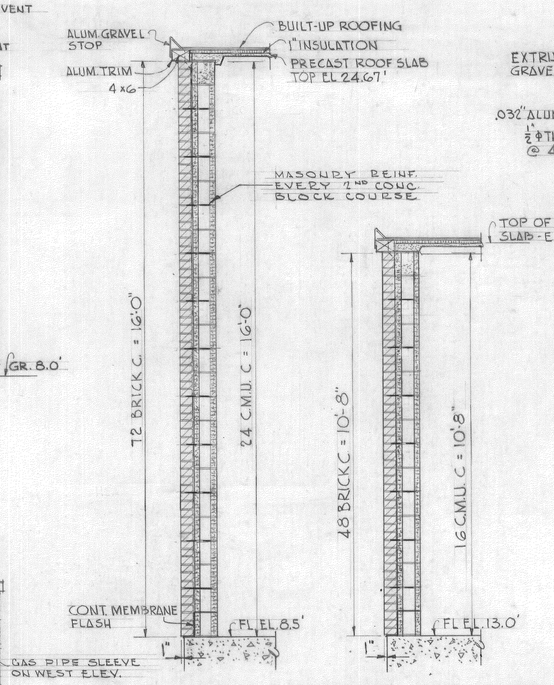
SOUTH ELEVATION OPENINGS SHOWN DOTTED

EAST ELEVATION

WEST ELEVATION OPENINGS SHOWN DOTTED

DEER & MARKET STS. PUMPING STA.

SCALE 1/4" = 1'-0"



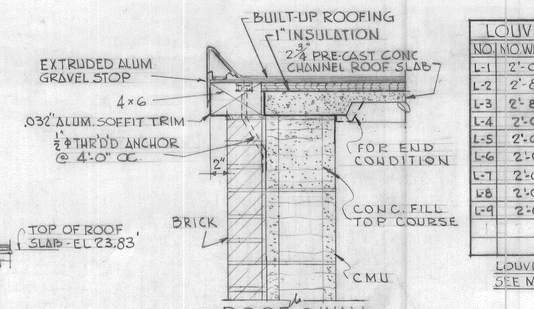
SECTION 8 A-8

SECTION 7 A-8

MATERIALS SIMILAR TO SECTION 8 A-8

TYPICAL WALL SECTIONS

SCALE 1/2" = 1'-0"

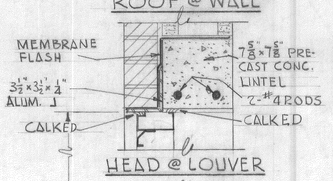


ROOF @ WALL

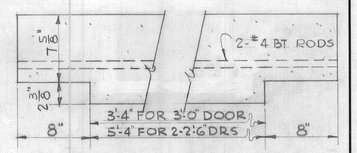
LOUVER & LINTEL SCHEDULE					
NO.	MO. WIDTH	MO. HEIGHT	TYPE	CONC. LINTEL	ALUM. LINTEL
L-1	2'-0"	2'-0"	STANDARD	3'-4"	3'-0"
L-2	2'-8"	2'-0"	STORM	4'-4"	4'-0"
L-3	2'-8"	2'-0"	"	4'-0"	3'-8"
L-4	2'-0"	2'-0"	"	3'-4"	3'-0"
L-5	2'-0"	2'-0"	"	4'-4"	4'-0"
L-6	2'-0"	2'-0"	"	3'-10"	3'-6"
L-7	2'-0"	2'-0"	"	3'-10"	3'-6"
L-8	2'-0"	2'-0"	"	3'-4"	3'-0"
L-9	2'-0"	2'-0"	"	3'-4"	3'-0"

LOUVERS ~~TO BE~~ EXTRUDED ALUM.

SEE MECH. DWGS FOR ATTACHED WORK

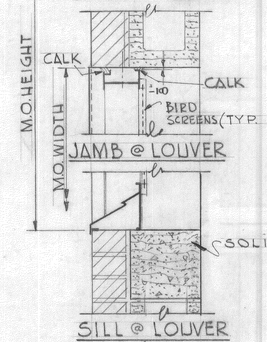


HEAD @ LOUVER



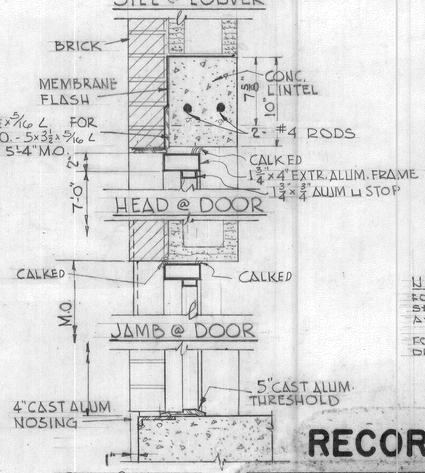
PRECAST CONC. DR. LINTEL DET.

SCALE 1 1/2" = 1'-0"



JAMB @ LOUVER

SILL @ LOUVER



SILL @ DOOR

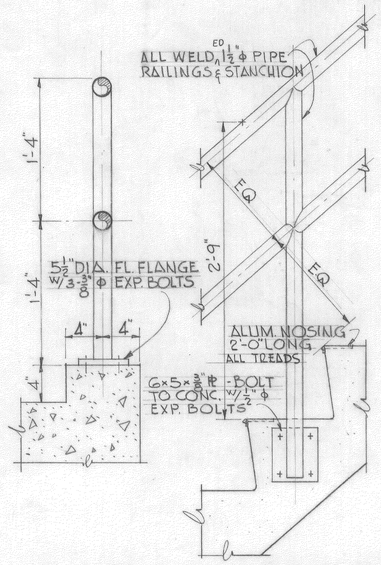
EXTERIOR WALL DETAILS

SCALE: 1/2" = 1'-0"

NOTE:

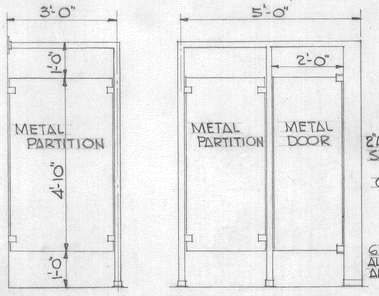
FOR DOOR INFORMATION SEE "DOOR SCHEDULE" DWG A-4.

FOR VENT FLASHING & ROOF DRAIN DETAILS SEE DWG A-5



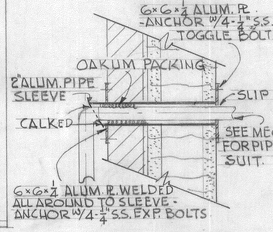
PIPE RAILING DETAILS

SCALE 1 1/2" = 1'-0"



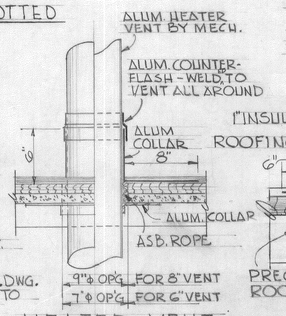
TOILET PARTITION DETAILS

SCALE: 1/2" = 1'-0"



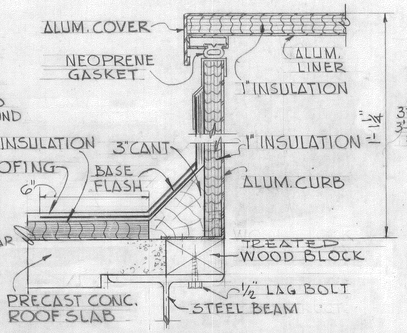
GAS PIPE SLEEVE DETAIL

SCALE 1 1/2" = 1'-0"



HEATER VENT FLASH DETAIL

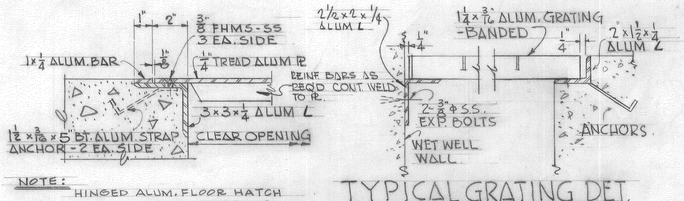
SCALE 1 1/2" = 1'-0"



ROOF HATCHWAY DET.

INSIDE LOCKING DEVICE

SCALE 3" = 1'-0"



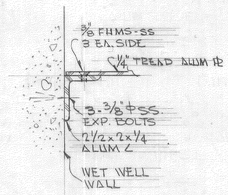
NOTE: HINGED ALUM. FLOOR HATCH SIMILAR. (OMIT SCREWS)

FLOOR ACCESS PANEL DET.

SCALE: 3" = 1'-0"

TYPICAL GRATING DET.

SCALE 3" = 1'-0"



FLOOR ACCESS PANEL END DET.

SCALE: 3" = 1'-0"

DRAWN BY MJG
TRACED BY MJG
CHECKED BY JJJ

RECORD DRAWING

2	6-65	E.B.M.	GKT	Revised for Record Dwgs.
1	8/19/63	TAC	DES	ADDED FLOOR ACCESS PANEL END DET.
REVISION		MADE BY	CHECKED BY	DESCRIPTION

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

BUILDING ELEVATIONS & MISCELLANEOUS DETAILS

ARCHITECTURAL

SCALE: AS SHOWN

MARCH, 1963

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. — No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. 4/17/63

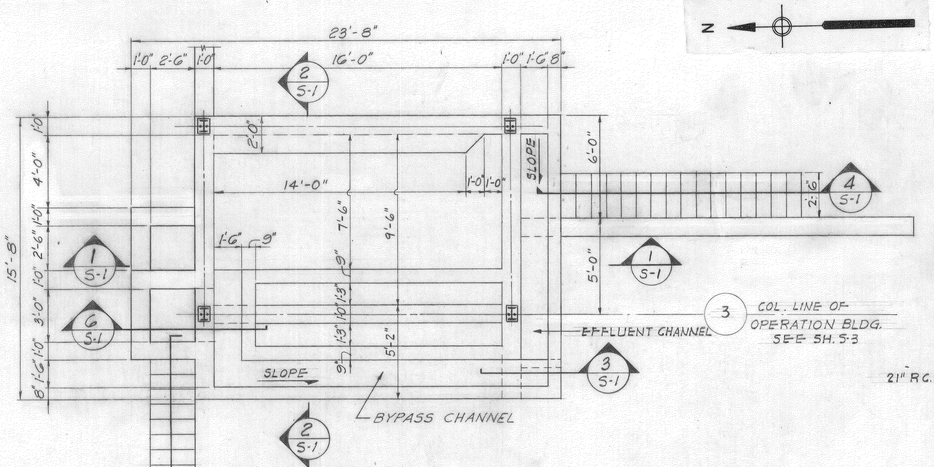
REG. PROF. ENGR. N.H. NO. 750 — DATE

METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36039 1

CONTRACT 1963-1

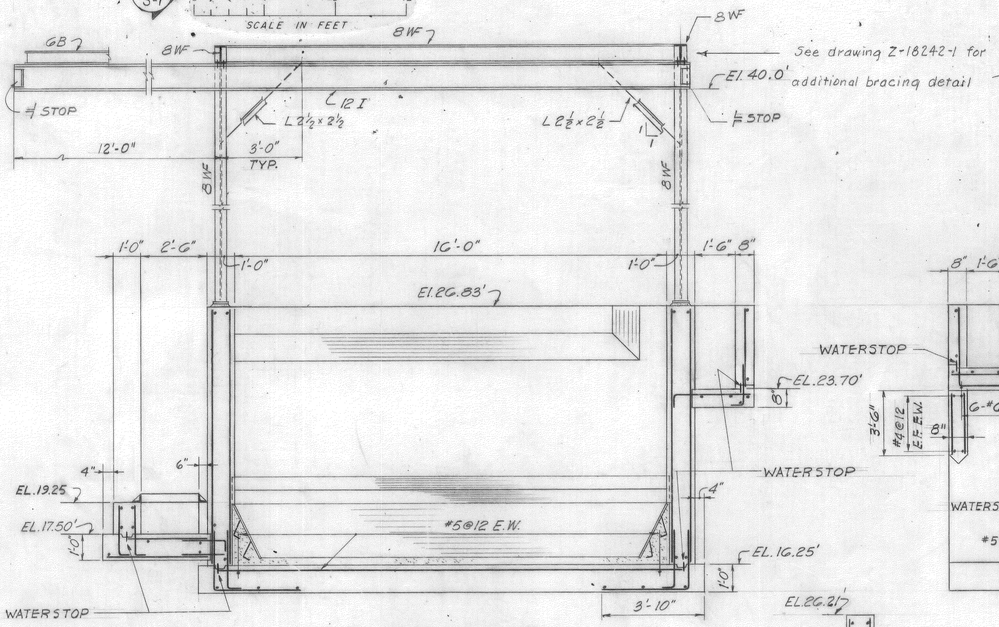
SHEET A-8

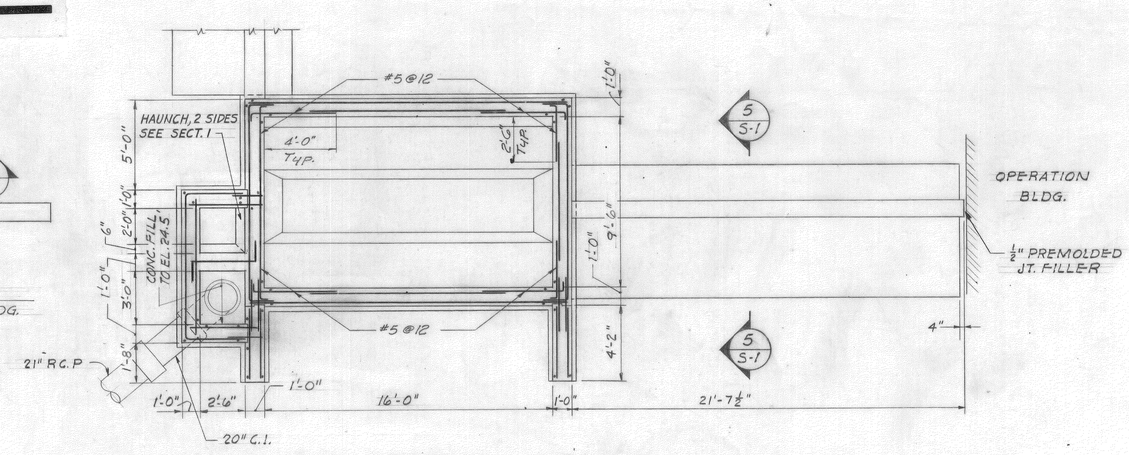


TOP PLAN

SCALE: $\frac{1}{4}$" = 1'-0" *

SCALE IN FEET

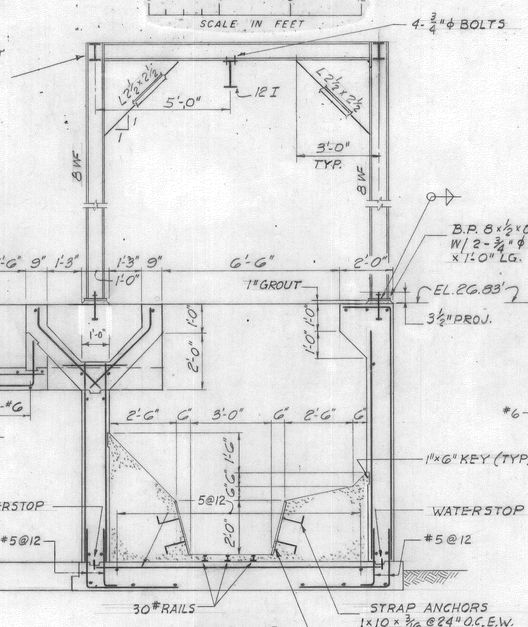


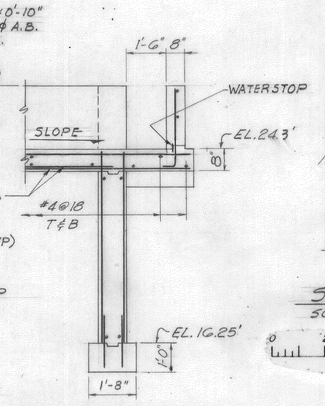


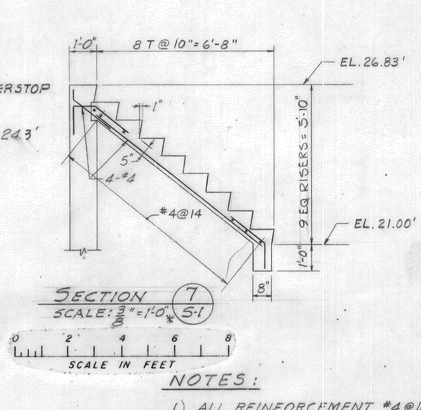
SECTIONAL PLAN EL. 22.0' ±

SCALE: $\frac{1}{4}$" = 1'-0" *

SCALE IN FEET



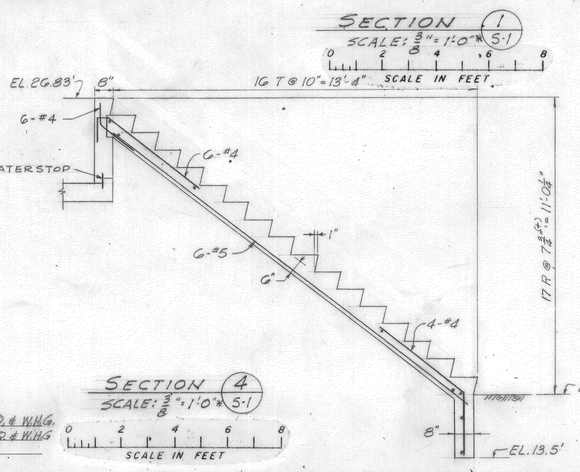




SECTION 1

SCALE: $\frac{3}{8}$" = 1'-0" * 5-1

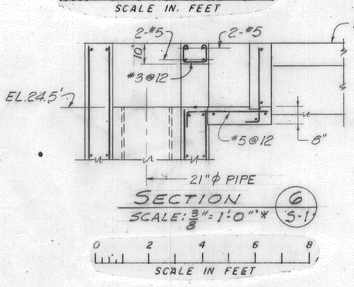
SCALE IN FEET



SECTION 2

SCALE: $\frac{3}{8}$" = 1'-0" * 5-1

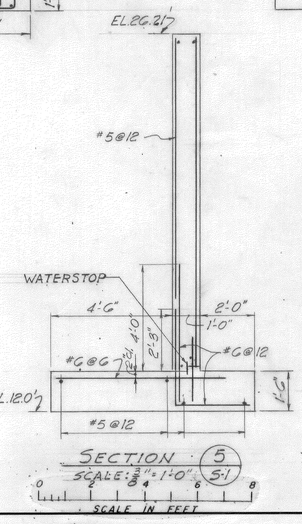
SCALE IN. FEET



SECTION 3

SCALE: $\frac{3}{8}$" = 1'-0" * 5-1

SCALE IN FEET



SECTION 4

SCALE: $\frac{3}{8}$" = 1'-0" * 5-1

SCALE IN FEET

SECTION 5

SCALE: $\frac{3}{4}$" = 1'-0"

SCALE IN FEET

SECTION 6

SCALE: $\frac{3}{8}$" = 1'-0" * 5-1

SCALE IN FEET

SECTION 7

SCALE: $\frac{3}{8}$" = 1'-0" * 5-1

SCALE IN FEET

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

NOTES:

1) ALL REINFORCEMENT #4@12 UNLESS OTHERWISE NOTED.
2) FOR HANDRAILING NOT SHOWN SEE MECHANICAL DWGS.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2 6-65	E.B.M.	G.K.T.	Revised for Record Dwgs.
1 5-14-63	R.L.C.	C.S.R.	REMOVED PLANT BY-PASS

DRAWN BY R.W.G. & W.H.G.
TRACED BY R.W.G. & W.H.G.
CHECKED BY J.V.

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/11/63
REG. PROF. ENGR. N. H. NO. 750 DATE

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT
AERATED GRIT CHAMBER
PLANS & SECTIONS
STRUCTURAL

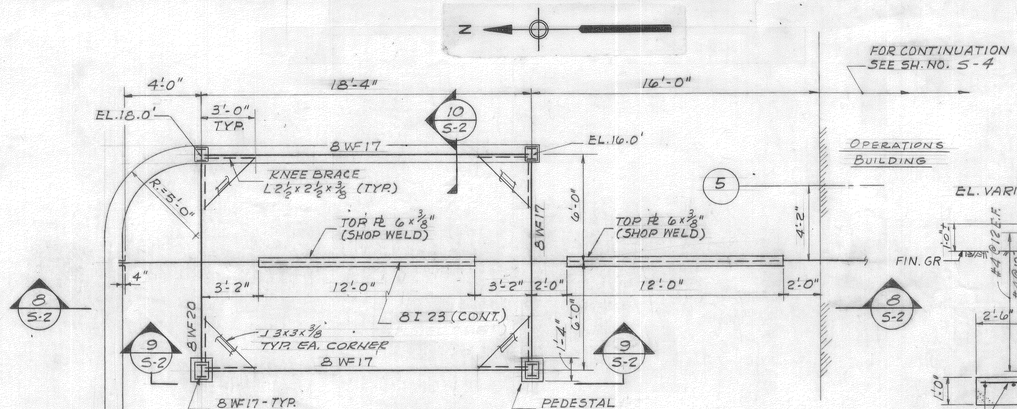
SCALE: AS SHOWN MARCH, 1963

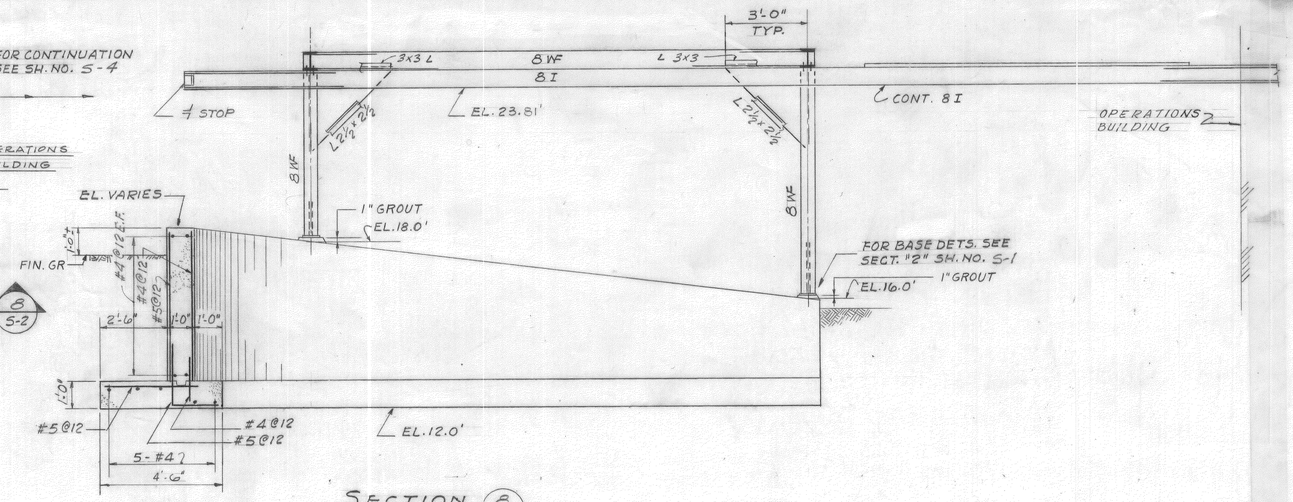
METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 36040 1

CONTRACT 1963-1 SHEET S-1

NIX N166 B. L. M. INC.



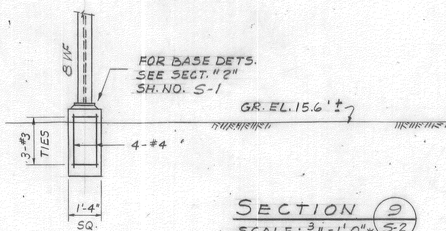


SECTION 8 S-2

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

0 2 4 6 8

SCALE IN FEET

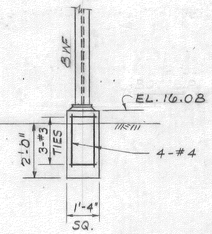


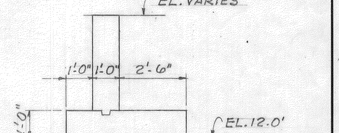
SECTION 9 S-2

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

0 2 4 6 8

SCALE IN FEET





NOTE: FOR REINF. SEE SECT. "8" THIS. SH.

SECTION 10 S-2

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

0 2 4 6 8

SCALE IN FEET

NOTE:

1. FOR DETAILS OF CHLORINE STORAGE AREA SEE SH. C-9

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
① 6-65	E.B.M.	GET	Revised for Record Dwgs.

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

AERATED GRIT CHAMBER
PLANS & SECTIONS

STRUCTURAL

SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 3604 1

THE STATE OF NEW HAMPSHIRE — JOHN B. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John B. Bethel Jr. 4/1/63

REG. PROF. ENGR. N.H. NO. 750 DATE

DRAWN BY R.W.S. & W.H.G.
TRACED BY R.W.S. & W.H.G.
CHECKED BY J.V.

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

CONTRACT 1963-1 SHEET S-2

TRIX NYSS R. L. M., INC.

N

37'-10"

17'-2" | 17'-2" | 17'-2" | 17'-2" | 17'-2"

1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0" | 1'-0"

40'-8"

15'-8" | 15'-8" | 6'-8"

4" (TYP)

#4 @ 12 | #5 @ 12 | #4 @ 12 | #4 @ 12 | #4 @ 12 | #4 @ 12

4'-0" | 4'-0" | 6'-0"

2'-4" | 3'-6" | 3'-4"

3'-0"

FOR DETAILS OF RETAINING WALL SEE SH. S-1

3'-4" | 4'-6" | 3'-4"

EL. 16'-5"

BRICK SHELF EL. 15'-9 1/4"

1/2" PREMOLDED JOINT FILLER

L.P. EL. 15'-7 1/4" | L.P. EL. 15'-6" | L.P. EL. 15'-6"

3'-10" | 7'-4" | 2'-10" | 8" | 2'-5"

12" SLAB (MIN.)

5% SLOPE

5'-0 3/4" | 1'-7 5/8"

H.P. EL. 15'-9" | H.P. EL. 15'-8"

H.P. EL. 16'-0"

(SEE DWG. A-1 FOR TOP OF SLAB ELEVATIONS)

H.P. EL. 16'-0"

13'-10" | 2'-10" | 8"

EL 15.84'

L.P. EL 15.84'

15'-4"

FOR DOWELS SEE S-6

FOR DETAILS OF SETTLING TANKS SEE SH. S-6 & S-7

BRICK SHELF EL. 15'-9 1/4"

5'-11"

L#4@12 I.F. #4@8 O.F.

#5@6

BASEMENT PLAN

SCALE IN FEET

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

1'-0" | 22'-4" | 16'-4" | 1'-0"

4 4 4 | 4 4 4

EL 27'-1 1/4"

EL 25'-1 1/4"

EL 16'-0"

#5 | #5 | #5 | #5

8"

FB 1 | FB 2 | FB 14

Note:- Floor Slab varies from 8" to 12" in the Filter Room.

#4@8 | #4@12 | #4@12

3'-0" | 4" | 1'-0"

5'-6" | 4'-0"

#5@12 | #5@12 | #5@12 | #5@12 x 10'-0" | #5@8 | #5@12

SECTION 1 S-3 / 1 S-4

SCALE IN FEET

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

FOR REINF. & DETAILS OF SETTLING TANKS SEE SH. S-6 & S-7

EL. 27'-1 1/4"

FB 3

FOR REINF. SEE SH. S-7

#5 | #4 | #5

EL. 16'-0"

B | A

H.P. EL. 15'-9" | L.P. EL. 15'-7 1/4"

1 1/2"

DIM. OF SCALE PIT TO SUIT EQUIP.

NOTE: FOR MAT REINF. SEE SECTION 1.

1'-0"

SECTION 12 S-3

SCALE IN FEET

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

SECTION 2 S-3 / 2 S-4

SCALE IN FEET

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

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

4" | 3'-0" | 14 T @ 10" = 11'-8"

2" | BRICK SHELF EL. 26'-2 1/2"

EL. 27'-1 1/4" | EL. 26'-0"

4#5 | 7#5 | #4@14

NOTE: STAIRS 3'-0" WIDE

1" TYP.

7#5 | 4#5

EL. 16'-0" | 15.2 @ 8" = 10'-0" | 2'-0" | 1'-0"

SECTION 3 S-4

SCALE IN FEET

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

6

4" 4" 4"

EL. VARIES | EL. 16'-0" | FIN GRADE EL. 15.9

1'-0" MIN

SCALE IN FEET

SCALE: 1/2" = 1'-0" *

4 5

1'-0" | 1'-0"

#3@12

A | B

8 - #11

8" | 8" | 4" | 8 1/2" | 3 1/2"

2 3 4

8 1/2" | 8 1/2"

8 - #8 | 8" | 8"

#3@12

6

1'-0" | 1'-0"

A C | B

1'-0" | 8" | 8" | 4"

12'-10"

#3@12

6

1'-0" | 4"

8 - #8 | 8" | 8"

#3@12

SCALE IN FEET

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

2	6-65	E.B.M.	G.K.T.	Revised for Record Dwgs
1	5-15-63	R.L.D.	C.S.R.	ADDED NOTE & H.P. EL ON PLAN
*REVISION		MADE BY	CHECKED BY	DESCRIPTION

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

RECORD DRAWING

TYPICAL COLUMN DETAILS - BASEMENT TO FIRST FLOOR

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING

BASEMENT PLANS & SECTIONS

STRUCTURAL

SCALES: AS SHOWN | MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36042 1

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. — REG. PROF. ENGR. N.H. NO. 750

4/11/63 — DATE

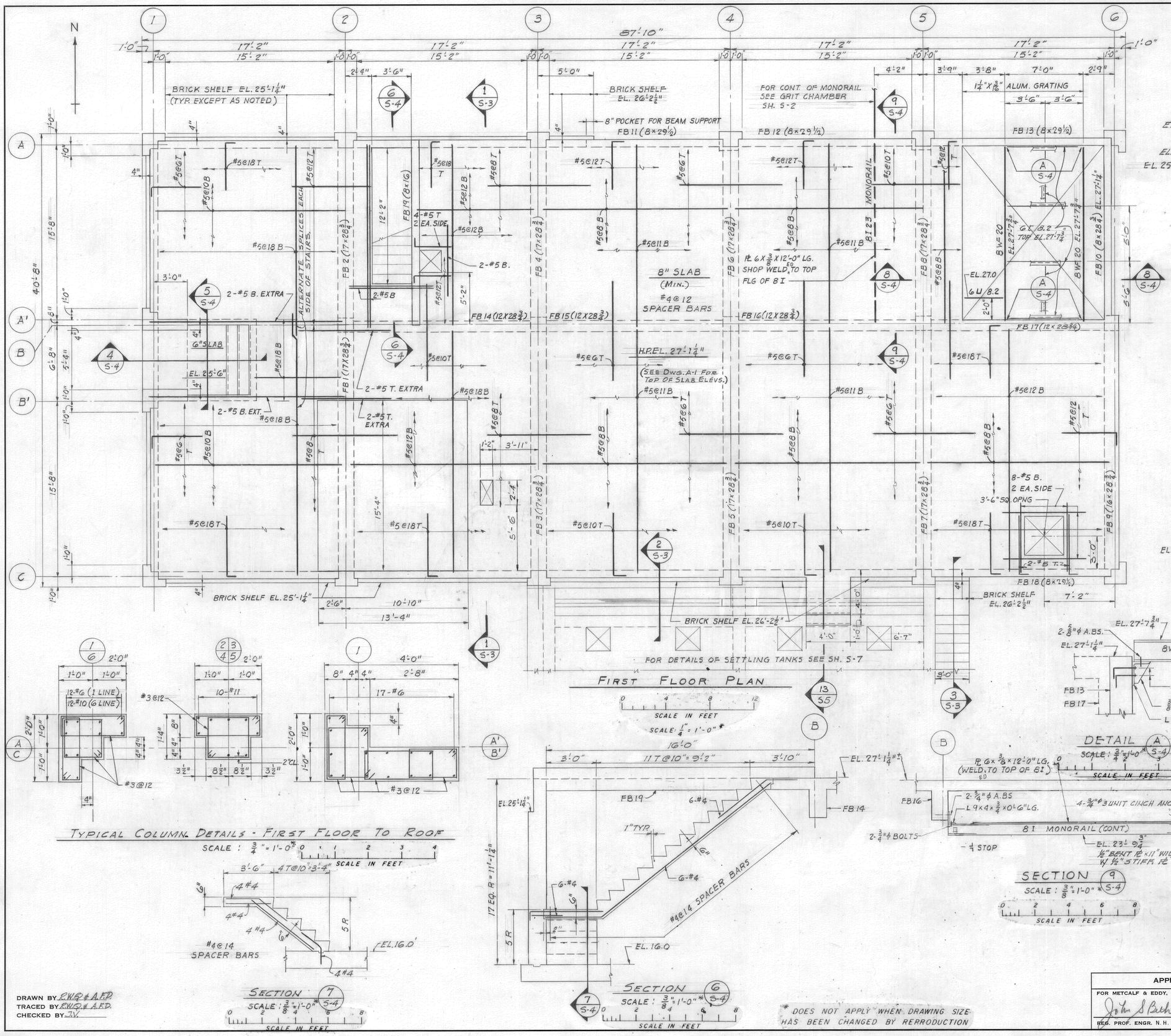
DRAWN BY RWQ & WLG.

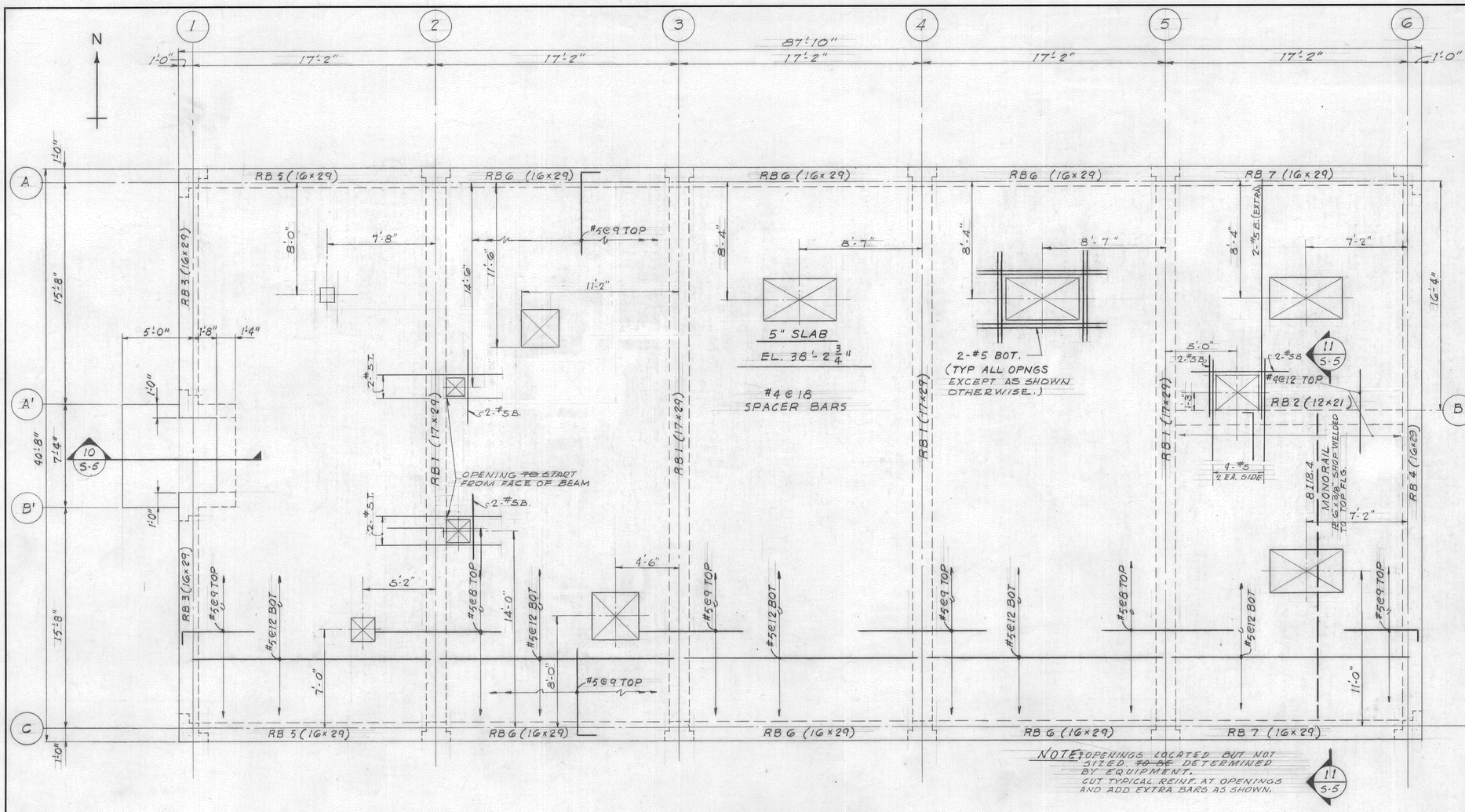
TRACED BY RWQ & WLG.

CHECKED BY JV

CONTRACT 1963-1 SHEET S-3

NIX N166 ADAMS ILLINOIS | R. L. M. INC. 69300

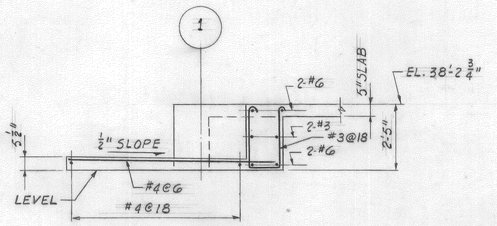

BRICK SHELF EL. 25'-1¼" (TYP. EXCEPT AS NOTED)
BRICK SHELF EL. 26'-2½"
8" POCKET FOR BEAM SUPPORT
FB11 (8x29½)
FB12 (8x29½)
FB13 (8x29½)
FOR CONT OF MONORAIL SEE GRIT CHAMBER SH. S-2
1¼"X⅜" ALUM. GRATING
8" SLAB (MIN.)
#4@12 SPACER BARS
MONORAIL
Pl. 6X⅜X12'-0" LG. SHOP WELD EQ TO TOP FLG OF 8I
H.P.EL. 27'-1¼"
(SEE DWG. A-1 FOR TOP OF SLAB ELEVS.)
ALTERNATE SPLICES EACH SIDE OF STAIRS.
2-#5 B. EXTRA
2-#5 T. EXTRA
2-#5 B. EXT.
2-#5 T. EXTRA
2-#5 B.
6" SLAB
EL. 25'-6"
8-#5 B. 2 EA. SIDE
3'-6" SQ. OPNG
BRICK SHELF EL. 25'-1¼"
BRICK SHELF EL. 26'-2½"
BRICK SHELF EL. 26'-2½"
FOR DETAILS OF SETTLING TANKS SEE SH. S-7
FB1 (17x28¾)
FB2 (17x28¾)
FB3 (17x28¾)
FB4 (17x28¾)
FB5 (17x28¾)
FB6 (17x28¾)
FB7 (17x28¾)
FB8 (17x28¾)
FB9 (16x28¾)
FB10 (8x28¾)
FB14 (12X28¾)
FB15 (12X28¾)
FB16 (12X28¾)
FB17 (12x28¾)
FB18 (8x29½)
FB19 (8x16)
8WF20
GC 8.2 TOP EL. 27'-7¾"
EL. 27'-7¾"
EL. 27'-1¼"
EL. 27.0
6U8.2
8I23
FIRST FLOOR PLAN
SCALE IN FEET
SCALE: 1/4" = 1'-0"
TYPICAL COLUMN DETAILS - FIRST FLOOR TO ROOF
SCALE: 3/4" = 1'-0"
SCALE IN FEET
SECTION 4 S-4
SECTION 5 S-4
SECTION 6 S-4
SECTION 7 S-4
SECTION 8 S-4
SECTION 9 S-4
DETAIL A S-4
NOTE: UNLESS NOTED OTHERWISE ALL REINF. #5@18
RECORD DRAWING
CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT
OPERATIONS BUILDING
FIRST FLOOR PLANS & SECTIONS
STRUCTURAL
SCALE: AS SHOWN
MARCH, 1963
METCALF & EDDY ENGINEERS BOSTON, MASS.
APPROVED
FOR METCALF & EDDY, ENGINEERS
JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER
REG. PROF. ENGR. N. H. NO. 750
4/1/63
DATE
DRAWN BY R.W.Q. & A.F.D.
TRACED BY R.W.Q. & A.F.D.
CHECKED BY J.V.
* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION
CONTRACT 1963-1
SHEET S-4

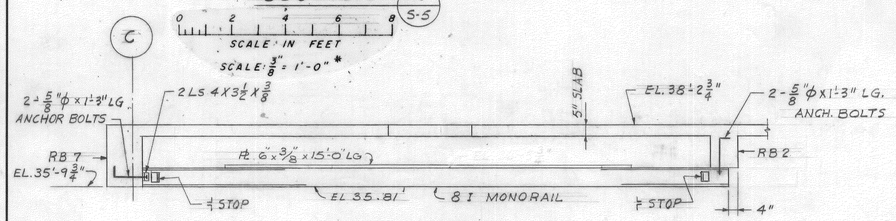


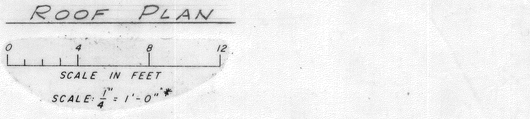
BEAM SCHEDULE

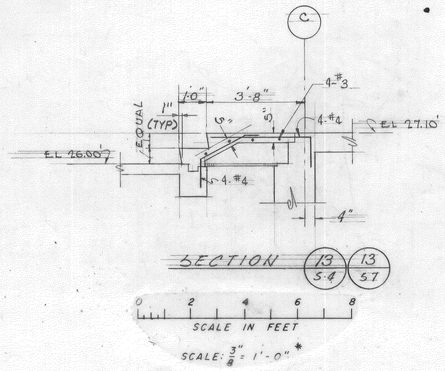
BEAM MARK	B×D	SKETCH (# SUPPORT — CLEAR SPAN)	STIRRUPS SIZE TYPE	STIRRUPS LEFT	STIRRUPS RIGHT
RB1	17×29	5-#11 · 2-#8 4-#11 · 3-#11×30'-0" (2 LAYERS) (SEE) · 5-#11	#4	2@6, 3@12 REM @ 18	DO LEFT
RB2	12×21	2-#7 · 2-#9 · 2-#4 · 2-#7	#3	1@8 ± REM @ 18	DO LEFT
RB3	16×29	2-#6 · 2-#9 · 2-#4 · 2-#6	#3	1@10 REM @ 18	DO LEFT
RB4	16×29	3-#10 · 2-#4 2-#11 · 1-#11×26'-0" · 3-#10	#4	1@13 REM @ 18	DO LEFT
RB5	16×29	2-#8 · 2-#9 · 2-#4 · 2-#8	#4	1@7 REM @ 24	DO LEFT
RB6	16×29	2-#9 · 2-#4 · 2-#8	#4	1@7 REM @ 24	DO LEFT
RB7	16×29	2-#9 · 2-#4 · 2-#8	#4	1@7 REM @ 24	DO LEFT
FB1	17×28¾	2-#8 · 2-#11 · 2-#4 · 3-#10	#3	1@8 REM @ 24	DO LEFT
FB2	17×28¾	2-#8 · 2-#8 · 2-#4 · 2-#6	#3	1@8 REM @ 24	DO LEFT
FB3	17×28¾	2-#10 · 3-#11 · 2-#4 · 4-#10	#3	2@12 REM @ 24	8@6 REM. @ 24"
FB4	17×28¾	2-#10 · 2-#4 · 2-#8	#3	1@8 REM @ 24	DO LEFT
FB5	17×28¾	3-#8 · 4-#10 · 2-#4 · 4-#11	#4	3@12 REM @ 24	1@4, 8@6, 2@12
FB6	17×28¾	2-#10 · 2-#4 · 2-#9	#4	2@12 REM @ 24	1 @ 12 REM @ 24"
FB7	17×28¾	3-#7 · 3-#11 · 2-#4 · 4-#10	#4	3@12 REM @ 24	1@4, 8@6, 2@12
FB8	17×28¾	2-#9 · 2-#4 · 3-#6	#4	2@12 REM @ 24	1 @ 12 REM @ 24"
FB9	16×28¾	2-#7 · 3-#10 · 2-#4 · 3-#8	#3	2@8 REM @ 24	DO LEFT
FB10	8×28¾	2-#7 · 2-#4 · 2-#7	#3	1@16 REM @ 24	DO LEFT
FB11	8×20½	2-#7 · 2-#6 · 2-#4 · 2-#8	#3	1@7 REM @ 24	DO LEFT
FB12	8×29½	2-#8 · 2-#8 · 2-#4 · 2-#10	#3	2@12 REM @ 24	3@12
FB13	8×29½	2-#8 · 2-#8 · 2-#4 · 2-#8	#3	1@6, 3@12 REM @ 24	1@6, 1@12
FB14	12×28¾	2-#7 · 2-#9 · 2-#4 · 2-#10	#3	1@10½ REM @ 24	DO LEFT
FB15	12×28¾	2-#10 · 2-#4 · 2-#11	#3	8@6, 2@12 REM @ 24	DO LEFT
FB16	12×28¾	2-#10 · 2-#4 · 2-#10	#3	8@6, 2@12 REM @ 24	DO LEFT
FB17	12×28¾	2-#9 · 2-#4 · 2-#8	#3	1@6, 3@12 REM @ 24	2@12
FB18	8×29½	2-#8 · 2-#8 · 2-#4 · 2-#7	#3	1@6, 3@12 REM @ 24	1@6, 1@12
FB19	8×16	2-#8 · 2-#9 · 2-#4 · 2-#8	#3	6@6" REM @ 24"	DO LEFT

RECORD DRAWING









DRAWN BY RWQ & A.E.D.
TRACED BY RWQ & A.E.D.
CHECKED BY J.V.

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THE STATE OF NEW HAMPSHIRE — JOHN B. BETHEL JR. — No. 750 — REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John B. Bethel Jr. 4/17/63
REG. PROF. ENGR. N. H. NO. 750 — DATE

REVISION	MADE BY	CHECKED BY	DESCRIPTION
① 6-65	E.B.M.	GKT	Revised for Record Dwgs.

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING
ROOF PLANS & SECTIONS
BEAM SCHEDULE

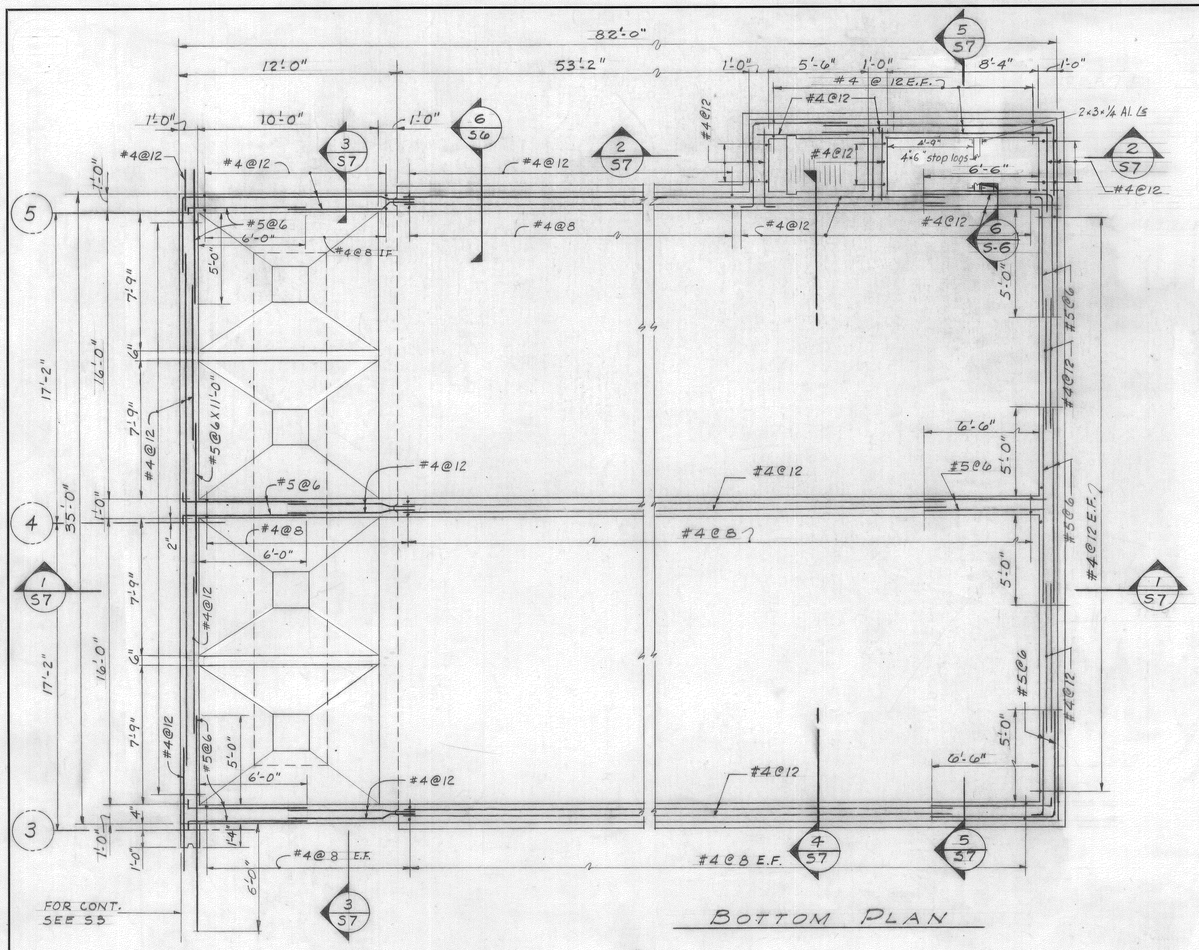
STRUCTURAL

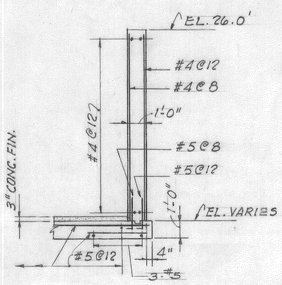
SCALE: AS SHOWN — MARCH, 1963

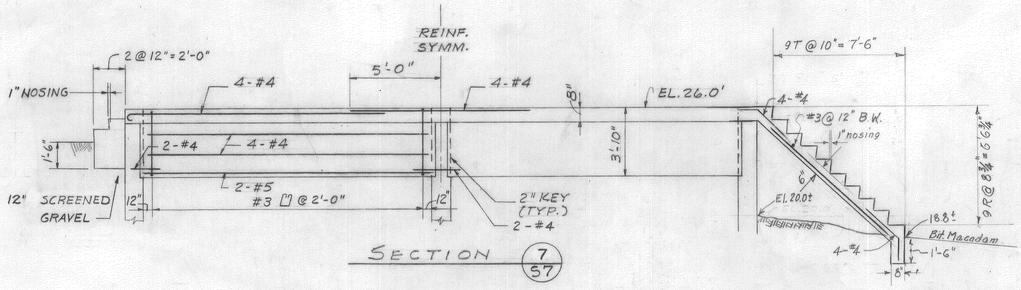
METCALF & EDDY
ENGINEERS
BOSTON, MASS.

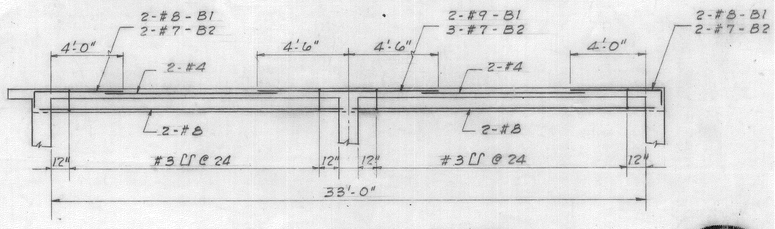
H 36044 1

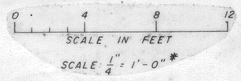
CONTRACT 1963-1 — SHEET S-5











* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2	6-65	E.B.M.	C.K.T.	Revised for Record Dwgs.
1	5-14-65	R.L.D.	C.S.R.	CHLORINE CONT. TANK REMOVED

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

SEDIMENTATION TANKS

PLANS & SECTIONS

STRUCTURAL

SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36045 1

APPROVED

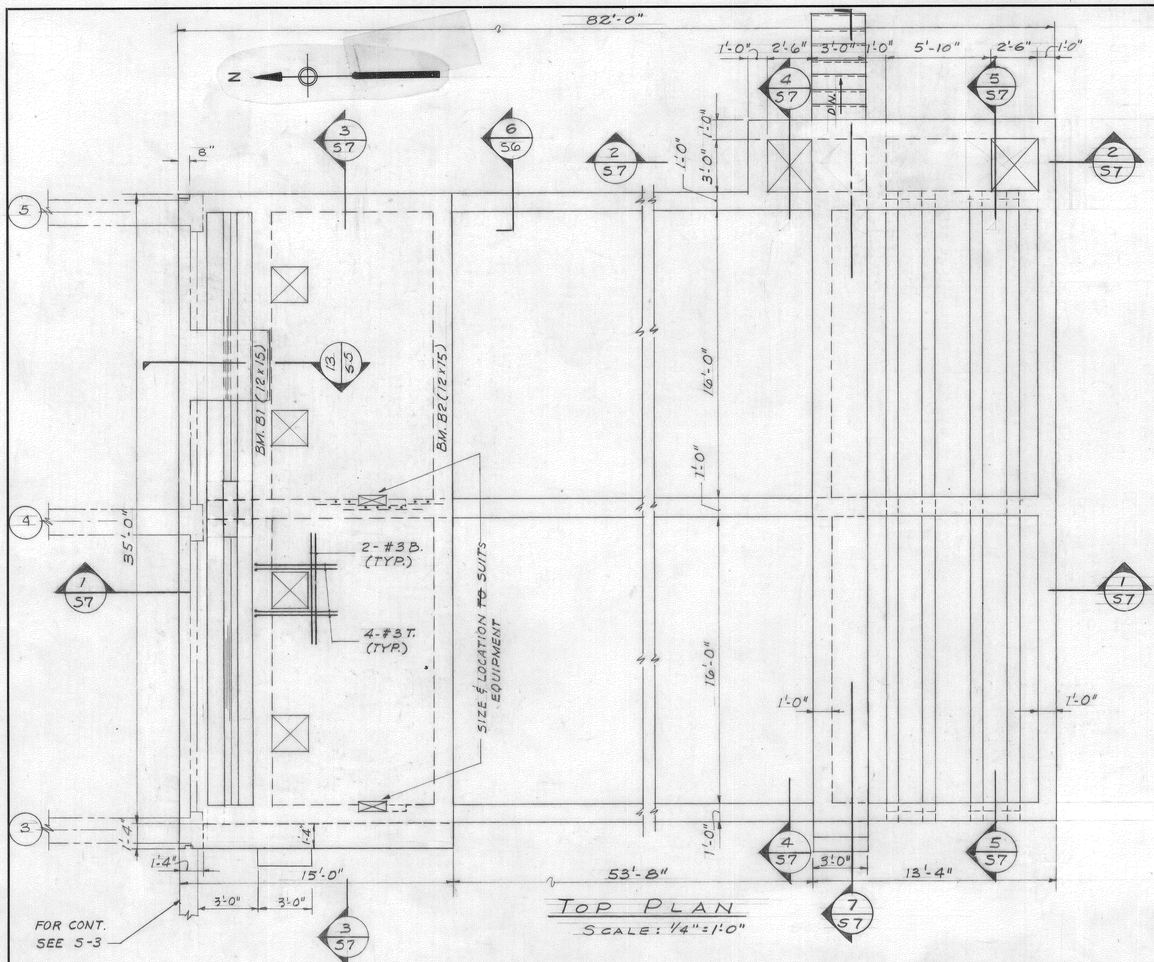
FOR METCALF & EDDY, ENGINEERS

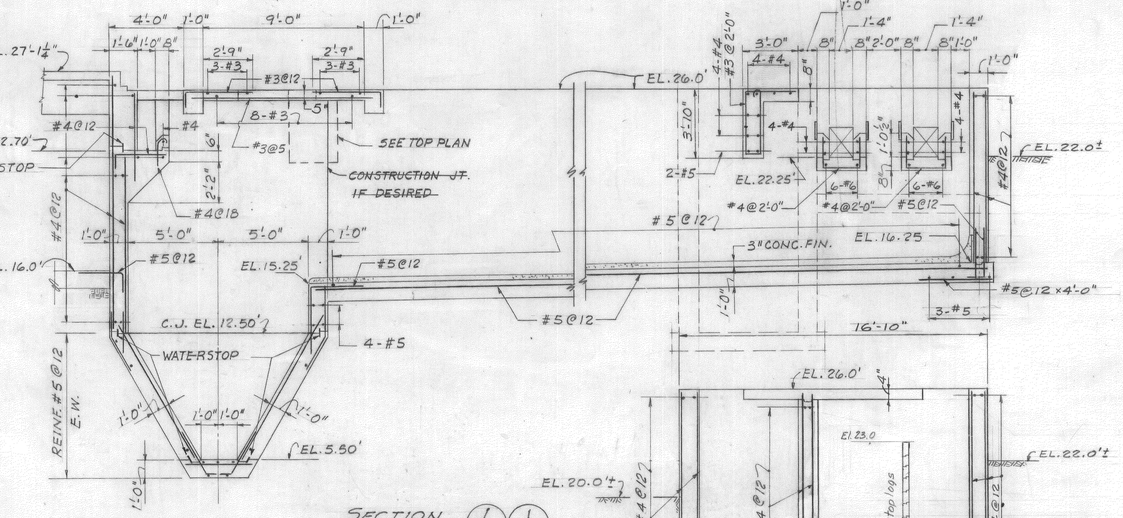
John S. Bethel Jr. 4/14/65

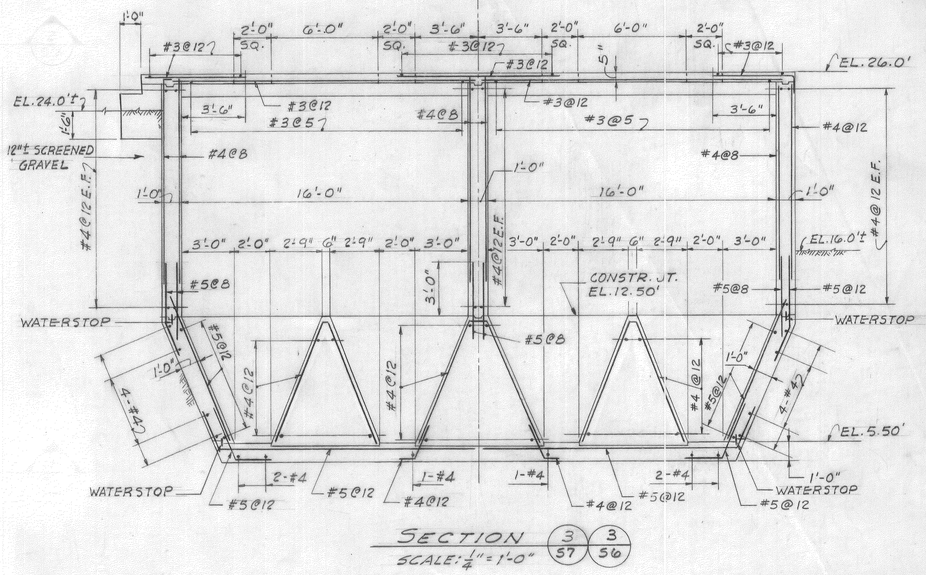
REG. PROF. ENGR. N.H. NO. 750 DATE

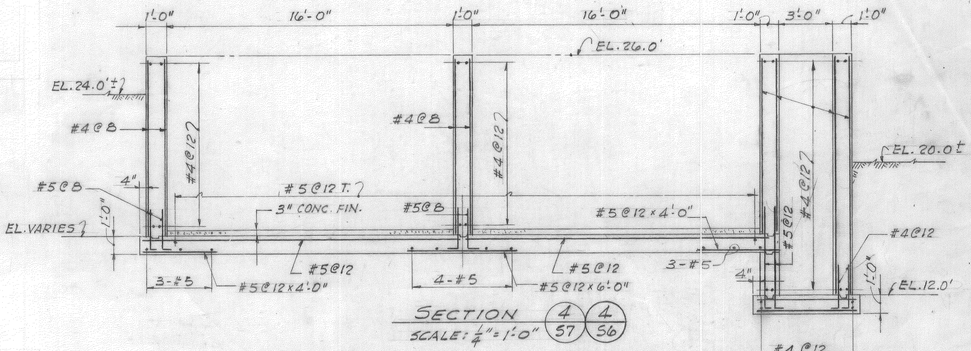
DRAWN BY R.W.P. & W.H.G.
TRACED BY R.W.P. & W.H.G.
CHECKED BY J.V.

CONTRACT 1963-1 SHEET S-6









RECORD DRAWING

0 4 8 12
SCALE IN FEET
SCALE: 1/4" = 1'-0" *

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

SEDIMENTATION TANKS

PLANS & SECTIONS

STRUCTURAL

SCALE: AS SHOWN

MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 3604G 1

DRAWN BY R.W.D. & W.H.G.
TRACED BY R.W.D. & W.H.G.
CHECKED BY J.V.

2	6-65	E.B.M.	G.K.T.	Revised for Record Dwgs.
1	5-14-63	R.L.D.	C.S.R.	CHLORINE CONT. TANK REMOVED
REVISION		MADE BY	CHECKED BY	DESCRIPTION

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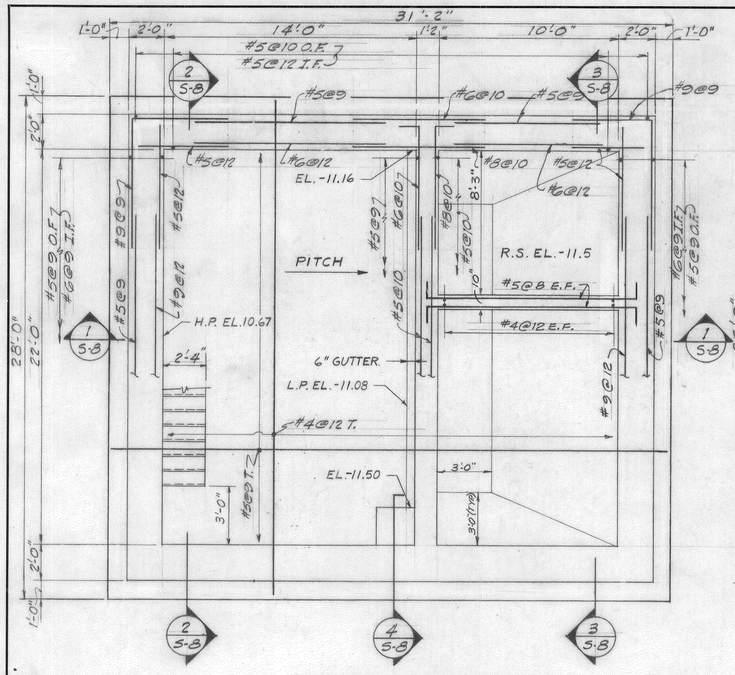
JOHN S. BETHEL JR.
No. 750
REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/1/63
REG. PROF. ENGR. N.H. NO. 750 DATE

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

CONTRACT 1963-1 SHEET S-7

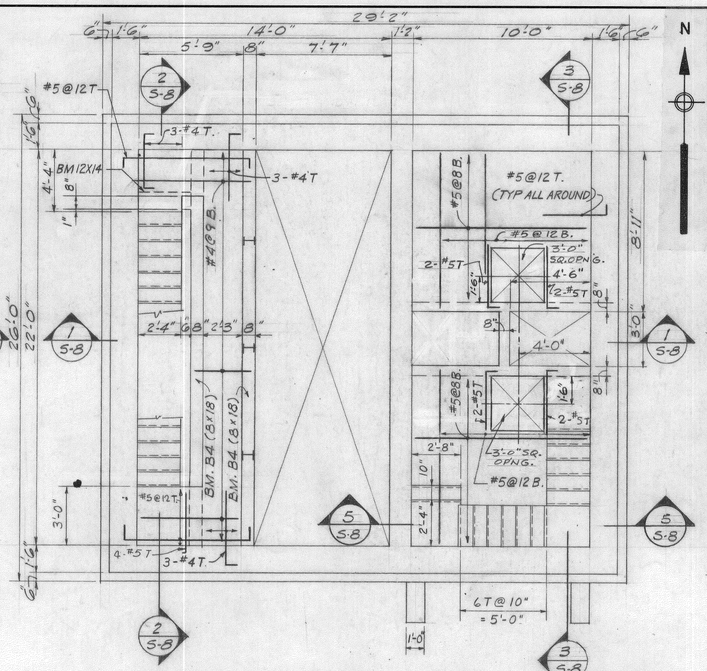
NIX N168 B. L. M. INC.



BASEMENT PLAN

SCALE IN FEET

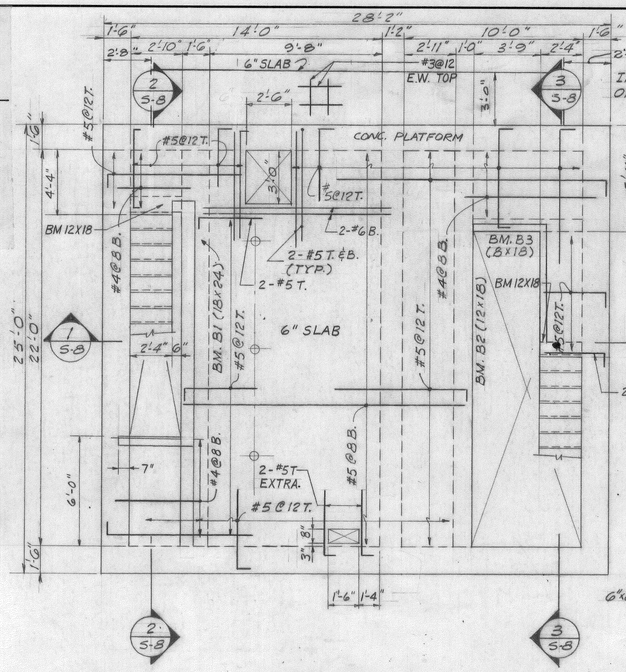
SCALE: 1/4" = 1'-0" *



INTERMEDIATE FLOOR PLAN

SCALE IN FEET

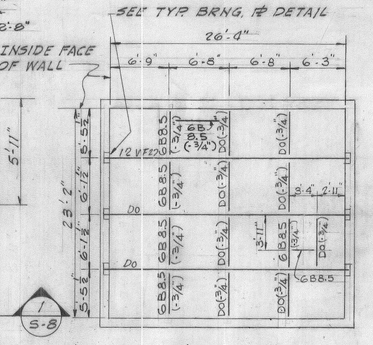
SCALE: 1/4" = 1'-0" *



GROUND FLOOR PLAN

SCALE IN FEET

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

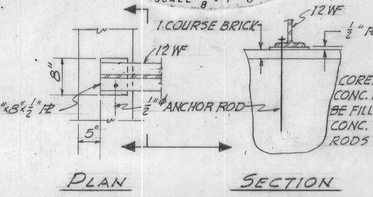


ROOF PLAN

TOP OF ~~STEEL~~ EL. 23.67 EXCEPT AS NOTED

SCALE IN FEET

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

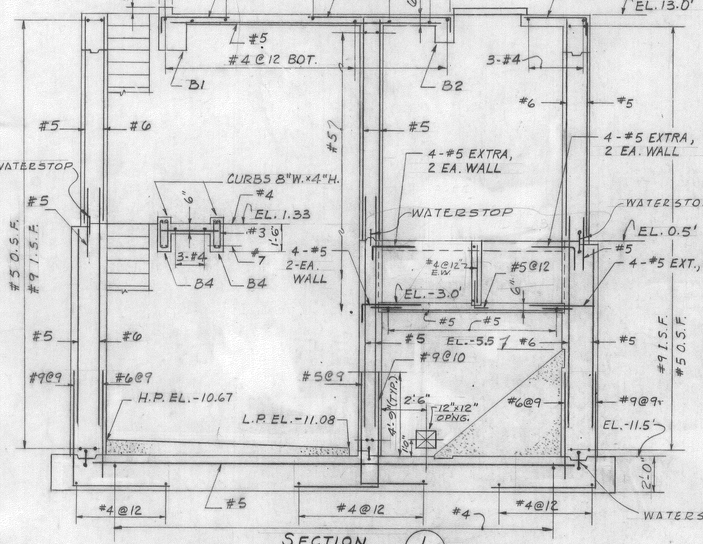


PLAN SECTION

TYP. BEARING PLATE DETAIL

SCALE IN FEET

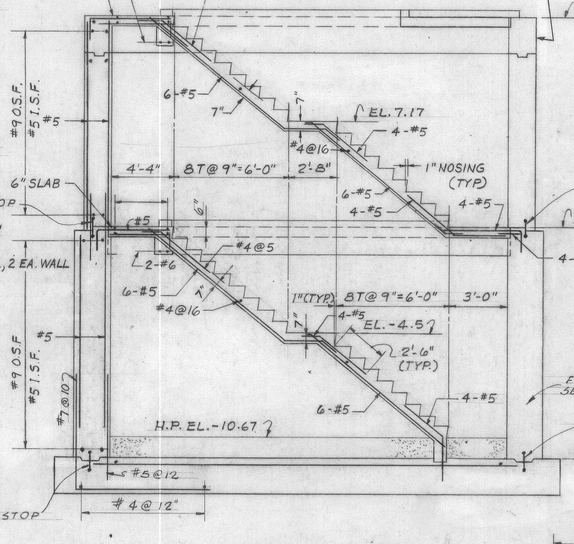
SCALE: 3/4" = 1'-0" *



SECTION 1 S-8

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

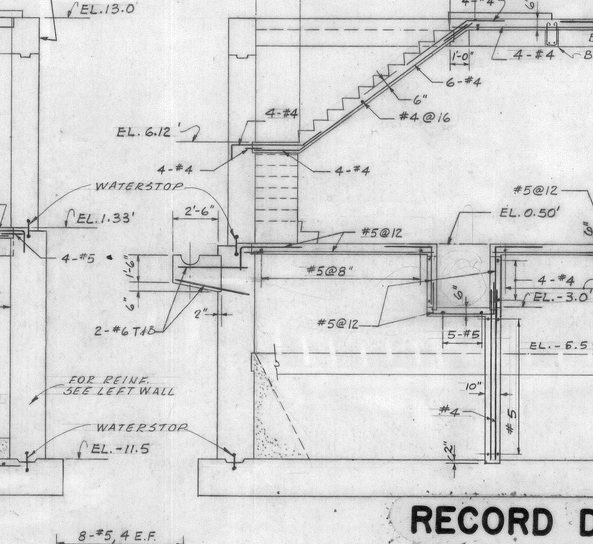
SCALE IN FEET



SECTION 2 S-8

SCALE IN FEET

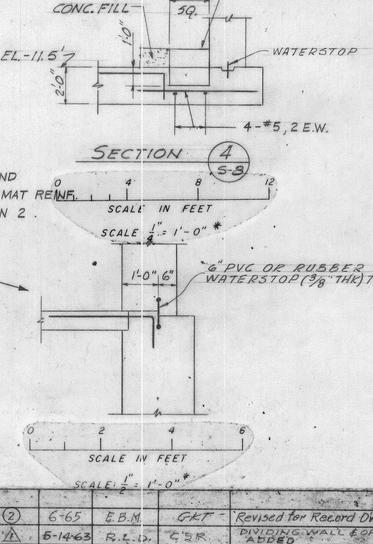
SCALE: 1/4" = 1'-0" *



SECTION 3 S-8

SCALE IN FEET

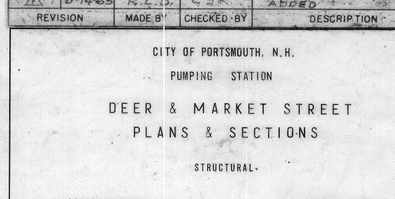
SCALE: 1/4" = 1'-0" *



SECTION 4 S-8

SCALE IN FEET

SCALE: 1" = 1'-0" *

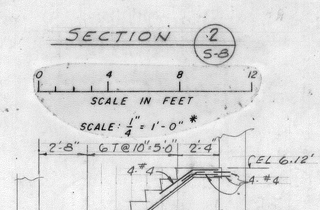


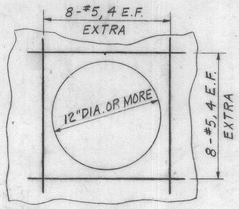
SCALE IN FEET

SCALE: 1" = 1'-0" *

BEAM SCHEDULE

BEAM MARK	B×D	SKETCH @ SUPPORT	SKETCH CLEAR SPAN	STIRRUPS SIZE TYPE	STIRRUPS LEFT	STIRRUPS RIGHT
B1	18×24	4-#8	3-#8, 2-#4	#3	1@12, REM@24	1@12, REM@24
B2	12×18	3-#7	3-#5, 2-#4	#3	1@12, REM@24	1@12, REM@24
B3	8×18	2-#5	2-#5, 2-#5	#3	1@12, REM@24	1@12, REM@24
B4	8×18	2-#6	2-#4, 2-#7	#3	1@12, REM@24	1@12, REM@24





DETAIL OF EXTRA WALL REINFORCEMENT

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

SECTION 2 S-8

SCALE IN FEET

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

SECTION 3 S-8

SCALE IN FEET

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

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2	6-65	E.B.M.	GKT	Revised for Record Dwgs.
1	6-14-63	R.L.D.	C.S.R.	DIVIDING WALL & OPENINGS ADDED

DRAWN BY R.W.Q. & W.H.G.
TRACED BY R.W.Q. & W.H.G.
CHECKED BY J.V.

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. 4/11/63

REG. PROF. ENGR. N.H. NO. 750 — DATE

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

DEER & MARKET STREET

PLANS & SECTIONS

STRUCTURAL

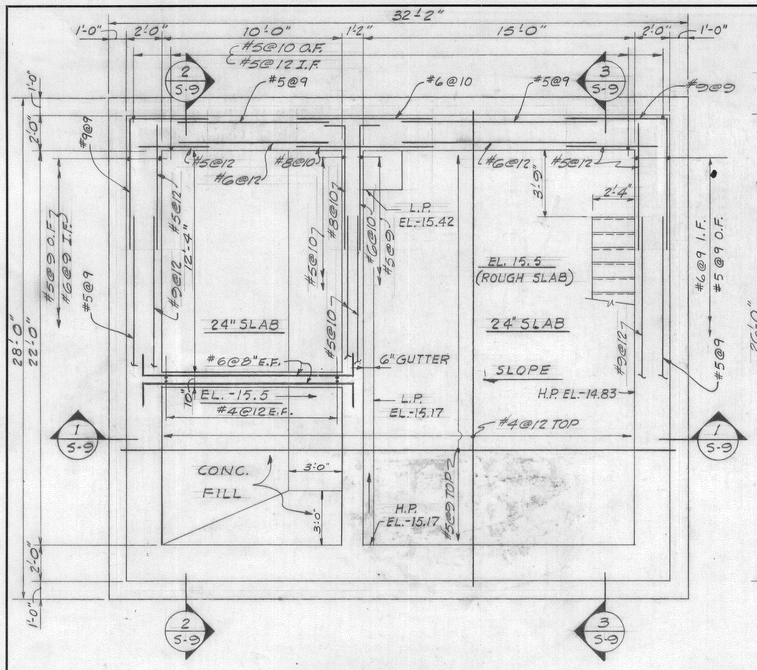
SCALE: AS SHOWN — MARCH, 1963

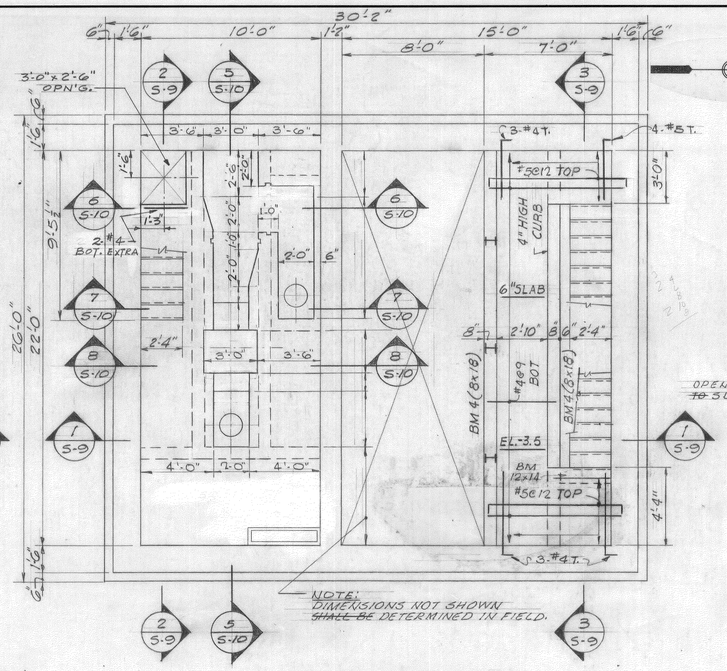
METCALF & EDDY ENGINEERS BOSTON, MASS.

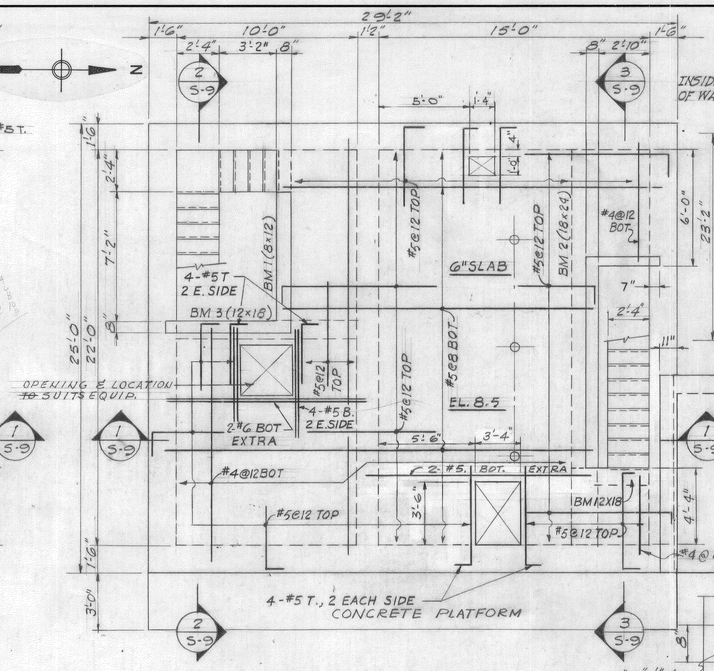
H 36047 1

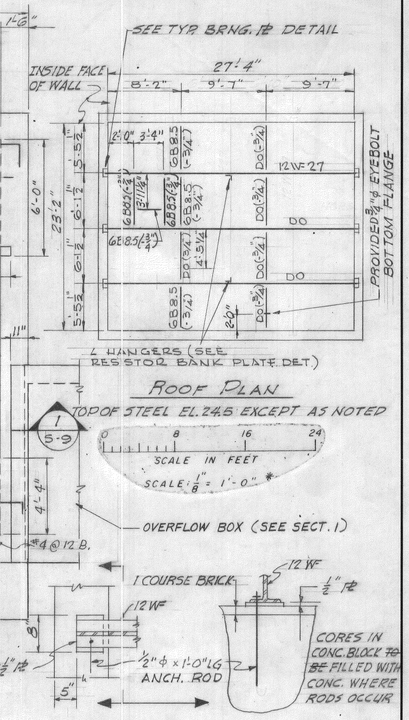
CONTRACT 1963-1 SHEET S-8

B. L. M. INC.



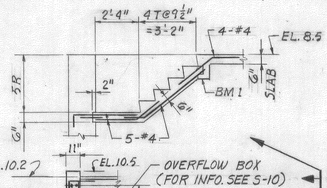






BASEMENT PLAN

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

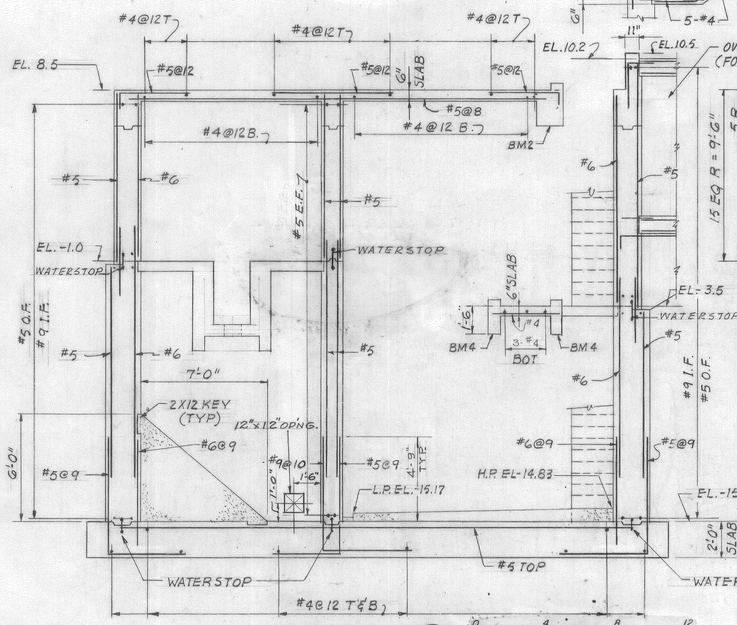


INTERMEDIATE FLOOR PLAN

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

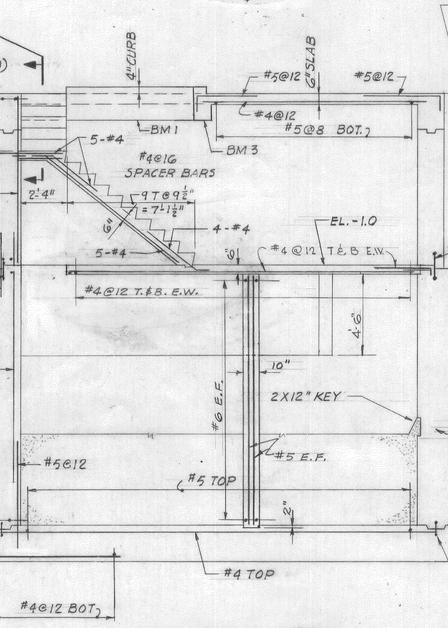
GROUND FLOOR PLAN

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



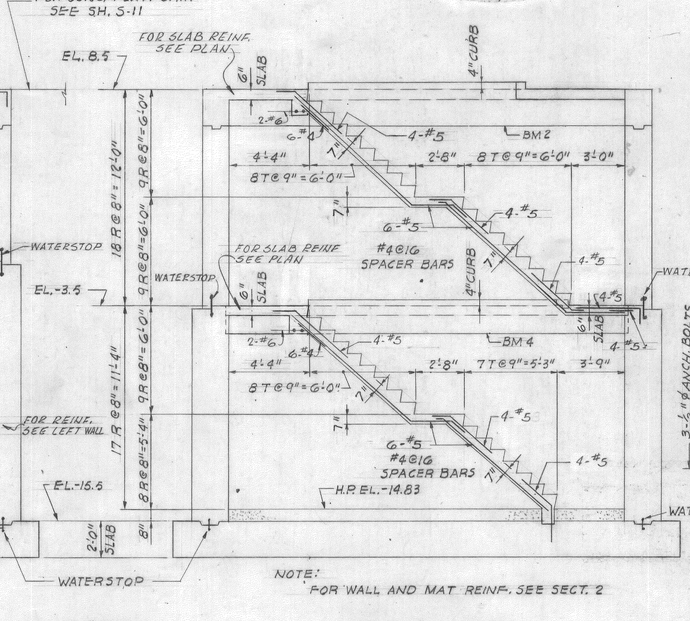
SECTION (1) 5-9

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



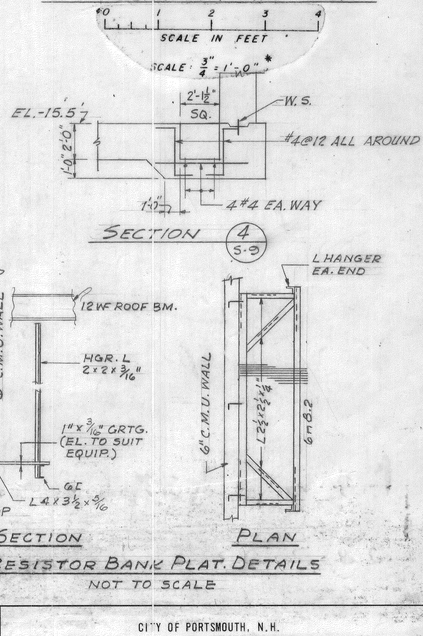
SECTION (2) 5-9

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



SECTION (3) 5-9

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



NOTE:
FOR WALL AND MAT REINF. SEE SECT. 2

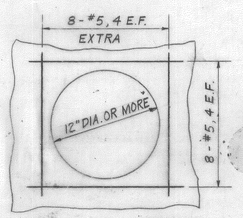
BEAM SCHEDULE

BEAM MARK	B x D	SKETCH (℄ SUPPORT — CLEAR SPAN)	STIRRUPS SIZE TYPE	STIRRUPS LEFT	STIRRUPS RIGHT
BM 1	8x12	2-#5 — 2-#6 — 2-#4 — 2-#5	#3	1@9" REM@24	DO LEFT
BM 2	18x24	3-#8 — 4-#8 — 2-#4 — 3-#8	#3	1@12 REM@24	DO LEFT
BM 3	12x18	2-#6 — 3-#7 — 2-#4 — 2-#6	#3	1@12 REM@24	DO LEFT
BM 4	8x18	2-#6 — 2-#7 — 2-#4 — 2-#6	#3	1@12 REM@24"	DO LEFT

DRAWN BY E.W.S. & A.F.D.
TRACED BY R.W.D. & A.F.D.
CHECKED BY J.V.

REVISION	MADE BY	CHECKED BY	DESCRIPTION
② 6-65	E.B.M.	G.K.T.	Revised for Record Dwgs.
⚠ 5-15-63	R.L.D.	C.S.R.	DIVIDING WALL & OPENINGS ADDED

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.



DETAIL OF EXTRA WALL REINFORCEMENT

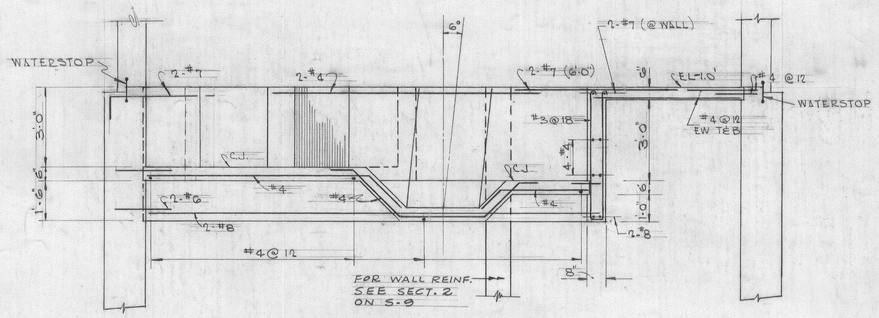
RECORD DRAWING

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 730 — REGISTERED PROFESSIONAL ENGINEER

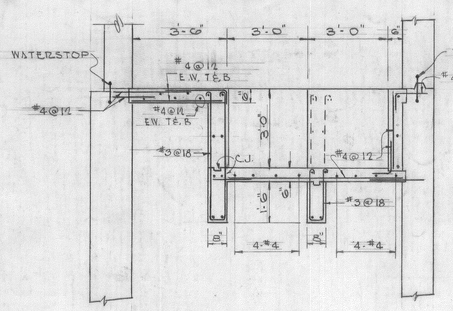
APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. — 4/11/63
REG. PROF. ENGR. N. H. NO. 750 — DATE

CITY OF PORTSMOUTH, N.H.
PUMPING STATION
GATES & MECHANIC STREET
PLANS & SECTIONS
STRUCTURAL
SCALE: AS SHOWN
MARCH, 1963
METCALF & EDDY
ENGINEERS
BOSTON, MASS.
H 36048 1

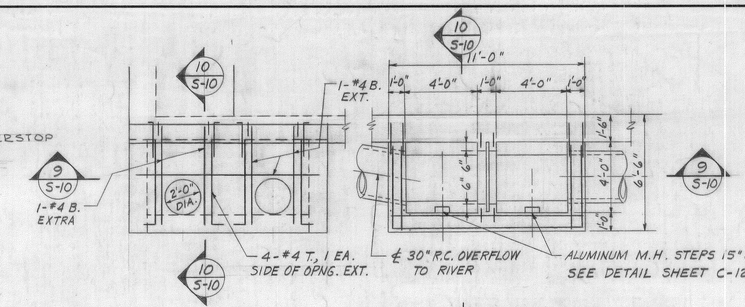
CONTRACT 1963-1 SHEET S-9



SECTION 5 S-9

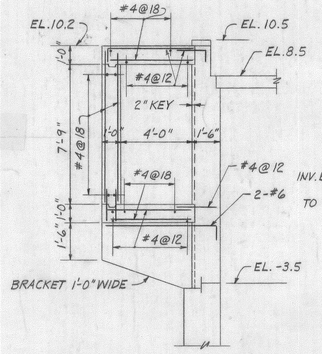


SECTION 6 S-9

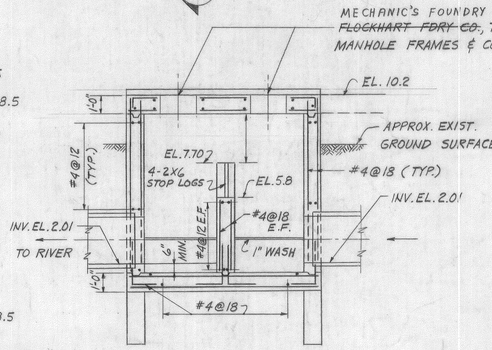


PLAN

10 S-10 SECTIONAL PLAN



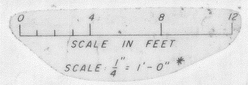
SECTION 10 S-10

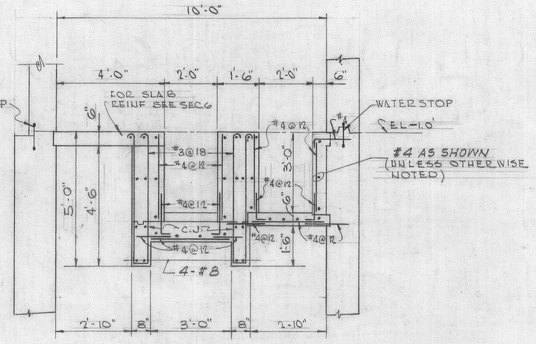


SECTION 9 S-10

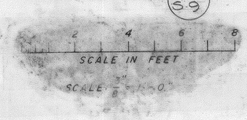
OVERFLOW MANHOLE

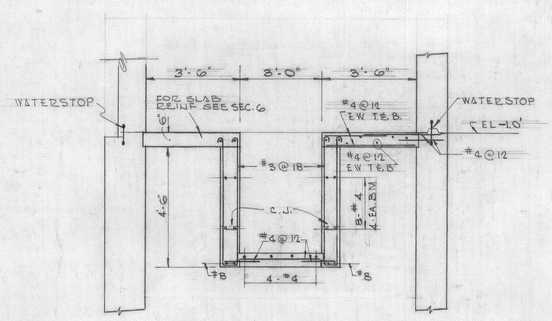
FOR LOCATIONS SEE S-9



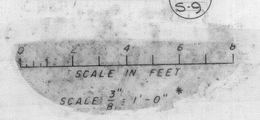


SECTION 7 S-9





SECTION 8 S-9



* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

DRAWN JAC
TRACED JAC
CHECKED ZV

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 4/17/03
REG. PROF. ENGR. N.H. NO. 750 DATE

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

RECORD DRAWING

2	6-65	E.B.M.	GET	Revised for Record Dwgs.
1	5-15-63	R.L.D.	C.S.R.	DIVIDING WALL ADDED
REVISION		MADE BY	CHECKED BY	DESCRIPTION

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

GATES & MECHANIC STREET
SECTIONS & DETAILS

STRUCTURAL

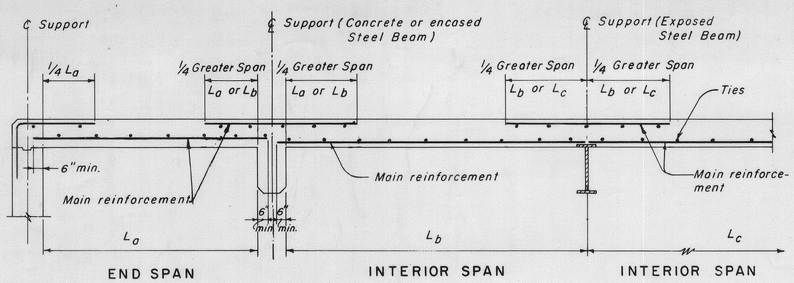
SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

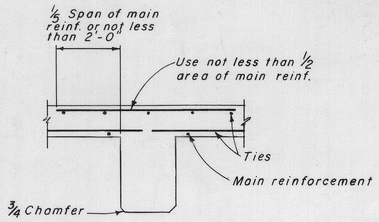
H 36049 1

CONTRACT 1963-1 SHEET S-10

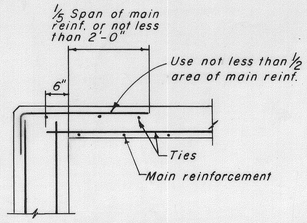
ALDINE-MOSS CO., BOSTON, MASS. RE ORDER NO. M-1143



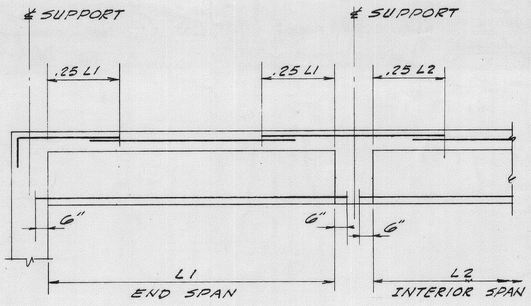
TYPICAL SECTIONS
THRU ONE WAY SLABS
NO SCALE



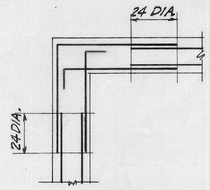
TOP REINFORCING
OVER BEAM PARALLEL TO
MAIN REINFORCEMENT
NO SCALE



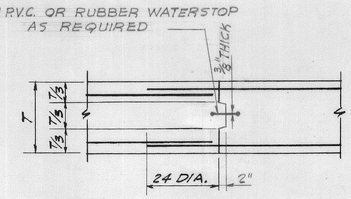
TOP REINFORCING
AT SUPPORTED EDGE
PARALLEL TO MAIN REINFORCEMENT
NO SCALE



TYPICAL BEAM ELEVATION
NO SCALE



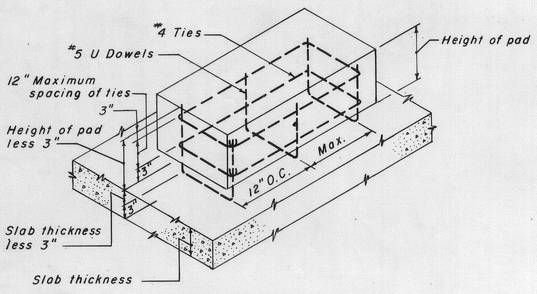
TYP. WALL CORNER REINF.
PLACEMENT DETAIL
NO SCALE



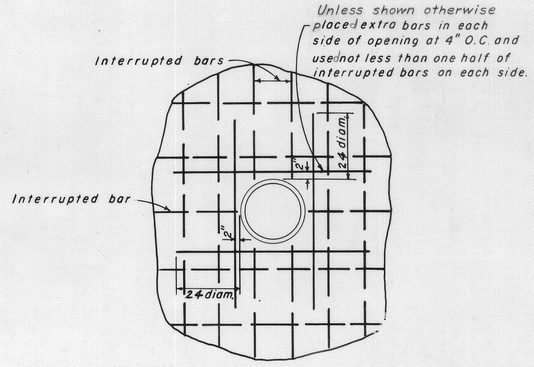
UNLESS SHOWN OTHERWISE
TYP. CONST. JOINT
IN WALLS & SLABS
NO SCALE

GENERAL NOTES:

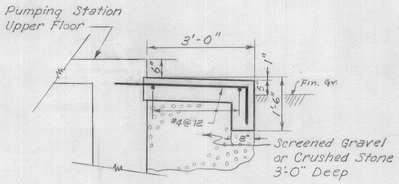
1. ALL CONCRETE ~~SHALL BE~~ IS CLASS A, HAVING A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3000 LBS PER SQ. INCH AT THE END OF 28 DAYS, UNLESS OTHERWISE NOTED.
2. ALL CONCRETE CONSTRUCTION AND REINFORCING BAR DETAILS ~~SHALL~~ CONFORMS TO THE LATEST A.C.I. CODE AND MANUAL.
3. CONTINUOUS REINFORCEMENT ~~SHALL BE~~ IS LAPPED 24 BAR DIAMETERS AT SPLICES, WITH SPLICES OF ADJACENT BARS STAGGERED.
4. VERTICAL REINFORCEMENT IN COLUMN SPLICES ~~SHALL BE~~ IS LAPPED 20 BAR DIAMETERS.
5. IN BEAMS AND GIRDERS PROVIDED #8 SPACER BARS AT 5'-0" ON CENTER WHERE TWO LAYERS OF STEEL ~~ARE~~ WERE USED.
6. TIE STEEL ~~SHALL BE~~ IS AS NOTED ON DRAWINGS OR #4 @ 16.
7. IN CONCRETE BEAMS AND GIRDERS DEEPER THAN 20 INCHES THE CONTRACTOR ~~SHALL~~ PROVIDED CONTINUOUS #5 BARS PLACED AT MID DEPTH OF THE MEMBER ON EITHER FACE.
8. THE CONTRACTOR ~~SHALL~~ PROVIDED EXTRA BARS ALONG EACH SIDE OF OPENINGS LARGER THAN 8 INCHES AS INDICATED BY TYPICAL DETAIL AS SHOWN ON THE DRAWINGS.
9. MAIN REINFORCING STEEL ~~SHALL BE~~ WAS PLACED AND MAINTAINED AT THE MINIMUM CLEAR DISTANCES FROM SURFACE OF CONCRETE AS SHOWN IN TABLE BELOW. TIES, STIRRUPS AND SPACER BARS #4 AND SMALLER ~~ARE~~ WERE NOT CONSIDERED AS MAIN REINFORCING STEEL, AND MAY PROJECT INTO THE MINIMUM CLEAR DISTANCES GIVEN IN TABLE.
10. EXPOSED CONCRETE EDGES ~~SHALL HAVE~~ HAD A 3/4" CHAMFER.
11. AT LEAST TWO HOURS ~~SHALL~~ ELAPSED AFTER DEPOSITING CONCRETE IN PIERS AND COLUMNS BEFORE DEPOSITING IN BEAMS OR SLABS SUPPORTED THEREON.
12. GROUT AS INDICATED ON THE PLANS, ~~SHALL~~ CONSISTED OF ONE PART PORTLAND CEMENT TO TWO PARTS SAND BY VOLUME WITH SUFFICIENT WATER FOR A WORKABLE MIXTURE.
13. CONSTRUCTION JOINTS IN FLOORS ~~SHALL BE~~ WERE LOCATED NEAR THE MIDDLE OF THE SPANS OF SLABS, BEAMS OR GIRDERS, UNLESS A BEAM INTERSECTED A GIRDER AT THIS POINT IN WHICH CASE THE JOINT IN THE GIRDERS ~~SHALL BE~~ WAS OFFSET A DISTANCE EQUAL TO TWICE THE WIDTH OF THE BEAM IN THIS CASE PROVISION ~~SHALL BE~~ WAS MADE FOR SHEAR BY THE USE OF INCLINED REINFORCEMENT.
14. THE USE OF CONSTRUCTION JOINTS AT LOCATIONS NOT INDICATED ~~SHALL BE~~ WAS AS APPROVED BY THE ENGINEERS.
15. THE CONTRACTOR ~~SHALL~~ PROVIDED SUPPORT FOR WALLS WITH FILL ON ONE SIDE BY SHORING OR PLACEMENT OF EARTH. AS APPROVED BY THE ENGINEER UNTIL THE FIRST FLOOR SLAB ~~IS~~ WAS IN PLACE.
16. ALL CONCRETE WALLS ~~SHALL HAVE~~ HAD VERTICAL CONTROL OR CONSTRUCTION JOINTS SPACED NOT MORE THAN 30 FT. - 0 IN. APART. CONSTRUCTION JOINTS ~~SHALL BE~~ WERE SPACED NOT MORE THAN 60 FT. - 0 IN. APART.
17. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
18. ALLOWABLE SOIL BEARING VALUE OF 10 TONS PER SQ. FT. (ROCK)
19. ALL STRUCTURAL STEEL ~~SHALL BE~~ WAS DETAILED AND ERECTED IN ACCORDANCE WITH THE LATEST A.I.S.C. SPECIFICATIONS FOR BUILDING CONSTRUCTION.
20. FIELD AND SHOP WELDING ~~SHALL BE~~ WERE IN ACCORDANCE WITH THE "CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY.
21. FIELD CONNECTIONS UNLESS NOTED SPECIFICALLY ~~SHALL BE~~ WERE MADE BY 3/4" HIGH STRENGTH BOLTS: BRACING AND BRIDGING MEMBERS ~~MAY BE~~ WERE CONNECTED BY UNFINISHED BOLTS, USING SUITABLE LOCK WASHERS.
22. SHOP CONNECTIONS, UNLESS NOTED SPECIFICALLY ~~SHALL BE~~ WERE RIVETED OR WELDED.
23. THE CONTRACTOR ~~SHALL~~ FURNISHED AND INSTALLED ONE WASHER AND TWO HEX NUTS WITH ALL ANCHOR BOLTS. THE SECOND HEX NUT ~~SHALL BE~~ WAS INSTALLED TO LOCK THE FIRST IN AN APPROVED MANNER.
24. ELEVATIONS OF TOP OF STEEL NOTED ON DRAWINGS REFERS TO TOP OF FLANGE.
25. PROVIDED TEMPORARY TIES AND BRACING WHERE NECESSARY DURING CONSTRUCTION, AND UNTIL THE BUILDING ~~IS~~ WAS COMPLETED.
26. PROVIDED WIRE TIES AT 1'-4" O.C. EMBEDDED HORIZONTALLY AND VERTICALLY IN CONCRETE WALL SURFACES, ~~TO BE~~ FACED WITH BRICK - AS INDICATED ON ARCHITECTURAL DRAWINGS OR AS REQUIRED.
27. THE CONTRACTOR ~~SHALL BE~~ WAS RESPONSIBLE ~~TO~~ FOR PROTECTION AGAINST FLOTATION OR UPLIFT
28. ALL CONCRETE WALLS, SLABS AND BEAMS ~~SHALL BE~~ WERE BUILT SO AS TO MINIMIZE THE EFFECT ON CONCRETE SHRINKAGE. PREFERABLY BY PLACING SLABS IN CHECKER BOARD STYLE, OR SKIPPING SECTIONS THAT ~~ARE TO BE~~ WERE PLACED AFTER THE EARLIER PLACED CONCRETE ~~HAS~~ HAD SUFFICIENT TIME TO CURE.
29. ALL CONCRETE STAIRS ~~TO~~ HAVE ALUM NOSING - LENGTH 4" LESS THAN STAIR WIDTH.
30. WATERSTOPS ~~SHALL BE~~ WERE INSTALLED IN CONSTRUCTION JOINTS AT THE SEWAGE TREATMENT PLANT AS SHOWN. AT THE PUMPING STATIONS, ALL CONSTRUCTION JOINTS SHOWN BELOW EL. 6.5 ON THE DRAWINGS OR INSTALLED FOR THE CONTRACTOR'S CONVENIENCE IN PLACING CONCRETE ~~SHALL BE~~ WERE PROVIDED WITH WATERSTOPS.



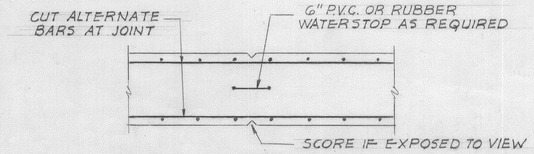
TYPICAL EQUIPMENT PAD DETAIL
NO SCALE



ROUND OR RECTANGULAR
OPENINGS LARGER THAN 8 in.
NO SCALE



TYPICAL PLATFORM DETAIL
SCALE: 1/2" = 1'-0"*



TYP. CONTROL JT IN WALL
NO SCALE

DRAWN BY R.W.S.
TRACED BY R.W.S.
CHECKED BY J.V.

CLEAR CONCRETE COVER-REINFORCEMENT

MEMBER	EXPOSED TO AIR	WEATHER	AIR OVER LIQUID	EARTH	LIQUID	SEA WATER
BOT. OF FOOTINGS & FDN. SLABS ON EARTH	-	-	-	3	3	4
WALLS, BEAMS & GIRDERS	1½	2	2	2	2	3
COLUMNS	1½	3	2	2	2	3
TOP & BOT. FLOOR SLABS	¾	1½	2	3⊕	2	3
TOP & BOT. ROOF SLABS	¾	1½	2	2▲	2	-

⊕ 2" WHEN PLACED ON COMPACTED FILL
▲ EARTH ON TOP OF SLAB
* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION.

THE STATE OF NEW HAMPSHIRE
JOHN S. BETHEL JR.
No. 750
REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. 11/14/63
REG. PROF. ENGR. N.H. NO. 750 DATE

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2	6-65	E.B.M.	G.K.T.	Revised for Record Dwgs.
1	5-14-63	R.L.D.	C.S.R.	NOTE No. 31 REMOVED

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT AND PUMPING STATIONS

STRUCTURAL STANDARD DETAILS

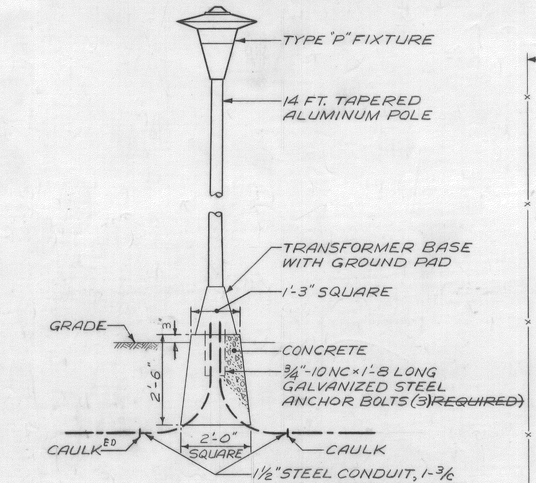
STRUCTURAL

SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

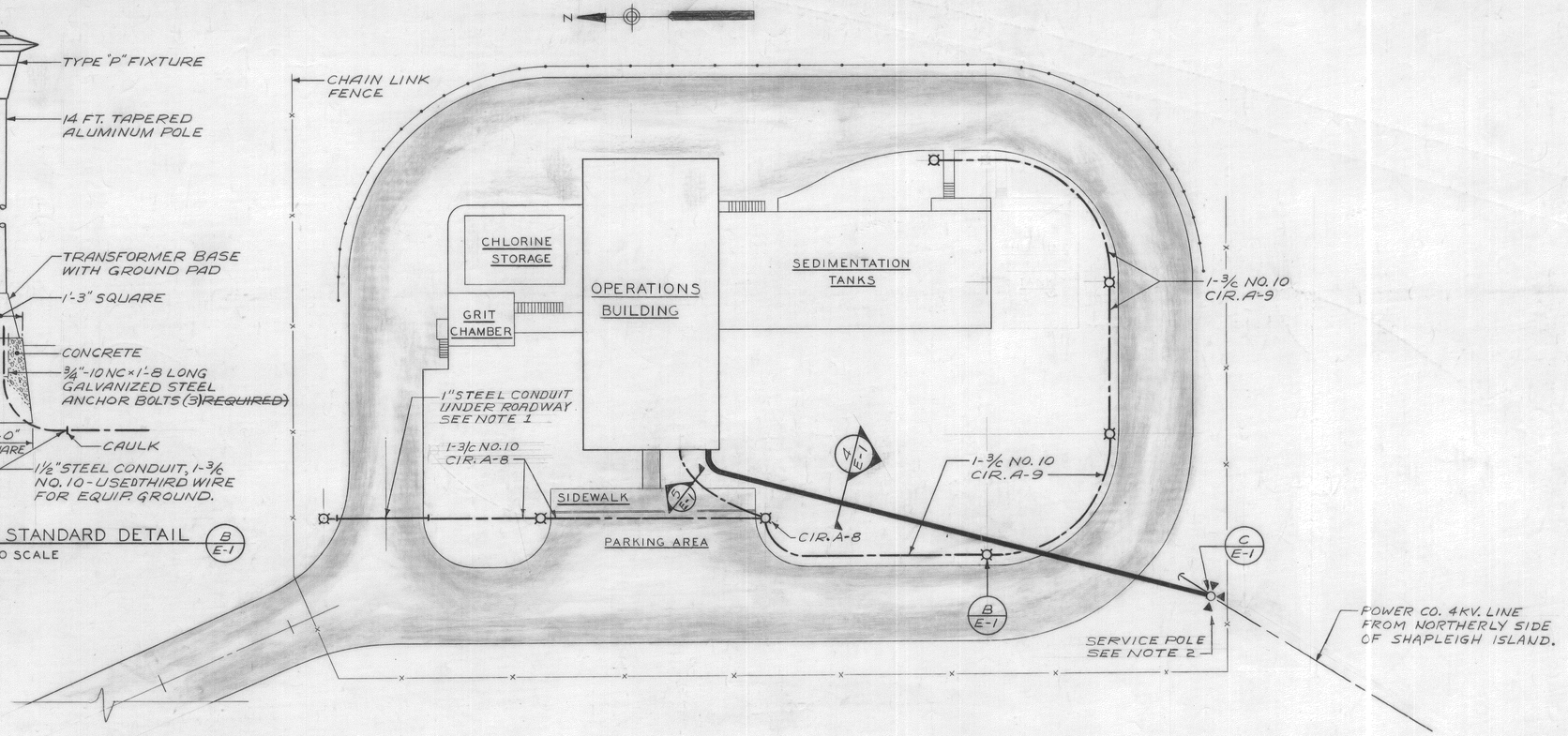
H 36050 1

CONTRACT 1963-1 SHEET S-11

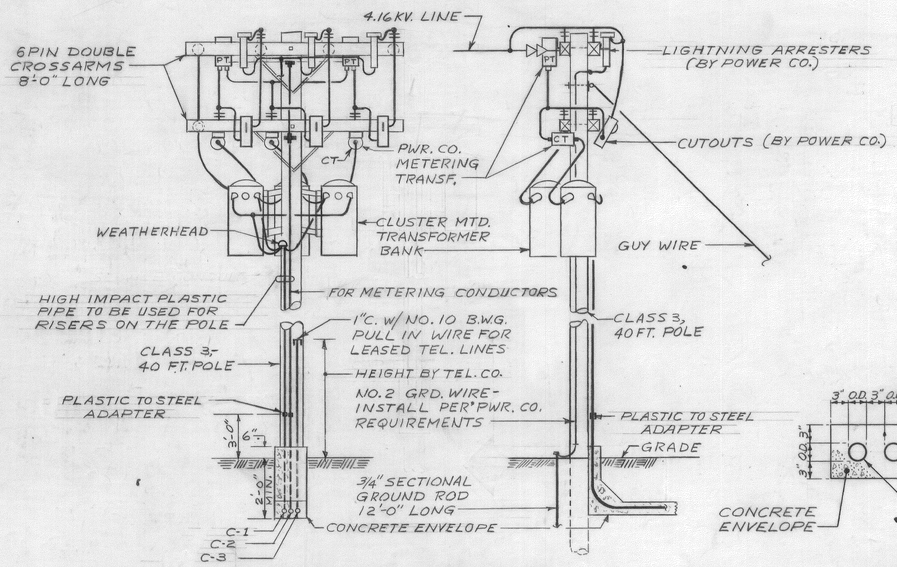


ROADWAY LIGHTING STANDARD DETAIL (B / E-1)

NO SCALE



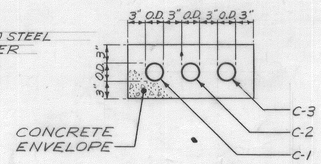
NOTE: THE NEW HAMPSHIRE ELECTRIC CO. ~~WILL~~ FURNISHED THE 4.16 KV LINE & METERING TRANSFORMERS FOR A PRIMARY METERED SERVICE. ALL OTHER EQUIPMENT WAS ~~SHALL BE~~ FURNISHED & INSTALLED BY THE CONTRACTOR ACCORDING TO ALL POWER CO. REQUIREMENTS.



SERVICE POLE DETAIL (C / E-1)

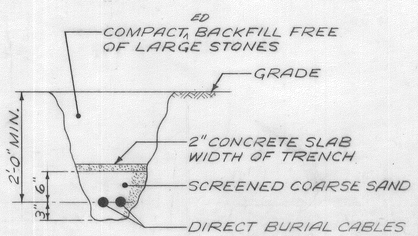
NO SCALE

A SIMILAR PRIMARY METERED SERVICE WAS ~~SHALL BE~~ INSTALLED AT THE GATES & MECHANIC ST. PUMPING STATION.



SECTION (4 / E-1)

NO SCALE



SECTION (5 / E-1)

NO SCALE

NOTES

1. STEEL CONDUIT RUNNING UNDERGROUND ~~TO BE~~ GIVEN TWO COATS OF ASPHALTUM PAINT.
2. DISTANCE FROM SERVICE POLE TO THE BUILDING ~~SHALL~~ DOES NOT EXCEED 150 FT.
3. FOR SYMBOLS AND GENERAL NOTES SEE SHEET E-8.

20 0 20 40

SCALE IN FEET

SCALE: 1" = 20'-0"

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

RECORD DRAWING

DIVISION	MADE BY	CHECKED BY	DESCRIPTION
6-63	E.B.M.	G.H.T.	Revised for Record Dwg.
5/17/63	C.E.D.	EDV. G.H.T.	REMOVED CHLORINE CONTACT TANK & RELOCATED FENCE AND ROADWAY, LIGHTING STANDARD.

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

SITE PLAN

ELECTRICAL

SCALE: 1"=20'

MARCH, 1963

ENGINEERS
BOSTON, MASS.

H
E-606
1

THE STATE OF NEW HAMPSHIRE JOHN E. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

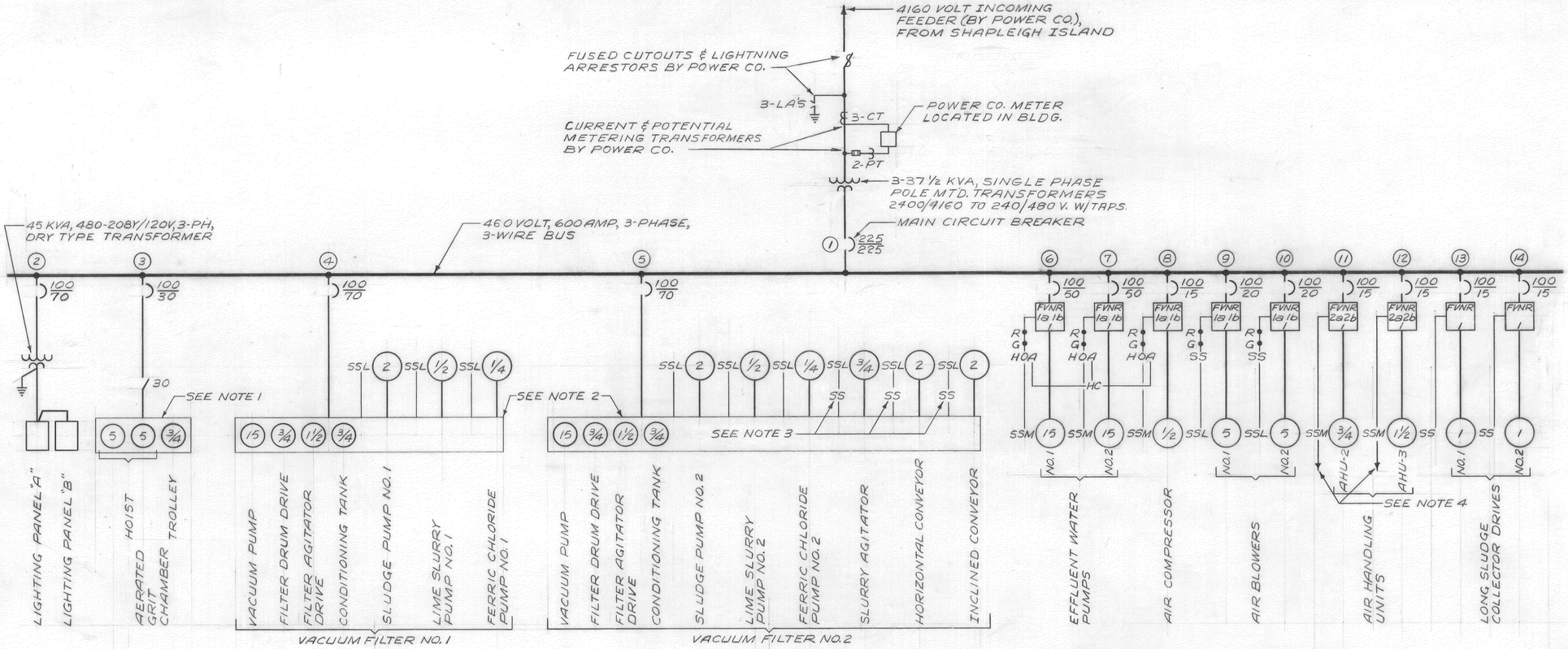
John E. Bethel Jr. 4/1/63

REG. PROF. ENGR. N.H. NO. 750 DATE

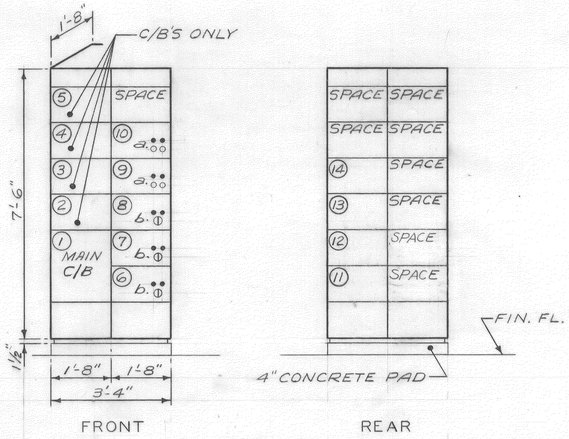
DRAWN BY EDV
TRACED BY C.E.D.
CHECKED BY EDV GHT

CONTRACT 1963-1 SHEET E-1

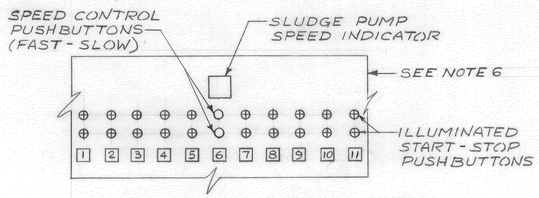
#5263



SINGLE LINE DIAGRAM



POWER DISTRIBUTION CENTER
NO SCALE



VACUUM FILTER CONTROL PANEL NO.1
PANEL NO.2 SIMILAR
NO SCALE

1. VACUUM PUMP
2. FILTER DRUM DRIVE
3. FILTER AGITATOR DRIVE
4. CONDITIONING TANK DRIVE
5. SLUDGE PUMP
6. SLUDGE PUMP
7. LIME SLURRY PUMP
8. FERRIC CHLORIDE PUMP
9. SLURRY AGITATOR
10. HORIZONTAL SLUDGE CONVEYOR
11. INCLINED SLUDGE CONVEYOR

a. START-STOP PUSHBUTTON W/RED & GREEN IND. LIGHTS
b. HAND-OFF-AUTO SELECTOR SW. W/RED & GREEN IND. LIGHTS

DRAWN BY E.D.V.
TRACED BY C.E.D.
CHECKED BY E.M.S. C.J.S.

NOTES

1. MOTOR STARTER AND CONTROLS FOR HOIST FURNISHED BY MANUFACTURER OF DRIVEN EQUIPMENT.
2. MOTOR STARTER, CONTROL STATIONS, CONTROL DEVICES, ETC., ARE FURNISHED WITH DRIVEN EQUIPMENT. ELECTRICAL CONTRACTOR ~~WILL~~ PROVIDE ALL INTERCONNECTING CONDUIT & WIRE.
3. LOCATED IN FILTER CONTROL PANEL NO.1
4. ALL CONTROL DEVICES AND WIRE (EXCEPT SSM PUSHBUTTON), ~~WILL BE~~ WERE FURNISHED BY VENTILATING CONTRACTOR.
5. FOR SYMBOLS AND GENERAL NOTES SEE SHEET E-8.
6. ALL EQUIPMENT ON FILTER CONTROL PANELS FURNISHED BY FILTER MANUFACTURER.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
1 6-65	EBm	GKT	Revised for Record Dwgs

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

SINGLE LINE DIAGRAM

ELECTRICAL

SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

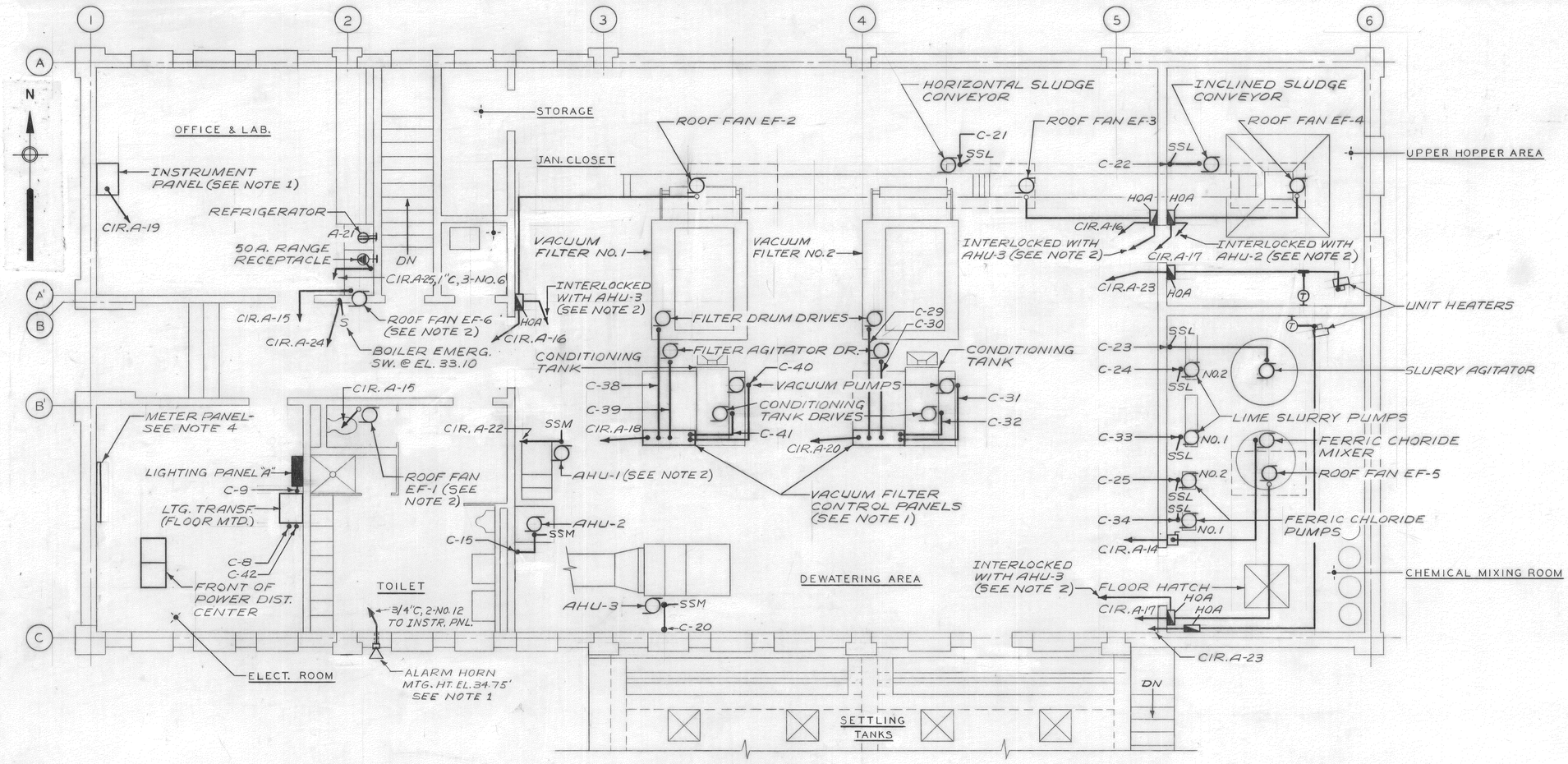
H 36061

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED FOR METCALF & EDDY, ENGINEERS
John S Bethel Jr 4/17/63
PROF. ENGR. N.H. NO. 750 DATE

CONTRACT 1963-1 SHEET E-2

#5263



FIRST FLOOR PLAN

WIRE & CONDUIT SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CABLE NO.	CABLE SIZE	REMARKS
C-1	3	3	4/0	FEEDER
C-2	1¼	—	—	POWER CO'S. METER LEADS
C-3	1	—	—	LEASED TELEPHONE WIRES
C-4	1	3	10	POWER
		2	19/25	CONTROL
C-5	1	3	10	POWER
		2	19/25	CONTROL
C-6	3/4	3	12	POWER
		2	19/25	CONTROL
C-7	1	6	19/25	CONT.-EFF. WTR. PP. & AIR COMPR.
C-8	1¼	3	4	TRANS. PRIMARY LEADS
C-9	2	4	1/0	LIGHTING PANEL "A" & "B"
C-10	1	3	12	POWER
		3	19/25	CONTROL
C-11	1	3	12	POWER
		3	19/25	CONTROL
C-12	3/4	3	10	POWER - GRIT CHAMBER MONORAIL
C-13	1½	3	4	POWER
C-14	1½	3	4	POWER
C-15	3/4	3	12	POWER - AHU - 2
		2	19/25	CONTROL
C-18	1	3	12	POWER
		3	19/25	CONTROL
C-19	1	3	12	POWER
		3	19/25	CONTROL
C-20	3/4	3	12	POWER - AHU - 3
		2	19/25	CONTROL

CONDUIT NO.	CONDUIT SIZE	CABLE NO.	CABLE SIZE	REMARKS
C-21	1	3	12	POWER
		3	19/25	CONTROL
C-22	1	3	12	POWER
		3	19/25	CONTROL
C-23	1	3	12	POWER
		3	19/25	CONTROL
C-24	1	3	12	POWER
		3	19/25	CONTROL
C-25	1	3	12	POWER
		3	19/25	CONTROL
C-26	3/4	2	19/25	TACHOMETER LEADS
C-27	3/4	3	19/25	SPEED CONTROL LEADS
C-28	1	3	12	POWER
		3	19/25	CONTROL
C-29	3/4	3	12	POWER
C-30	3/4	3	12	POWER
C-31	3/4	3	10	POWER
C-32	3/4	3	12	POWER
C-33	1	3	12	POWER
		3	19/25	CONTROL
C-34	1	3	12	POWER
		3	19/25	CONTROL
C-35	1	3	12	POWER
		3	19/25	CONTROL
C-36	3/4	3	19/25	SPEED CONTROL LEADS
C-37	3/4	2	19/25	TACHOMETER LEADS
C-38	3/4	3	12	POWER
C-39	3/4	3	12	POWER
C-40	3/4	3	10	POWER
C-41	3/4	3	12	POWER
C-42	3/4	1	8	GROUNDED WIRE

CONDUIT NO.	CONDUIT SIZE	CABLE NO.	CABLE SIZE	REMARKS
C-43	1	9	19/25	CONTROL, SLURRY AGITATOR & 2 CONVEYORS

NOTES

1. EQUIPMENT NOT FURNISHED UNDER ELECTRICAL WORK.
2. CONTROLS AND CONTROL WIRING FURNISHED BY HEATING & VENTILATING CONTRACTOR.
3. FOR SYMBOLS AND GENERAL NOTES SEE SHEET E-8.
4. A ¾" MARINE PLYWOOD PANEL, 3' x 4', was ~~SHALL BE~~ MOUNTED ON UNISTRUT SUPPORTS FOR MOUNTING OF NEW HAMPSHIRE ELEC. CO. METERING EQUIPMENT. THE PANEL was ~~SHALL BE~~ GIVEN 2-COATS OF PAINT TO MATCH ROOM COLOR PRIOR TO MOUNTING OF EQUIPMENT.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
(1) 6-65	E.B.M.	.SET	Revised for Record Dwgs.

SCALE IN FEET (0, 4, 8, 12)

SCALE: ¼" = 1'-0" *

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

THE STATE OF NEW HAMPSHIRE · JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. — REG. PROF. ENGR. N.H. NO. 750 — 4/17/63 DATE

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING

FIRST FLOOR POWER PLAN

ELECTRICAL

SCALE: AS SHOWN , MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36062 1

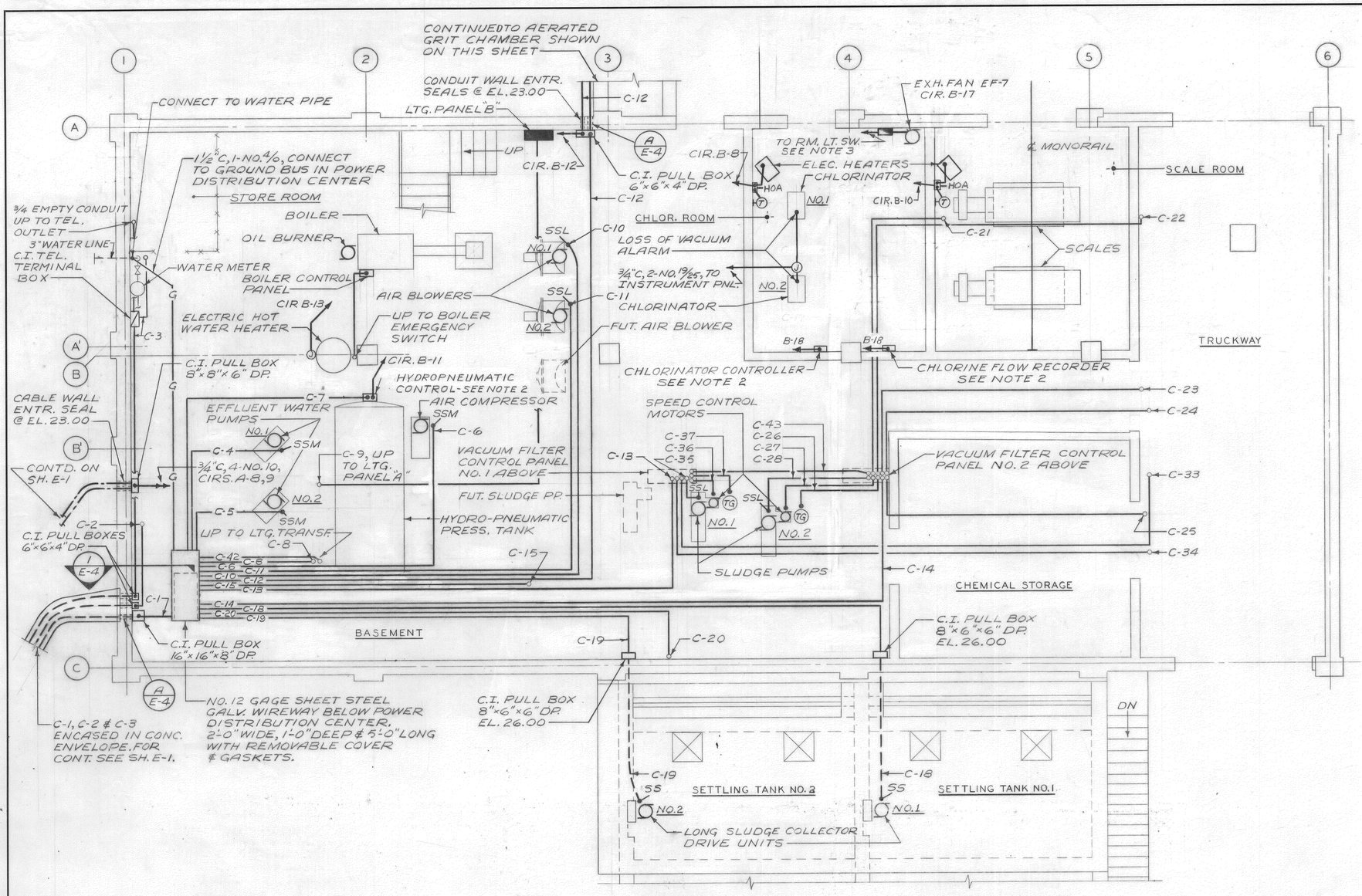
DRAWN BY E.D.V

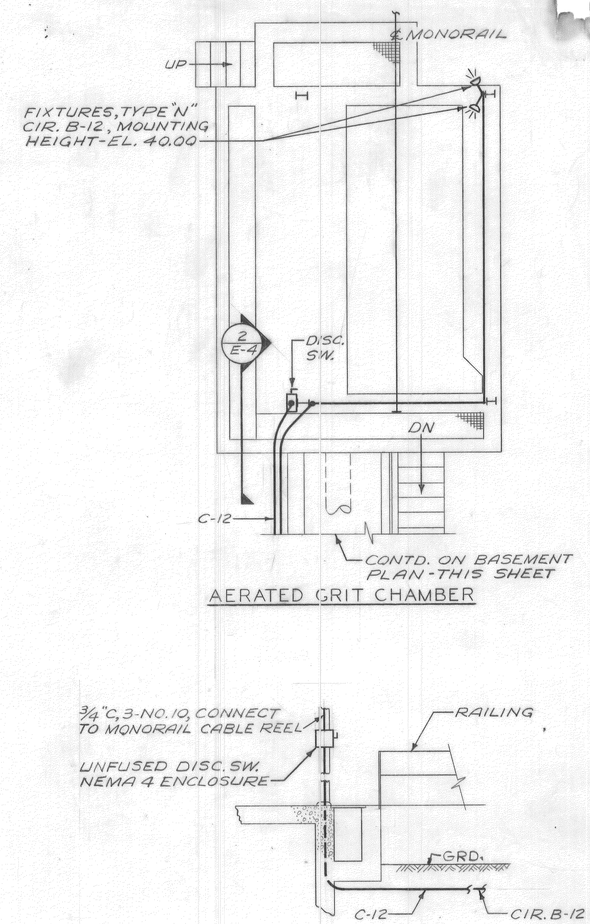
TRACED BY C.E.D.

CHECKED BY C.H.B. CBS

CONTRACT 1963-1 SHEET E-3

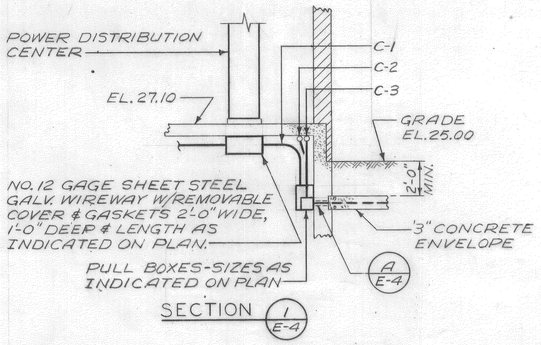
Portsmouth Str Dpt #6263



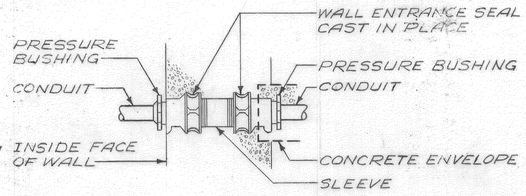


AERATED GRIT CHAMBER

SECTION 2/E-4 NO SCALE



SECTION 1/E-4



CONDUIT WALL ENTRANCE DETAIL A/E-4 NO SCALE

NOTES

1. FOR SYMBOLS & GENERAL NOTES SEE SHEET E-B.
2. EQUIPMENT NOT FURNISHED UNDER ELECTRICAL WORK.
3. CONNECT EXH. FAN TO CHLORINATION RM. AND SCALE ROOM DOUBLE POLE LIGHT SWITCHES, WIRED SO THAT FAN OPERATES WHEN LIGHTS ARE ENERGIZED.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
1	6-65	E.B.M.	G.E.T. Revised for Record Dwgs.

CITY OF PORTSMOUTH, N.H.

SEWAGE TREATMENT PLANT

OPERATIONS BUILDING.
BASEMENT POWER PLAN

ELECTRICAL

SCALE: AS SHOWN MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 3G063 1

DRAWN BY E.D.V.
TRACED BY C.E.D.
CHECKED BY E.M.B. G.E.T.

THE STATE OF NEW HAMPSHIRE JOHN E. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

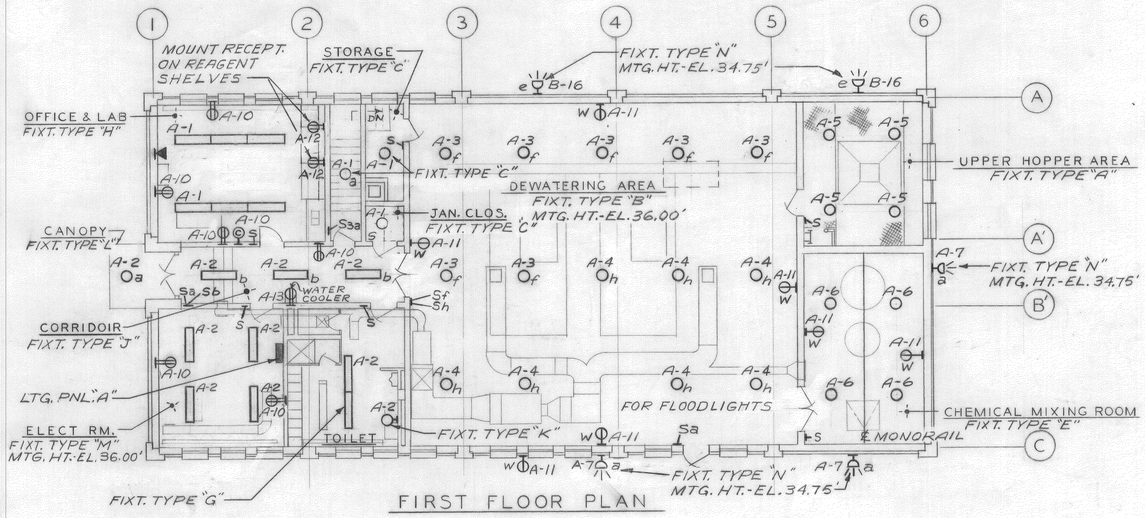
0 4 8 12
SCALE IN FEET
SCALE: 1/4" = 1'-0" *

APPROVED
FOR METCALF & EDDY, ENGINEERS
John E. Bethel Jr. 4/1/63
REG. PROF. ENGR. N.H. NO. 750 DATE

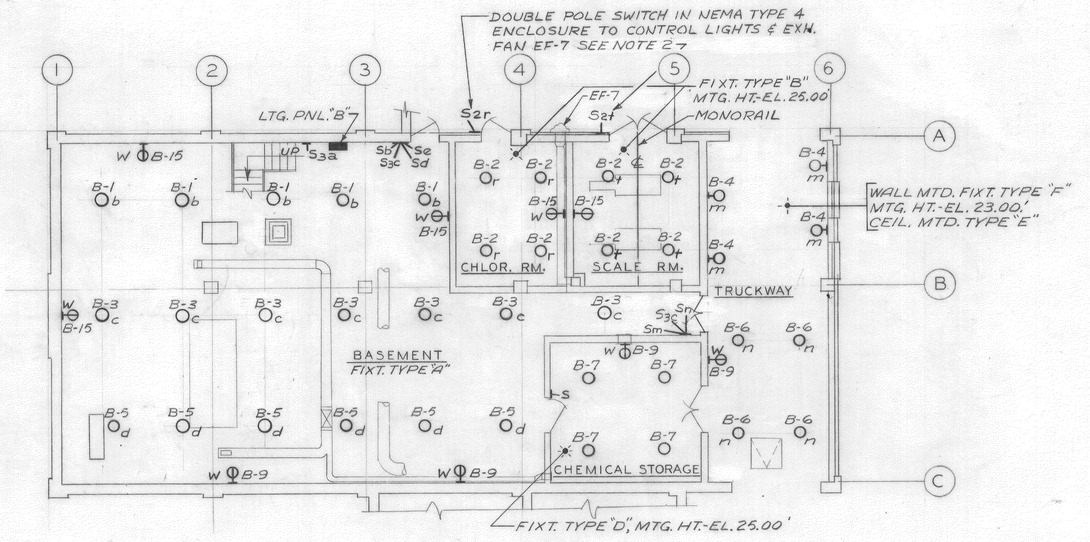
* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

CONTRACT 1963-1 SHEET E-4

#5263



FIRST FLOOR PLAN



BASEMENT PLAN

N

LIGHTING PANEL "A"

SERVICE - 120/208 VOLT, 3-PHASE, 4-WIRE
MAIN - 100A. CKT. BKR. & SUBFEED TO PANEL "B"
BRANCHES - CIRCUIT BREAKERS
CABINET - SURFACE MTD. W/ LOCK & KEYS

PANEL SCHEDULE

CIR. NO.	EQUIPMENT DESIGNATION	H.P.	K.V.A.	BRANCH CIRCUITS FRAME AMPS.	TRIP AMPS.	POLES
1	LTG:-OFFICE & LAB, STAIRS		1.65	50	20	1
2	CLOSET & JAN. CLOSET, ELECT. RM., CORRIDOR, TOILET & CANOPY		1.17			
3	DEWATERING AREA		1.40			
4	DEWATERING AREA		1.40			
5	UPPER HOPPER		0.80			
6	CHEM. MIXING ROOM		1.20			
7	FLOODLIGHTS		1.50			
8	ROADWAY		0.75			
9	ROADWAY		1.00			
10	RECEPT.-ELECT. RM. & OFFICE		0.90			
11	DEWATERING AREA & CHEM. MIXING RM.		0.90			
12	LAB BENCH		0.60			
13	WATER COOLER	1/4	0.67			
14	FERRIC CHLOR. MIXER	1/3	0.83			
15	ROOF FANS EF-1, EF-6	1/3	0.93			
16	EF-2, EF-3	1/3	1.00			
17	EF-4, EF-5	1/3	0.98			
18	VAC. FILTER CONT. PNL.	1/10	0.20			
19	INSTRUMENT PANEL		0.20			
20	VAC. FILTER CONT. PNL		0.20			
21	REFRIGERATOR	1/3	0.83			
22	AIR HANDLING UNIT AHU-1	1/4	0.67			
23	UNIT HEATERS (2)	1/15	0.20			
24	BOILER	1/3	0.83			
25	RANGE		9.86	100	50	2
26	SPACE FOR 100A.F. 2-P. BRKR.			—	—	—
27	SPARE			50	20	1
28						
29						
30						
31						
32						

LIGHTING FIXTURE SCHEDULE

TYPE	MFR. & CATALOG NO.	LAMP NO	LAMP TYPE	** MOUNT.	REMARKS
A	BENJAMIN 6552	1	200W. INCAND.	CEILING	VAPORTIGHT
B	6502	1	200W. INCAND.	PENDENT	VAPORTIGHT
C	C-1802	1	150W. INCAND.	CEILING	RLM
D	6503	1	300W. INCAND.	PENDENT	VAPORTIGHT
E	6553	1	300W. INCAND.	CEILING	VAPORTIGHT
F	RUSSEL & STROLL 6254	1	300W. INCAND.	WALL	VAPORTIGHT
G	LIGHTOLIER 10743	2	40W. FLUOR.	CEILING	
H	10745	4	40W. FLUOR.	CEILING	
J	10741	2	40W. FLUOR.	CEILING	
K	PASS & SEYMOUR AL9236	1	75W. INCAND.	WALL	
L	McPHILBEN 43-88	2	100W. INCAND.	SURFACE	VAPORTIGHT
M	DAYBRITE 40211	2	40W. FLUOR.	PENDENT	
N	GENERAL ELECTRIC MF-400	1	400W. MERCURY	WALL	FLOODLIGHT
P	GENERAL ELECTRIC-C708G049	1	250W. MERCURY	SEE DETAIL SHEET E-1	SEE NOTE 1 *

NOTES

*1. PMA-115 LUMINAIRES WITH 250 WATT COLOR-CORRECTED MERCURY VAPOR LAMP.

**2. MOUNTING HEIGHT OF PENDENT AND WALL MOUNTED FIXTURES INDICATED ON DRAWINGS.

LIGHTING PANEL "B"

SERVICE - 120/208 VOLT, 3-PHASE, 4-WIRE
MAIN - 100 A. CIRCUIT BREAKER
BRANCHES - CIRCUIT BREAKERS
CABINET - SURFACE MTD. W/LOCK & KEYS

PANEL SCHEDULE

CIR. NO.	EQUIPMENT DESIGNATION	H.P.	K.V.A.	BRANCH CIRCUITS FRAME AMPS.	TRIP AMPS.	POLES
1	LTG.- BASEMENT		1.00	50	20	1
2	CHLOR. & SCALE RM'S.		1.60			
3	BASEMENT		1.40			
4	TRUCKWAY		1.20			
5	BASEMENT		1.20			
6	TRUCKWAY		1.20			
7	CHEMICAL STOR		1.20			
8	ELECT. HTR.-CHLOR. RM.		2.00			
9	RECEPT.-BSMT., CHEMICAL STOR., & TRUCKWAY		0.60			
10	ELECT. HTR.- SCALE RM.		1.50			
11	HYDROPNEUMATIC CONT.		0.20			
12	FLOODLIGHTS- (AERATED GRIT CHAMB.)		1.00			
13	HOT WATER HEATER		2.50			2
14	SPACE FOR 2-POLE BKR.		—	—	—	—
15	RECEPT.- BASEMENT, CHLOR. & SCALE RM'S.		0.75	50	20	1
16	FLOODLIGHTS		1.00			
17	EXHAUST FAN EF-7	1/4	0.67			
18	CHLORINATOR CONTROLLER AND CHLORINE FLOW RECORDER	-	-			
19	SPARE					
20						
21						
22						

NOTES

1. FOR SYMBOLS AND GENERAL NOTES SEE SHEET E-8.
2. DOUBLE POLE SWITCH TO CONTROL LIGHTS AND EXH. FAN EF-7, WIRED SO THAT FAN OPERATES WHEN LIGHTS ARE ENERGIZED.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
① 6-65	E.B.M.	[illegible]	Revised for "Record Dwgs."

THE STATE OF NEW HAMPSHIRE — JOHN S. BETHEL JR. No. 750 — REGISTERED PROFESSIONAL ENGINEER

0 8 16 24
SCALE IN FEET
SCALE: 1/8" = 1'-0" *

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

APPROVED
FOR METCALF & EDDY, ENGINEERS
John S. Bethel Jr. — 11/14/63
REG. PROF. ENGR. N.H. NO. 750 — DATE

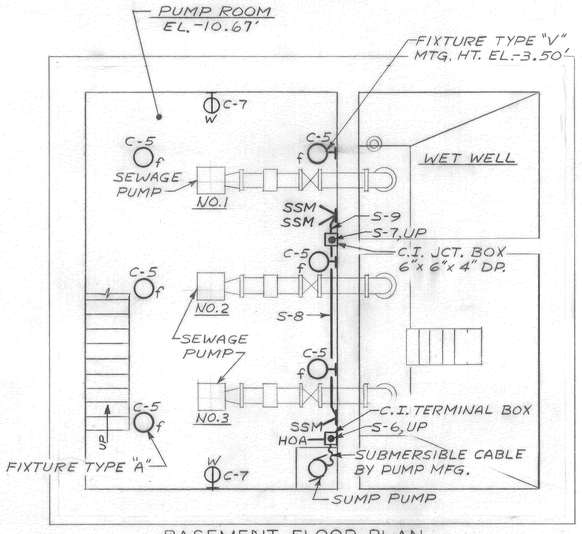
CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT
OPERATIONS BUILDING
LIGHTING PLAN
ELECTRICAL
SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY
ENGINEERS
BOSTON, MASS.

H 3606 1

DRAWN BY E.D.V.
TRACED BY R.J.C.
CHECKED BY E.M.B. C.J.S.

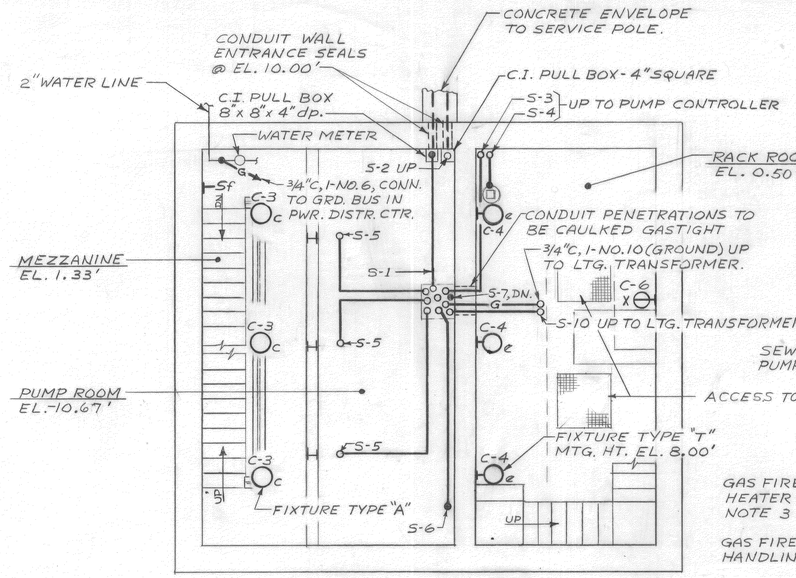
CONTRACT 1963-1 SHEET E-5



BASEMENT FLOOR PLAN

SCALE IN FEET

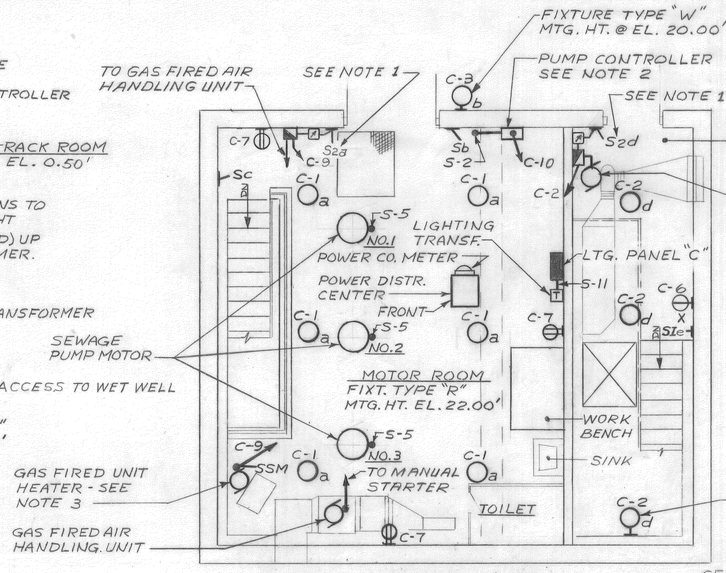
SCALE: 1/4" = 1'-0"*



INTERMEDIATE FLOOR PLAN

SCALE IN FEET

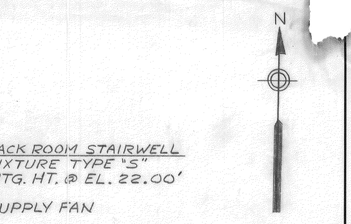
SCALE: 1/4" = 1'-0"*



MAIN FLOOR PLAN

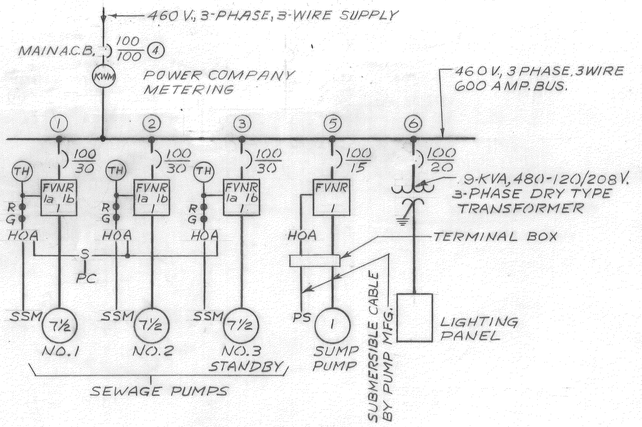
SCALE IN FEET

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



SECTION 6/E-6

NO SCALE



SINGLE LINE DIAGRAM

NO SCALE

LIGHTING PANEL "C"

SERVICE - 120/208 VOLT, 3-PHASE, 4-WIRE
MAIN - LUGS ONLY
BRANCHES - CIRCUIT BREAKERS
CABINET - SURFACE MTD. w/ LOCK & KEYS

PANEL SCHEDULE

CIR. NO.	EQUIPMENT DESIGNATION	H.P.	K.V.A.	BRANCH CIRCUITS FRAME AMPS.	TRIP AMPS.	POLES
1	LTG. - MOTOR ROOM		1.20	50	20	1
2	RACK RM. & SUPPLY FAN @ 1/6 HP MEZZANINE & OUTSIDE LIGHT		1.40			
3			0.80			
4	RACK ROOM		0.90			
5	LOWER PUMP RM.		1.20			
6	RECEPT. - STAIRWELL & RACK ROOM		0.30			
7	MOTOR ROOM & LOWER PUMP RM.		0.75			
8	PUMP CONTROLLER	—	—			
9	UNIT HTR. (1/20) & AHU @ 1/3 HP	—	0.94			
10	SPARE	—	—			
11						
12						
13						
14						

SEWAGE PUMP CONTROL

a - TOTAL HOUR METER
b - HAND-OFF-AUTO SELECTOR SWITCH w/RED & GREEN INDICATING LIGHTS.
c - PUMP SELECTOR SWITCH - 3 POSITION - MARKED PUMPS 1-2, PUMPS 2-3, PUMPS 3-1.

LIGHTING FIXTURE SCHEDULE

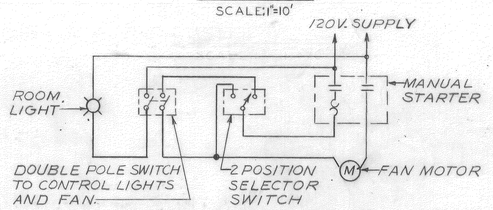
TYPE	MFR & CATALOG NO.	LAMP NO.	LAMP TYPE	MOUNTING	REMARKS
A	BENJAMIN 6552	1	200W. INCAND	CEILING	VAPORTIGHT
R	E-1803-3/4	1	200W.	PENDENT	RLM
S	7504	1	300W.	PENDENT	EXPLOSIONPROOF
T	7504-BX	1	300W.	WALL	EXPLOSIONPROOF
V	RUSSELL & STOLL 6254	1	200W.	WALL	VAPORTIGHT
W	HOLOPHANE 420	1	200W.	WALL	OUTSIDE

WIRE & CONDUIT SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CABLE NO.	CABLE SIZE	REMARKS	CONDUIT NO.	CONDUIT SIZE	CABLE NO.	CABLE SIZE	REMARKS
S-1	1½	3	2	MAIN FEEDER	S-7	1	7	19/25	CONTROL
S-2	1	—	—	LEASED TEL. WIRES	S-8	¾	2	19/25	CONTROL
S-3	¾	5	19/25	CONTROL	S-9	¾	4	19/25	CONTROL
S-4	1	7	19/25	CONTROL	S-10	¾	3	12	PRIMARY LEADS
S-5	¾	3	12	POWER	S-11	¾	4	10	SECONDARY LEADS
S-6	1	3	12	POWER					
		3	19/25	CONTROL					

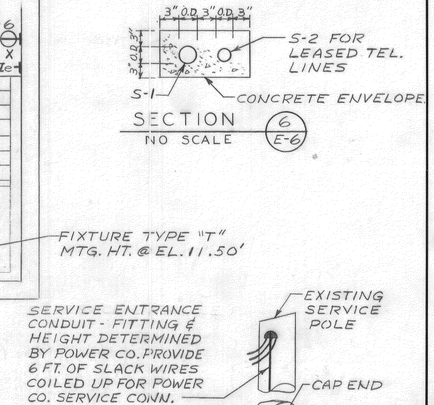
SITE PLAN

SCALE: 1"=10'



WIRING DIAGRAM

ROOM LIGHTS AND FAN CONTROL



DETAIL D/E-6

NO SCALE

NOTES

1. DOUBLE POLE SWITCH TO CONTROL LIGHTS AND SUPPLY FAN (SEE WIRING DIAGRAM).
2. PUMP CONTROLLER & CONTROL DEVICES ARE FURNISHED BY OTHERS. CONTRACTOR ~~WILL~~ PROVIDE ALL INTERCONNECTING CONDUIT AND WIRE.
3. ALL CONTROL DEVICES & WIRE (EXCEPT SSM PUSHBUTTON) ~~WILL BE~~ WERE FURNISHED AND INSTALLED BY HEATING & VENTILATING CONTRACTOR.
4. ALL ELECTRICAL EQUIPMENT INCLUDING CONDUIT & FITTINGS IN THE RACK ROOM AREA ~~SHALL~~ COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR HAZARDOUS LOCATIONS, CLASS I, GROUP D.
5. FOR GENERAL NOTES & SYMBOLS SEE DWG E-8.
6. ALL CONDUITS PASSING THROUGH FLOOR OVER RACK ROOM AND ENTERING MOTOR ROOM, OR CONDUITS PASSING THROUGH WALL BETWEEN RACK ROOM AND PUMP ROOM ~~SHALL BE~~ WERE CAULKED GAS TIGHT IN THEIR SLEEVES.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
2	6-65	E.B.M.	W.G.K.T.	Revised for Record Dwgs
1	5/17/63	C.E.D.	E.D.V.	ADDED WIRING DIAGRAM & CHANGED NOTE 1

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

DEER & MARKET STREET

POWER & LIGHTING PLAN

ELECTRICAL

SCALE: AS SHOWN

MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

H 36065

DRAWN BY E.D.V.
TRACED BY R.J.C.
CHECKED BY E.M.K. C.J.S.

APPROVED

FOR METCALF & EDDY, ENGINEERS

John J. Bethel Jr. 4/14/63

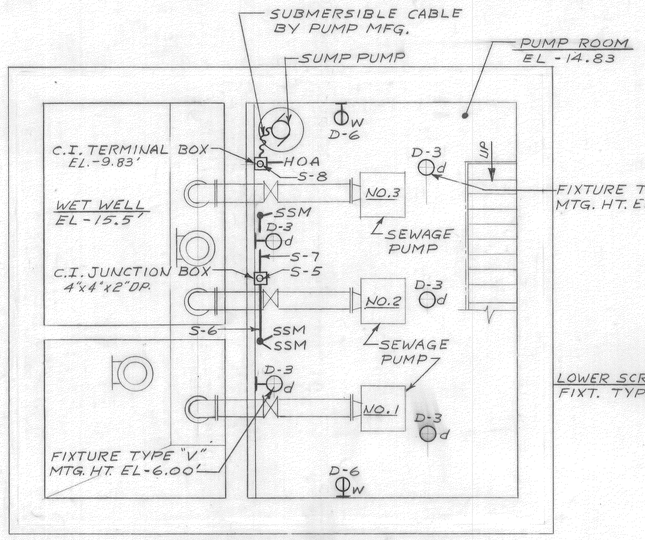
REG. PROF. ENGR. N.H. NO. 750 DATE

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

* DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

CONTRACT 1963-1 SHEET E-6

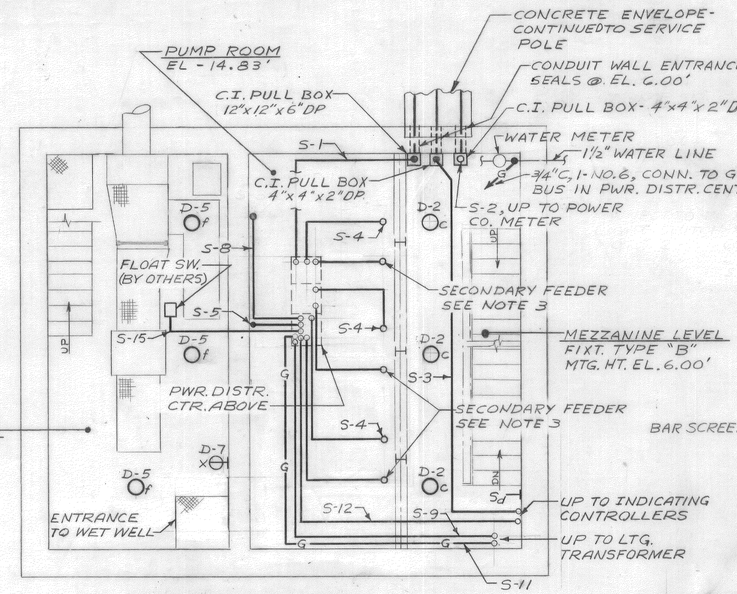
B. L. M. INC.



BASEMENT FLOOR PLAN

SCALE IN FEET

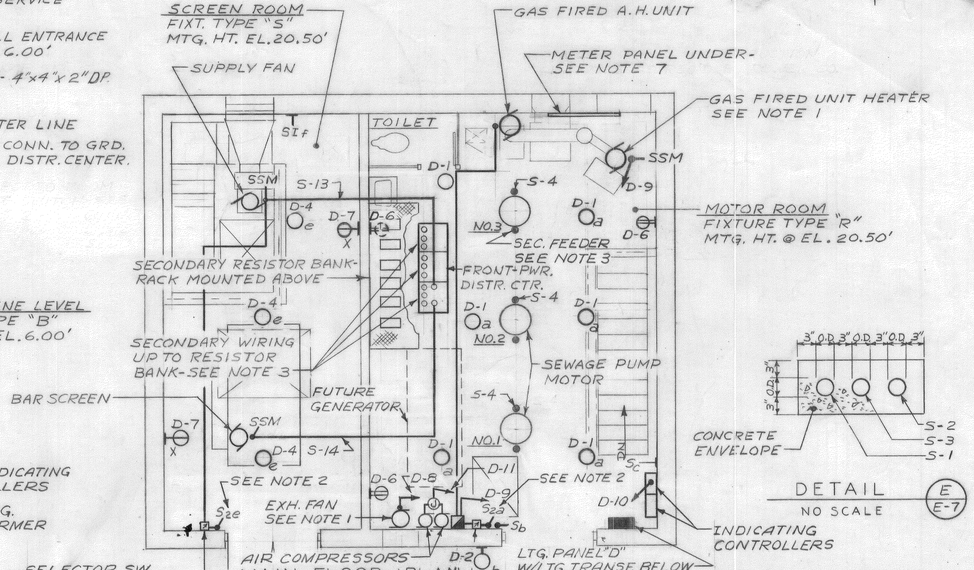
SCALE: 1/4" = 1'-0"



INTERMEDIATE FLOOR PLAN

SCALE IN FEET

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



MAIN FLOOR PLAN

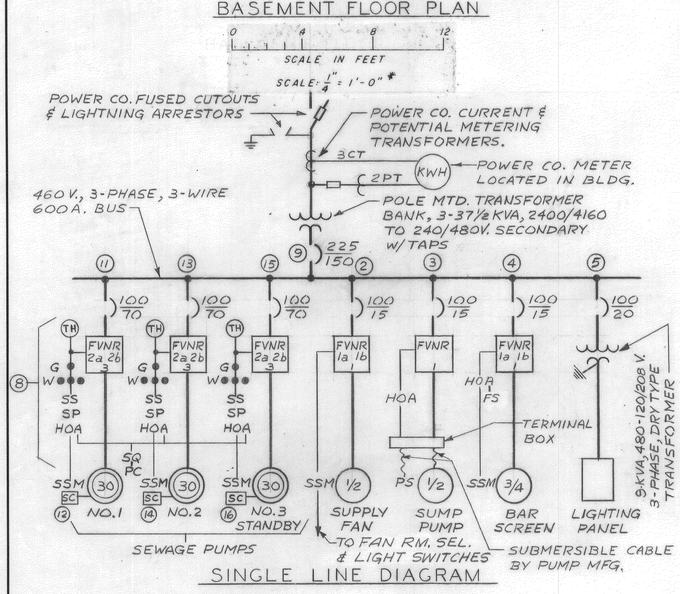
SCALE IN FEET

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

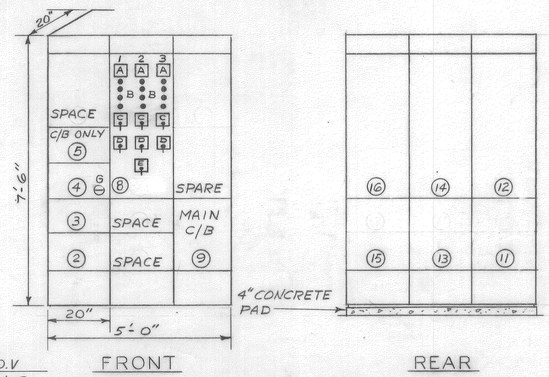
DETAIL E / E-7

NO SCALE

RECORD DRAWING



SINGLE LINE DIAGRAM



POWER DISTRIBUTION CENTER

NO SCALE

DRAWN BY E.D.V
TRACED BY R.J.C
CHECKED BY E.M.M. Cofs

LIGHTING PANEL "D"

SERVICE - 120/208 V., 3-PHASE, 4-WIRE
MAIN - LUGS ONLY
BRANCHES - CIRCUIT BREAKERS
CABINET - SURFACE MTD. w/ LOCK & KEYS

PANEL SCHEDULE

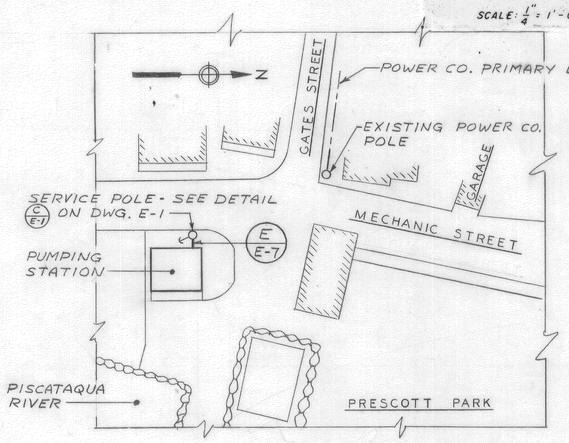
CIR. NO.	EQUIPMENT DESIGNATION	H.P.	K.V.A.	BRANCH CIRCUITS FRAME AMPS.	TRIP AMPS	POLES
1	LTG. - MOTOR ROOM		1.20	50	20	1
2	MEZZANINE & OUTSIDE LT.		0.80			
3	PUMP ROOM		1.00			
4	UPPER SCREEN RM.		0.90			
5	LOWER SCREEN RM.		0.90			
6	RECEPT. - MOTOR ROOM & LOWER PUMP RM. UPPER & LOWER SCREEN ROOM		0.60			
7			0.45			
8	EXH. FAN		1/3 0.83			
9	UNIT HTR (1/60) & A.H. UNIT (1/3)		0.94			
10	INSTRUMENT CABINET	—	—			
11	AIR COMPRESSORS 2@ 1/2 H.P.		0.50			
12	SPARE					
13						
14						

LIGHTING FIXTURE SCHEDULE

TYPE	MFR. & CATALOG NO.	LAMP NO.	LAMP TYPE	MOUNTING	REMARKS
B	BENJAMIN 6502	1	200W. INCAND.	PENDENT	VAPORTIGHT
R	E-1803-¾	1	200W.	PENDENT	RLM
S	7504	1	300W.	PENDENT	EXPLOSIONPROOF
U	7504-CX	1	300W.	CEILING	EXPLOSIONPROOF
V	RUSSELL & STOLL 6254	1	200W.	WALL	VAPORTIGHT
W	HOLOPHANE 420	1	200W.	WALL	OUTSIDE

CONTROL PANEL (8)

1-2-3	NAMEPLATES MARKED SEWAGE PUMPS 1 OR 2 OR 3.
A 1-2-3	TOTAL HOUR METERS
B 1-2-3	GREEN "OFF" IND. LIGHT & 3-WHITE SPEED IND. LIGHTS.
C 1-2-3	START - STOP SELECTOR SWITCHES
D 1-2-3	HAND-OFF-AUTO & SPEED SELECTOR SWITCHES MARKED AUTO, OFF, MANUAL LOW, MED., HI - SPEED.
E	SEQUENCE SELECTOR SWITCH MARKED PUMPS 1-2, PUMPS 2-3, PUMPS 3-1
G	HAND-OFF-AUTO SEL. SWITCH

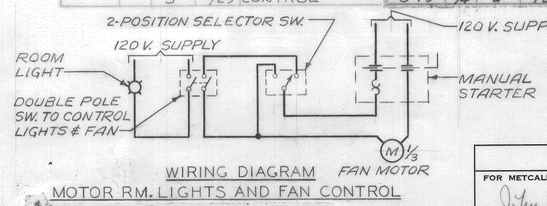


SITE PLAN

SCALE 1" = 40'

WIRE & CONDUIT SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CABLE NO.	CABLE SIZE	REMARKS
S-1	2	3	1/0	MAIN FEEDER
S-2	1½	—	19/25	PWR. CO. METERING
S-3	1	—	—	LEASED TEL. LINES
S-4	1¼	3	4	SEW. PUMP PRI. FDR.
S-5	1	7	19/25	CONTROL
S-6	¾	4	19/25	CONTROL
S-7	¾	2	19/25	CONTROL
S-8	1	3	12	POWER
		3	19/25	CONTROL
S-9	¾	3	12	TRANSF. PRIMARY
S-10	¾	4	10	TRANSF. SECOND.
S-11	¾	1	10	GROUND WIRE
S-12	2½	42	19/25	CONTROL
S-13	¾	3	12	POWER
		2	19/25	CONTROL
S-14	1	3	12	POWER
		4	19/25	CONTROL
S-15	¾	2	19/25	CONTROL



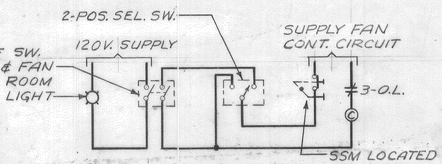
WIRING DIAGRAM

MOTOR RM. LIGHTS AND FAN CONTROL

DOES NOT APPLY WHEN DRAWING SIZE HAS BEEN CHANGED BY REPRODUCTION

NOTES

1. ALL CONTROL DEVICES & WIRE (EXCEPT SSM PUSHBUTTON) WERE ~~WILL BE~~ FURNISHED AND INSTALLED BY HEATING AND VENTILATING CONTRACTOR.
2. DOUBLE POLE SWITCH TO CONTROL LIGHTS & FAN (SEE WIRING DIAGRAMS).
3. SEWAGE PUMP MOTORS SECONDARY WIRE & CONDUIT SIZE ~~SHALL BE~~ WERE DETERMINED BY THE CHARACTERISTICS OF MOTORS ACTUALLY FURNISHED.
4. ALL ELECTRICAL EQUIPMENT INCLUDING CONDUIT AND FITTINGS IN THE UPPER & LOWER SCREEN ROOM ~~SHALL~~ COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR HAZARDOUS LOCATIONS, CLASS 1, GROUP D.
5. FOR GENERAL NOTES AND SYMBOLS SEE SHEET E-8.
6. ALL CONDUITS PASSING THROUGH FLOOR OVER SCREEN ROOM AND ENTERING MOTOR ROOM, OR CONDUITS PASSING THROUGH WALL BETWEEN SCREEN ROOM AND PUMP ROOM ~~SHALL BE~~ WERE CAULKED GAS TIGHT IN THEIR SLEEVES.
7. A ¾" MARINE PLYWOOD PANEL, 3' x 4', ~~SHALL BE~~ WAS MOUNTED ON UNISTRUT SUPPORTS FOR MOUNTING OF NEW HAMPSHIRE ELEC. CO. METERING EQUIPMENT. THE PANEL ~~SHALL BE~~ WAS GIVEN 2-COATS OF PAINT TO MATCH ROOM COLOR PRIOR TO MOUNTING OF EQUIPMENT.



WIRING DIAGRAM

SCREEN RM. LIGHTS & FAN CONTROL

NO.	DATE	BY	CHK'D	REVISION
2	6-6-63	E.B.J.	GEP	Revised for Record Mylars
1	5/17/63	C.E.D.	EDV	REVISED TO ADD RELAY FOR PROVIDED SPACE FOR FUTURE REM. PROCESS TIMER FOR SCR SCREEN. ADD WIRING SEE
REVISION		MADE BY	CHECKED BY	DESCRIPTION

APPROVED

FOR METCALF & EDDY, ENGINEERS

John S. Bethel Jr. 4/17/63

REG. PROF. ENGR. N.H. NO. 750 — DATE

THE STATE OF NEW HAMPSHIRE JOHN S. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

CITY OF PORTSMOUTH, N.H.

PUMPING STATION

GATES & MECHANICS STREET

POWER & LIGHTING PLAN

ELECTRICAL

SCALE: AS SHOWN

MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

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CONTRACT 1963-1 SHEET E-7

ELECTRICAL SYMBOLS FOR PLAN VIEW ONLY

- A-3 O_a — CEILING OR PENDENT MOUNTED INCANDESCENT LIGHTING FIXTURE
- A-3 $\square_a$ — CEILING OR PENDENT MOUNTED FLUORESCENT LIGHTING FIXTURE
- A-3 $a\bigcirc$ — WALL MOUNTED INCANDESCENT LIGHTING FIXTURE
- A-3 D_a — FLOODLIGHT
- STREET LIGHT

TYPE AS NOTED ON FIXTURE SCHEDULE A-3 DENOTES LIGHTING PANEL A, CIRCUIT 3 "a" DENOTES LOCAL SWITCH "a"

- $S1c$ — LOCAL SWITCH, SINGLE POLE WITH PILOT LIGHT, CONTROLS FIXTURES MARKED "C"
- $5a$ — LOCAL SWITCH, SINGLE POLE, CONTROLS FIXTURES MARKED "a"
- $S2b$ — LOCAL SWITCH, DOUBLE POLE, CONTROLS FIXTURES MARKED "b"
- $S3c$ — LOCAL SWITCH, THREE WAY, CONTROLS FIXTURES MARKED "c"
- A-2 W — SINGLE RECEPTACLE (GROUNDED TYPE) A-2 DENOTES LIGHTING PANEL "A", CIRCUIT 2 W = WATERTIGHT, X = EXPLOSIONPROOF
- A-2 — DUPLEX RECEPTACLE (GROUNDED TYPE)
- SPECIAL PURPOSE RECEPTACLE
- (C) — CLOCK AND RECEPTACLE,
- (T) — WALL MOUNTED THERMOSTAT
- MANUAL MOTOR STARTER
- DISCONNECT SWITCH
- (T) — TRANSFORMER
- LIGHTING PANEL
- MOTOR FOR HORSEPOWER RATING SEE SINGLE LINE DIAGRAM
- (J) — JUNCTION BOX
- CONDUIT RUNS CONCEALED IN FLOORS AND WALLS
- CONDUIT RUNS EXPOSED
- CONDUIT TURNING UP OR TOWARD OBSERVER
- CONDUIT TURNING DOWN OR AWAY FROM OBSERVER
- DIRECT BURIAL CABLE
- —G— GROUNDING
- A-2,4 — HOME RUN TO PANEL-LETTER DENOTES PANEL. FOR MORE THAN TWO WIRES DIAGONAL LINES INDICATE NUMBER OF WIRES IN CONDUIT, NUMERALS DENOTE CIRCUITS, ARROWS INDICATE NUMBER OF CIRCUITS.
- OUTSIDE TELEPHONE
- TELEPHONE TERMINAL CABINET
- SELECTOR SWITCH

ELECTRICAL SYMBOLS FOR SINGLE LINE DIAGRAM AND/OR PLAN VIEW CONTROL DEVICES

- SS — START-STOP SWITCH, MOMENTARY-CONTACT TYPE
- SSL — START-STOP SWITCH, MOMENTARY-CONTACT TYPE WITH LOCKOUT LATCH
- SSM — START-STOP SWITCH, MAINTAINING-CONTACT TYPE
- HOA — HAND-OFF AUTOMATIC SWITCH
- SQ — SEQUENCE SELECTOR
- FS — FLOAT SWITCH
- TS — TIME SWITCH
- PS — PRESSURE SWITCH
- SP — SPEED SELECTOR SWITCH
- T — THERMOSTAT
- HC — HYDROPNEUMATIC CONTROL
- PC — PUMP CONTROLLER

ELECTRICAL SYMBOLS FOR SINGLE LINE DIAGRAMS

- 100/70 — CIRCUIT BREAKER, MOLDED CASE TYPE, THERMAL MAGNETIC TRIP, 3-POLE UNLESS NOTED. UPPER NUMERAL INDICATES FRAME SIZE, LOWER NUMBER INDICATES TRIP SETTING.
- 30 — DISCONNECT SWITCH-UNFUSED NUMERAL INDICATES FRAME SIZE.

MAGNETIC STARTER

- FVNR 1a 1b 2 — FVNR = FULL VOLTAGE, NON-REVERSING AUXILIARY CONTACTS, 1a = ONE NORMALLY OPEN 1b = ONE NORMALLY CLOSED, NUMERAL INDICATES NEMA SIZE
- SC (30) — WOUND ROTOR INDUCTION MOTOR WITH SC = MAGNETIC SECONDARY CONTROL. NUMERAL DENOTES HORSEPOWER
- (3) — SQUIRREL CAGE INDUCTION MOTOR NUMERAL DENOTES HORSEPOWER
- TRANSFORMER - SIZE AS INDICATED
- 2PT — POTENTIAL TRANSFORMER, NUMERAL DENOTES QUANTITY
- 3CT — CURRENT TRANSFORMER, NUMERAL DENOTES QUANTITY
- 3 — LIGHTNING ARRESTERS, NUMERAL DENOTES QUANTITY

INDICATING LIGHTS

R = RED B = BLUE G = GREEN A = AMBER

- (TH) — TH = TOTAL HOUR METER; TA = TACHOMETER; TG = TACHOMETER GENERATOR
- (Y) — GENERATOR
- S — SELECTOR SWITCH

GENERAL NOTES

1. ALL CONDUIT AND EQUIPMENT ~~SHALL BE~~ WAS INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE NATIONAL BOARD OF FIRE UNDERWRITERS.
2. CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY ONLY AND ~~SHALL BE~~ WERE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS ~~SHALL BE~~ WERE INSTALLED PARALLEL TO BEAMS AND WALLS.
3. CONDUITS ~~SHALL BE~~ WERE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
4. NO CONDUIT SMALLER THAN 3/4" IRON PIPE SIZE NOR WIRE SMALLER THAN NO. 12 A.W.G. ~~SHALL BE~~ WAS USED UNLESS OTHERWISE NOTED.
5. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. FINAL MODIFICATIONS MAY BE HAVE BEEN MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS.
6. SWITCHES ~~SHALL BE~~ WERE MOUNTED 4'-6" AND RECEPTACLES 2'-0" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.
7. ALL SURFACE MOUNTED PANELS AND PANEL BOARDS ON THE INSIDE OF EXTERIOR WALLS ABOVE GRADE, OR IN OTHER LOCATIONS CONSIDERED AS DAMP, ~~SHALL BE~~ WERE MOUNTED TO MAINTAIN A 1/4" AIR SPACE BETWEEN THE ENCLOSURE AND THE WALL.
8. PULL, JUNCTION, TERMINAL, SWITCH, AND OUTLET BOXES ~~SHALL BE~~ ARE CAST METAL AT THE FOLLOWING LOCATIONS, UNLESS OTHERWISE NOTED.
   a. AT LOCATIONS WHERE VAPORTIGHT LIGHTING FIXTURES AND/OR WATERTIGHT RECEPTACLES ARE INDICATED.
   b. AT LOCATIONS ON OR IN ALL OUTSIDE WALLS REGUARDLESS OF ELEVATION.
9. NOTE FOR HAZARDOUS LOCATIONS ONLY: ALL ELECTRICAL EQUIPMENT, INCLUDING CONDUIT AND FITTINGS ~~SHALL COMPLY~~ COMPLIES WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR HAZARDOUS LOCATIONS, CLASS 1, GROUP D.

RECORD DRAWING

REVISION	MADE BY	CHECKED BY	DESCRIPTION
1 6-65	E.B.F.	GKT	Revised for Record Drgs.

THE STATE OF NEW HAMPSHIRE JOHN E. BETHEL JR. No. 750 REGISTERED PROFESSIONAL ENGINEER

APPROVED
FOR METCALF & EDDY, ENGINEERS
John E. Bethel Jr. — REG. PROF. ENGR. N.H. NO. 750 — 4/19/63 DATE

CITY OF PORTSMOUTH, N.H.
SEWAGE TREATMENT PLANT & PUMPING STATION
SYMBOLS & GENERAL NOTES
ELECTRICAL
SCALE: AS SHOWN — MARCH, 1963

METCALF & EDDY ENGINEERS BOSTON, MASS.

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