CITY OF

ALBUQUERQUE—NEW MEXICO

PLANS

FOR CONSTRUCTION

OF

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

Exhibit "M" to License and Agreement by and between the United States of America, the Middle Rio Grande Conservancy District, and the City of Albuquerque, dated September 22, 1958.

APPROVED

City of Albuquerque, New Mexico

By _____
City Engineer

Date October 6, 1961

APPROVED

Bureau of Reclamation
Middle Rio Grande Conservancy Project

By _____

Date 10/11/61

APPROVED

Middle Rio Grande Conservancy District

By _____

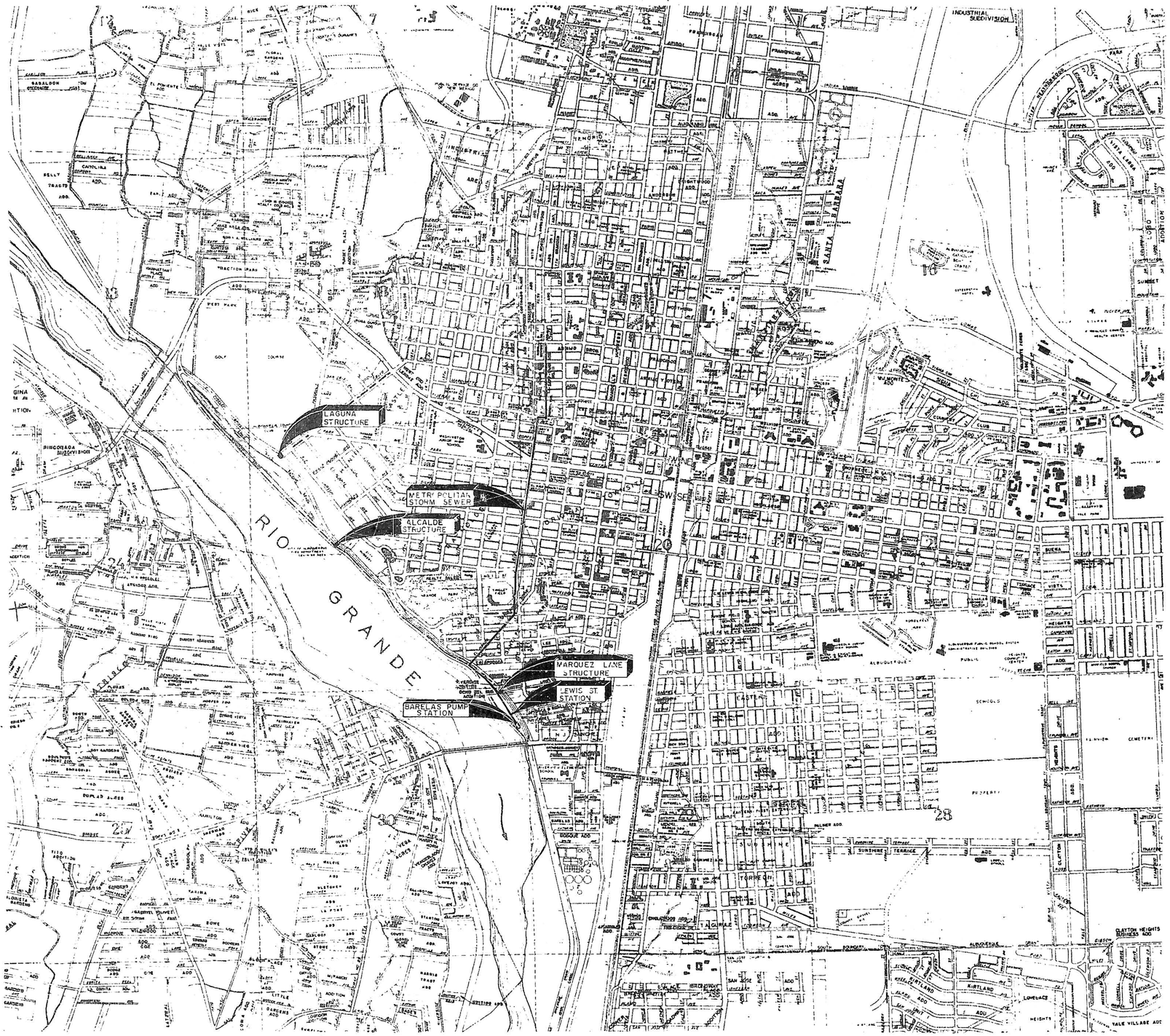
Date 10/11/61

EXHIBIT "M"

08 6/6 0/6/ 05

GORDON HERKENHOFF AND ASSOCIATES INC. CONSULTING ENGINEERS

SHEET 1 OF 21



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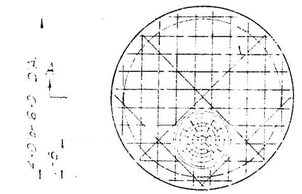
ALBUQUERQUE-NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

LOCATION MAP AND INDEX

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

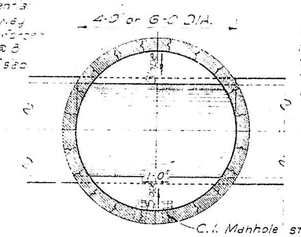
SCALE	DATE	DRAWN:	SHEET 2
NONE	AUGUST 1961	CHECKED	OF 56



TOP PLAN OF TYPE A

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

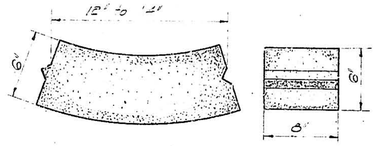
Reinforce for residential streets #4@8 each way bottom of slab reinforced for truck traffic #5@8 each way bottom of slab



SECTION PLAN OF TYPE A AND TYPE B

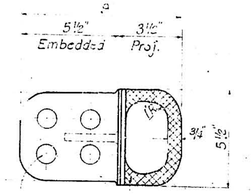
SCALE: 3/8" = 1'-0"

Note Shape invert of manhole to conform to pipe size by concrete fill or cut pipe section grouted in place.

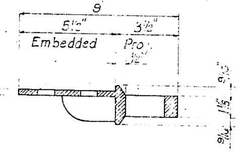


TYPICAL DETAIL OF CONCRETE BLOCK

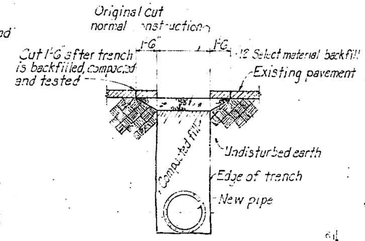
SCALE: 1/2" = 1'



PLAN

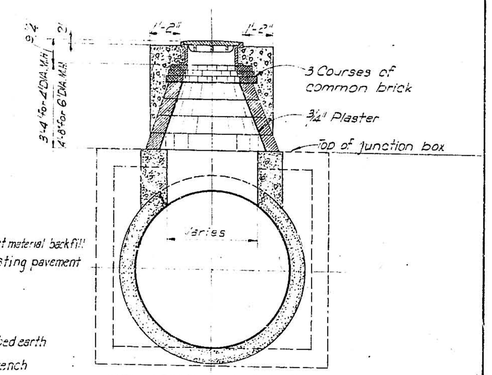


SECTION



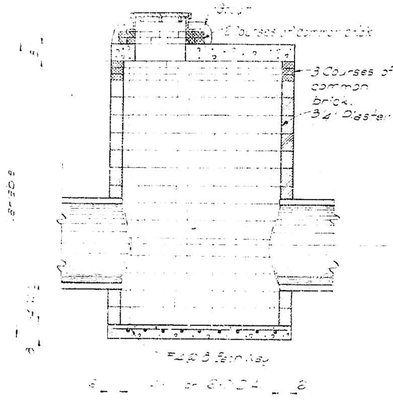
PAVEMENT CUT DETAILS

No Scale



STANDARD MANHOLE CONE

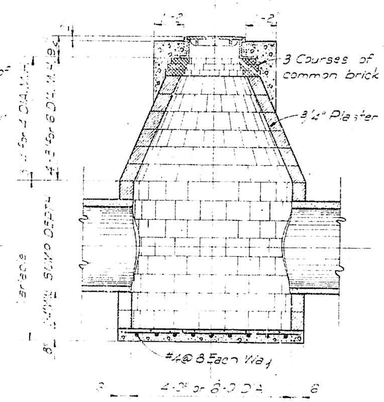
SCALE: 3/8" = 1'-0"



SECTION A-A - TYPE A MANHOLE

STANDARD INVERT

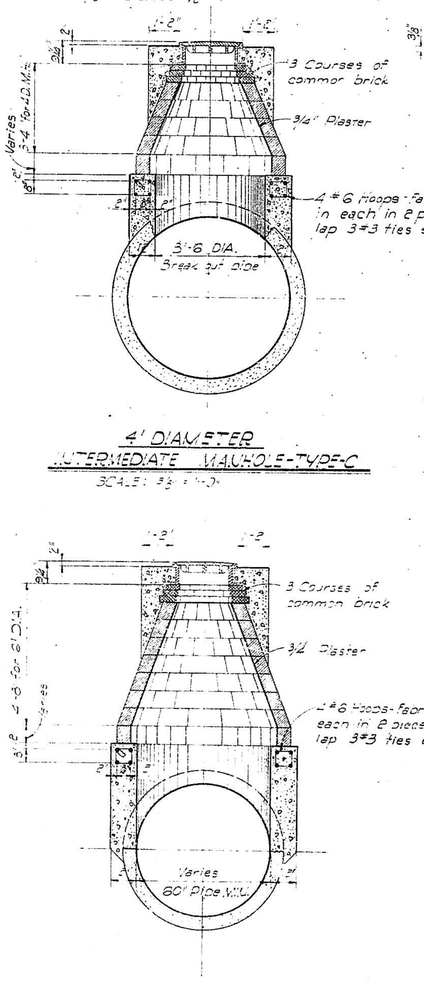
SCALE: 3/8" = 1'-0"



SECTION A-A - TYPE B MANHOLE

(WITH SLOPED INVERT)

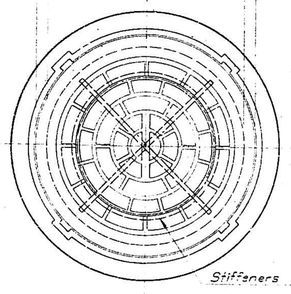
SCALE: 3/8" = 1'-0"



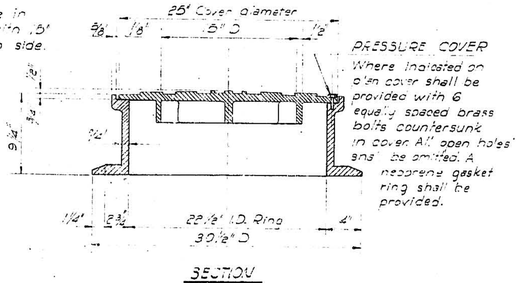
4' DIAMETER

INTERMEDIATE MANHOLE-TYPE C

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



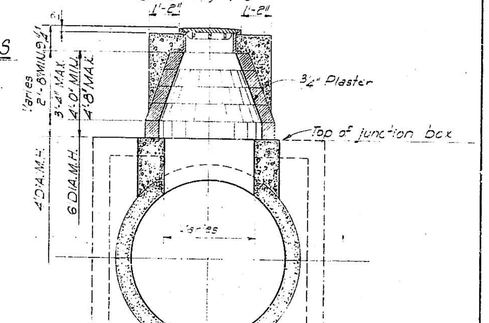
PLAN



SECTION

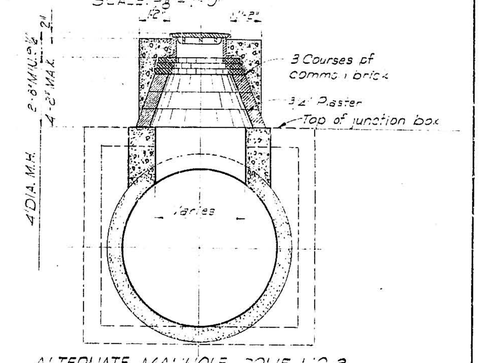
TYPICAL DETAILS OF STANDARD MANHOLE STEPS

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



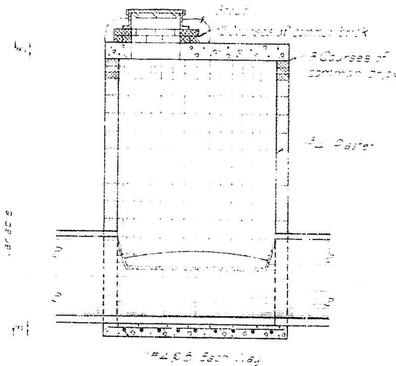
ALTERNATE MANHOLE CONE NO. 1

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



ALTERNATE MANHOLE CONE NO. 2

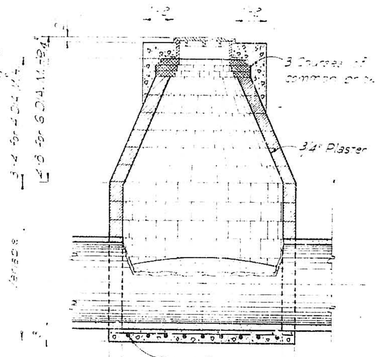
SCALE: 3/8" = 1'-0"



SECTION A-A - TYPE A MANHOLE

STANDARD INVERT

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



SECTION A-A - TYPE B MANHOLE

(STANDARD INVERT)

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

6' DIAMETER

INTERMEDIATE MANHOLE-TYPE C

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

TYPICAL DETAILS OF CAST IRON MANHOLE RING AND COVER

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

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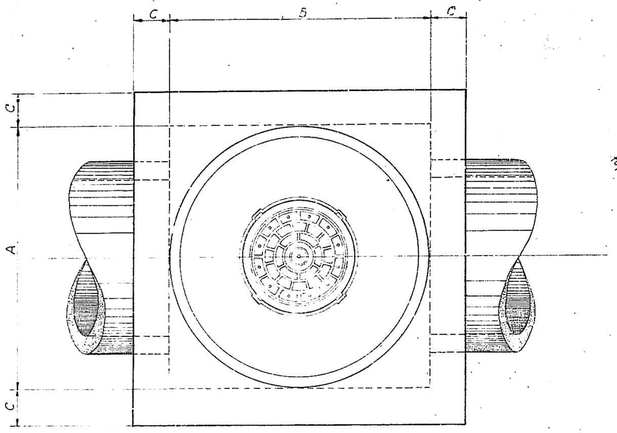
ALBUQUERQUE, NEW MEXICO

STORM SEWER STANDARDS

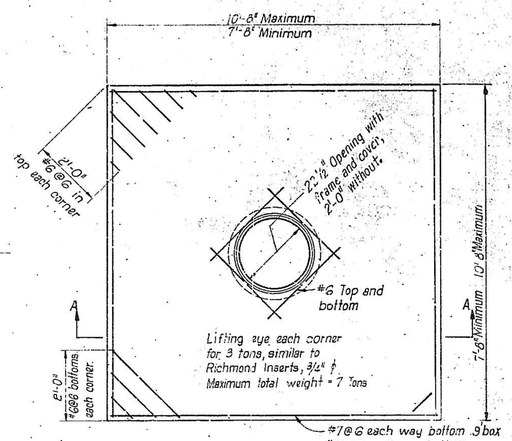
PAVEMENT CUT AND MANHOLE DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

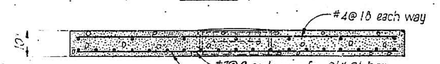
SCALE	DATE	DRAWN: R.A.G.	SHEET 3
AS SHOWN		CHECKED: G.A.J.	OF 56



PLAN



PLAN

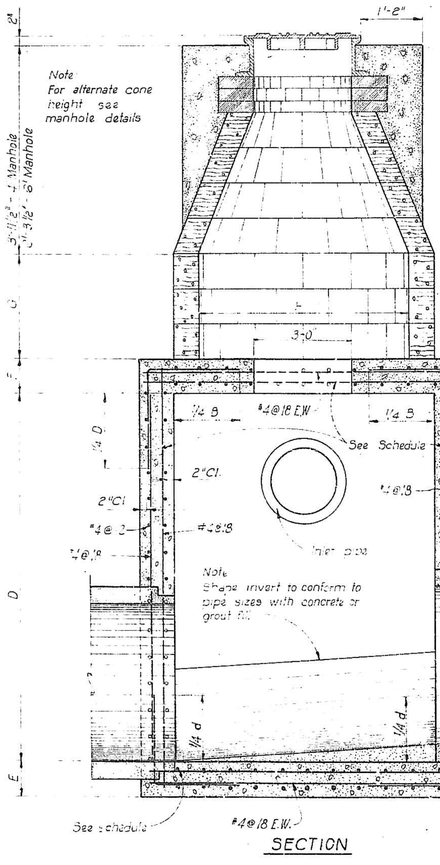


SECTION A-A

Note: Provide grout bed for even bearing.

PRECAST COVER FOR JUNCTION BOXES

	STATION	PIPE IN	PIPE OUT	DIMENSIONS A	B	C	D	E	F	G	H	ELEVATIONS Invert	REINFORCING Roof	Walls	Floor	ESTIMATED QUANTITIES CU. YDS. CONCRETE	POUNDS STEEL
1	12+04.82	96"	96"	11'	6'	12"	11'	12"	1'-2"	7'	4'	4922.15S 4922.30N	#8@6 Each Way	#7@6 Horiz.	#6@6 Each Way	18.55	7,430
2	15+59.66	96"	96"	11'	6'	12"	11'	12"	1'-2"	7'	4'	23.20S 23.30N	#8@6 " "	#7@6 "	#6@6 " "	18.55	7,450
3	19+45	96"	96"	11'	11'	12"	11'	12"	1'-2"	7'	4'	24.54S 24.90E	#8@6 " "	#7@6 "	#6@6 " "	26.10	11,250
4	32+50	95"	96"	SEE SPECIAL J.B. DETAIL		10"	11'	12"	12"	2'	4'	28.68S 28.80N	#8@6 " "	#7@6 "	#6@6 " "	21.05	8,410
5	35+00	96"	96"	11'	6'	10"	11'	12"	10"	0	0	29.52S 29.70N	#6@6 " "	#7@6 "	#5@6 " "	14.42	4,610
6	36+64.80	96"	96"	11'	11'	12"	19'	12"	10"	0	0	30.18S 21.37E	#6@6 " "	#7@6 "	#6@6 " "	39.70	13,100
7	36+83.80	96"	96"	11'	11'	12"	19'	12"	10"	0	0	21.43W 30.75N	#6@6 " "	#7@6 "	#6@6 " "	39.70	13,100
8	41+64.94	96"	96"	11'	6'	10"	9'	12"	10"	0	0	32.14S 32.25N	#6@6 " "	#7@6 "	#6@6 " "	12.05	3,850
9	44+85	72,84,72	96"	11'	11'	10"	10'	12"	10"	0	0	33.08S 33.99N 34.00S	#6@6 " "	#7@6 "	#6@6 " "	19.62	6,270
10	61+13	72"	84"	10'	6'	12"	8'-6"	12"	12"	1'	4'	35.62S 36.50N	#6@6 " "	#6@6 "	#5@6 " "	14.62	4,670
11	66+67	72,42"	72"	9'	6'	12"	7'-9"	12"	12"	2'	4'	37.50S 37.60N 40.00E	#6@6 " "	#6@6 "	#5@6 " "	12.46	3,980
12	71+60	72"	72"	5'	6'	10"	8'	12"	12"	1'	4'	38.49	#6@6 " "	#6@6 "	#5@6 " "	12.10	3,870
13	71+84.16	72"	72"	9'	6'	10"	8'	12"	12"	1'	4'	38.53S 38.79E	#6@6 " "	#6@6 "	#5@6 " "	12.10	3,870
14	73+16.59 BEG. 73+27.75 AND IRON AND 7TH. 3+26	72"	72"	9'	6'	10"	7'-6"	12"	12"	1'	4'	38.97W 39.25N	#6@6 " "	#6@6 "	#5@6 " "	11.59	3,710
15		72"	72"	9'	6'	10"	7'-6"	12"	10"	0	4'	34.49	#6@6 " "	#6@6	#5@6 " "	11.00	3,520



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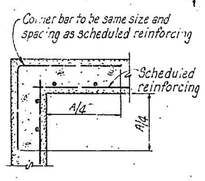
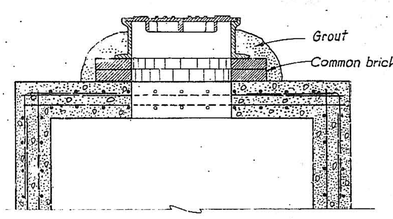


CORNER BAR DETAIL

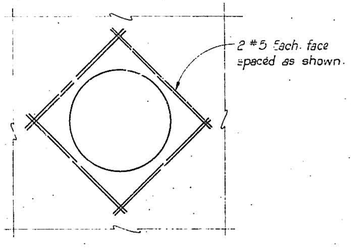
Corner bar to be same size and spacing as the respective scheduled reinforcing of the roof or floor

JUNCTION BOX DETAILS

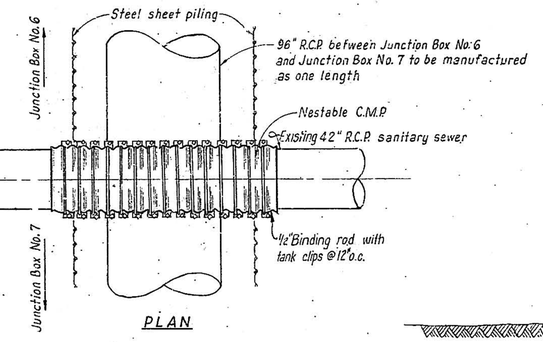
Scale: 3/4"=1'-0"



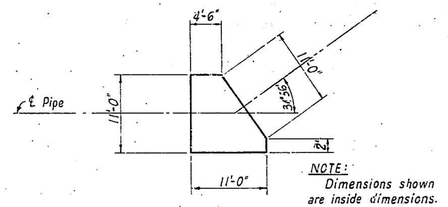
JUNCTION BOX



ADDITIONAL REINFORCING AT OPENINGS

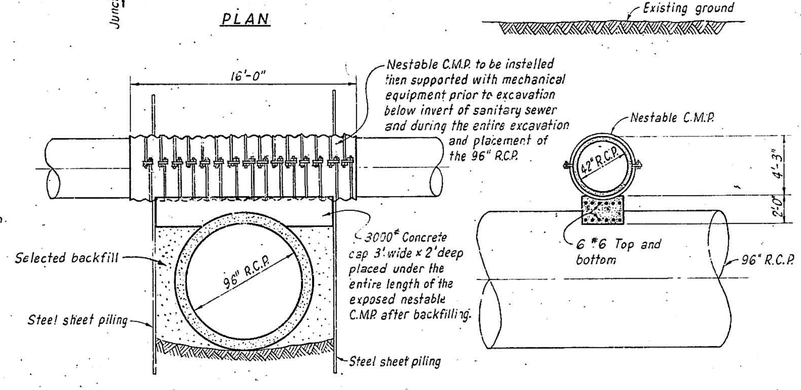


PLAN



SPECIAL JUNCTION BOX DETAIL

Scale: 1"= 10'



ELEVATION SECTION

SANITARY SEWER CROSSING DETAIL

Scale: 1"= 5'

08 6i6 0461 110

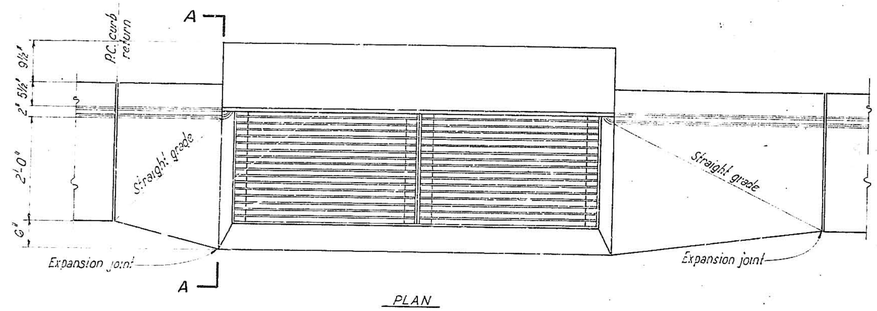
ALBUQUERQUE, NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

JUNCTION BOX DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: R.A.G.	SHEET 4
AS SHOWN	AUGUST 1961	CHECKED:	OF 56



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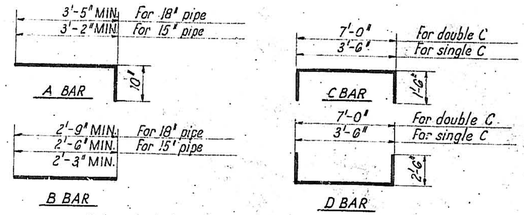
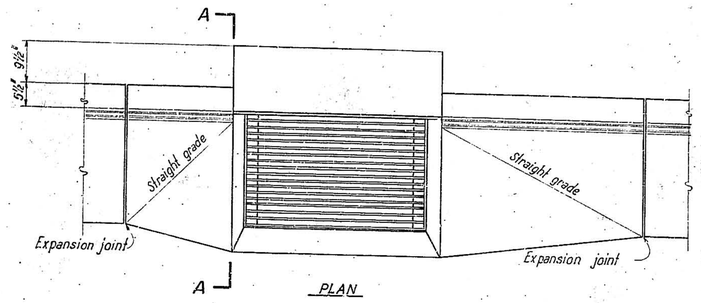


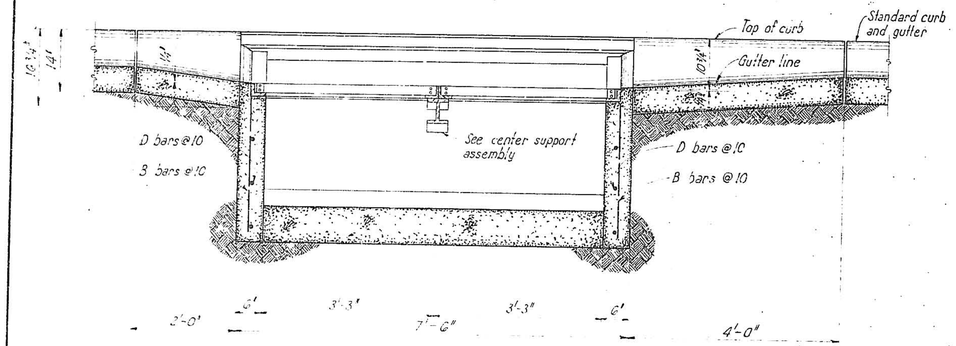
NOTE: All bars to be #4

BAR BENDING DETAILS

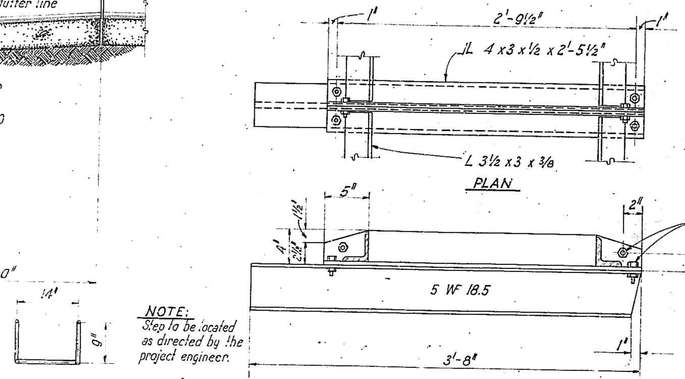
Not to scale

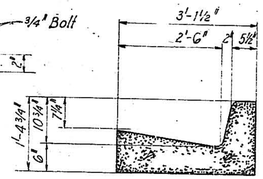


PLAN



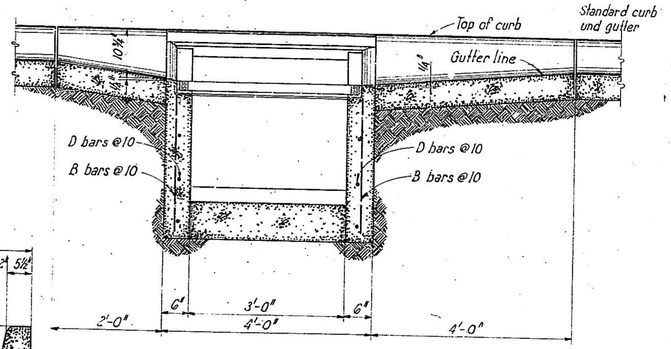
LONGITUDINAL SECTION





SECTION A-A

Scale ¾" = 1'-0"



LONGITUDINAL SECTION

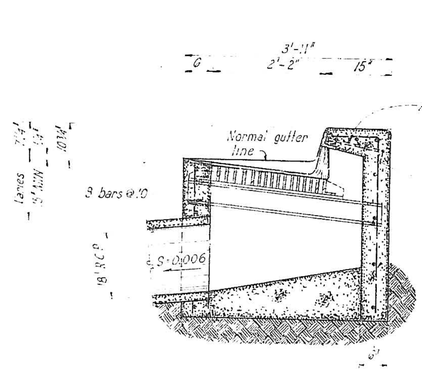
STEP DETAIL

Scale: ¾" = 1'-0"

NOTE: Step to be located as directed by the project engineer.

CENTER SUPPORT ASSEMBLY

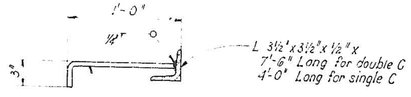
Scale: 1½" = 1'-0"



TRANSVERSE SECTION

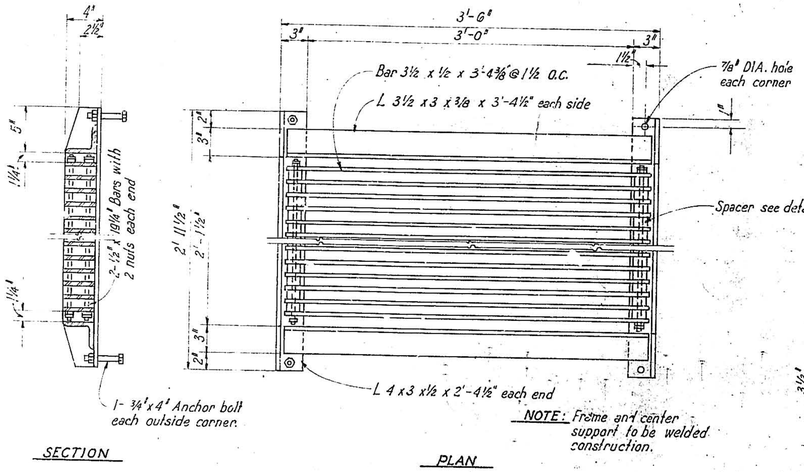
DOUBLE C INLET

Scale: ¾" = 1'-0"



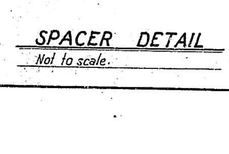
ANCHOR DETAIL

Not to scale.



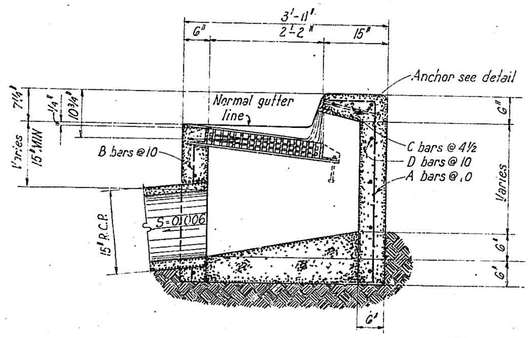
FRAME AND GRATING DETAILS

Scale: 1½" = 1'-0"



SPACER DETAIL

Not to scale.



TRANSVERSE SECTION

SINGLE C INLET

Scale: ¾" = 1'-0"

NOTE:
Provide the following slopes for inlet pipes:
15" R.C.P. — S=0.006 MIN.
18" R.C.P. — S=0.006 MIN.
24" R.C.P. — S=0.006 MIN.

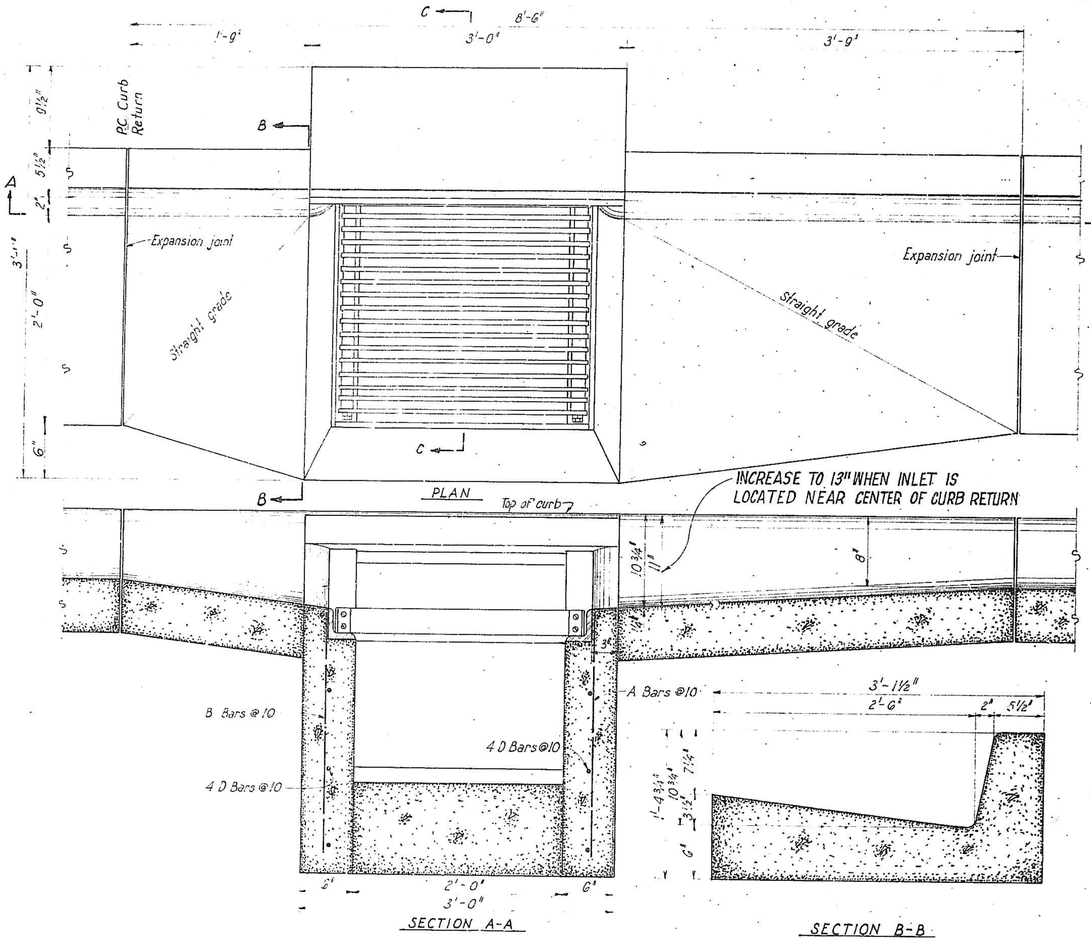
ALBUQUERQUE, NEW MEXICO

STORM SEWER STANDARDS

DOUBLE C AND SINGLE C DROP INLET DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: A.O.H.	SHEET 6
AS SHOWN	AUGUST 1960	CHECKED:	OF 56



SECTION A-A

SECTION B-B

3'-.." MIN. — For 15" pipe — 2'-6" — Type E inlet
7'-4" — Type D inlet

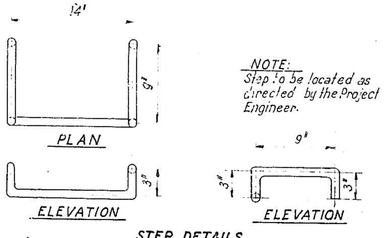
A BAR — 10" — 2'-6" — For 15" pipe

C BAR — 1'-6" — 2'-6" — Type E Inlet / Type D inlet — 2'-6"

NOTE: All bars to be #4

B BAR — D BAR

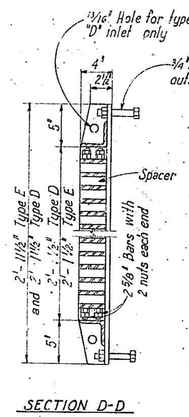
BAR BENDING DIAGRAM
Not to scale



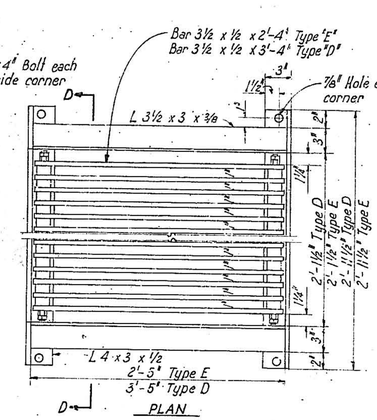
STEP DETAILS
Not to scale

NOTE:
Step to be located as directed by the Project Engineer.

TYPE E INLET
Scale: 1½" = 1'-0"



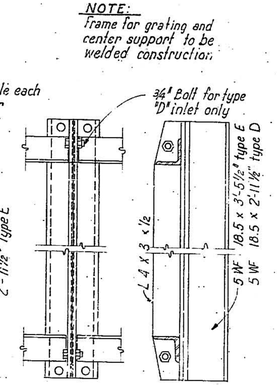
SECTION D-D



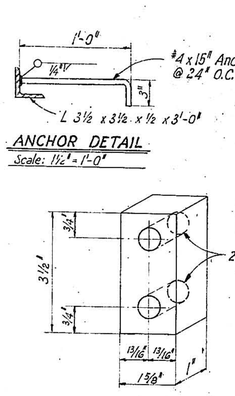
PLAN

GRATING DETAILS
Not to scale

NOTE:
Frame for grating and center support to be welded construction.

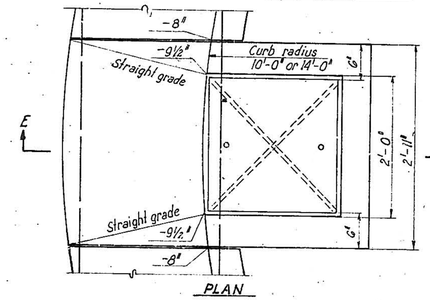


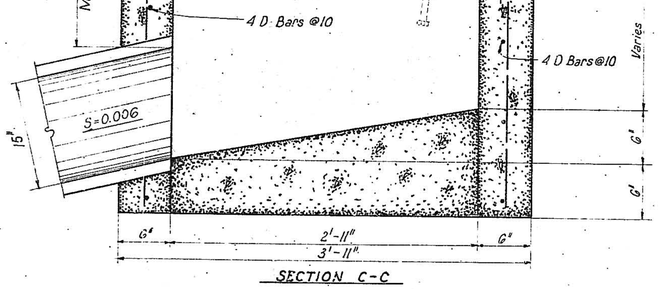
CENTER SUPPORT



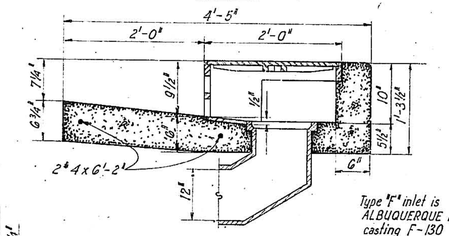
ANCHOR DETAIL
Scale: 1½" = 1'-0"

SPACER DETAIL
Not to scale





SECTION C-C



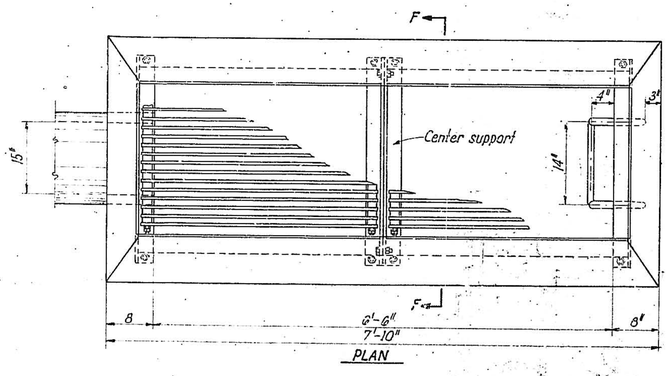
SECTION E-E

Type "F" inlet is ALBUQUERQUE FOUNDRY casting F-130

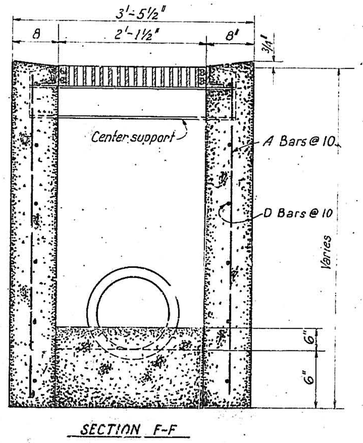
TYPE F INLET
Scale: 1" = 1'-0"

NOTE:
Provide the following slopes for inlet pipes:
15" R.C.P. — S=0.006
18" R.C.P. — S=0.008
24" R.C.P. — S=0.008

08 6116 0561 10

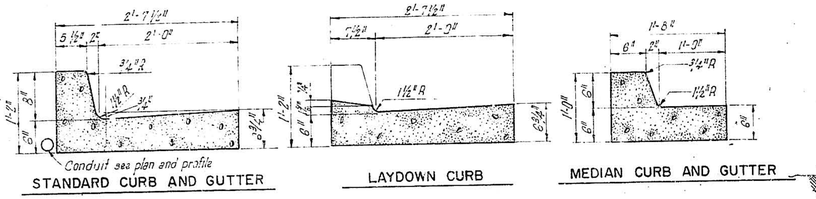


TYPE D INLET
Scale: 1" = 1'-0"



SECTION F-F

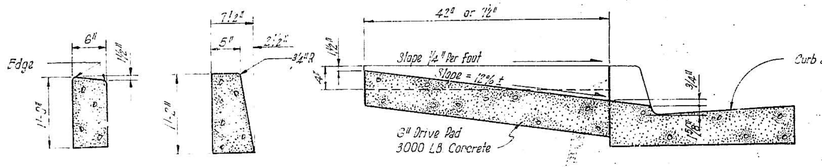
ALBUQUERQUE, NEW MEXICO			
STORM SEWER STANDARDS			
TYPE D, E, AND F DROP INLET DETAILS			
GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS ALBUQUERQUE NEW MEXICO			
SCALE AS SHOWN	DATE AUGUST 1960	DRAWN: A.Q.H. CHECKED:	SHEET 5 OF 56



STANDARD CURB AND GUTTER

LAYDOWN CURB

MEDIAN CURB AND GUTTER

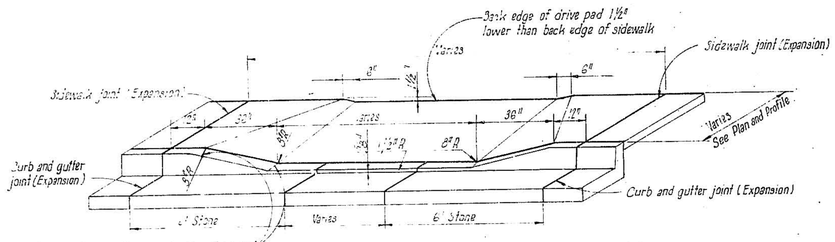


HEADER CURB

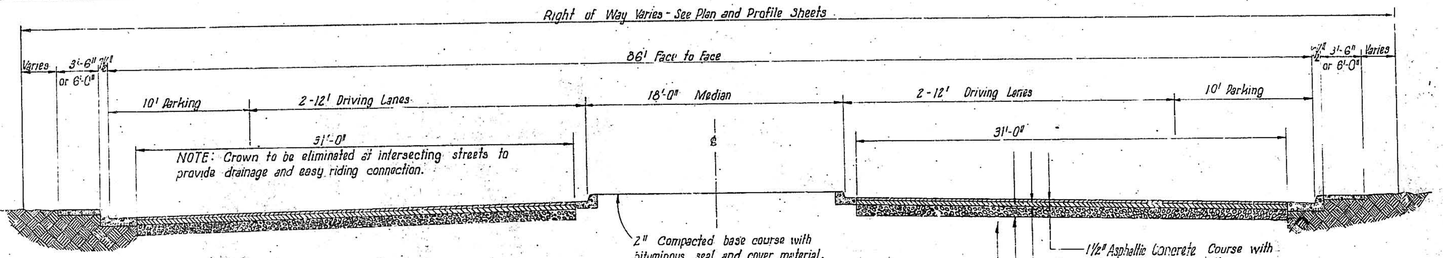
STRAIGHT CURB

DRIVEWAY AND CURB AND GUTTER

TYPICAL CURB AND GUTTER DETAILS

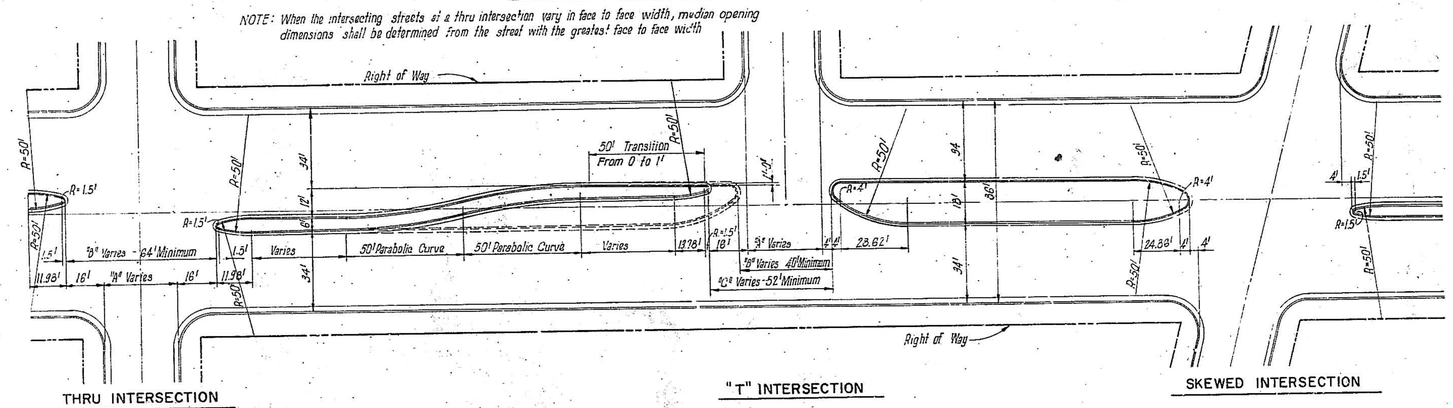


TYPICAL DRIVEWAY



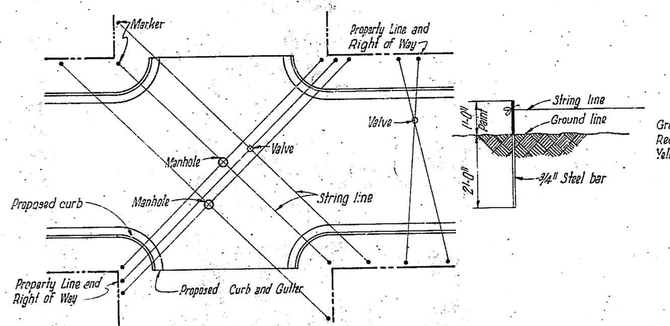
TYPICAL STREET SECTION

NOTE: When the intersecting streets at a thru intersection vary in face to face width, median opening dimensions shall be determined from the street with the greatest face to face width



TYPICAL STREET INTERSECTIONS PLAN

MEDIAN OPENING DIMENSIONS				
T-INTERSECTION			THRU INTERSECTION	
A	B	C	A	B
32'	40'	52'	32'	64'
38'	44'	58'	38'	68'
38'	46'	52'	38'	70'
40'	48'	60'	40'	72'
44'	52'	64'	44'	76'
48'	56'	68'	48'	80'
66'	74'	86'	66'	98'
			86'	118



LOCATION PLAN

MARKER DETAIL

COLOR CODE	
Green	Gas
Red	Sanitary Sewer
Yellow	Storm Sewer

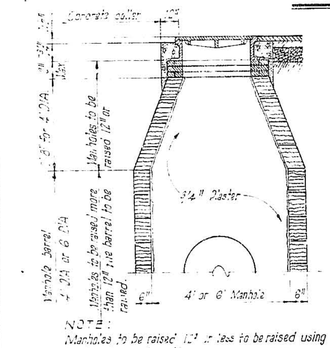
PLAN FOR LOCATING UNDERGROUND UTILITIES

GENERAL NOTES:

CURB AND GUTTER to be constructed of 3000 psi concrete and to be laid in lengths of 6 feet between construction joints. ½" preformed expansion joints to be located at intervals not to exceed 50 Feet, at the P.C. and P.T. of curb returns and each side of drive pads.

DRIVE PADS to be constructed of 3000 psi concrete 6 inch thick. Drive pads longer than 18 feet to have a ½" preformed expansion joint at the midpoint. Drive pads more than 36 feet long to have 2-½" expansion joints with not more than 18 feet between joints.

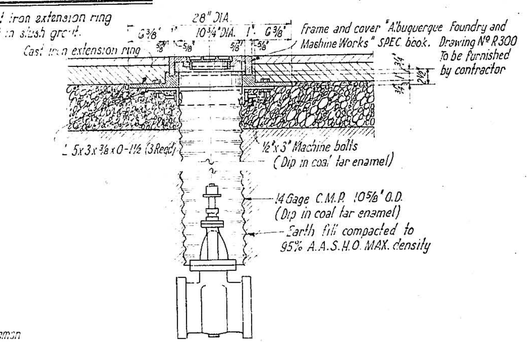
SIDEWALKS to be constructed of 3000 psi concrete 4 inch thick with a transverse slope of ¼ inch per foot. ½ inch preformed expansions joints to be located between the sidewalk and the back of the curb, where the sidewalks abut existing walls, buildings, drive pads, immovable objects and 18 feet on centers on straight runs. Dummy groove joints to be located at intervals of 6 feet on centers maximum. Width of sidewalk to be 42 inches when placed adjacent to the curb and gutter and 48 inches wide when placed adjacent to the property line. Sidewalks in front of business establishments shall be laid from the back of the curb to the edge of building or property line. No sidewalks to be constructed until curb and gutter is in place.



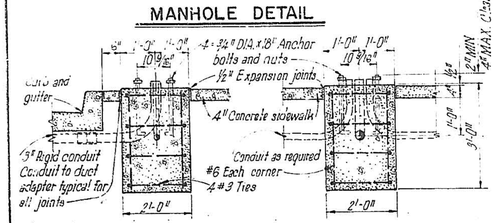
NOTE:
Manholes to be raised 12" or less to be raised using common brick and concrete collar in courses maximum.
Manholes to be raised 12" or more the cone to be removed, the barrel to be raised and the cone to be rebuilt.
Manholes to be lowered by removing the cone and lowering the barrel and rebuilding the cone.

SECTION

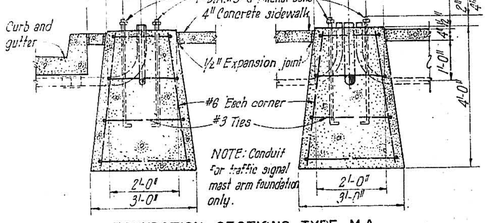
MANHOLE DETAIL



VALVE BOX DETAIL

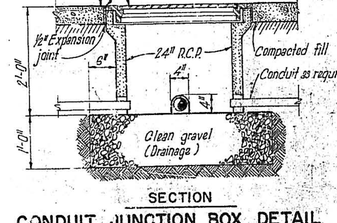


FOUNDATION SECTIONS TYPE S.P.



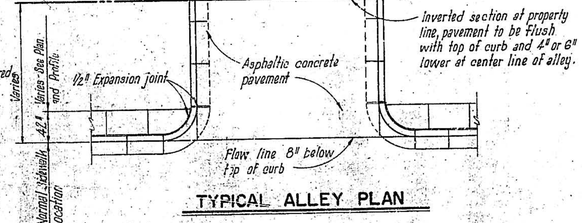
FOUNDATION SECTIONS TYPE M.A.

PEDESTAL AND MAST ARM FOUNDATION DETAILS



SECTION

CONDUIT JUNCTION BOX DETAIL



TYPICAL ALLEY PLAN

08 | 6 | 6 | 07 | 6 | 1 | | | 1 | 0 | | 10

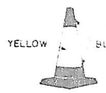
, ALBUQUERQUE , NEW MEXICO

PAVING STANDARD

ARTERIAL STREET PAVEMENT DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC., CONSULTING ENGINEERS, ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: R.A.G.	SHEET 7
NOT TO SCALE		CHECKED: G.A.J	OF 56

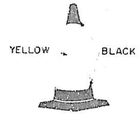


18" TRAFFIC CONE

TO BE USED TO CHANNELIZE TRAFFIC IN CONSTRUCTION AREA ONLY. TO BE USED TO SEPARATE TRAFFIC LANES WHEN ONE SIDE OF DIVIDED STREETS IS USED

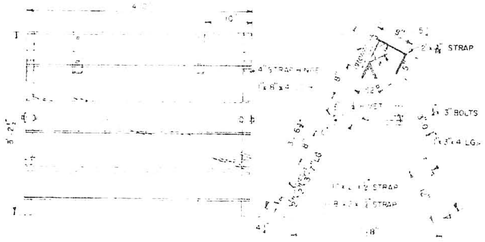
FLASHER

TO BE USED TO SUPPLEMENT BARRICADES FROM SUNSET TO SUNRISE.
7" LENSE MAY BE USED ALONE.
4½" LENSE MUST BE SUPPLEMENTED WITH 7" LENSE OR FLARE POT.



30" TRAFFIC CONE

TO BE USED TO SUPPLEMENT BARRICADE "G" OR OPTIONAL "G" FOR TEMPORARY STREET CLOSINGS AND MAY BE USED WITH POLICE OFFICER OR FLAGMAN FOR STREET CLOSING.

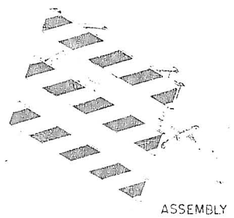


FRONT VIEW SIDE VIEW

FLARE POT

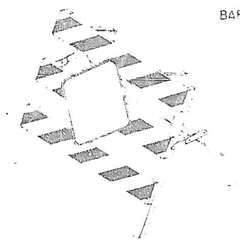
TO BE USED TO SUPPLEMENT BARRICADES AND FLASHERS FROM SUNSET TO SUNRISE

DETAIL OF STRIPING



ASSEMBLY

BARRICADE "G"

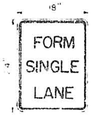


BARRICADE "G" WITH SIGN

BARRICADE "G" SHALL BE CONSTRUCTED AS THE ABOVE DESIGN OR EQUAL. BARRICADES OF SUBSTANTIAL CONSTRUCTION WHICH CORRESPOND IN SIZE & COLOR TO BARRICADE "G" WILL BE CONSIDERED EQUAL. BARRICADE "G" SHALL BE USED WITH APPROPRIATE WARNING & GUIDE SIGNS BY MAINTENANCE OR CONSTRUCTION CREWS, WHERE WORK IS BEING CONDUCTED IN OR NEAR THE ROADWAY, OR ANY TYPE PUBLIC HAZARD WHICH IS CREATED BY THE WORK. BARRICADE "G" SHALL BE USED AS AN ADVANCE WARNING SIGN BARRIER. BARRICADE "G" MAY BE USED TO CLOSE RESIDENTIAL OR COLLECTOR STREETS FOR 10 DAYS OR LESS. BARRICADE "G" MAY BE USED TO CLOSE PRIMARY ARTERIAL TYPE STREETS BETWEEN 9:00A.M. - 4:00P.M.

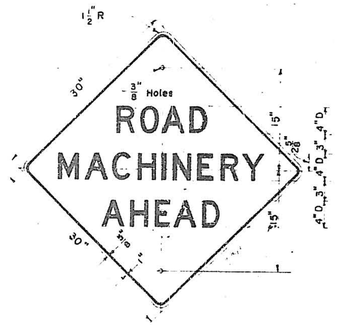
NOTE -
ALL BARRICADES TO BE PAINTED WHITE REFLECTORIZED & BLACK

R-17
18"x 24"

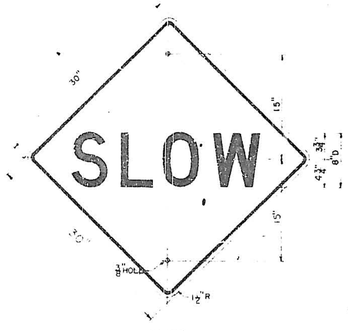


ALL WARNING SIGNS(W) TO BE AS FOLLOWS:
LETTERS — BLACK
BORDER — BLACK
BACKGROUND-YELLOW REFLECTIVE

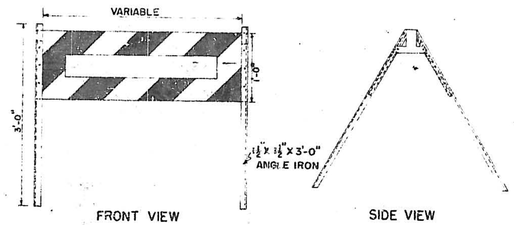
W-26
24"x24"



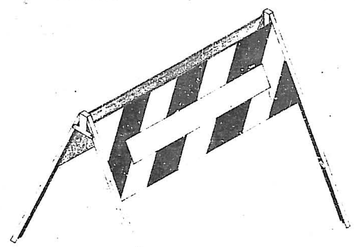
W-147
30"x30"



W-155
30"x30"



FRONT VIEW SIDE VIEW

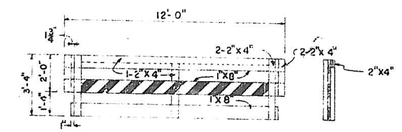


SIGNS TO BE USED
KEEP RIGHT
KEEP LEFT
OPEN TRENCH
DETOUR
OR
ANY GUIDE SIGN

ASSEMBLY

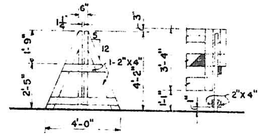
BARRICADE "G" (OPTIONAL)

SAME USES AS BARRICADE "G"

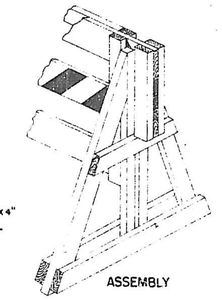


PANEL SIDE VIEW

DETAIL OF STRIPING



STAND

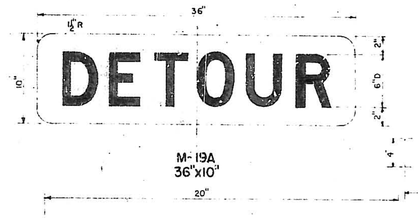


ASSEMBLY

BARRICADE "C"

BARRICADE "C" SHALL BE CONSTRUCTED AS ABOVE DESIGN OR EQUAL. BARRICADES OF SUBSTANTIAL CONSTRUCTION WHICH CORRESPOND IN SIZE & COLOR TO BARRICADE "C" SHALL BE CONSIDERED EQUAL. BARRICADE C WITH APPROPRIATE SIGNS MAY BE USED TO CLOSE RESIDENTIAL OR COLLECTOR STREETS FOR MORE THEN 10 DAYS. BARRICADE "C" MAY BE USED TO CLOSE FEDERAL ROUTES, STATE HIGHWAYS OR THOROUGHFARES FOR HOURS OTHER THAN BETWEEN 9:00A.M. - 4:00P.M.

ALL SIGNS SHOWN BELOW EXCEPT M-20A (L) TO BE AS FOLLOWS:



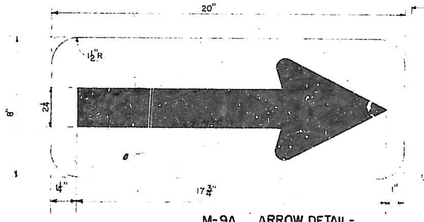
M-19A
36"x10"

LETTERS-BLACK
BORDER — BLACK
BACKGROUND-WHITE REFLECTIVE
ARROW — BLACK

LETTERS-BLACK
BACKGROUND-BLACK
ARROW — WHITE REFLECTIVE

M-20A (L)
20"x8"

ARROW DETAIL-SEE NOTE "A"

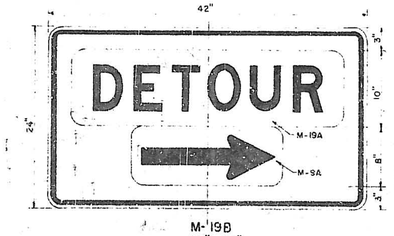


M-9A
20"x8"

ARROW DETAIL-SEE NOTE "B"

NOTE "B"

D-34
55"x15½"



M-19B
42"x 24"

D-35
85"x13"

STANDARD CONSTRUCTION SIGNS & BARRICADES

TRAFFIC ENGINEERING DEPT.
IN ACCORDANCE WITH
NEW MEXICO MANUAL ON UNIFORM TRAFFIC CONTROL
DEVICES FOR STREETS & HIGHWAYS

SCALE	DATE	DRAWN	SHEET
NOT TO SCALE	AUG. 3, 1960	CHECKED	OF

BLVD SW

BRIDGE

40'

Derrick stone

New jetties. for layout and details see sheet 33

20'

RIO

Outlet Structure

GRANDE

82.41'

Existing jetties to be removed during construction and replaced after construction.

6' 6' 6'

22½° Bend

32.59

22½° Bend

22½° Bend

10" Check valve

45° Bend

10" Schedule 20 wrought steel pipe. Sump pump discharge line

4-48" x ¼" thick wall steel discharge lines

15' 15' 15'

CURVE DATA
Δ = 28°34' L.T.
D = 20°
T = 72.93
L = 142.83'
R = 286.48'

Existing 16 steel stor... ...

BASE

LINE

℄ Levee

Top of levee

Junction Gravel to Asphalt

Remove existing 16" steel discharge line and plug both ends within the limits indicated.

P.I. STA. 760+55.50
5.88' Rt of base line
STA. 1+47.06

Corner is 65' Rt of base line STA. 2+53.21

40' R.

40'

25'

Provide reflectorized guard at proper spacing.

Existing asphalt road to be removed

GRAVEL

ROAD

Top of berm

Retaining wall

Terminal pole by others with 35' down guy

96" R.C.P.

CURVE DATA
Δ = 30°
D = 25°55'15"
T = 60'
L = 117.24'
R = 223.92'

Note: For continuation of 96" R.C.P. Storm sewer see sheet 35

P.I. STA. 761+79.36

CURVE DATA
Δ = 2°30' RT
D = 20°
T = 53.96
L = 106.87'
R = 286.48'

46.64'

25'

31.5'

5' Gate

Terminal pole by others with 35' down guy. 100' RT. STA. 2+21

Test hole

Gravel

F.H.

Surfacing

1' 20' 3'

12' Gate

60" R.C.P.

5' Gate

GRAVEL

ROAD

7' Security fence

Begin Metropolitan Storm Sewer (Lot 2) STA. 4+70.89 89.5' RT of base line STA. 3+56.75

5'x15'x6" Concrete slab with #4@12 each way

5' 5' 15'

2.5' 15' 2.5'

CURVE DATA
Δ = 30°
D = 25°35'15"
T = 60'
L = 117.24'
R = 223.92'

WORK THIS SHEET IS IN LOT 1

49' 23' 55.42' 42.37' 3' 20' 23'

97.79'

Albuquerque

Flow

Riverside

Inlet Structure

Top of bank

TIE STA. 543+37 M.S.C.D.

Albuquerque Riverside Drain (Barr Extension)

Drain

08 616 0961 08 06

LAYOUT PLAN

Scale: 1" = 20'

ALBUQUERQUE - NEW MEXICO

BARELAS PUMP STATION ANL
METROPOLITAN STORM SEWER SYSTEM

LAYOUT PLAN

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: RAS	SHEET 9
1" - 20'	AUGUST 1961	CHECKED: GAJ	OF 56

RIO GRANDE

NOTE:
After installation and backfill of discharge line and outlet structure, levee slopes to be dressed to match existing grade.

50.5 51.0 31.0 51.0 50.5

45.9

45.8

ELEV. 32.00

WORK THIS SHEET IS IN LOT 1

ALBUQUERQUE

RIVERSIDE DRAIN

08 6116 1061 08

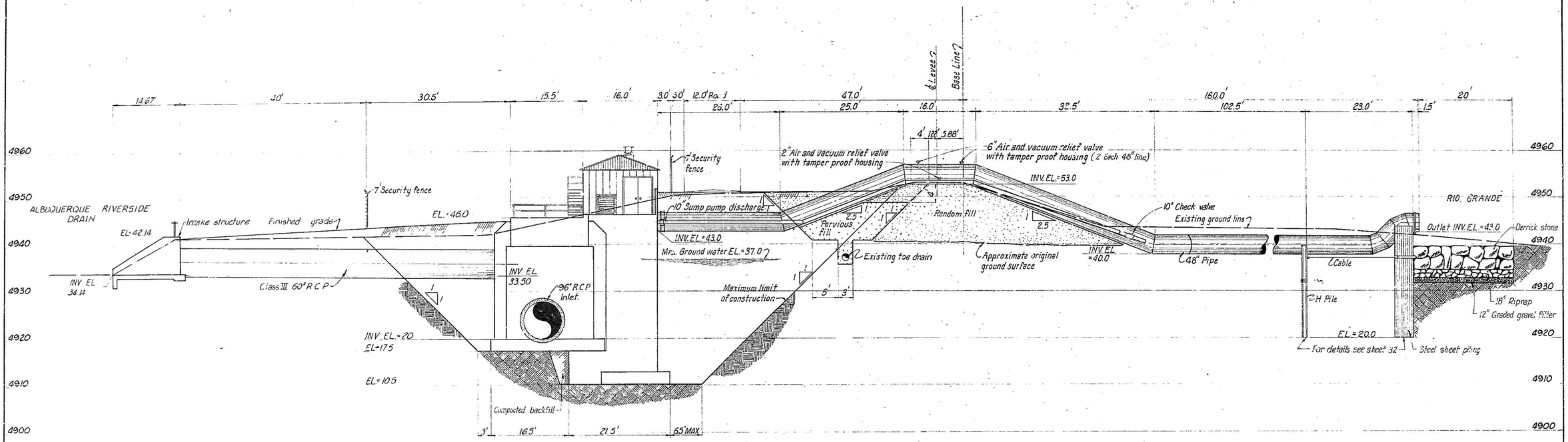
ALBUQUERQUE—NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

GRADING PLAN

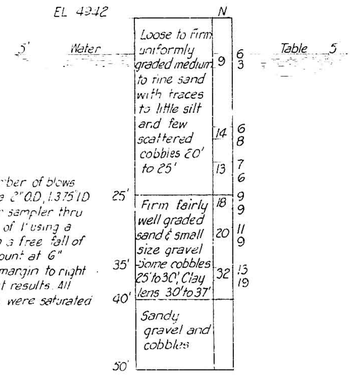
GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: R.A.M.	SHEET 10
1" = 20'-0"	AUGUST 1961	CHECKED:	OF 56



NORTH ELEVATION SECTION

Scale 1"=10'



Note
"N" is equal to the number of blows required to drive a 3" O.D. 1.375 I.D. standard split spoon sampler thru a vertical distance of 1' using a 140 lb hammer with a free fall of 30". Penetration count at 6" intervals listed in margin to right of penetration test results. All recovered samples were saturated

BORING LOG OF TEST HOLE

Scale 1"=10' Vertical

GENERAL DESIGN AND CONSTRUCTION NOTES - LOT 1

DESIGN DATA:

1. Maximum allowable soil bearing = 3000 psf.
2. Loads:
   - Wind ..... 20 psf
   - Snow ..... 15 psf
   - Floor, live loads
     - Main Sump Deck: 200 psf slab design, 100 psf beam design.
     - Grating, Elevation 4940 ..... 100 psf
     - Stairs and walkways ..... 100 psf
     - Equipment loads and thrusts per manufacturer's data.
3. Reinforcing steel: ASTM A15 and A305 intermediate grade. Minimum concrete cover in accordance with A.C.I. code where not shown.
4. Structural steel: ASTM A7
5. Concrete:
   a. Inlet channel, side channel and sump structure – class AA, 4000 psi minimum compressive strength @ 28 days.
   b. Retaining wall, footings and floor slab for metal building, intake structure at riverside drain and all other concrete items lot 1 – Class A. 3000 psi minimum compressive strength @ 28 days.

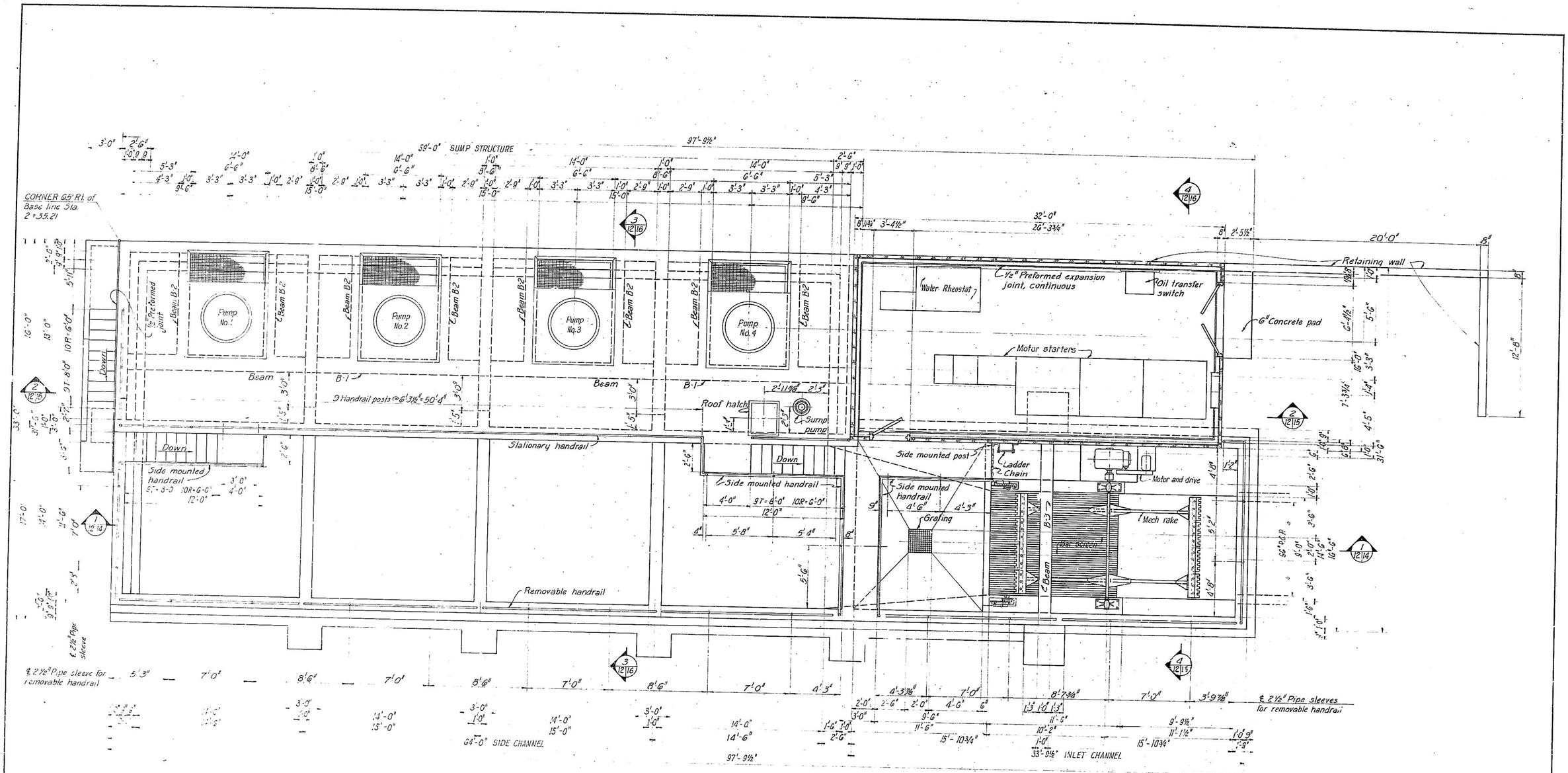
CONSTRUCTION:

1. Excavation shall be confined to minimum limits practicable and in no case shall extend into levee protective works beyond limits shown. Previous fill removed from back of levee shall be replaced in manner and material to equal original condition.
2. Backfilling shall be done in strict accordance with the specifications. Backfilling under structures such as inlet channel and side channel slabs, floor slab, footings and retaining walls at metal control building shall be placed in 6" layers of select material and compacted to 95% maximum density to the standard specified.
3. No concrete shall be placed in water.
4. Concrete for inlet channel, side channel and sump structure shall be placed monolithically. No vertical joints will be permitted in or between these structures. Horizontal joints may be located as shown on sheets 14, 15, 16 or may be located other than shown at the contractor's option with the approval of the Engineer. All horizontal construction joints shall be keyed and those below elevation 4940.0 shall be provided with continuous waterstops. Concrete shall be placed at such rate so that no cold joints occur between horizontal construction joints.
5. All piping and conduit runs from Control Building through north wall of sump structure shall be centered in and run through loose fitting sleeves one inch larger in diameter and caulked.
6. Second stage concrete as noted in inlet channel may be placed with initial pour at the option of the Contractor.

WORK THIS SHEET IS IN LOT 1

ALBUQUERQUE – NEW MEXICO	
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM	
NORTH ELEVATION	
GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS	
ALBUQUERQUE	NEW MEXICO
SCALE: AS SHOWN	DATE: AUGUST 1961
DRAWN: R A S	SHEET 11
CHECKED:	OF 56

08 616 1161 08



FLOOR PLAN

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

Sheet where section is taken — Section number / Sheet where section is shown

SECTION SYMBOL

WORK THIS SHEET IS IN LOT 1

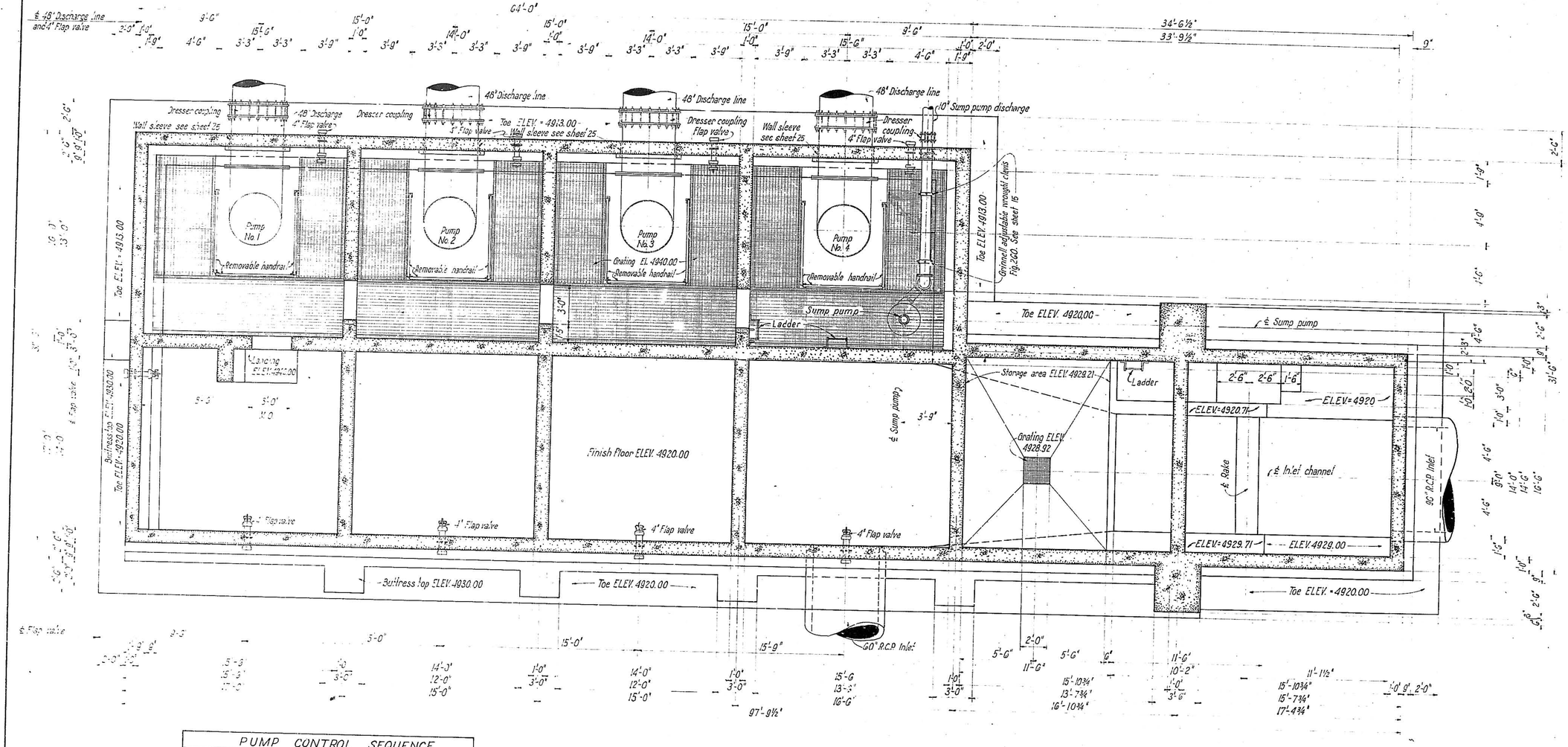
ALBUQUERQUE – NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

FLOOR PLAN

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: AOH	SHEET 12
AS SHOWN	AUGUST 1961	CHECKED:	OF 56



PUMP CONTROL SEQUENCE

RISING CYCLE WATER ELEV	PUMP OPERATION
4915.0	Sump pump on
4921.0	Pump No. 1 on (See note)
4924.0	Pump No. 2 on
4925.0	Pump No. 3 on
4926.0	Pump 1 to 4 on, Sump pump off

FALLING CYCLE WATER ELEV	PUMP OPERATION
4923.50	Pump No. 4 off, Sump pump on
4922.50	Pump No. 3 off
4921.50	Pump No. 2 off
4920.00	Pump No. 1 off
4915.00	Sump pump off

PLAN SECTION - ELEV. 4940.0 TO 4946.0

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

Note: After each start or stop sequence of the constant speed pumps No. 2, 3, and 4, the variable speed pump No. 1 shall be repositioned to the proper bubbler for recycling. For complete description of control and sequencing operations see section 17 of the technical provisions of the specifications. The water rheostat electrolyte recirculating cooling system shall be located at a sufficient depth below ELEV. 4920.0 in pump No. 4 cell to assure submergence during operation of pump No. 1

WORK THIS SHEET IS IN LOT 1

08 16 16 13 61 08

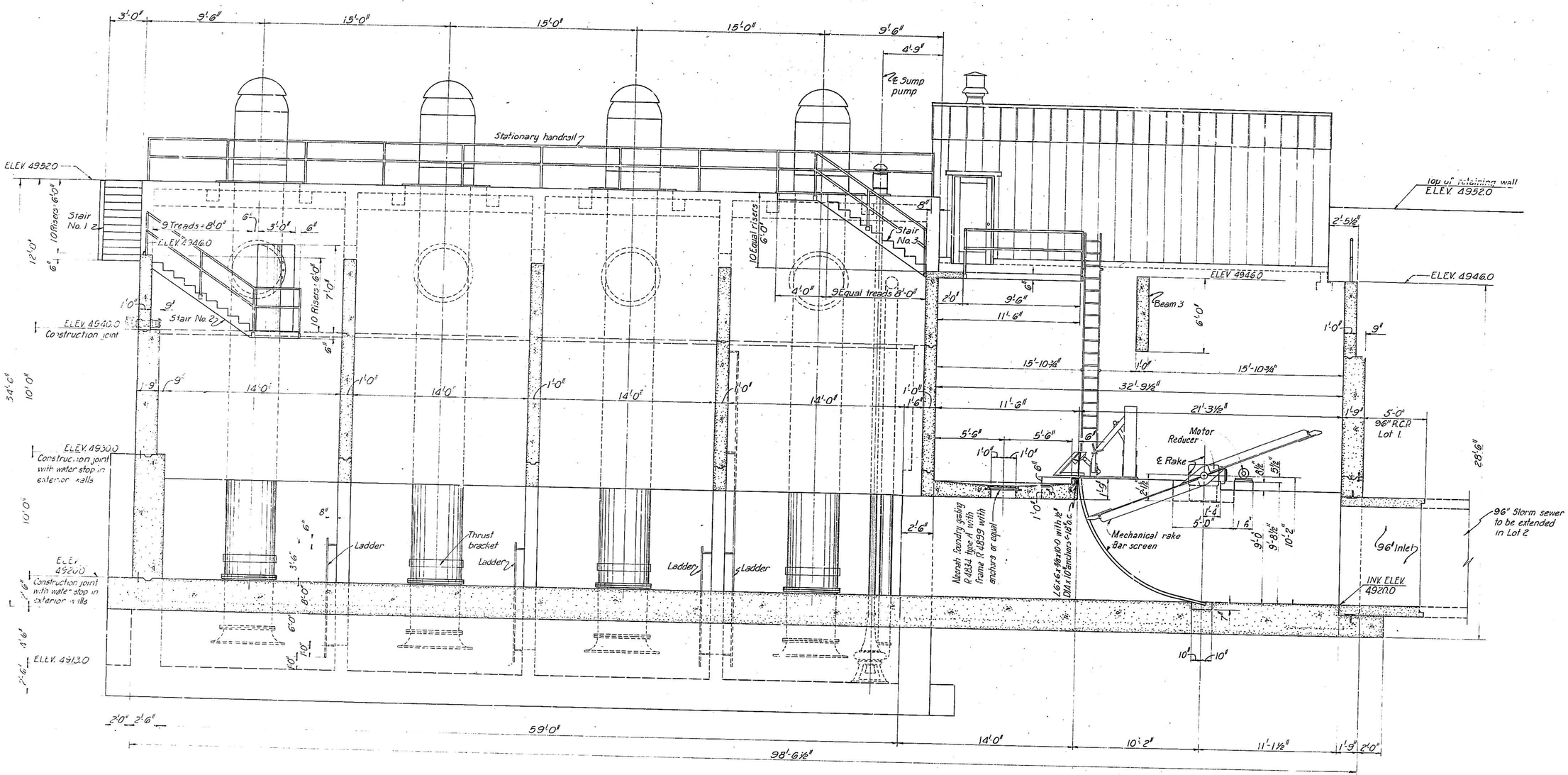
ALBUQUERQUE - NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

PLAN SECTION
ELEV. 4940.0 TO 4946.0

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: AOH	SHEET 13
1/4" = 1' = 0"	AUGUST 1961	CHECKED: GAJ	OF 56



SECTION - (1/2/14)

WORK THIS SHEET IS IN LOT 1

08 16 16 1461 08 08

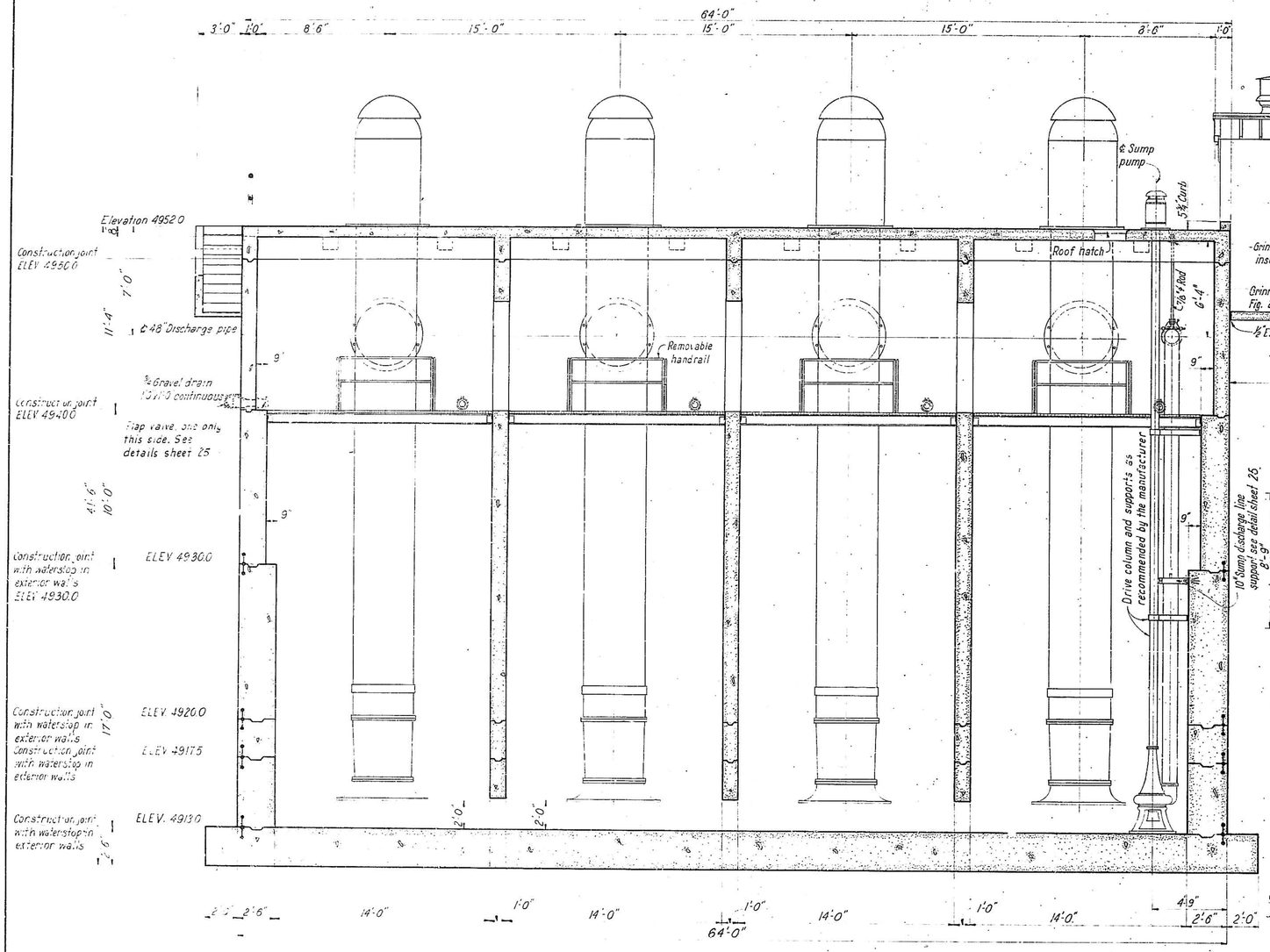
ALBUQUERQUE — NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

LONGITUDINAL MASONRY SECTION I-I

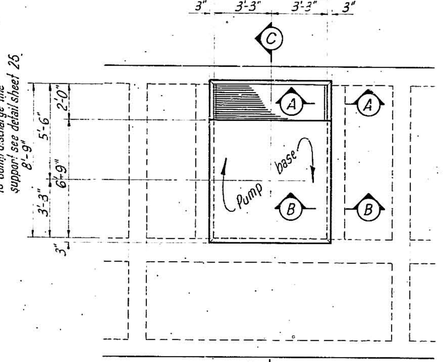
GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: B.E.T.	SHEET 14
1/4"=1'-0"	AUGUST 1961	CHECKED:	OF 56



SECTION (2) 12-15

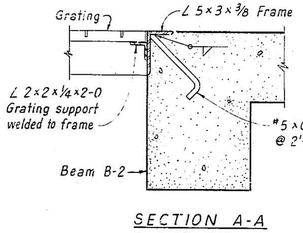
Scale ¼" = 1'-0"



C

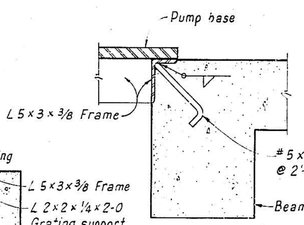
CELL PLAN - TYPICAL

Scale: ½" = 1'-0"



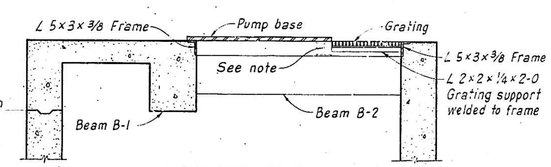
SECTION A-A

Scale: 1½" = 1'-0"



SECTION B-B

Scale: 1½" = 1'-0"



SECTION C-C

Not to scale

PUMP BASE AND ROOF GRATING SUPPORT DETAILS

NOTE:

Pump base as required by manufacturer. Should base design require support across discharge side of 6'-6" opening, removable steel members shall be supplied, and required inserts and connections shall be as approved by the Engineer.

WORK THIS SHEET IS IN LOT 1

08 16 16 15 61 08 03

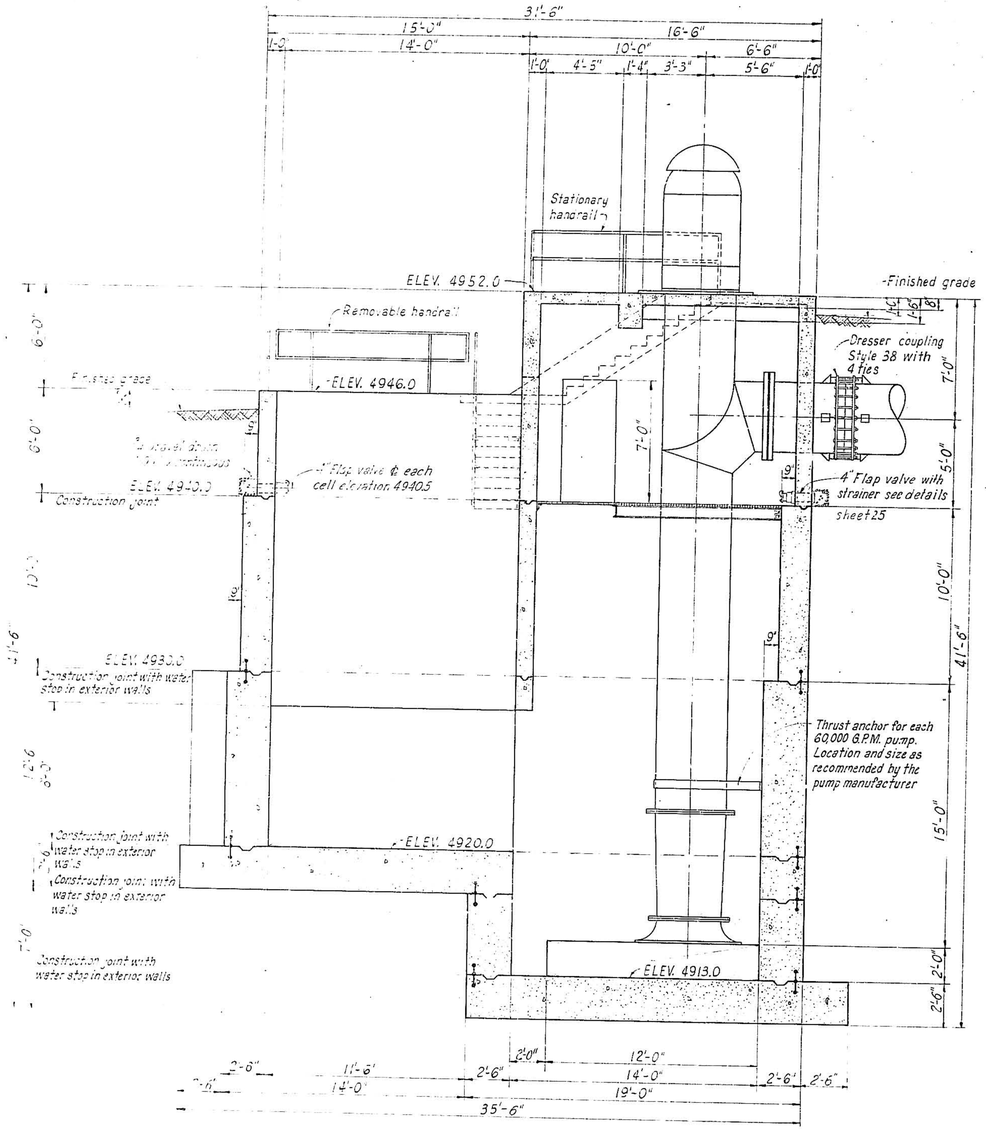
ALBUQUERQUE NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

LONGITUDINAL MASONRY SECTION 2-2 AND PUMP BASE SUPPORT DETAILS

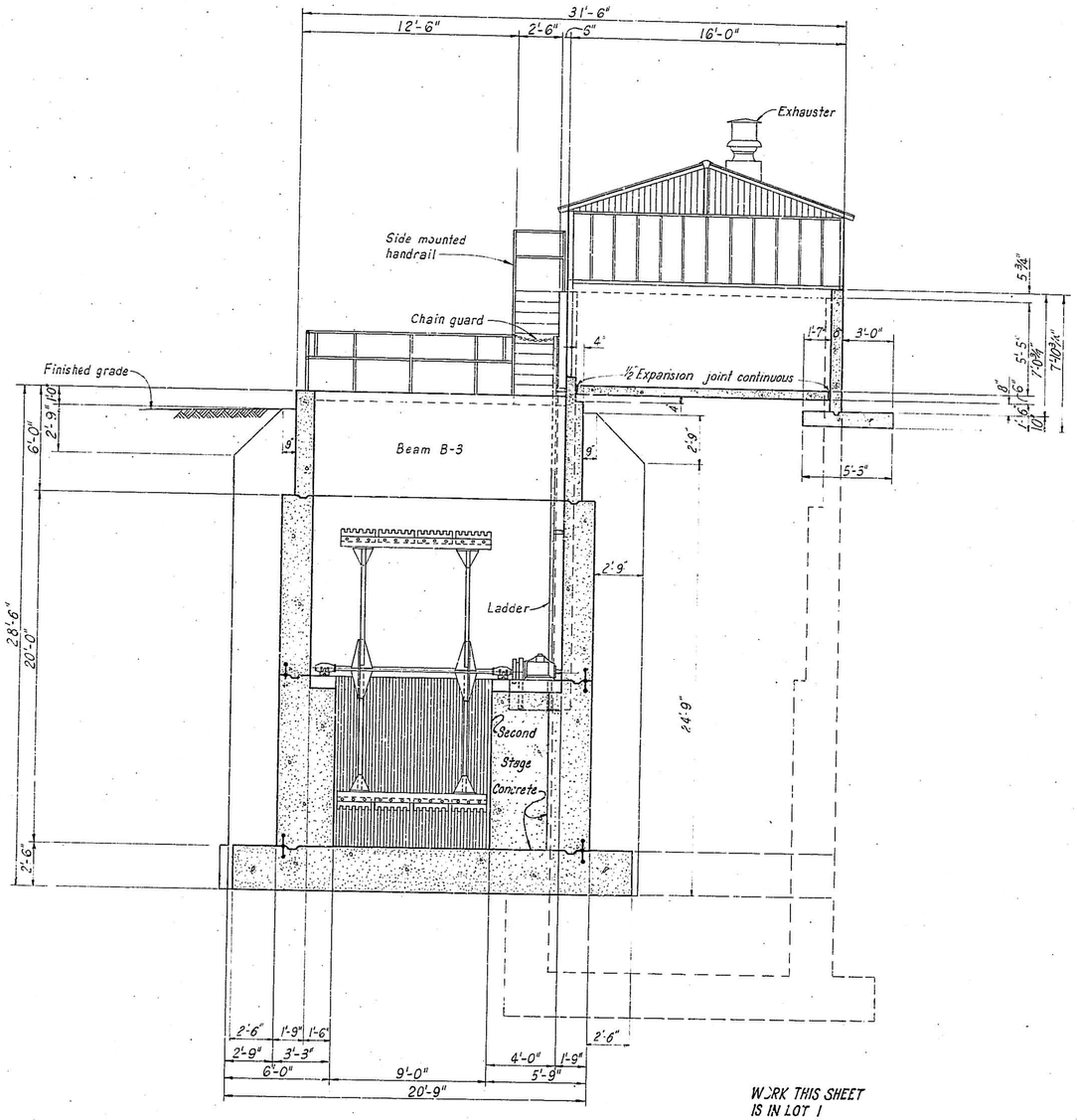
GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: R.A.L.	SHEET 15
AS SHOWN	AUGUST 1961	CHECKED:	OF 56



SECTION (3/12'-6")

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



SECTION (4/12'-6")

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

WORK THIS SHEET IS IN LOT 1

08 616 1661 08 03

ALBUQUERQUE—NEW MEXICO

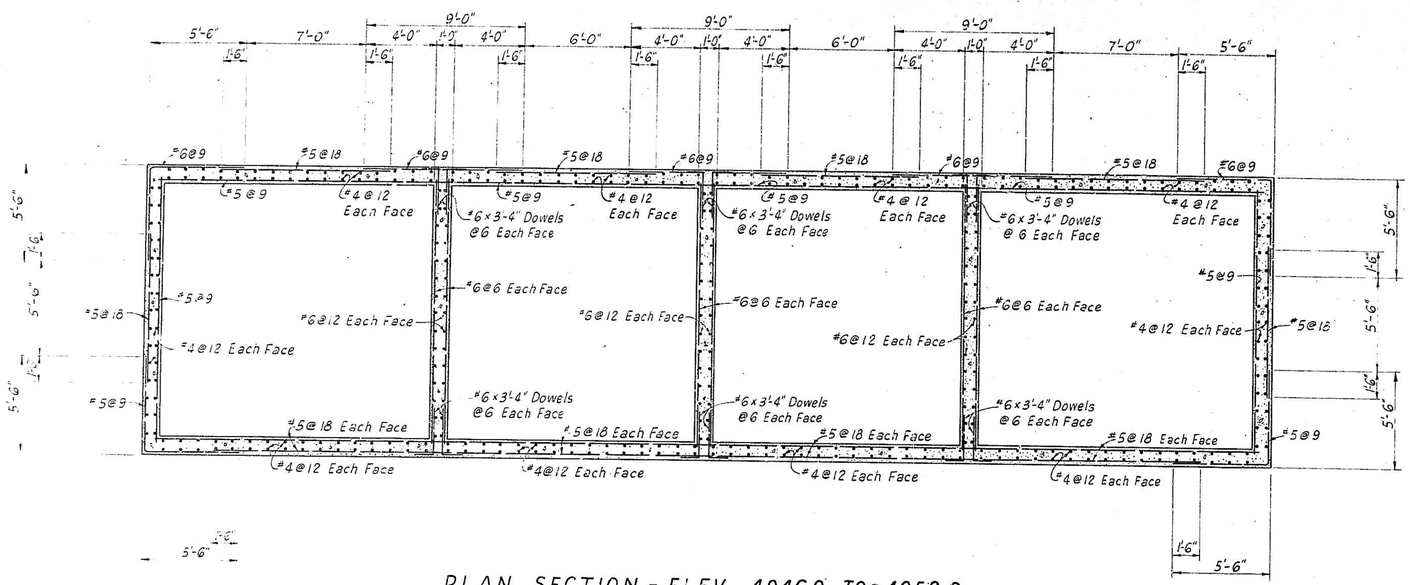
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

TRANSVERSE MASONRY

SECTIONS 3-3 AND 4-4

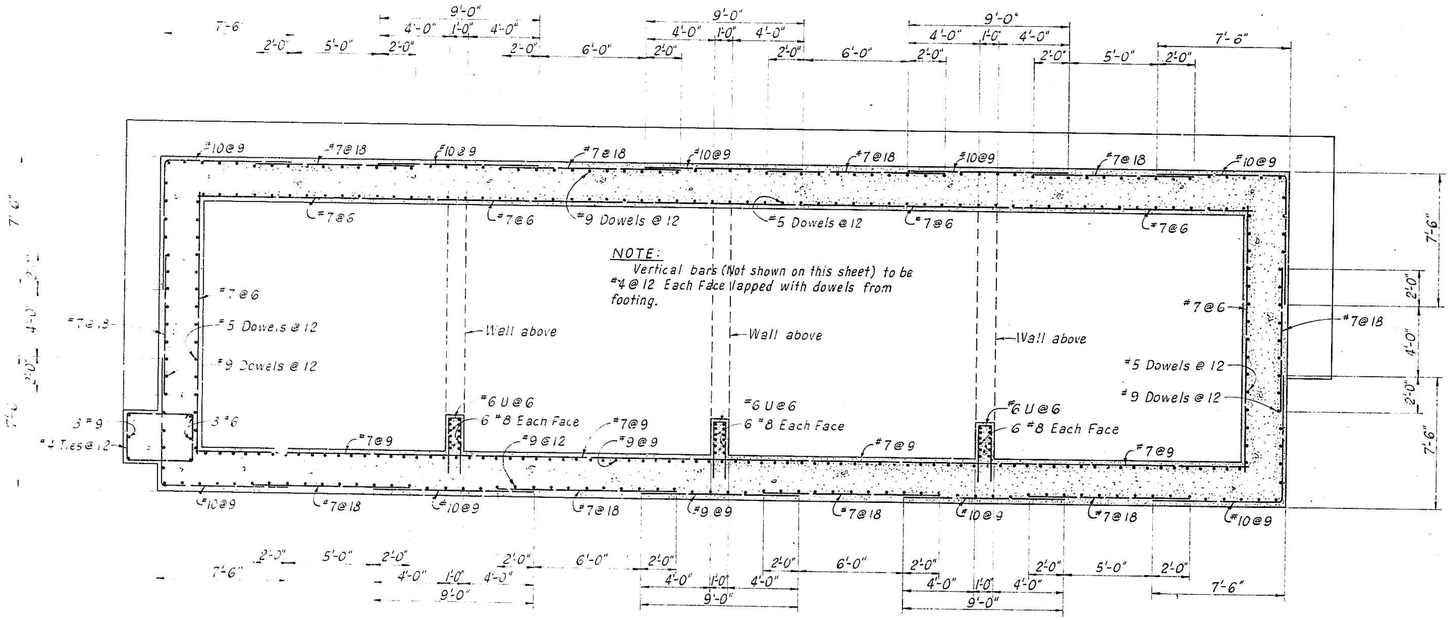
GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: R.D.M.	SHEET 16
1/4"= 1'-0"	AUGUST 1961	CHECKED:	OF 56



PLAN SECTION - ELEV. 4946.0 TO 4952.0

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



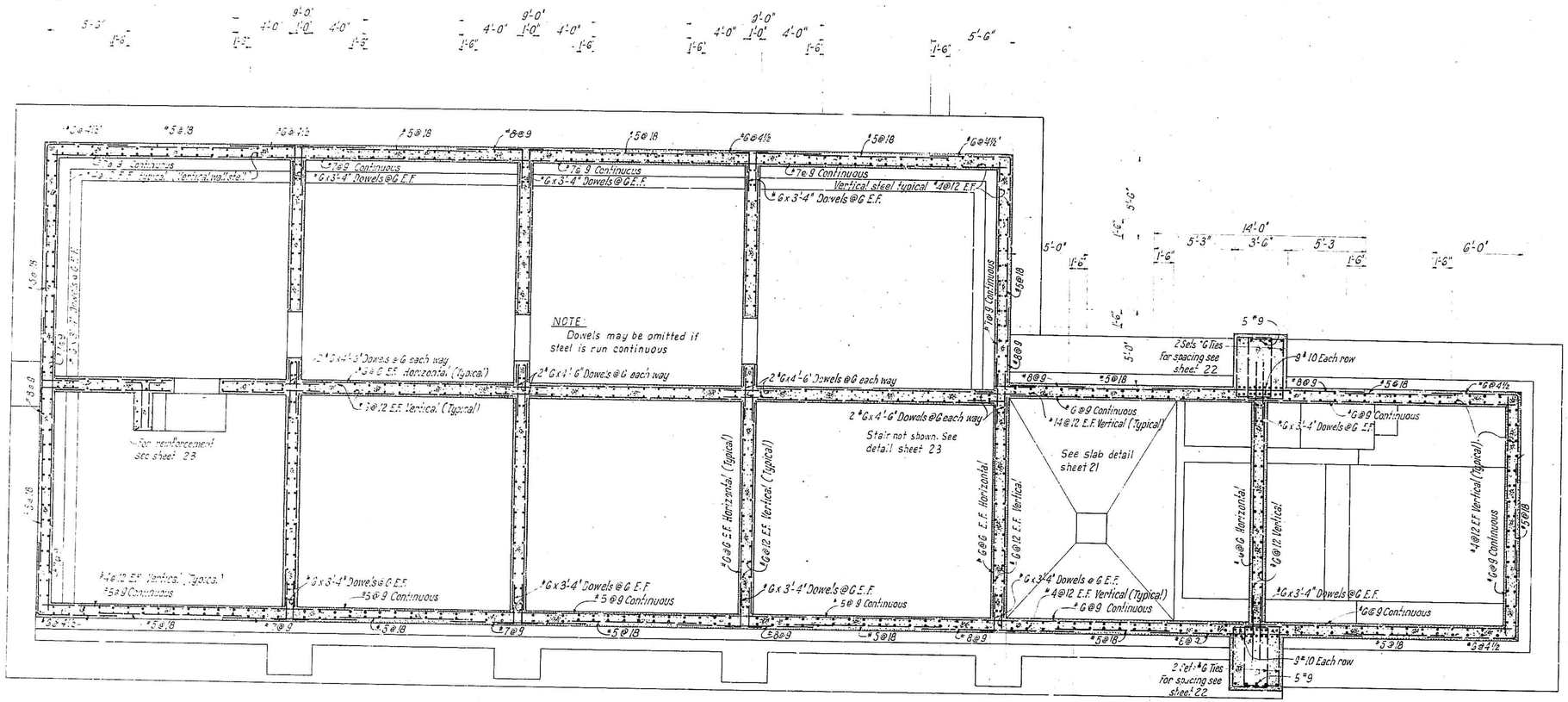
PLAN SECTION - ELEV. 4913.0 TO 4920.0

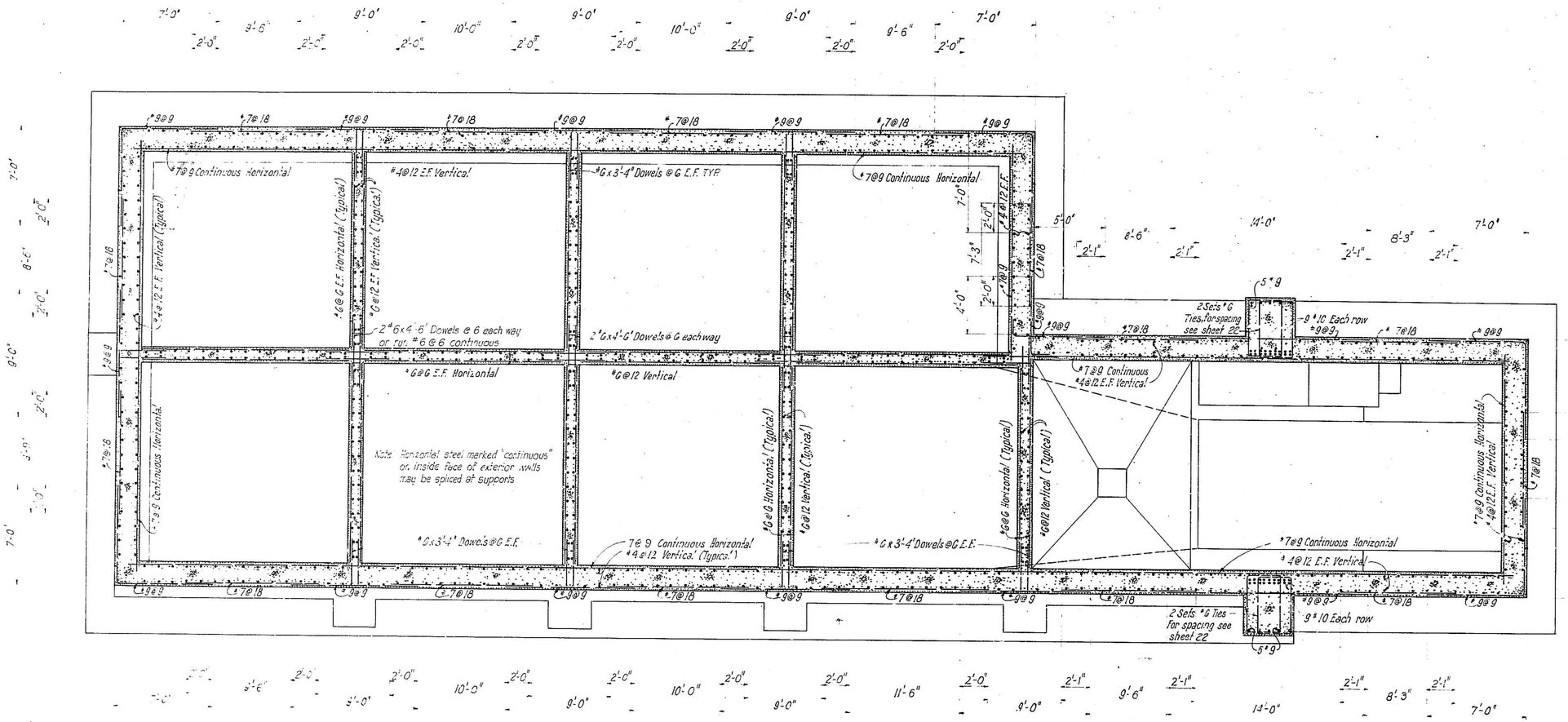
Scale: 1/4" = 1'-0"

NOTE:
Splice horizontal steel inside face at supports where required.

ALBUQUERQUE - NEW MEXICO	
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM	
PLAN SECTIONS - REINFORCING STEEL ELEV. 4913.0 TO 4920.0 AND ELEV. 4946.0 TO 4952.0	
GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS	
ALBUQUERQUE	NEW MEXICO
SCALE: AS SHOWN	DATE: AUGUST 1961
DRAWN: R.D.M.	CHECKED:
SHEET 17 OF 56	

08 616 11761 08 03

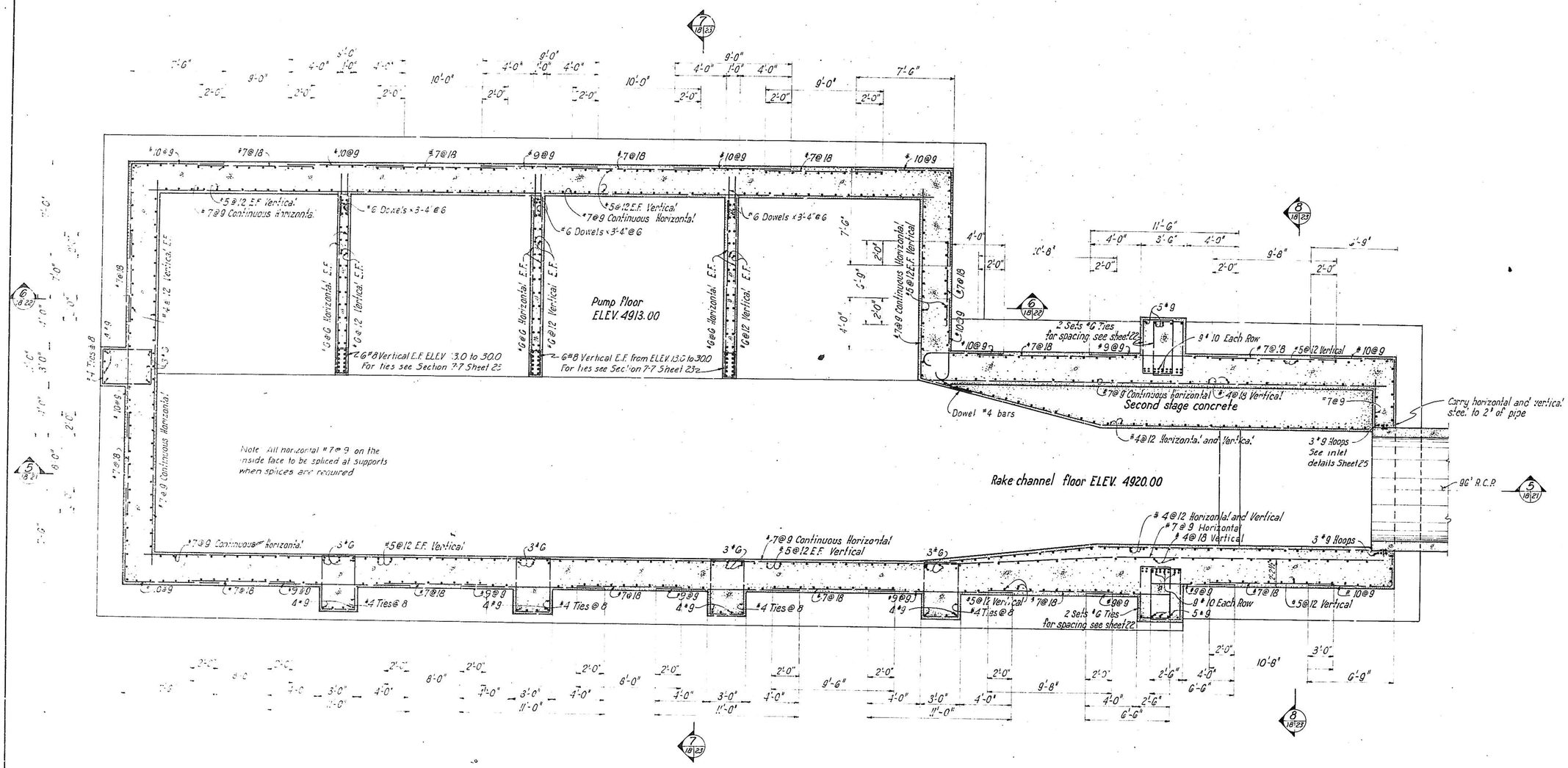

NOTE:
Dowels may be omitted if steel is run continuous
2 #6 x 4'-6" Dowels @ 6 each way
#5 @ 12 E.F. Vertical (Typical)
#5 @ 12 E.F. Horizontal (Typical)
#6 @ 12 E.F. Vertical (Typical)
#5 @ 9 Continuous
#6 x 3'-4" Dowels @ 6 E.F.
#5 @ 9 Tie Continuous
#4 @ 12 E.F. Vertical (Typical)
#6 @ 12 E.F. Horizontal
#6 @ 12 E.F. Vertical
#6 @ 9 Continuous
#4 @ 12 E.F. Vertical (Typical)
#6 @ 9 Horizontal
#6 @ 12 Vertical
#4 @ 12 E.F. Vertical (Typical)
#6 @ 9 Continuous
#5 @ 18
#5 @ 9
#6 @ 9
#6 @ 4½
#5 @ 18
#6 @ 9 Continuous
#14 @ 12 E.F. Vertical (Typical)
#6 x 3'-4" Dowels @ 6 E.F.
#6 @ 9 Continuous
#5 @ 18
#6 @ 4½
#5 @ 18
#6 @ 9 Continuous
#6 x 3'-4" Dowels @ 6 E.F.

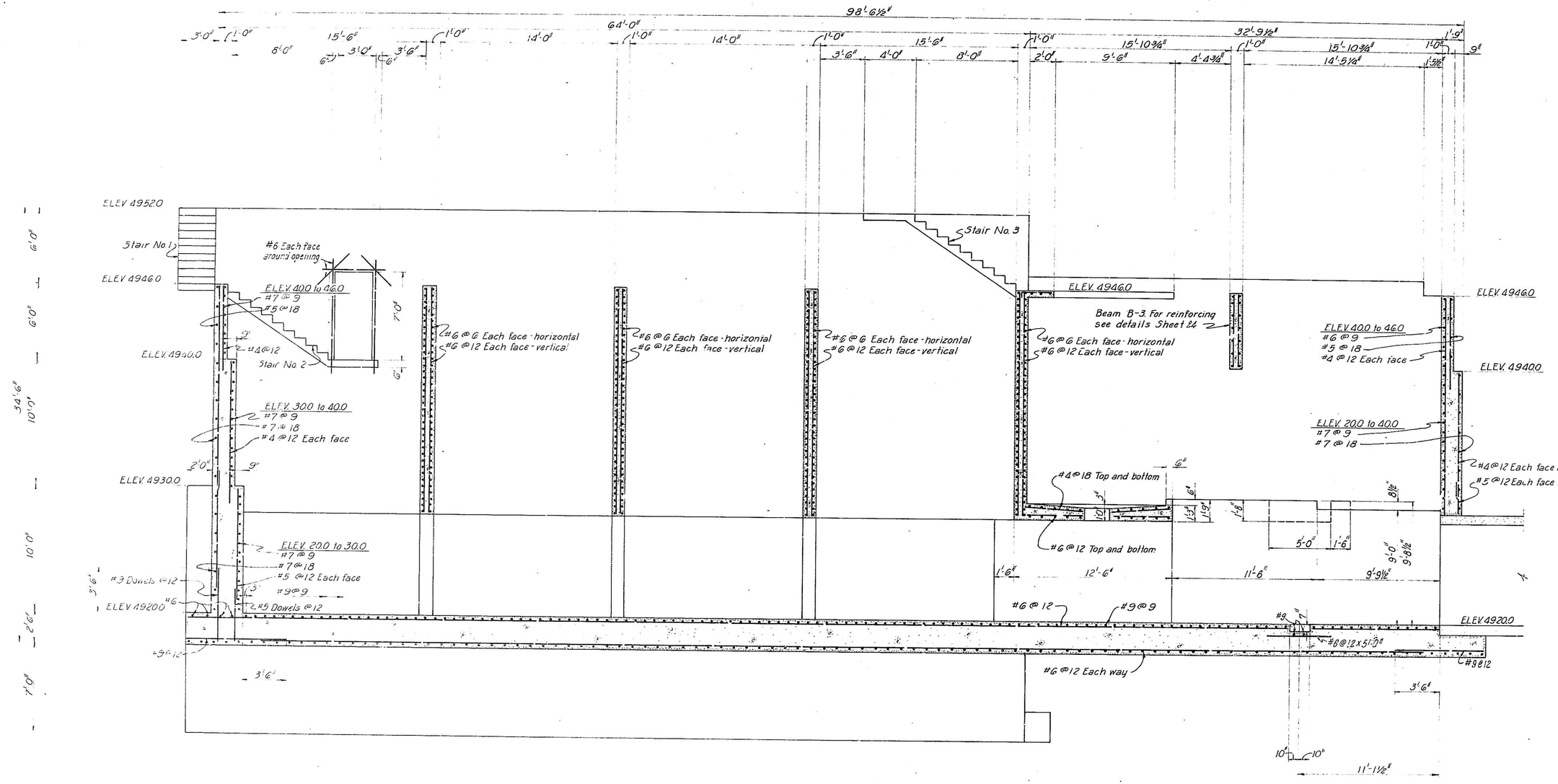


PLAN SECTION — REINFORCING STEEL
ELEVATION 4930.0 TO 4940.0
Scale: 1/4" = 1'-0"

08 | 6 | 16 | 1 | 9 | 6 | 1 | 08 | 03

ALBUQUERQUE - NEW MEXICO			
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM			
PLAN SECTION REINFORCING STEEL ELEV. 4930.0 TO 4940.0			
GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS			
ALBUQUERQUE			NEW MEXICO
SCALE 1/4" = 1'-0"	DATE AUGUST 1961	DRAWN: A.O.H. CHECKED:	SHEET 19 OF 56


#10@9
#7@18
#9@9
#5@12 E.F. Vertical
#7@9 Continuous Horizontal
#6 Dowels x 3'-4" @ 6
#6@6 Horizontal E.F.
#6@12 Vertical E.F.
Pump Floor
ELEV. 4913.00
#6 #8 Vertical E.F. ELEV. 13.0 to 30.0
For ties see Section 7-7 Sheet 23
#6 #8 Vertical E.F. from ELEV. 13.0 to 30.0
For ties see Section 7-7 Sheet 23
#7@9 Continuous Horizontal
#5@12 Vertical
2 Sets #6 Ties
for spacing see sheet 22
9 #10 Each Row
#7@18
#5@12 Vertical
#10@9
#7@9 Continuous Horizontal
#4@12 Vertical
Second stage concrete
Dowel #4 bars
#4@12 Horizontal and Vertical
3 #9 Hoops
See inlet
details Sheet 25
Carry horizontal and vertical
stee. to 2' of pipe
Rake channel floor ELEV. 4920.00
#7@9 Continuous Horizontal
#5@12 E.F. Vertical
#4 Ties @ 8
#4@12 Horizontal and Vertical
#7@9 Horizontal
#4@18 Vertical
3 #9 Hoops
#5@12 Vertical
2 Sets #6 Ties
for spacing see sheet 22
9 #10 Each Row
#5 #9
#4 Ties @ 8
#7 Ties @ 8
#4@12 E.F. Vertical
#6@6 Horizontal E.F.
#6@12 Vertical E.F.
#7@9 Continuous Horizontal
#4@12 Horizontal and Vertical
Note: All horizontal #7@9 on the inside face to be spliced at supports when splices are required
#7@9 Continuous Horizontal
#5@12 E.F. Vertical
#4 Ties @ 8
#7@18
#9@9
4 #9
#5@12 Vertical
#10@9
9 #10 Each Row
#5 #9
2 Sets #6 Ties
for spacing see sheet 22
#4@12 Horizontal and Vertical
#7@9 Horizontal
#4@18 Vertical
3 #9 Hoops
#5@12 Vertical
#10@9
#7@18
#9@9
4 #9
#4 Ties @ 8
#5@12 E.F. Vertical
#7@9 Continuous Horizontal
#5@12 E.F. Vertical
#4 Ties @ 8
#7@18
#9@9
4 #9
#4 Ties @ 8
#7@18
#9@9
4 #9
#4 Ties @ 8
#7@18
#9@9
4 #9



SECTION (5 / 18 21)

ALBUQUERQUE — NEW MEXICO

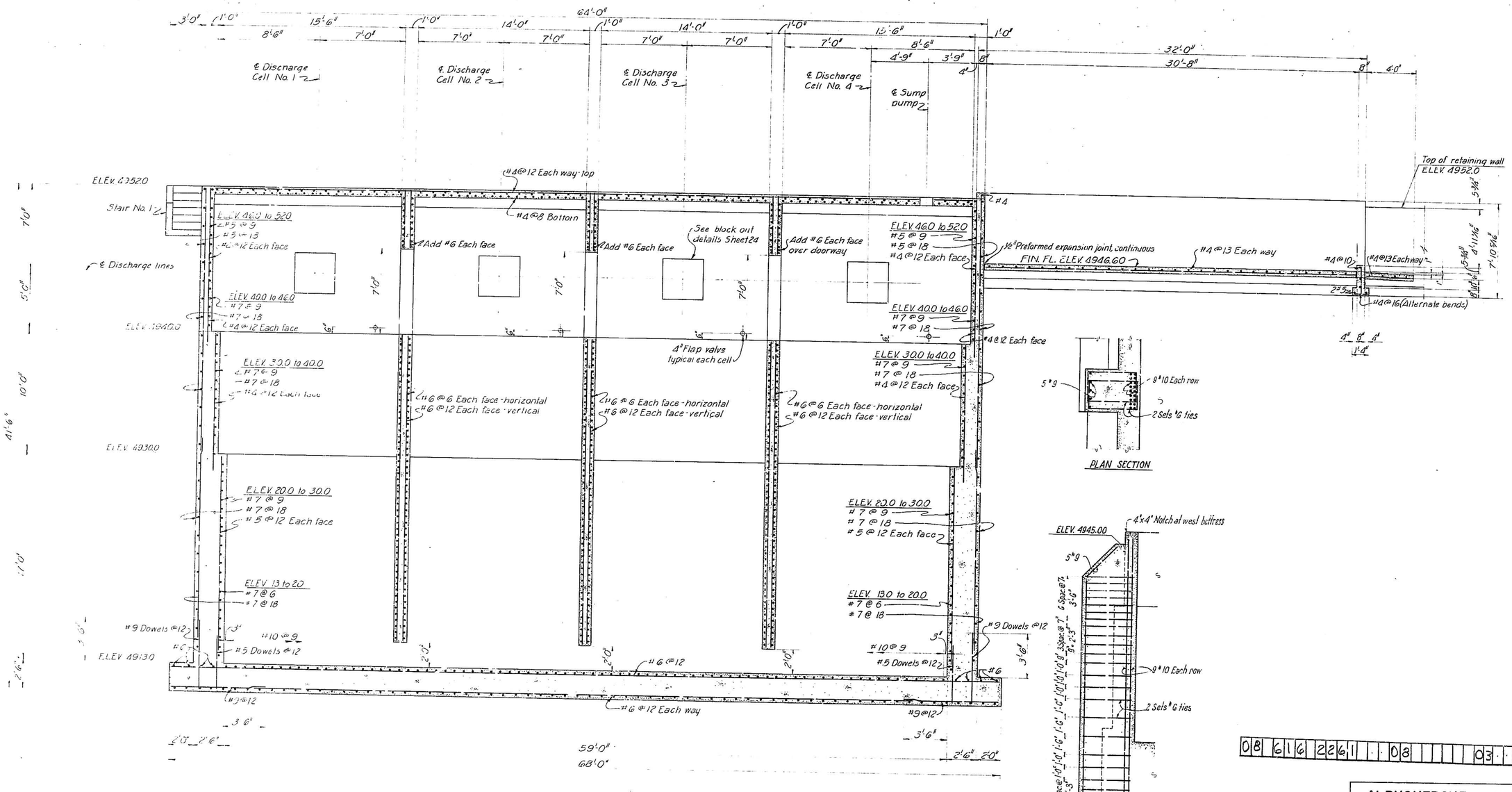
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

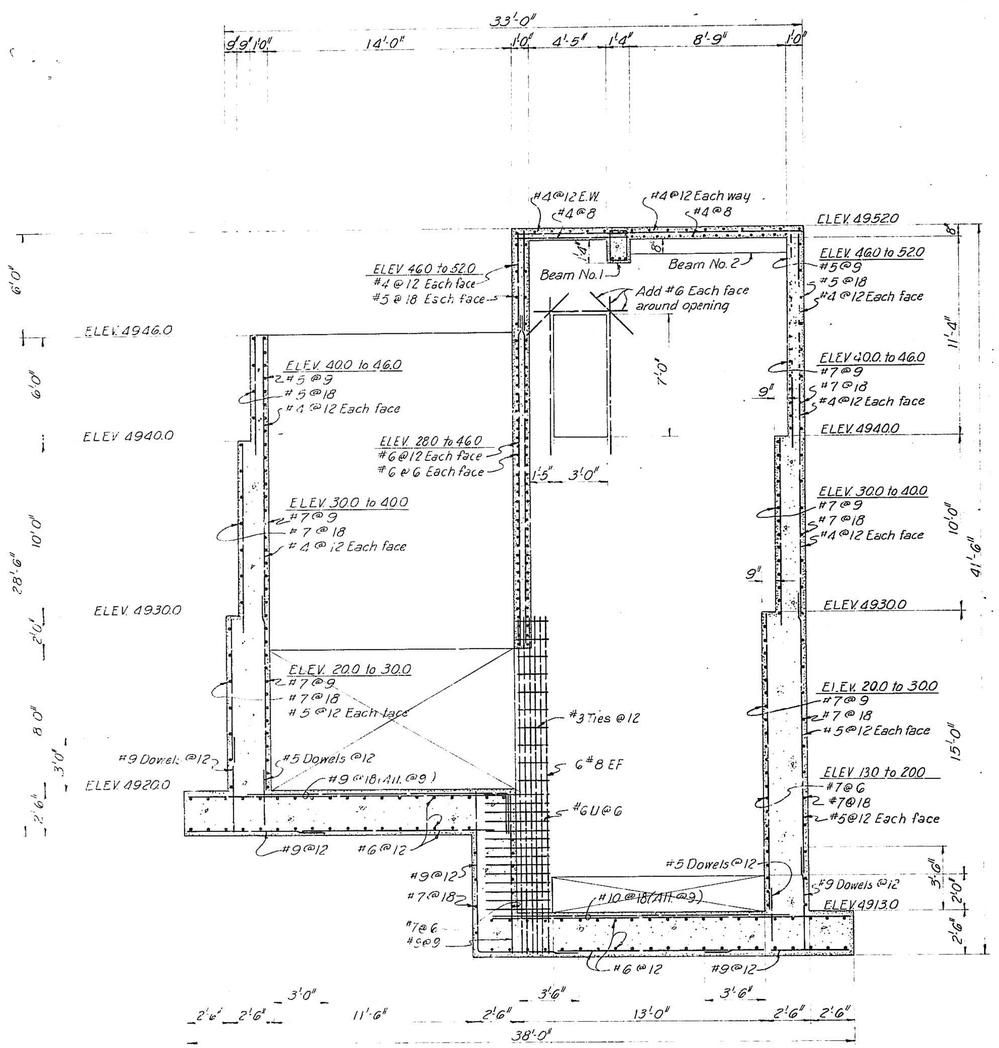
LONGITUDINAL REINFORCING SECTION 5-5

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

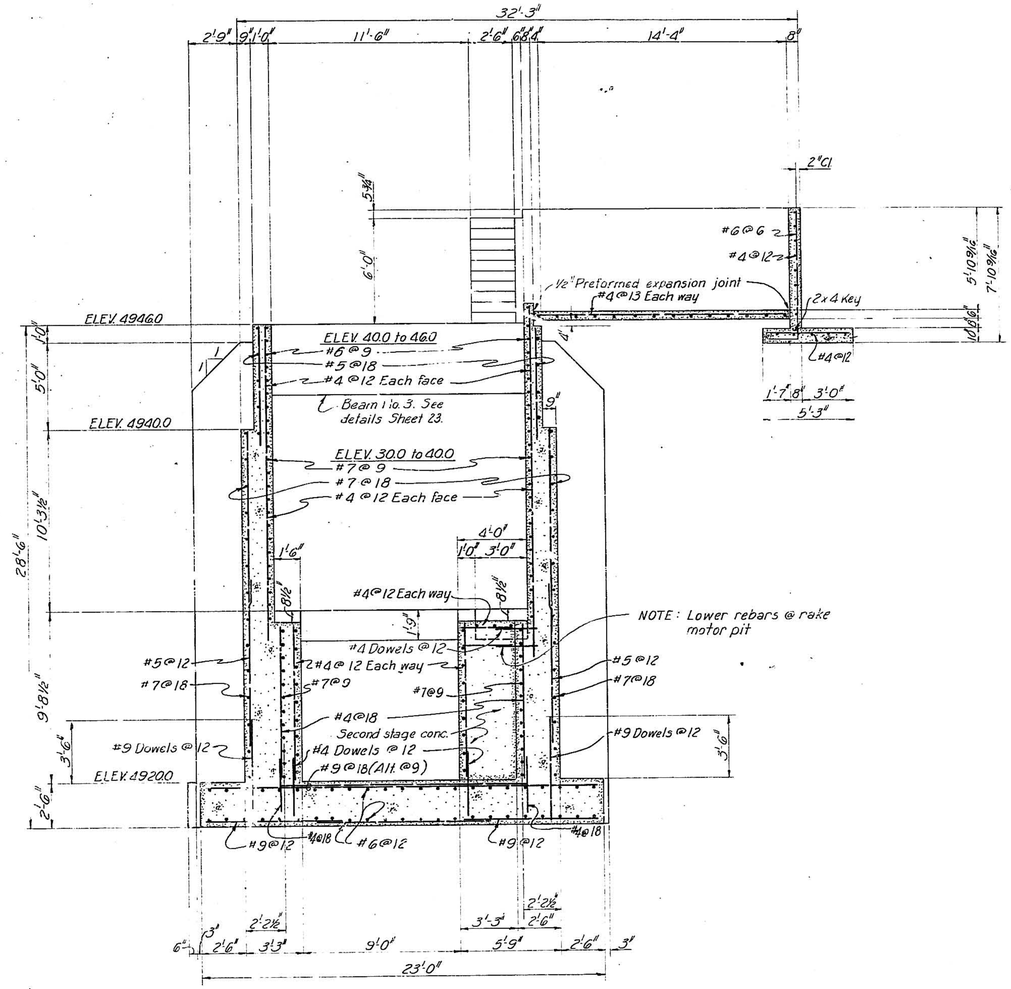
SCALE	DATE	DRAWN: B.E.T.	SHEET 21
1/4" 1'-0"	AUGUST 1961	CHECKED:	OF 56

08 16 16 21 61 08 03


64'-0"
3'0"
1'-0"
15'-6"
8'-6"
7'-0"
14'-0"
12'-6"
1'-0"
4'-9"
3'-9"
8"
4"
32'-0"
30'-8"
4'-0"
& Discharge Cell No. 1
& Discharge Cell No. 2
& Discharge Cell No. 3
& Discharge Cell No. 4
& Sump pump
ELEV. 4952.0
Top of retaining wall ELEV. 4952.0
Stair No. 1
& Discharge lines
#4@12 Each way-top
#4@8 Bottom
#4
ELEV. 460 to 520
#5@9
#5@18
#6@12 Each face
Add #6 Each face
See block out details Sheet 24
Add #6 Each face over doorway
#5@18
#4@12 Each face
½" Preformed expansion joint, continuous
FIN. FL. ELEV. 4946.60
#4@13 Each way
#4@10
#4@13 Each way
#4@16 (Alternate bends)
ELEV. 400 to 460
#7@9
#7@18
#4@12 Each face
4" Flap valve typical each cell
ELEV. 300 to 400
#7@9
#7@18
#4@12 Each face
ELEV. 1940.0
ELEV. 4930.0
#6@6 Each face-horizontal
#6@12 Each face-vertical
ELEV. 200 to 300
#7@9
#7@18
#5@12 Each face
ELEV. 130 to 200
#7@6
#7@18
ELEV. 4913.0
#9 Dowels @12
#10@9
#5 Dowels @12
#6@12
#6@12 Each way
#9@12
3'6"
2'0"
2'6"
59'0"
68'0"
41'6"
10'0"
7'0"
5'6"
2'6"
5'3½"
4'-11⅛"
7'-10 9/16"
1'-8"
1'-4"
PLAN SECTION
ELEV. 4945.00
ELEV. 4920.00
4'x4' Notch at west buttress
5 #9
9 #10 Each row
2 Sets #6 ties
3 #5 Spac @ 9" 3" 1'-0" 1'-6" 1'-0" 1'-6" 1'-0" 1'-6



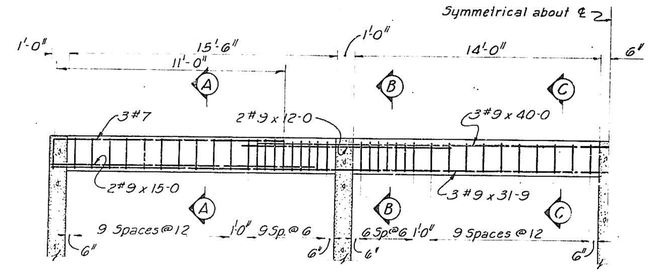
SECTION 7/18/23



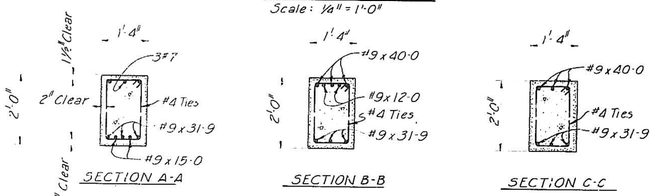
SECTION 8/18/23

08 16 16 23 61 1 1 08 03

ALBUQUERQUE — NEW MEXICO			
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM			
TRANSVERSE REINFORCING SECTIONS 7-7 AND 8-8			
GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS ALBUQUERQUE NEW MEXICO			
SCALE 1/4"= 1'-0"	DATE AUGUST 1961	DRAWN: RDM-BET. CHECKED:	SHEET 23 OF 56

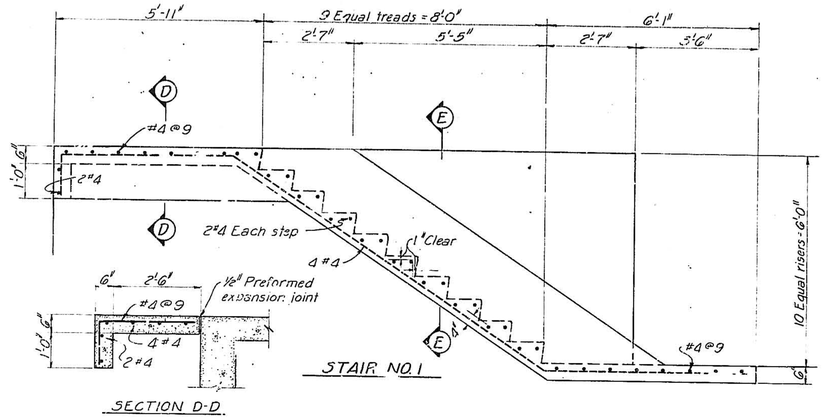


HALF ELEVATION
Scale: 1/4" = 1'-0"



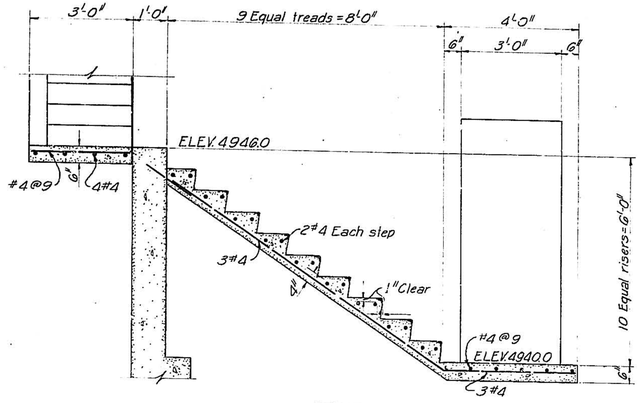
SECTIONS
Scale: 1/2" = 1'-0"

BEAM B-1

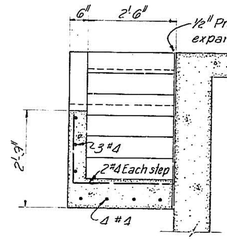


SECTION D-D

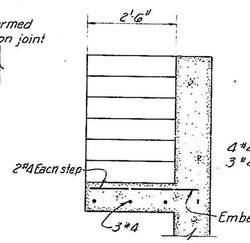
STAIR NO. 1



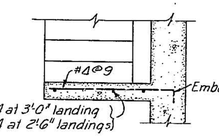
STAIR NO. 2



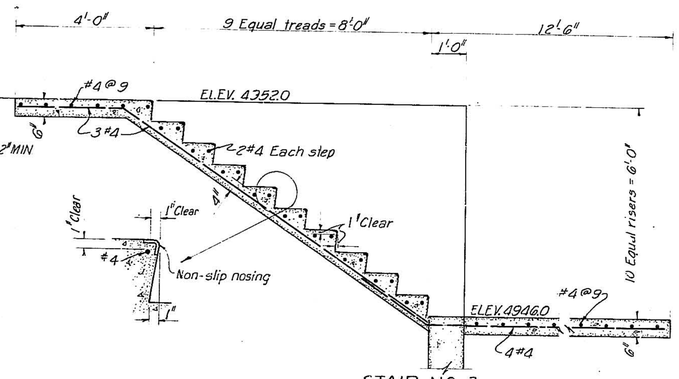
SECTION E-E



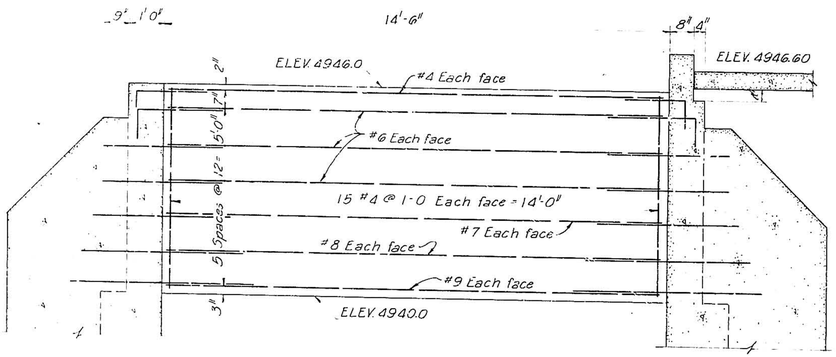
TYPICAL STAIR SECTION
(Stairs No. 2 and 3 only)



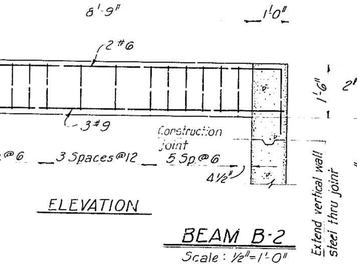
TYPICAL LANDING SECTION
(Stairs No. 2 and 3 only)



STAIR NO. 3



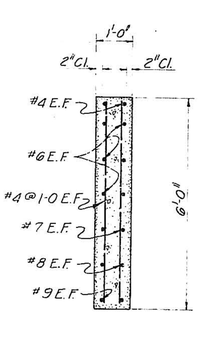
ELEVATION



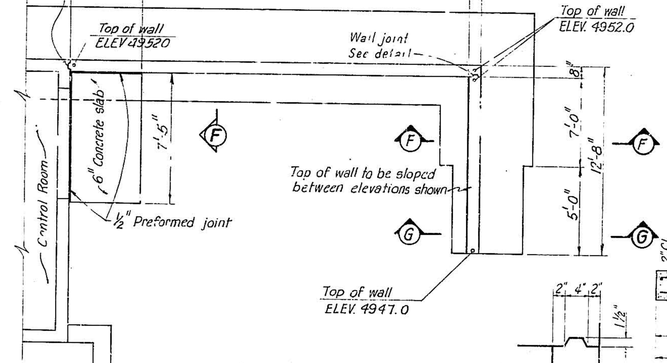
ELEVATION

SECTION

BEAM B-2
Scale: 1/2" = 1'-0"



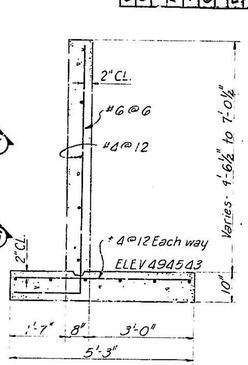
SECTION



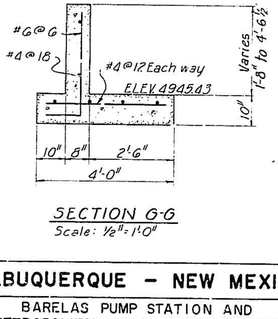
PLAN
Scale: 1/4" = 1'-0"

PLAN

WALL JOINT DETAIL
Scale: 1" = 1'-0"



SECTION F-F
Scale: 1/2" = 1'-0"



SECTION G-G
Scale: 1/2" = 1'-0"

STAIR DETAILS
Scale: 1/2" = 1'-0"

RETAINING WALL DETAILS
Scale - As shown

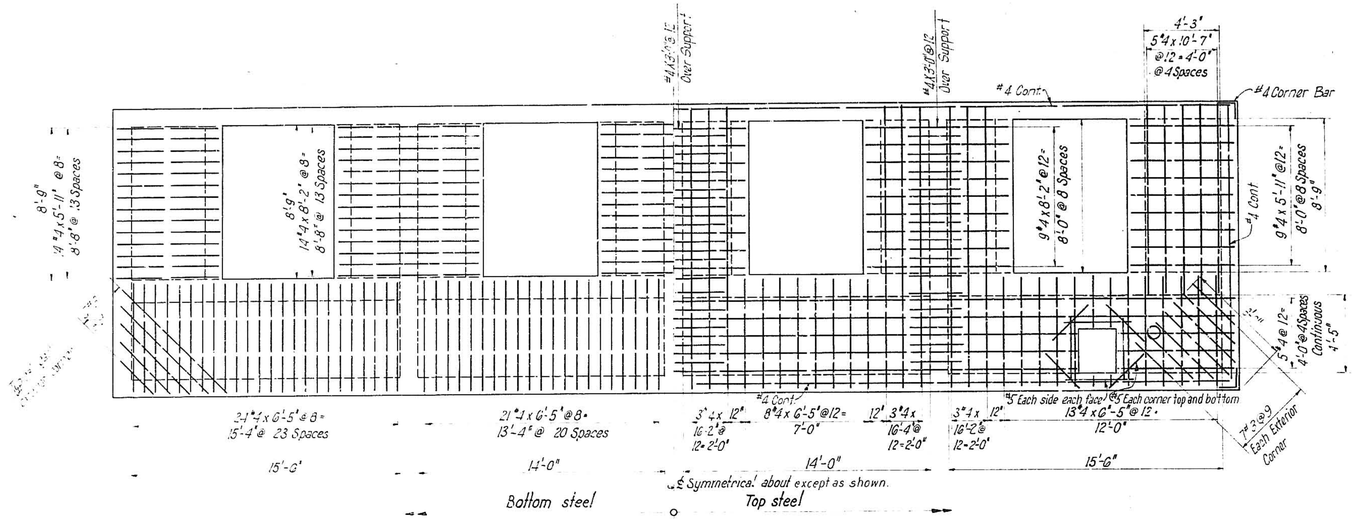
ALBUQUERQUE - NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

BEAM, STAIR AND RETAINING WALL DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: BET	SHEET 24
AS SHOWN	AUGUST 1961	CHECKED:	OF 56

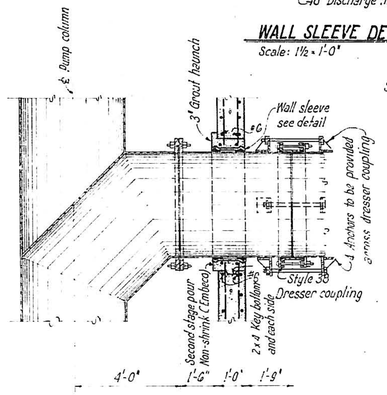


STEEL DETAILING AT PUMP FLOOR, EL. 4952.00

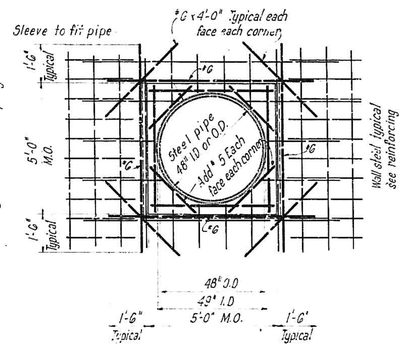
Scale: 1/4" = 1'-0"

WALL SLEEVE DETAIL

Scale: 1½" = 1'-0"



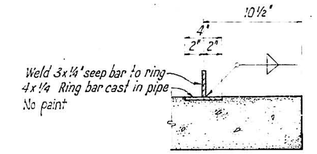
SECTION



ELEVATION

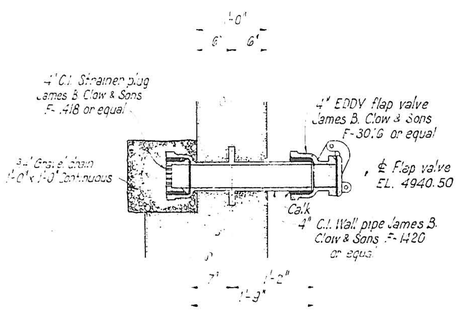
BLOCK OUT DETAILS

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



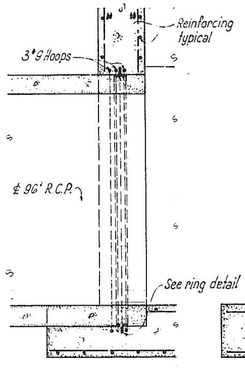
RING BAR DETAIL

Scale: 1½" = 1'-0"

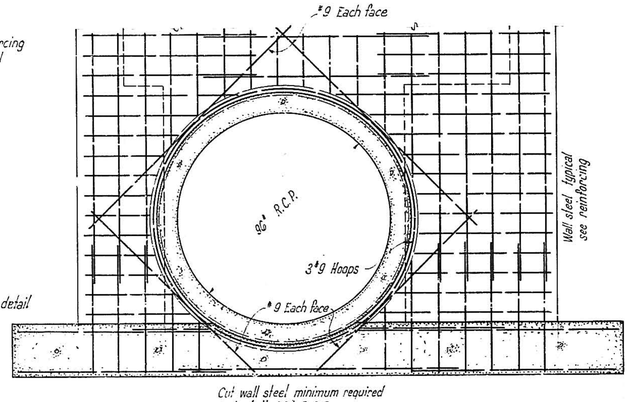


FLAP VALVE DETAIL

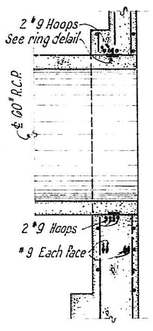
Scale: 1" = 1'-0"



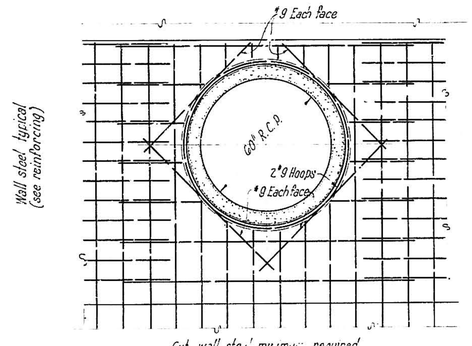
SECTION



Cut wall steel minimum required to install 96" R.C.P.



SECTION

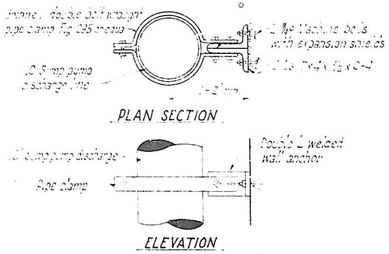


Cut wall steel minimum required to install 60" R.C.P.

ELEVATION

60" R.C.P. INLET DETAILS

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

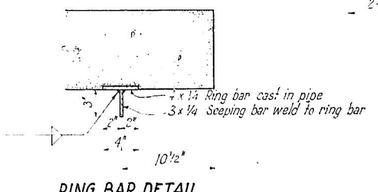


PLAN SECTION

ELEVATION

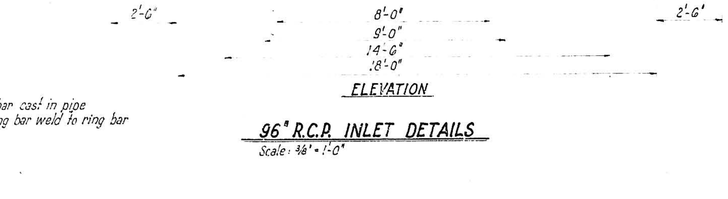
VERTICAL ANCHOR DETAILS AT 10' SUMP PUMP DISCHARGE

Scale: 1" = 1'-0"



RING BAR DETAIL

Scale: 1½" = 1'-0"



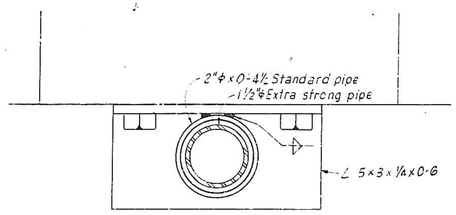
ELEVATION

96" R.C.P. INLET DETAILS

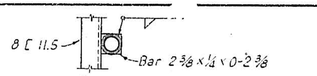
Scale: 3/8" = 1'-0"

ALBUQUERQUE NEW MEXICO			
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM			
MISCELLANEOUS REINFORCING DETAILS			
GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS ALBUQUERQUE NEW MEXICO			
SCALE AS SHOWN	DATE AUGUST 1961	DRAWN: A.O.H. CHECKED:	SHEET 25 OF 56

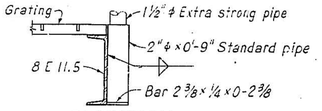
08 | 6 | 6 | 08 | 03



PLAN



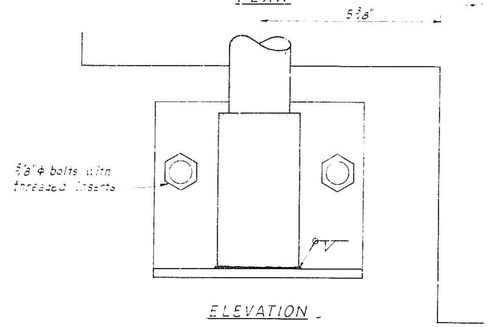
PLAN



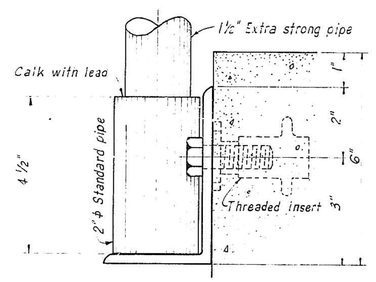
ELEVATION

HANDRAIL MOUNTING AT GRATING - ELEV. 4940.0

Scale: 1½"=1'-0"



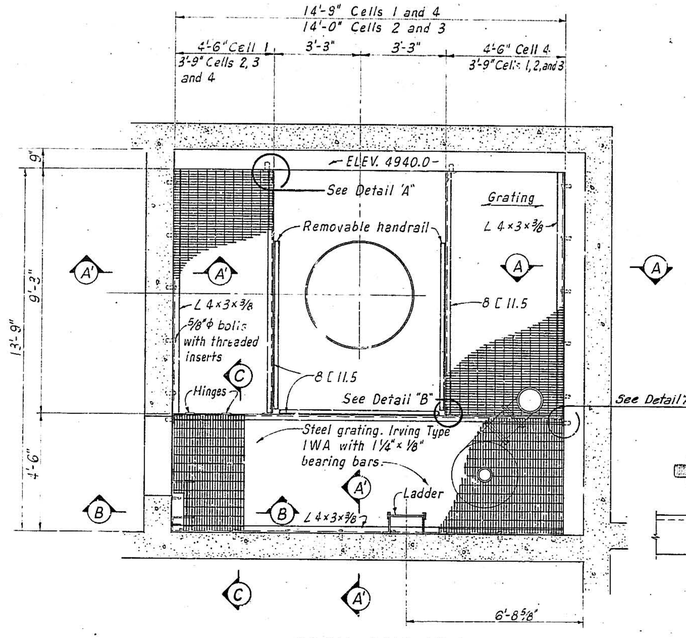
ELEVATION



ELEVATION

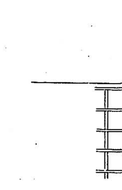
SIDE MOUNTED DETAIL

Scale: 1"=1'-0"

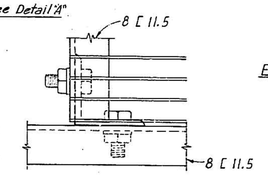


PLAN - CELL NO. 4

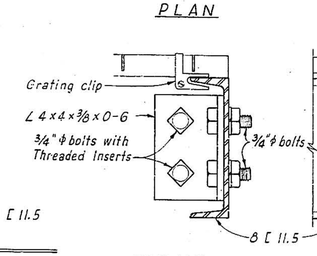
Scale: ⅜"=1'-0"



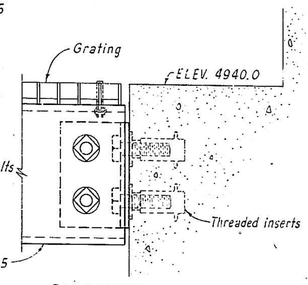
PLAN



PLAN



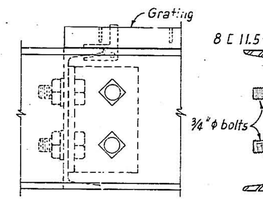
ELEVATION



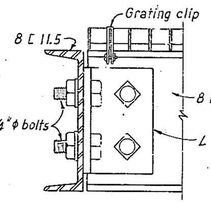
ELEVATION

DETAIL "A"

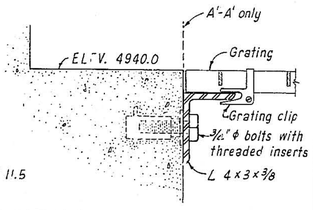
Scale: 3"=1'-0"



ELEVATION



ELEVATION

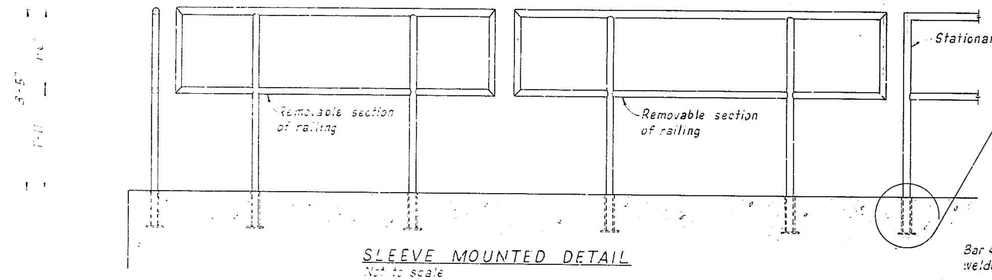


SECTIONS A-A AND A'-A'

Scale: 3"=1'-0"

DETAIL "B"

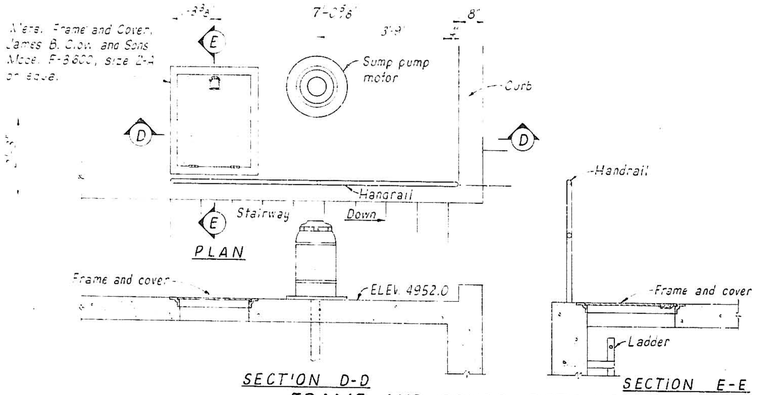
Scale: 3"=1'-0"



SLEEVE MOUNTED DETAIL

Not to scale

HANDRAIL DETAILS



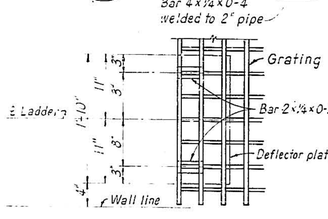
PLAN

SECTION D-D

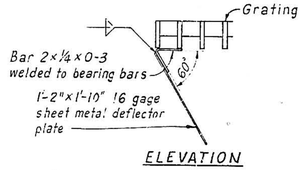
SECTION E-E

FRAME AND COVER DETAILS

Scale: ½"=1'-0"



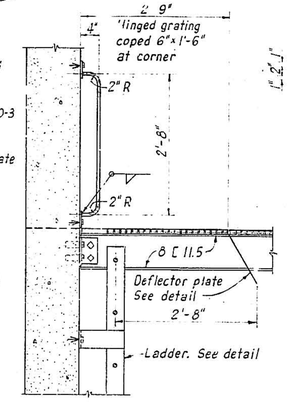
PLAN



ELEVATION

DEFLECTOR PLATE DETAIL

Not to scale

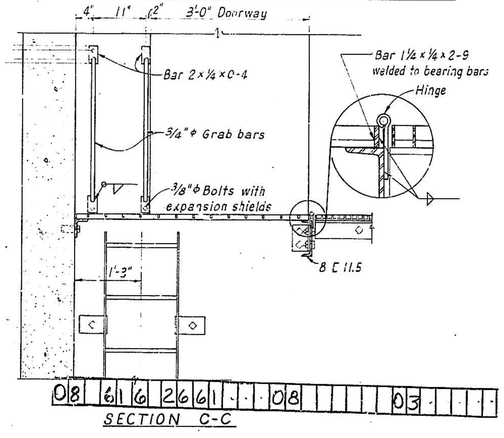


SECTION B-B

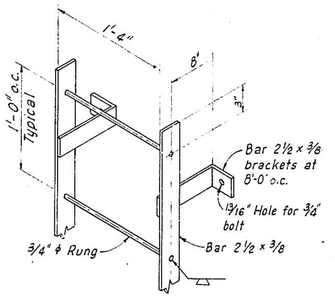
HINGED GRATING DETAIL

Scale: ¾"=1'-0"

GRATING SUPPORT DETAILS



SECTION C-C



LADDER DETAIL

Not to scale

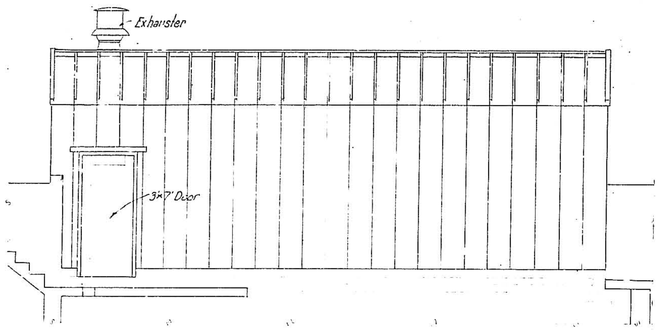
ALBUQUERQUE - NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

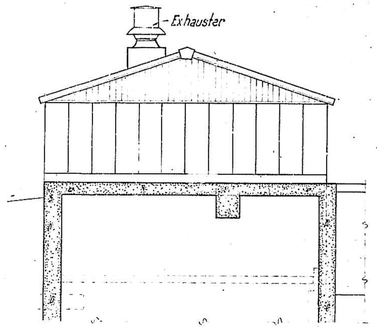
MISCELLANEOUS METAL DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

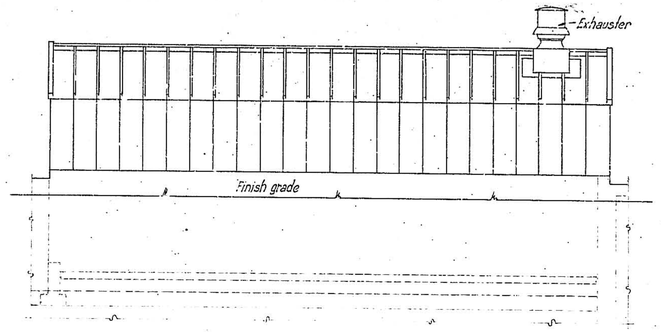
SCALE	DATE	DRAWN: R.D.M.	SHEET 26
AS SHOWN	AUGUST 1961	CHECKED:	OF 56



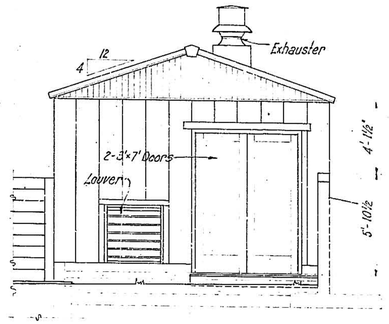
EAST ELEVATION



SOUTH ELEVATION



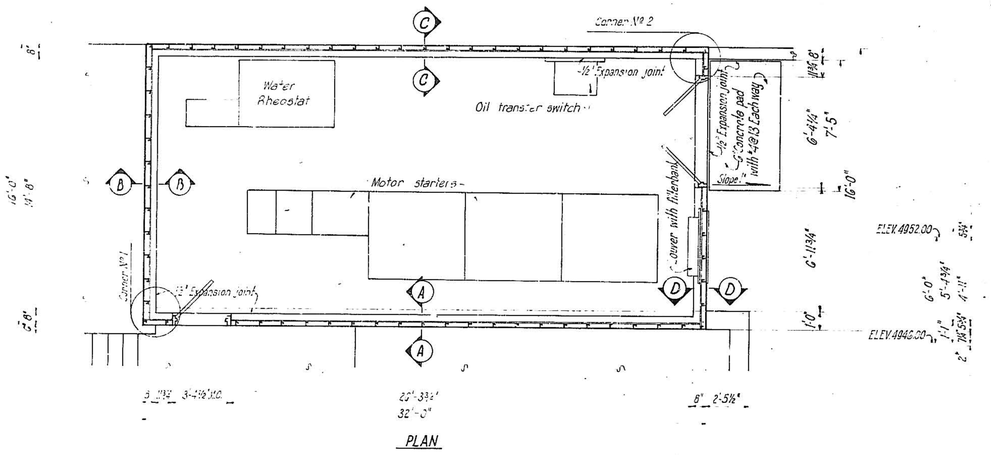
WEST ELEVATION



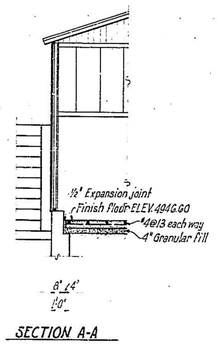
NORTH ELEVATION

STEEL BUILDING ELEVATION

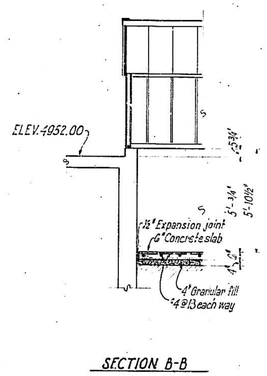
Scale 1/8"=1'-0"



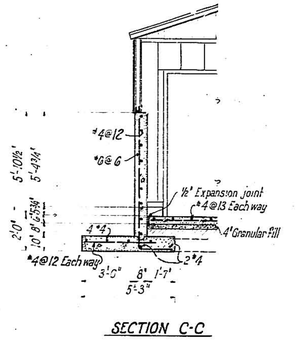
PLAN



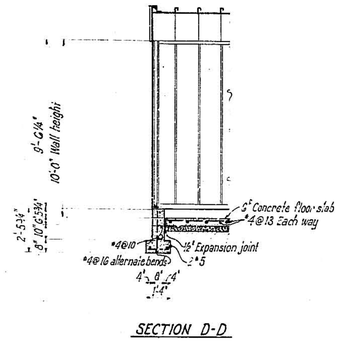
SECTION A-A



SECTION B-B



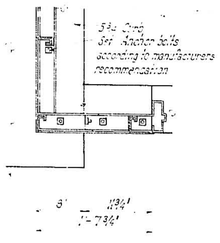
SECTION C-C



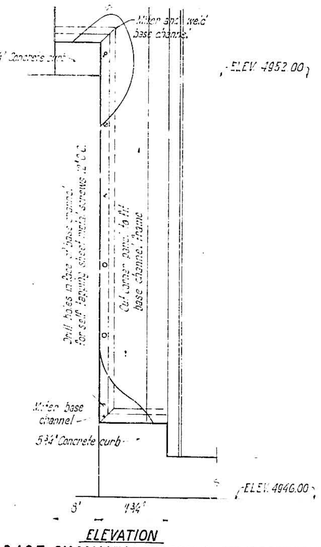
SECTION D-D

PLAN AND WALL SECTION DETAILS

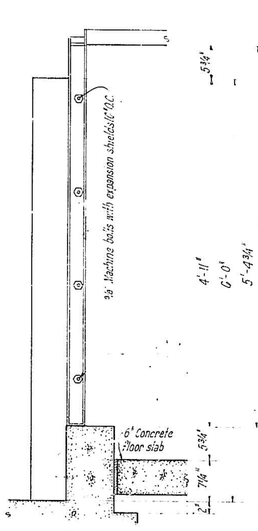
Scale: ¼"=1'-0"



PLAN SECTION

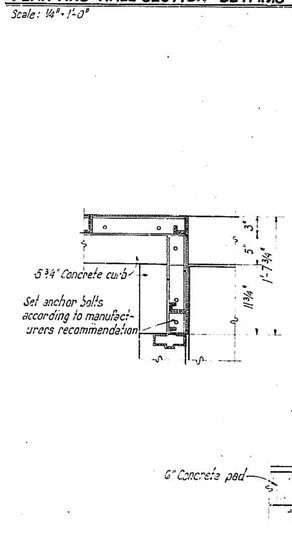


ELEVATION

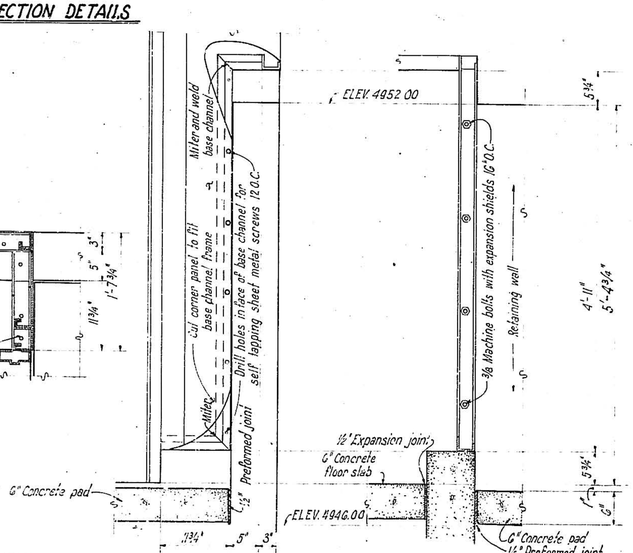


SECTION

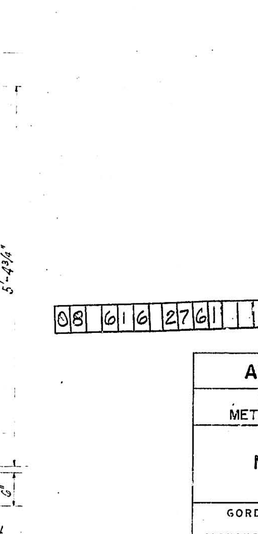
BASE CHANNEL DETAILS AT CORNER Nº 1 Scale: 1"=1'-0"



PLAN SECTION



ELEVATION



SECTION

BASE CHANNEL DETAILS AT CORNER Nº 2 Scale: 1"=1'-0"

08 616 2761 1 1 08 1 1 1 05 1 1 1

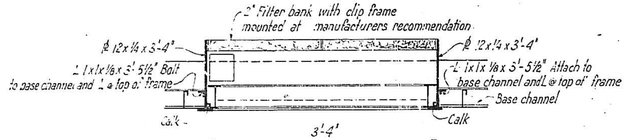
ALBUQUERQUE–NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

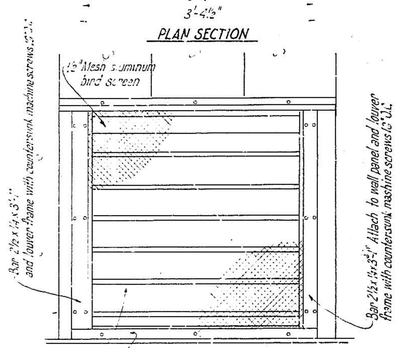
METAL BUILDING DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: A.O.H.	SHEET 27
AS SHOWN	AUGUST 1961	CHECKED:	OF 56

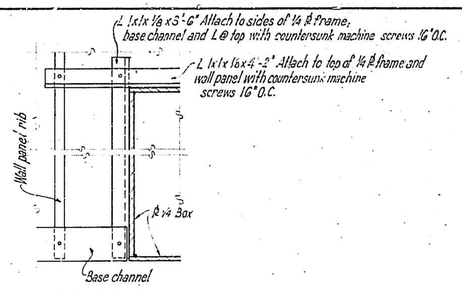


PLAN SECTION



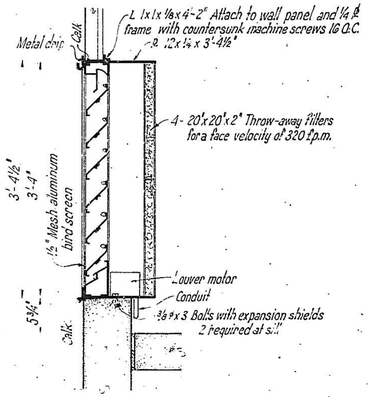
Construction specialties incorporated motor operated extruded aluminum louver Model № EX 110 or equal.

ELEVATION

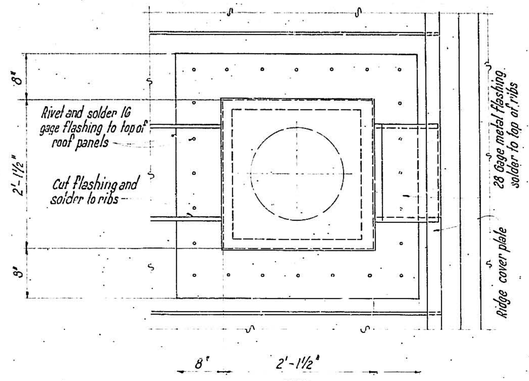


INSIDE ELEVATION

Scale: 3"=1'-0"

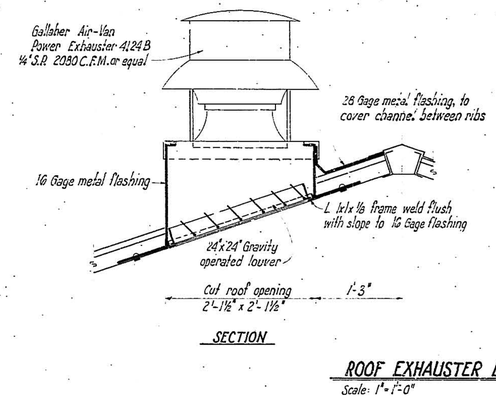


SECTION

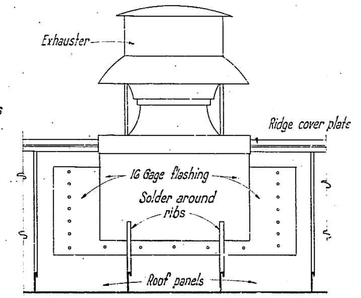


8" 2'-1½"

PLAN



SECTION



ELEVATION

LOUVER AND FILTER DETAILS

Scale: 1"=1'-0"

ROOF EXHAUSTER DETAILS

Scale: 1"=1'-0"

08 16 16 28 61 08 03

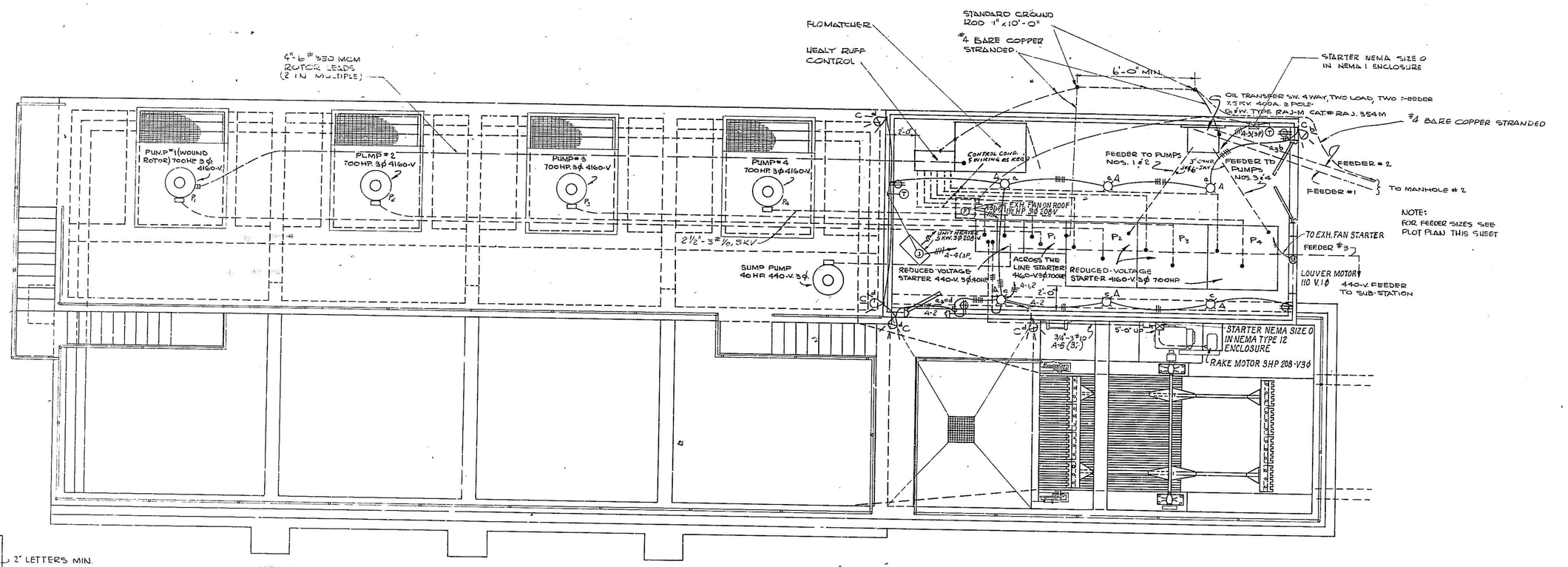
ALBUQUERQUE NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

VENTILATING DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: A.O.H.	SHEET 28
AS SHOWN	AUGUST 1951	CHECKED:	OF 56



UPPER FLOOR PLAN

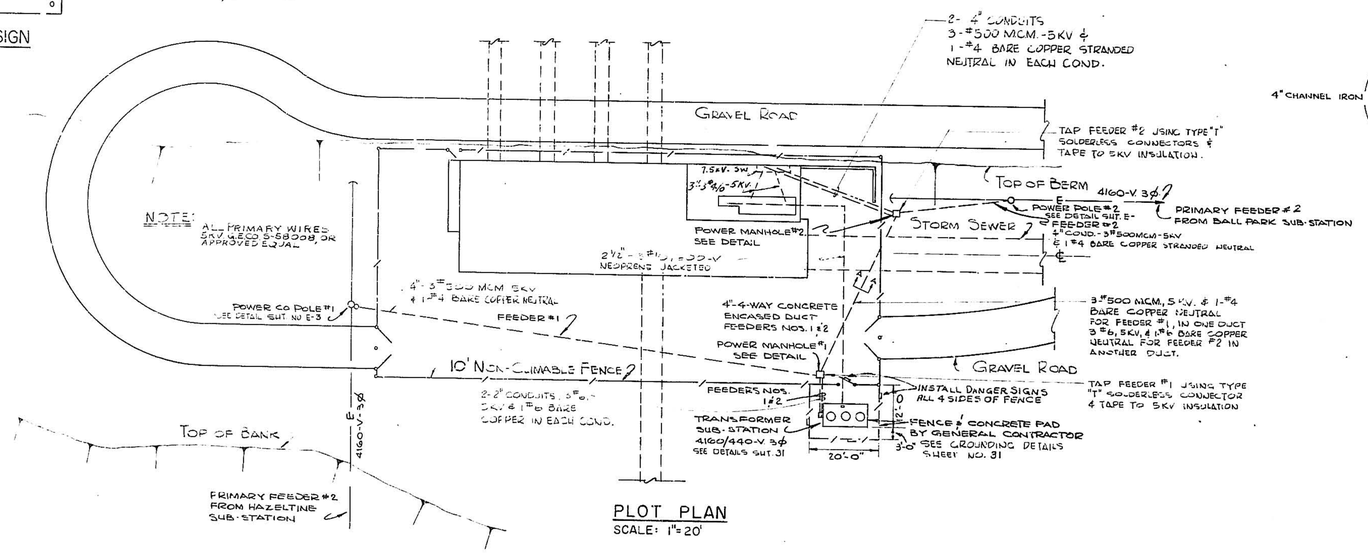
SCALE: 1/4" = 1'-0"

DANGER
5000
VOLTS

2" LETTERS MIN.

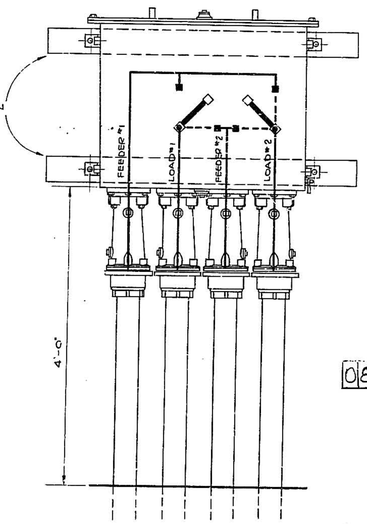
RED LETTERING ON WHITE BACKGROUND OIL-ENAMEL PAINT, DURABLE

DANGER SIGN



PLOT PLAN

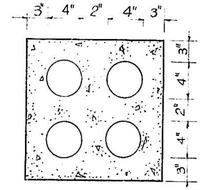
SCALE: 1"=20'



LOAD BREAK OIL SWITCH

4-WAY, 400A, 7.5 KV

NOT TO SCALE



(4"-4-WAY CONC. ENCASED DUCT)

SECTION "A-A"

NOT TO SCALE

08 | 6 | 6 | 29 | 6 | 1 | 08 | 02

ALBUQUERQUE — NEW MEXICO

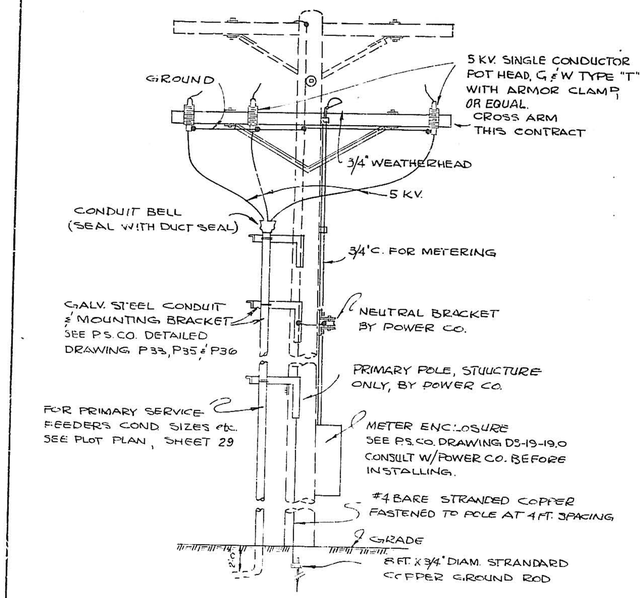
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

ELECTRICAL PLANS

GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS

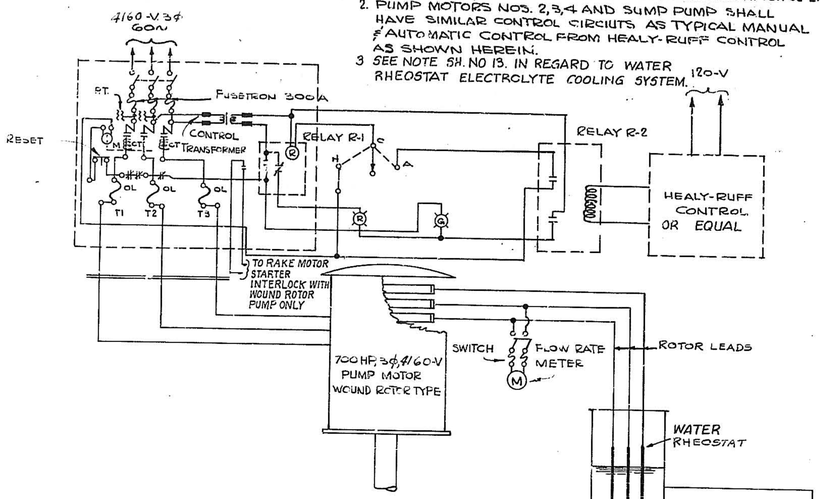
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: FFE.	SHEET 29
	8-7-61	CHECKED: GHE.	OF 56



TYPICAL PRIMARY POLE DETAIL
NO SCALE

NOTE:
1. RELAY R1 SHALL BE TIME DELAY TYPE ADJUSTABLE FROM 1 TO 5 MINUTES DELAY. INSTANT START-RETARDS AFTER DE-ENERGIZED
2. PUMP MOTORS NOS. 2,3,4 AND SUMP PUMP SHALL HAVE SIMILAR CONTROL CIRCUITS AS TYPICAL MANUAL & AUTOMATIC CONTROL FROM HEALY-RUFF CONTROL AS SHOWN HEREIN.
3. SEE NOTE SH. NO 13. IN REGARD TO WATER RHEOSTAT ELECTROLYTE COOLING SYSTEM.

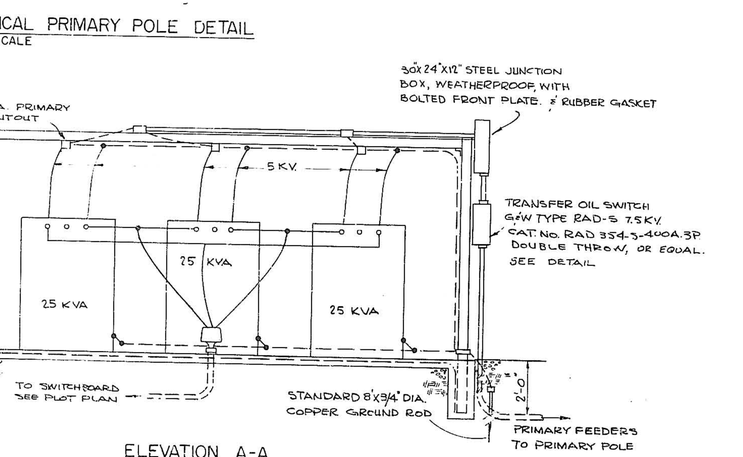


TYPICAL SCHEMATIC CONTROL DIAGRAM
NO SCALE

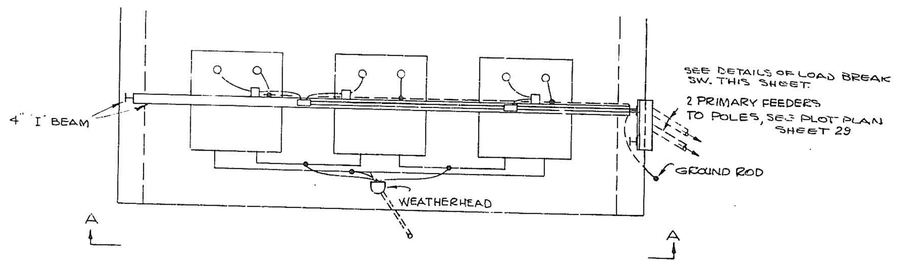
NOTE: FENCE AND CONCRETE SPECIFIED IN OTHER SECTIONS OF SPECIFICATIONS. GROUNDING SYSTEM ONLY BY ELECT. CONTR.

ELECTRICL SYMBOLS

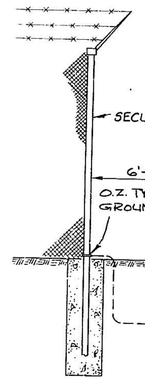
- CEILING FIXTURE OUTLET
- BRACKET FIXTURE OUTLET
- OUTDOOR FLOOD LIGHT
- (F) FAN
- (J) JUNCTION BOX
- (T) THERMOSTAT
- MAGNETIC MOTOR STARTER
- SAFETY DISCONNECT SWITCH
- WALL SW. SINGLE POLE
- WALL SW. 3 WAY
- CONDUIT RUN CONCEALED UNDER FLOOR
- CONDUIT RUN CONCEALED IN WALL OR CEILING
- HOME RUN CONDUIT, CCT. NO. & NO. WIRES INDICATED
- DUPLEX CONVENIENCE OUTLET



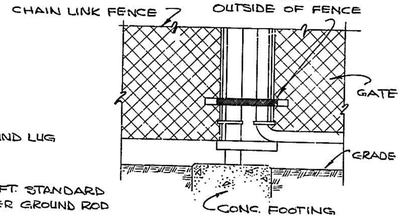
ELEVATION A-A
NO SCALE

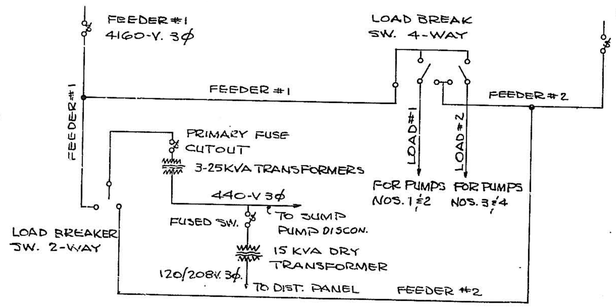


PLAN - 4160/440-V SUBSTATION
NO SCALE

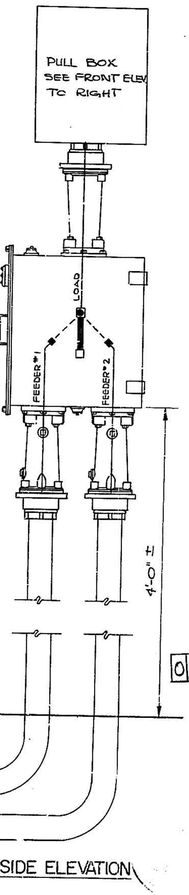


FENCE GROUNDING DETAIL
NO SCALE

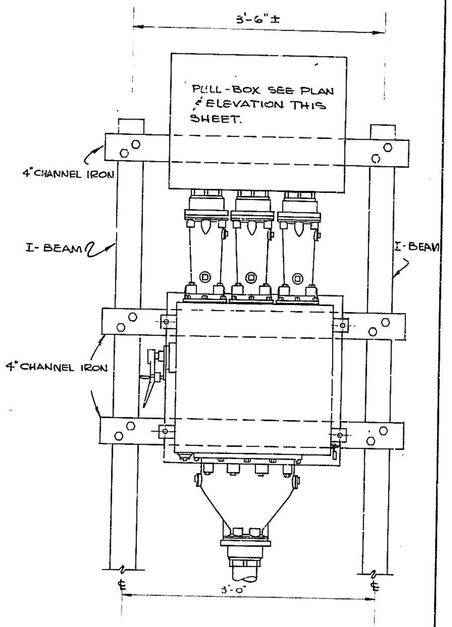




ONE LINE POWER DIAGRAM
NO SCALE



LOAD-BREAK SWITCH SIDE ELEVATION
NO SCALE



LOAD-BREAK SWITCH - FRONT ELEVATION
NO SCALE

08 | 6 | 6 | 3 | 6 | 11 | 08 | 02

ALBUQUERQUE — NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

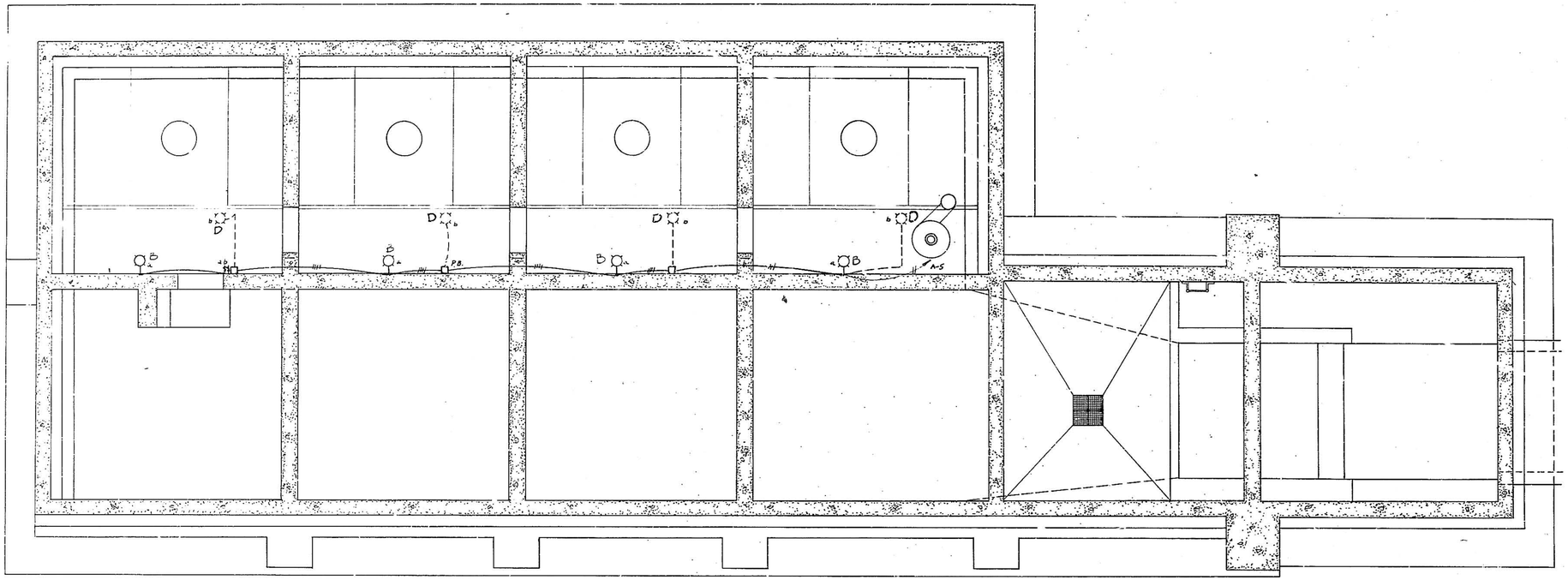
ELECTRICAL DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

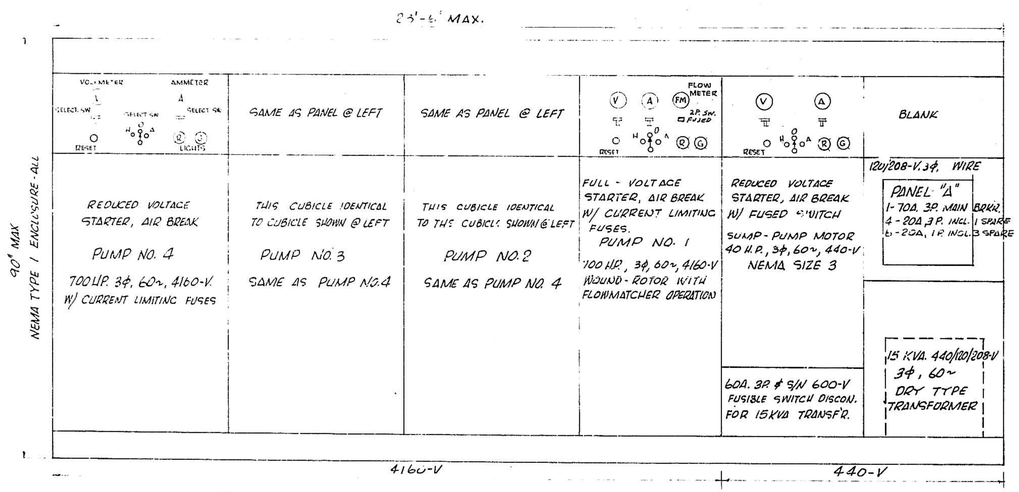
SCALE	DATE	DRAWN: R.F.E.	SHEET 31
	8-7-61	CHECKED:	OF 56

FIXTURE SCHEDULE

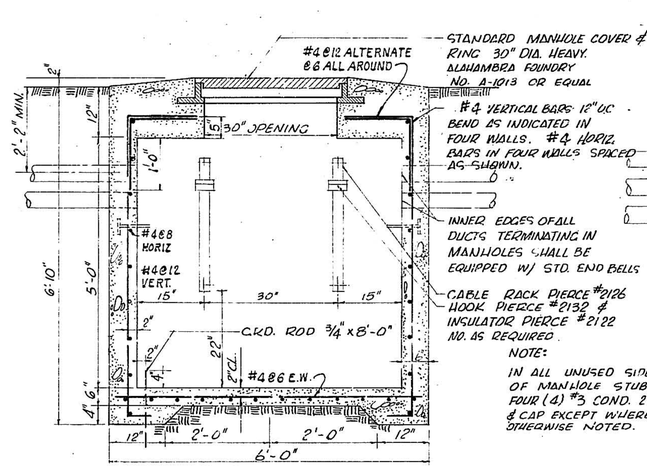
TYPE	MANUFACTURE & CAT. NO.	MOUNTING	NO LAMPS AND WATTS	INCAND OR FLUOR.	REMARKS
A	BENJAMIN #7201	PENDENT	1 - 200	INCAND	GLASSTEEL DIFFUSERS, STEMS W/ ANGLE ALIGNERS & SUSPEND FIXTURES W/ BOTTOMS 10'-0" FROM FLR.
B	" #6805	WALL	1 - 150	"	WATERTIGHT W/ WIREGUARD, 8'-3" UP FROM FLR.
C	" #5-6023E	" 10'-0" UP	1 - 500	"	WEATHERPROOF FLOOD LT. STIPPLED LENS
D	" #7114-C OR X	CLG.	1 - 150	"	MOUNT UNDER GRATING, WITHOUT GUARD



LOWER FLOOR PLAN
SCALE: 1/4" = 1'-0"

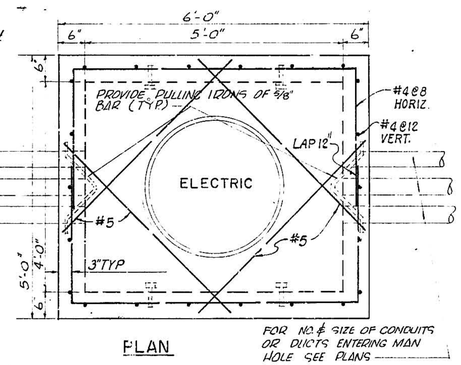


SWITCHBOARD - FRONT ELEVATION
NOT TO SCALE



ELEVATION

TYPICAL MANHOLE DETAIL
SCALE: 3/4" = 1'-0"



PLAN

FOR NO. & SIZE OF CONDUITS OR DUCTS ENTERING MAN HOLE SEE PLANS

ALBUQUERQUE — NEW MEXICO

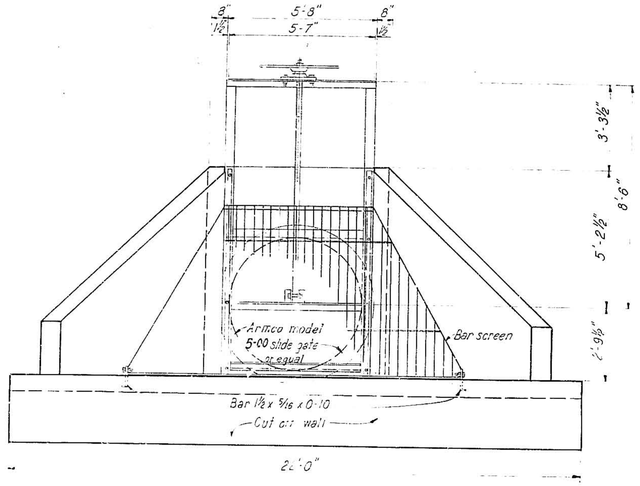
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

ELECTRICAL PLAN AND DETAILS

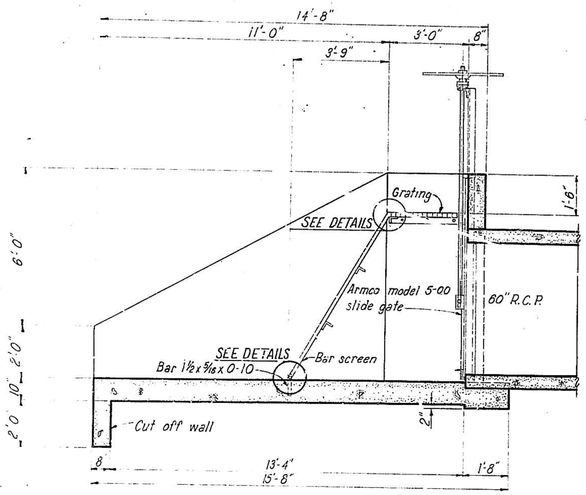
GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: FFE & CB	SHEET 30
	3-7-61	CHECKED: [illegible]	OF 56

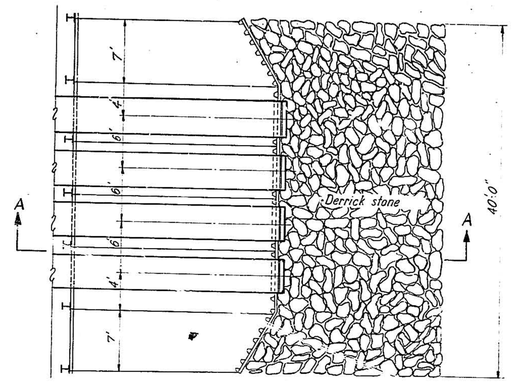
08 61 6 30 61 . . 08 . . . . . 02 . . . .



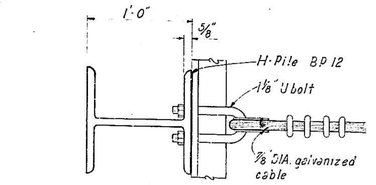
ELEVATION
Scale 3/8" = 1'-0"



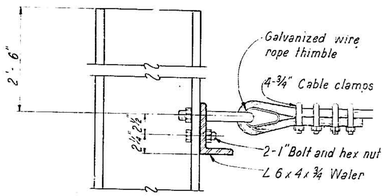
LONGITUDINAL SECTION
Scale: 3/8" = 1'-0"



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

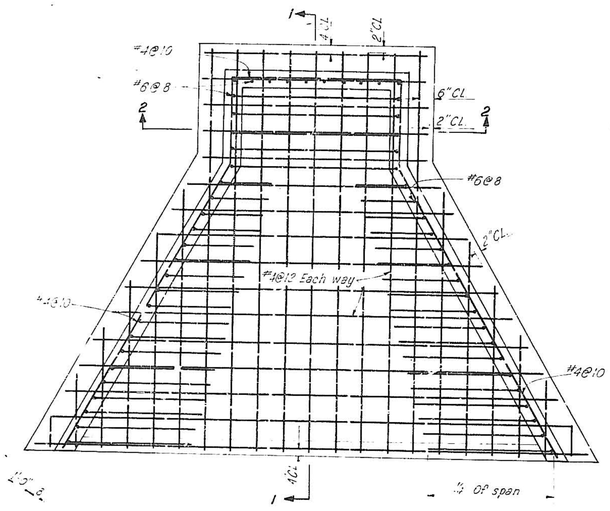


PLAN

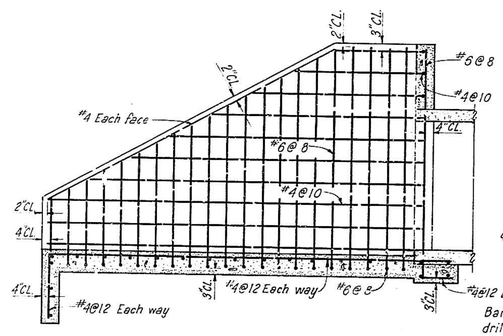


ELEVATION

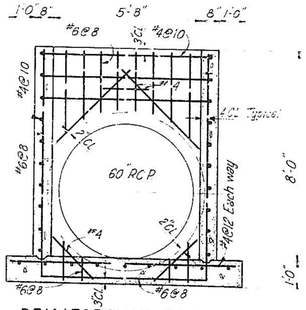
WALER DETAILS FOR H PILES
Scale 1 1/2" = 1'-0"



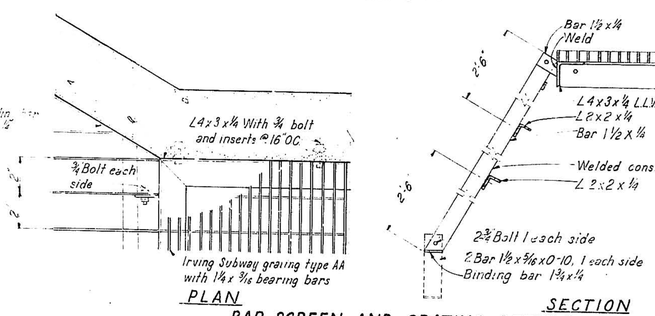
REINFORCING PLAN
Scale 3/8" = 1'-0"



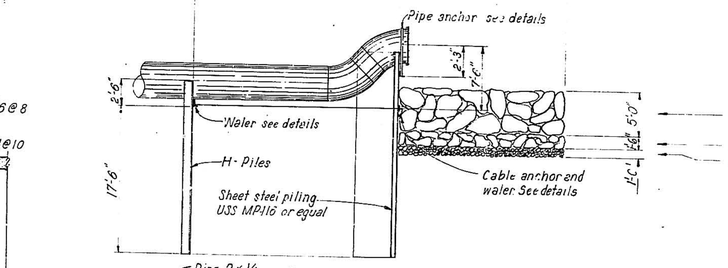
REINFORCING SECTION 1-1
Scale 3/8" = 1'-0"

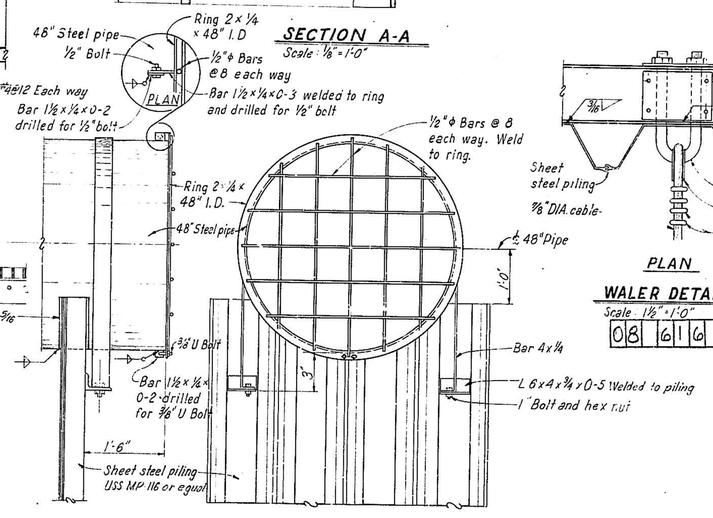


REINFORCING SECTION 2-2
Scale 3/8" = 1'-0"

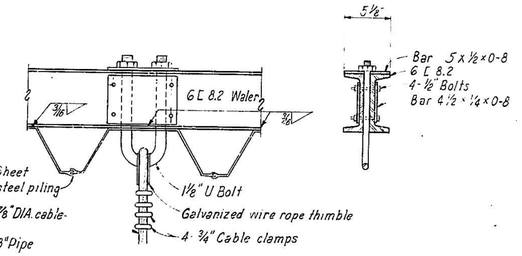


BAR SCREEN AND GRATING DETAILS
Scale 1 1/2" = 1'-0"





PIPE ANCHOR DETAILS
Scale 3/4" = 1'-0"



WALER DETAILS FOR SHEET STEEL PILING
Scale 1 1/2" = 1'-0"

08 | 61 | 6 | 32 | 61 | 08 | 02

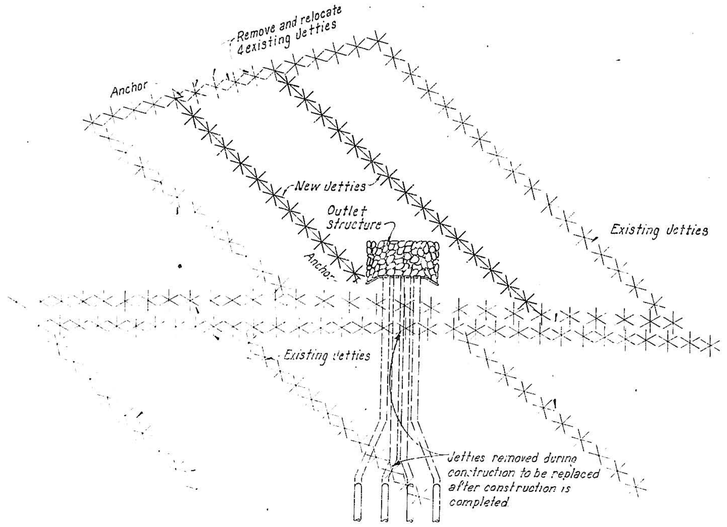
ALBUQUERQUE - NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

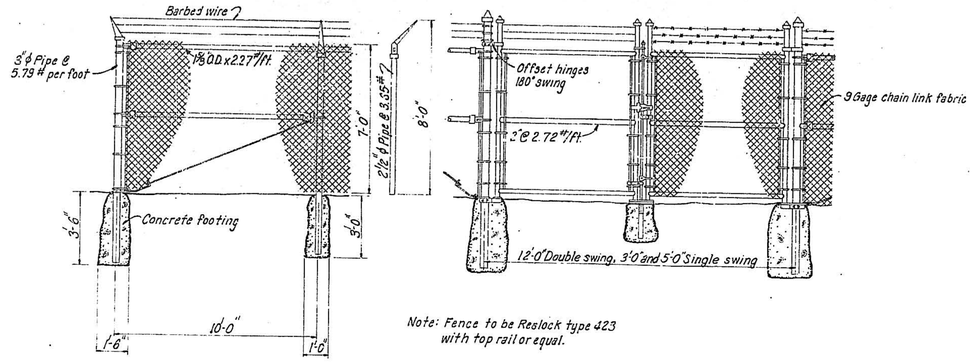
INLET AND OUTLET STRUCTURES

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

SCALE	DATE	DRAWN: R.A.L.	SHEET 32
AS SHOWN	AUGUST 1961	CHECKED: G.A.J.	OF 56

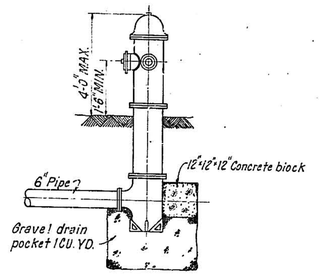


JETTY FIELD PLAN
Scale: 1"=40'

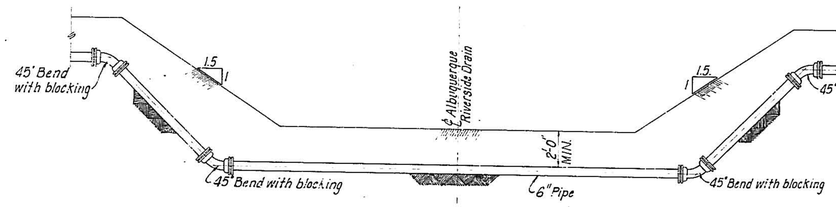


Note: Fence to be Reslock type 423 with top rail or equal.

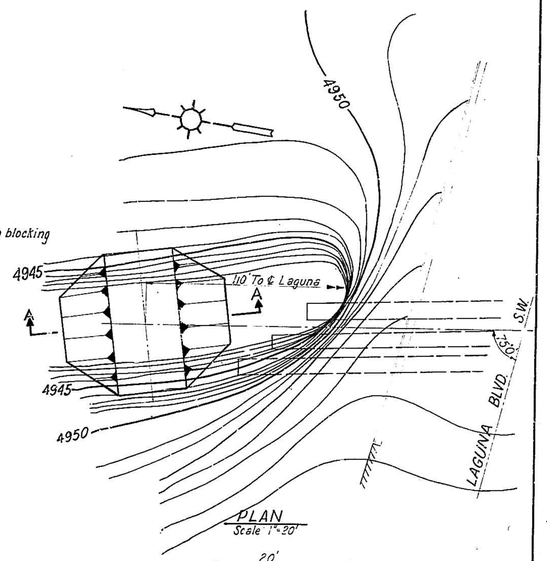
SECURITY FENCE
Not To Scale



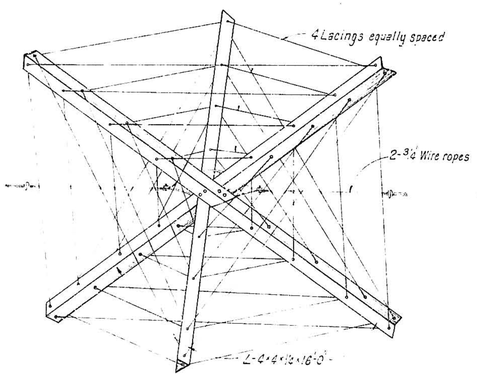
FIRE HYDRANT DETAIL
Not To Scale



WATER LINE CROSSING AT DRAIN
Not To Scale

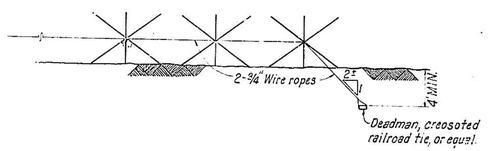


PLAN
Scale 1"=20'

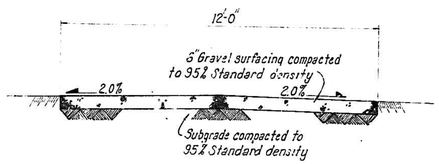


JETTY DETAIL
Not To Scale

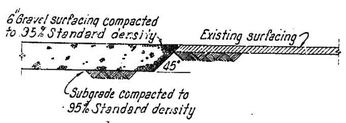
Note
Each Jetty has the following material
2 - C-4 x 4 x ½ x 16'-0"
6 - 1" Bolts, 2 each leg
2 - ¾" Minimum wire ropes
2 - Wire rope slings
All lacing wires are #6
minimum of 4 wraps at lacing wire ends
Jacks are spaced @ 12'-6" C to C



ANCHOR DETAIL
Not To Scale

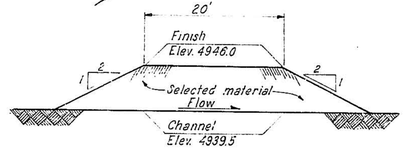


TYPICAL ROAD SECTION



JUNCTION SECTION

ACCESS ROAD DETAILS
Not To Scale



SECTION A-A
Scale 1"=10'

CONSTRUCTION DAM

ALBUQUERQUE-NEW MEXICO			
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM			
MISCELLANEOUS DETAILS			
GORDON HERKENHOFF & ASSOCIATES, INC. CONSULTING ENGINEERS			
ALBUQUERQUE			NEW MEXICO
SCALE AS SHOWN	DATE AUGUST 1961	DRAWN: RAS CHECKED: GAJ	SHEET 33 OF 56

08 | 61 | 6 | | 08 | | |

PLAN

SIMPIER

BLOCK F

ADDITION NO. 2

ST. SW

6TH

Existing Water Line

Picket fence

Hog wire Fence

M.R.G.C.D.

MAP 41

TRACT 32-A2b

TRACT 32-A1b

TRACT 32-A2A

TRACT 32-A1A

W.M.

C.P.P.

8" Water line by others

Clothes line

Board fence

BASIN CONSTRUCTION
STA. 5+60
8"Gate valve by others

RIVERSIDE DRAIN

ALBUQUERQUE

Fire hydrant

NOTE: For details of drain crossing see sheet 33
Provide 24" minimum cover on pipe

LEAD CONSTRUCTION
STA. 7+15.15
Fire hydrant

08 6163-41 02 06561 31

PROFILE

4945

4940

Existing Ground

8" Water line by the City of Albuquerque

8" Water line

8" x 8" x 8" Tee with 8" Gate Valve

8" x 8" Elbow with 8" Gate Valve

8" x 8" Elbow with Blocking

8" x 8" Elbow with Blocking

8" x 8" Elbow with 22½° Bend

8" Water line

Fire hydrant

5+00

6+00

7+00

PLATE 1—PLAN PROFILE O. P. & R. & F.
CHARLES BROWING COMPANY INC.

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 34 OF 56

PLAN
NOTE 1000'
NO. 8

PROFILE
NOTE 1000'
NO. 8

Existing Asphalt road
Gravel
Road (Lot 1)
Build 6' DIA. Type C Manhole
STA. 6+99.09
Begin Lot 2
96" R.C.P. Complete STA 4+70.69 to STA. 32+50
96" R.C.P.
Connect to 96" R.C.P. stubbed out from Pump Station
Begin Construction
STA. 4+70.69 - 89.5' P.T.
Base line STA. 3+56.75
Security fence (Typ.)
27" R.C.P. For Continuation See Sheet 50
Top of bank
Waters Edge

08 6116 3561 91 5613 11

SCALE
1" = 20' Horizontal
1" = 5' Vertical

Existing ground

4940
4935
4930
4925
4920

4+70.69 Begin Construction
Th. Inv. Elev. 4920.01

96" R.C.P. Class IV

S = 0.0029

6+99.09 Type C. M.H.
Pipe Invert 4920.75

4 5 6 7

PLATE 1- PLAN PROFILE O. P. R. & R. E.
HARRIS BROWNE COMPANY, INC.

Work shown on this sheet
is in LOT 2

Road

Junction Box No. 1
STA. 12+04.82
Δ = 14°02' LT.

Build 6' DIA. Type C Manhole
STA. 10+00

96" R.C.P.

Waters Edge

08 | 61 | 6 | 36 | 61 | 01 | 57 | 13 | 2

SCALE
1" = 20' Horizontal
1" = 5' Vertical

4945
4940
4935
4930
4925
4920
4915

Existing ground

96" R.C.P Class IV

S = 0.0029

96" R.C.P Class IV

S = 0.0029

+00 Type C Manhole
Pipe Invert 4922.58

+04.8 Junction Box No. 1
Out Inv Elev 4922.15
In Inv Elev 4922.30

7 8 9 10 11 12 13

PLAN NOT FROM SURVEY

PROFILE NOT FROM SURVEY

PLATE 1 PLAN PROFILE & P. & L.
CHARLES SEELING COMPANY, INC.

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 36 OF 56

15

Work shown on this sheet
is in LOT 2.

Asphalt

Road

Junction Box No. 2
STA. 15+59.66
Δ = 07° 47' 10" LT.

96" R.C.P.

Waters Edge

08 6 1 6 3 7 6 1 0 1 5 7 1 3 2

SCALE
1"=20' Horizontal
1"=5' Vertical

Existing ground

96" R.C.P. Class IV

S = 0.0029

96" R.C.P. Class IV

S = 0.0029

+5966 Junction Box No. 2
Out Inv. Elev. 4933.39
In Inv. Elev. 4933.10

4950
4945
4940
4935
4930
4925
4920
4915

13 14 15 16 17 18 19

PLATE I PLAN PROFILE O + A & R E
CHARLES TOWN ENGINEERING COMPANY, INC.

PLAN — LOT B-25 — BLK. M — NOTE BOOK — NO.

PROFILE — LOT 7 & 8 — BLK. M — NOTE BOOK — NO.

SANTA FE ADDITION

Junction Box No.3
STA. 19+45.00
Δ = 88°38' RT

Drain Road

Avenue

Riverside

TE

Survey Line

STA. 558+80 M.R.30.
Albuquerque Riverside Drain
(Ext. Extension)

Concrete headwall to be removed

Wood plank outfall to be removed

96" R.C.P.

Existing 36" R.C.P. to be removed

1" Iron pipe

1" Iron pipe

Snow fence

1" Iron pipe

PACIFIC AVE. SW

2" MP Gas line

60'

BLOCK 11

18 17 16 15 14 13

3' Ornamental wire fence
Steel sheet piling as required

6 Strand barbed wire fence

WM

W

30" Picket fence

3' Concrete walk

12" SS (Siphon)

60'

5' SW

Build 6' DIA Type C Manhole
STA. 23+35.00

SS MH

Exposed concrete conduit to be removed

SS

SS MH

HPP

Steel sheet piling as required

Reconnect existing 12" Storm sewer to C manhole

1" Water line

5" Water line

12" Sewer line

10TH

All work shown on this sheet is in LOT 2.

0 8 6 1 6 3 8 6 1 0 1 5 7 1 3 2

SCALE
1" = 20' Horizontal
1" = 5' Vertical

Note: All existing obstructions shall be included in the contract unit price for trenching and backfilling 96" R.C.P.

4955 4950 4945 4940 4935 4930 4925 4920

Existing Ground

96" R.C.P. Class IV

S = 0.0029

+45 Junction Box No.3
Out Inv. Elev. 4924.54
In Inv. Elev. 4924.90

+35 Type C Manhole
Inv. Elev. 4926.08

19 20 21 22 23 24

PLATE 1 - PLAN - PROFILE
C. P. R. & R. E.
CHARLES BUNNG COMPANY, INC

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 38 OF 56

PLAN

PROFILE

SANTA FE ADDITION

ST. SW

10TH

Steel sheet piling as required

STORM SEWER 95" R.C.P.

36" R.C.P.

Concrete conduit to be removed

5SMH

2" Gas line

4' Block wall

W.M.

R.O.W.

S.W.

TP

96" R.C.P.

5SMH.

Build 4' DIA. type C manhole STA. 27+25.00

4' Chain link fence

Steel sheet piling as required

4' Ornamental wire fence

36" RCP to be removed

S.M.H.

Build 4' DIA. Type C manhole STA. 30+00

All work shown on this sheet is in LOT 2.

3 Block wall

AVENUE

2" M.P. Gas line

5" Water line

BLOCK 8

BLOCK 7

BLOCK 17

BLOCK 16

STREET SW

9TH

PP

SCALE
1" = 20' Horizontal
1" = 5' Vertical

08 6 1 6 3 9 6 1 0 1 57 1 3 2

Existing ground

96" R.C.P. Class IV S=0.0029

96" R.C.P. Class IV S=0.0029

Type C manhole

Type C manhole

4950 4945 4940 4935 4930 4925 4920 4500 4900

24 25 26 27 28 29 30

PLATE 1 PLAN-PROFILE O P & R C
CHARLES ARMING COMPANY, INC

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 39 OF 56

PLAN

PROFILE

RIO GRANDE PARK ADDITION

BEGIN CONSTRUCTION LOT 3
At stub out Junction Box No. 4

END CONSTRUCTION LOT 2
To include Junction Box and stub out.

BLOCK 10

ATLANTIC

Junction Box No. 5
STA. 35+00

TEST HOLE NO. 3
WATER TABLE LOCATION

0'	Medium to fine graded sand
5'	Coarse graded sand
10'	Coarse sand and pea gravel
15'	

Water table

96" R.C.P.

6TH ST. S.W.

7TH ST. S.W.

60'

Junction Box No. 4
STA. 32+50
Δ = 34°56' LT.

Build 4' DIA. Type C Manhole
STA. 30+00

Right of Way

14"

W

EL BORDO DRIVE S.W.

3'x3' Concrete conduit to be removed

96" R.C.P.

Extend existing 3'x3' conduit into Junction Box No. 4

36" R.C.P. To be removed

P.P.

SS

Right of Way

Steel sheet piling as required

4' Hogwire Fence

Build 6' DIA. Type B Manhole on existing 36" R.C.P. and extend into Junction Box No. 4

AVE. S.W.

08 | 6 | 16 | 40 | 61 | | | 01 | | | | | 57 | 1 | 42

SCALE
1" = 20' Horizontal
1" = 5' Vertical

4950
4945
4940
4935
4930
4925

Existing ground

3'x3' Conduit

96" R.C.P. Class IV S=0.0029

96" R.C.P. Class III S=0.0029

+50 Junction Box No. 4
Out Inv. Elev. 4928.68
In Inv. Elev. 4928.80

Junction Box No. 5
Out Inv. Elev. 4923.32
In Inv. Elev. 4923.70

Type "C" Manhole
Out Inv. Elev. 4927.96

30 31 32 33 34 35

PLATE 1—PLAN-PROFILE
CHARLES BRUNING COMPANY INC.

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 40 OF 56

PLAN

PROFILE

35

40

Work shown this sheet is in lot 3

MAP 40

REALTY SALES CO ADDITION

PP

TP

Adobe Wall

L.P

Steel sheet piling as required

Junction Box No. 6
STA. 36+64.80
Δ = 76°26'53" RT.

42" RCP

96" RCP

Junction Box No. 5
STA. 35+00.00
Δ = 3°09'53" LT.

Junction Box No. 7
STA. 36+83.80
Δ = 74°36'35" LT.

Right of Way

For crossing details see sheet 4

Steel sheet piling as required

Block Wall

ST. S.W.

STA. 40+76.84
Δ = 1°07'50" LT.

8TH

Right of Way

95A

94A

93A2

93A1

MAP 40

0 8 1 6 1 6 4 1 6 1 0 1 5 7 1 4 2

1945
1940
1935
1930
1925
1920

Existing ground

Existing 42" sanitary sewer

96" R.C.P. S=0.0029

96" R.C.P

96" R.C.P S=0.0029

Junction Box No. 5
Out Inv. 4929.52
In Inv. 4929.70

t+64.80 Junction Box No. C
Out Inv. 4920.18
In Inv. 4921.37

t+83.80 Junction Box No. 7
Out Inv. 4921.43
In Inv. 4930.75

35 36 37 38 39 40 41

PLATE 1—PLAN PROFILE O. P. W. & P. F.
CHARLES BRUNING COMPANY, INC.

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 41 OF 56

END CONSTRUCTION LOT 3
At stub out from Juntion Box No. 9.
Including 72"R.C.P on Iron Ave.SW.

BEGIN CONSTRUCTION LOT 4
At stub out from Junction Box No.9.

RAYNOLDS ADDITION

BLOCK 2 | BLOCK 57 | BLOCK 58 | BLOCK 39 | BLOCK 38

Build Type E Inlet
Remove existing Inlet
Junction Box No.8
STA. 42+00 AHD.
15"R.C.P.
S.M.H.
Build Type E Inlet
Remove existing Inlet
Build Type E Inlet
Remove existing Inlet
Build Type E Inlet
Remove existing Inlet
Pi. STA. 41+84.94 BK.
EQUATION
STA. 42+00.00 AHD.
STA. 42+15.06 AHD.
Build G'DIA Type C Manhole
STA. 43+12
Junction Box No.9
STA. 44+86.00
72"R.C.P. Plugged
96"R.C.P.
84"R.C.P.
8TH ST. S.W.
AVE. SW
Alley
Regulator Box
W.M.
City monument and cover
4" L.P. (marker missing)
6" to 8"
8" M.P.
4" L.P.
G.V.
Control line
Right of Way 142'
Build Type E Inlet
72"R.C.P. IRON For continuation See sheet 51
Build Type E Inlet
Right of Way 142'
Build Type E Inlet
Right of Way 142'
Alley
125'
142'
76.35'
65.43'
142'
142'
142'
20'
16'
60'
80'

SCALE
1"=20' Horizontal
1"=5' Vertical

PLAN
NOTE BOOK
DRAWN
TRACED
CHECKED
DATE 8-4-43
W. A.W.
T. A.W.
H. V. C. CHECKED

PROFILE
NOTE BOOK
DRAWN
TRACED
CHECKED
DATE
W.
T.
H. V. C. CHECKED

STA. 41+84.94 BK.
EQUATION
STA. 42+00.00 AHD.

Junction Box No.8
Gutt Flo Elev=4932.15
Inv Out Elev=4927.15

96" R.C.P. Class III S=0.0029

96" R.C.P. Class III

Existing ground

Existing 18" Sanitary Sewer

Type C Manhole
Inv Out Elev=4923.57

5=0.0029

Junction Box No.9
South Inv Elev 493.00
West Inv Elev 493.69
East Inv Elev 493.34
West Inv Elev 493.00

84" R.C.P. Class III

S=0.001

4950
4945
4940
4935
4930
4925

41 42 43 44 45 46 47

PLATE 1 - PLAN PROFILE O. [illegible]
CHARLES ANDREW COMPANY INC.

50

Work shown this sheet is in LOT 4.

RAYNOLDS ADDITION

BLOCK 39 | BLOCK 35 | BLOCK 35 | BLOCK 18 | BLOCK 60

Build 6'DIA. Type C Manhole STA. 48+53.00

Build Type E Inlet

Build Type E Inlet

Build 6'DIA. Type C Manhole STA. 52+13.00

Build Type Single C Inlet

Build Type E Inlet

Build Type E Inlet

Build Type Single C Inlet

Build Type E Inlet

84"R.C.P. Remove existing Inlet

15"R.C.P.

6"L.P.

AVE. SW

8TH ST. SW.

S.M.H.

4"L.P.

3"M.P.

E.W.M.

P.P.

W.M.

T.P.

Remove existing Inlet

Right of Way

142'

72'

70'

BLOCK 36

BLOCK 38

BLOCK 42

Alley

COAL

LEAD

RAYNOLDS ADDITION ORIGINAL TOWNSITE

NOTE:
Plug existing lines from S.S. M.H. to existing inlets

08 | 6 | 16 | 43 | 61 | | 01 | | | | | 57 | 14 | 1

SCALE
1"= 20' Horizontal
1"= 5' Vertical

PLAN

PROFILE

4950
4945
4940
4935
4930

84" R.C.P. Class III

S=0.001

Existing ground

Existing 10" sanitary sewer

+53 Type C Manhole

+15 Type C Manhole

47 | 48 | 49 | 50 | 51 | 52 | 53

PLATE I PLAN-PROFILE O F R & N E
CHARLES BRUNING COMPANY INC

55

END CONSTRUCTION LOT 4
At stub past Type C Manhole
Including Inlets

BEGIN CONSTRUCTION LOT 5
At stub past Manhole

ORIGINAL BLOCK 60 | TOWNSITE BLOCK 46

Build 4' DIA. Type "C" Manhole
STA. 53+92.00

Build 6' DIA. Type "C" Manhole
STA. 55+80.00

Build 4' DIA. Type "C" Manhole
STA. 57+53.00

Right of Way

Build Type E Inlet

Build Type Single C Inlet
Remove existing Inlet

55MH

15" R.C.P.

15" R.C.P.

15" R.C.P.

84" RCP

84" RCP

84" RCP

8TH.

ST. S.W.

5MH

5MH

4" LP

8" M.P.

Remove existing Inlet

Build Type Single C Inlet

Remove existing Inlet

Build Type E Inlet

Right of Way

4" LP

8" M.P.

Alley

Alley

BLOCK 35 ORIGINAL | SILVER AVE. S.W. | BLOCK 28 TOWNSITE

NOTE:
Plug existing lines from 55MH to existing Inlets

TEST HOLE NO. 2
WATER TABLE LOCATION

Brown clayey sand	
Tan, medium to coarse graded sand	
Coarse sand and pea gravel	Water table

SCALE
Horizontal : 1" = 20'
Vertical : 1" = 5'

08 | 16 | 16 | 44611 | 01 | 57141

PLAN
NOTE BOOK
NO

PROFILE
NOTE BOOK
NO

4950
4945
4940
4935
4930

Existing ground

Existing 10" sanitary sewer

Existing 10" sanitary sewer

84" RCP Class III

S = 0.001

+92 Type "C" Manhole
Inv. Invert 4936.00

+80 Type "C" Manhole
Inv. Invert 4935.08

+53 Type "C" Manhole
Inv. Invert 4935.28

53 54 55 56 57 58 59

PLATE - PLAN - PROFILE - P. R. & E.
CHARLES BRUNING COMPANY

60

65

Build Type E Inlet

Build Type E Inlet

Build Type E Inlet

Junction Box No. 10
STA. 61+13
Δ = 1°14' RT.

15" R.C.P.

84" R.C.P.

72" R.C.P.

8 TH.

Build 6' DIA Type C Manhole
STA. 59+30

15" R.C.P.

15" R.C.P.

15" R.C.P.

Traffic light actuator

4" L.P.

Build 6' DIA Type C Manhole
STA. 62+92

Traffic signal

Build Type E Inlet

Build Type E Inlet

Build Type Single C Inlet

Build 6' DIA. Type C Manhole
STA. 63+53

Remove existing Inlet

Build Type Single C Inlet
ST. N.W.

Traffic light actuator

Build Type Single C Inlet

Remove existing Inlet

Right of Way

Work shown this sheet is in LOT 5.

BLOCK 45

BLOCK 44

BLOCK 21

BLOCK 21

BLOCK 14

ORIGINAL

TOWNSITE

SCALE
1" = 20' Horizontal
1" = 5' Vertical

PROFILE

4950
4945
4940
4935
4930

84" R.C.P. Class III S=0.001

72" R.C.P. Class III S=0.0018

Existing ground

+30 Type C Manhole

+18 Junction Box No. 10
Out Inv. Elev. 4935.62
In Inv. Elev. 4936.50

+92 Type C Manhole

+53 Type C Manhole

59 60 61 62 63 64 65

PLATE 1—PLAN PROFILE O. P. & H. C.
CHARLES HARDING COMPANY INC

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 45 OF 56

END CONSTRUCTION LOT 5
At stub out from Junction Box No 11
Including Inlets and 42" Copper
Ave. N.W. Line

BEGIN CONSTRUCTION LOT 6
At stub out Junction Box No. 11

BLOCK 44

BLOCK 43

BLOCK 43

BLOCK 53

Build Type E Inlet
Remove existing Inlet

Build Type E Inlet
Right of Way

Build 6' DIA. Type "C" Manhole
STA. 70 + 32.00

Build Type Single C Inlet

8TH ST. NW

72" RCP

15" R.C.P.

City monument

SMH

Build Type E Inlet

Remove existing Inlet

Junction Box No. 11
STA. 66+67.00
Δ = 1° 15' LT.

See sheet 52 for continuation

42" R.C.P. COPPER

Build Type E Inlet

Right of Way

Build Type E Inlet

72" RCP

4" LP

Steel sheet piling as required

Build Type E Inlet

NOTE:
Plug existing lines from SSMH to existing Inlets

Attey

BLOCK 7

BLOCK 12

BLOCK 52

KENT

60'

16'

142'

PLAN

PROFILE

Existing ground

72" R.C.P. Class III S=0.0018

Existing 8" sanitary sewer

Existing 30" storm sewer

+67 Junction Box No. 11
Out Inv. 4937.50
In Inv. 4937.60
East Inv. 4949.00

+32 Type "C" Manhole
Inv. 4938.28

4950
4945
4940
4935

65 66 67 68 69 70 71

SCALE
1" = 20' Horizontal
1" = 5' Vertical

08 616 4661 01 57141

PLATE 1 PLAN PROFILE O. P. & A. & I.
CHARLES BRUNING COMPANY, INC.

Remove existing inlet
Build Type Single C Inlet
Steel sheet piling as required
72" RCP
8TH S ST NW
SSMH
15" R.C.P.
Build Type Single C Inlet
Plug in Manhole
P.I. station 71+69.62
Δ = 87° 52' RT.
Junction Box No. 13
STA. 71+84.16
Δ = 87° 52' RT.
Remove existing inlet
Build Type Single C Inlet
Junction Box No. 12
STA. 71+60.00
Steel sheet piling as required
END CONSTRUCTION LOT 6
At stub out from Junction Box No. 14
including inlets.
BEGIN CONSTRUCTION LOT 7
At stub out from Juntion Box No. 14
75
Junction Box No. 14
Δ = 93° 00' LT.
STA. 73+18.59 BK.
EQUATION
STA. 73+27.83 AHD.
72" RCP
T. LERAS
Right of Way
Build Type Single C Inlet
Remove existing inlet
8 T.H.
15" R.C.P.
Remove existing Inlet
Build Type E Inlet
Right of Way
Build Type E Inlet
Build 6' DIA. Type "C" Manhole
STA. 77+00.00
Δ = 0° 46' LT. Deflection to be
taken up in joints
AVE NW.
MARQUETTE
Build Type Single C Inlet
08 61 6 47 61 01 58142

PROFILE

Existing Ground
Existing 30" Storm Sewer
72" R.C.P. Class III S = 0.0018
72" R.C.P. S = 0.0018
72" R.C.P. Class III
S = 0.00135
72" R.C.P. Class III
S = 0.001
160 Junction Box No. 12
ELEV. 4938.79
134.16 Junction Box No. 13
Out Inv. 4938.53
In Inv. 4938.79
118.59 BK. Junction Box No. 14
Out Inv. 4936.91
127.75 AHD. Junction Box No. 14
In Inv. 4936.25
Type "C" Manhole
4950
4945
4940
4935
71
72
73
74
75
76
77

PLATE 1 PLAN PROFILE
CHARLES [illegible] COMPANY INC

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 47 OF 56

80

Work shown this sheet is in LOT 7.

Build 6' DIA Type C Manhole
STA. 77+00

Steel sheet piling as required

Build 6' DIA. Type C Manhole
STA 80+52

Steel sheet piling as required

Build Type E Inlet

Build Type E Inlet

Build Type E Inlet

Build Type E Inlet

Remove existing Inlet

Remove existing Inlet

Remove existing Inlet

Remove existing Inlet

Build Type E Inlet

AVE NW.

8TH.

ST. NW

ROMA

MARQUETTE

Alley

15" R.C.P.

72" R.C.P.

72" R.C.P.

10" ?

10" ?

8" ?

8" ?

8" ?

6" ?

6" ?

6" ?

SSMH

SMH

WM

PP

WV

LP

FH

GV

City Monument

P.I. STA 80+79.17
Δ = 01° 29' LT.

NOTE:
Plug existing lines from S.S M.H. to existing Inlets.

TEST HOLE NO. 1
WATER TABLE LOCATION

0	Tan, sandy silt
4	Tan, medium to fine graded sand
10	Tan, medium to course graded sand
15	Grey, course sand
18	Water table
20	Grey, course sand and pea gravel
25	

SCALE
1" = 20' Horizontal
1" = 5' Vertical

PLAN

PROFILE

Existing ground ?

Existing 8" Sanitary Sewer

72" R.C.P. Class III S=0.001

72" R.C.P. Class III S=0.0008

Type C Manhole
Rim Elev. 4952.05
12" Inv. Elev. 4930.05

Type C Manhole
Rim Elev. 4956.67
12" Inv. Elev. 4932.67

4955
4950
4945
4940
4935

77 78 79 80 81 82 83

PLATE I - PLAN PROFILE OF P. P. & R. E.
CHARLES BRUNING COMPANY, INC.

PLAN
NOTE BOOK NO
R.A.M.
6-61

PROFILE
NOTE BOOK NO
6-61

LOT 3

RAYNOLDS

ADDITION

24 23 22 21 20 19 18 17 16 15 14 13

BLOCK 38

25' Right of Way 25'

IRON AVE. S.W.

Inlet

5'W.M.

MH

3'X6' Concrete Box 36"S.S.

6 @ 12" S.S. 5TH ST. N.W.

MH 24" S

Inlet

SMH

67'

72" R.C.P.

60

Junction Box No.9
STA. 0-24.5

Stub Out And Plug

84" R.C.P. for continuation See sheet 42

96" R.C.P. for continuation See sheet 41

5TH ST. S.W.

60'

Stub Out And Plug

Junction Box No 15
STA. 3+28

7 @ 36" S.S.

Iron pipe

Right of Way

BLOCK 39

12 11 10 9 8 7 6 5 4 3 2 1

All work on this sheet is in LOT 3

NOTE: The existing concrete box and 36" C.P. storm sewers shall be permanently plugged to the south and reconnected to new junction box on the north

Scale
1"=20' Horizontal
1"=5' Vertical

08 | 6 | 6 | 5 | 1 | 6 | 1 | | | 0 | 1 | | | | | | | | 5 | 7 | 1 | 4 | 2

4950
4945
4940
4935
4930

Existing ground

72" R.C.P. Class III S=0.0014

Existing 3'x6' Concrete Box

Existing 36" Storm Sewer

Existing 8" Sewer

-2+45 Junction Box No. 9
(Flow line 4931.1)

+3+28 Junction Box No. 15
(Flow line 4934.7)

0 1 2 3 4

PLATE 1—PLAN—PROFILE U. P. R. & R. E.
CHARLES BRUNING COMPANY INC

ORIGINAL TOWNSITE ADDITION

BLOCK 7

24 23 22 21 20 19 18 17 16 15 14 13

25' " " " Right of Way " " " " " " 25'

6' Sidewalk

72" R.C.P. For continuation See sheet 46

ST. N.W.

Inlet

Main Box

W.V.

L.P.

PP

Build Single E Type Inlet

Remove Existing Inlet

15" R.C.P.

Remove Existing Inlet

Build Single E Type Inlet

Remove Existing Inlet

Build Single E Type Inlet

Build 6' DIA Type B Manhole STA. 3+38.4

S.S.M.H.

City Monument

COPPER AVE. N.W.

42" R.C.P.

60'

Plug South Line

7TH

8TH

LOT 5

12 11 10 9 8 7 6 5 4 3 2 1

BLOCK 14

STA. 0-12.6 Copper EQUATION =STA. 66+67 8th. St. Junction Box No. 11

Work shown on this sheet is in LOT 5

ORIGINAL TOWNSITE ADDITION

SCALE
1" = 20' Horizontal
1" = 5' Vertical

4955
4950
4945
4940
4935

Existing ground

42" R.C.P. Class III

S = 0.01

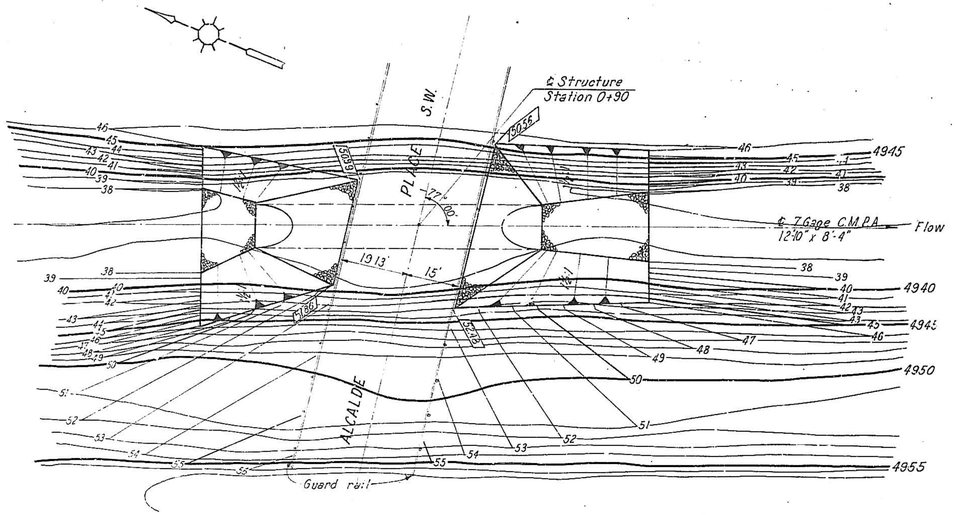
0-12.6 Junction Box No. 11 Inv. Elev. 4940.00

+38.4 Type B Manhole Inv. Elev. 4940.54

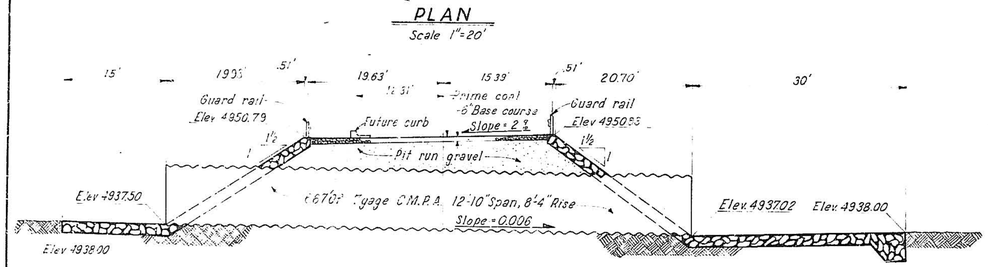
0 1 2 3

PLATE I PLAN PROFILE O. P. R. & R. L.
CHARLES PHOENIX COMPANY INC

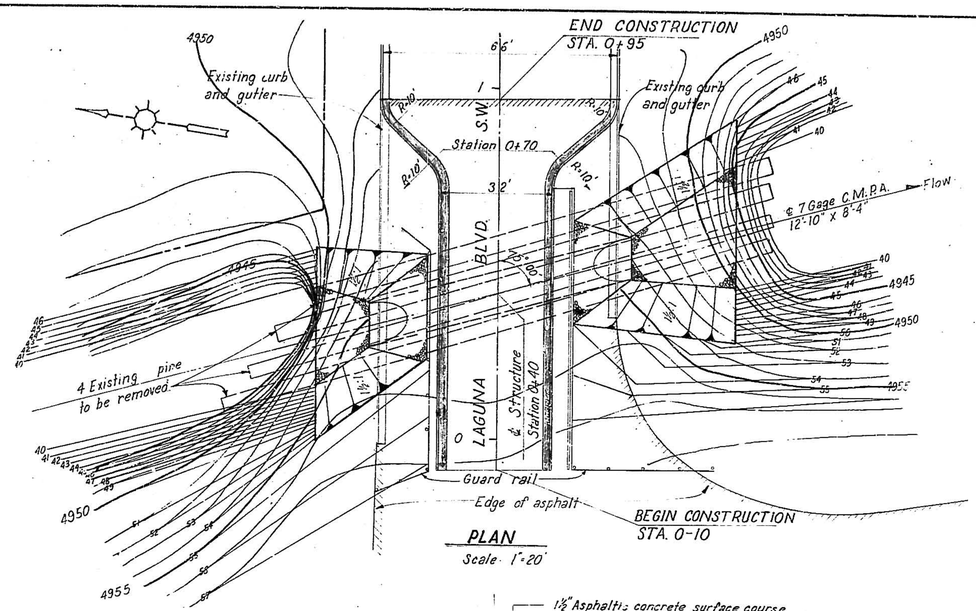
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM SHEET 52 OF 56



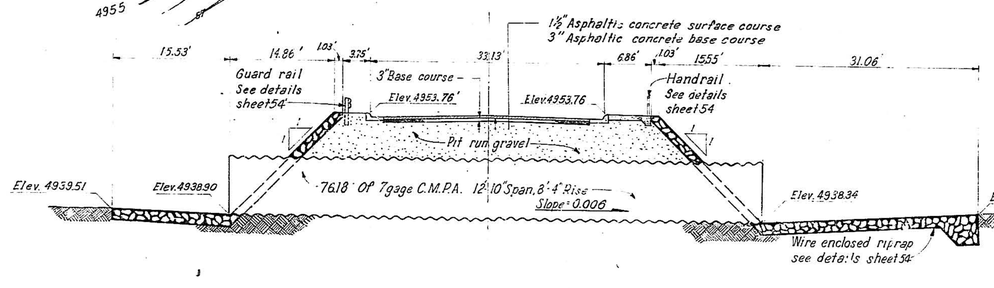
PLAN
Scale 1"=20'



LONGITUDINAL SECTION
Scale 1"= 10'



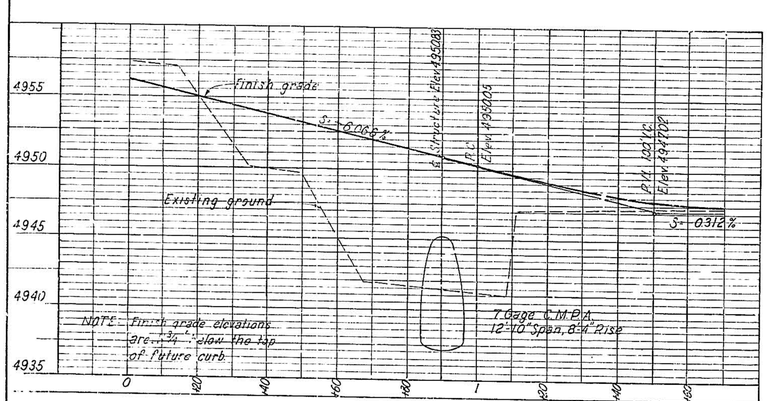
PLAN
Scale 1"=20'



LONGITUDINAL SECTION
Scale : 1"=10'

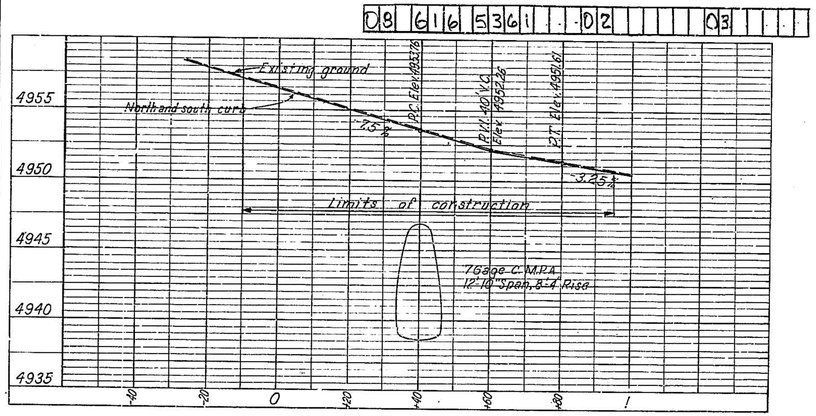
ESTIMATED QUANTITIES	
DESCRIPTION	QUANTITY
12'10" Span, 8'4" Rise 7gage C.M.P.A.	76.18 L.F.
18" Wire enclosed riprap	48.6 S.Y.
Guard rail	12.8 L.F.
Granular backfill	685.0 C.Y.
Excavation unclassified	510.0 C.Y.
Curb and gutter	22.0 L.F.
Sidewalk	53.5 S.Y.
Prime coat	38.5 S.Y.
Base course, Hot plant mix, 3"	38.5 S.Y.
Surface course, Hot plant mix, 1½"	38.5 S.Y.
Dumped rip-rap	38.7 C.Y.
Asphalt pavement removal	66.7 S.Y.

WORK SHOWN ON THIS SHEET IS IN LOT 8



PROFILE
Scales: Horiz: 1"=20'
Vert: 1"=5'

ESTIMATED QUANTITIES	
DESCRIPTION	QUANTITY
12'-10" Span, 8'-4" Rise 7gage C.M.P.A.	76.67 L.F.
18" Wire enclosed riprap	41.0 S.Y.
Guard rail	24.0 L.F.
Granular backfill	133.0 C.Y.
Excavation unclassified	64.5 C.Y.
Prime coat	45.5 S.Y.
Base course, 6"	45.5 S.Y.
Dumped rip-rap	27.8 C.Y.



PROFILE
Scales Horiz: 1"=20'
Vert : 1"=5'

ESTIMATED QUANTITIES	
DESCRIPTION	QUANTITY
12'10" Span, 8'4" Rise 7gage C.M.P.A.	76.18 L.F.
18" Wire enclosed riprap	48.6 S.Y.
Handrail	80 L.F.
Guard rail	12.8 L.F.
Granular backfill	685.0 C.Y.
Excavation unclassified	510.0 C.Y.
Curb and gutter	22.0 L.F.
Sidewalk	53.5 S.Y.
Prime coat	38.5 S.Y.
Base course, Hot plant mix, 3"	38.5 S.Y.
Surface course, Hot plant mix, 1½"	38.5 S.Y.
Dumped rip-rap	38.7 C.Y.
Asphalt pavement removal	66.7 S.Y.

WORK SHOWN ON THIS SHEET IS IN LOT 8

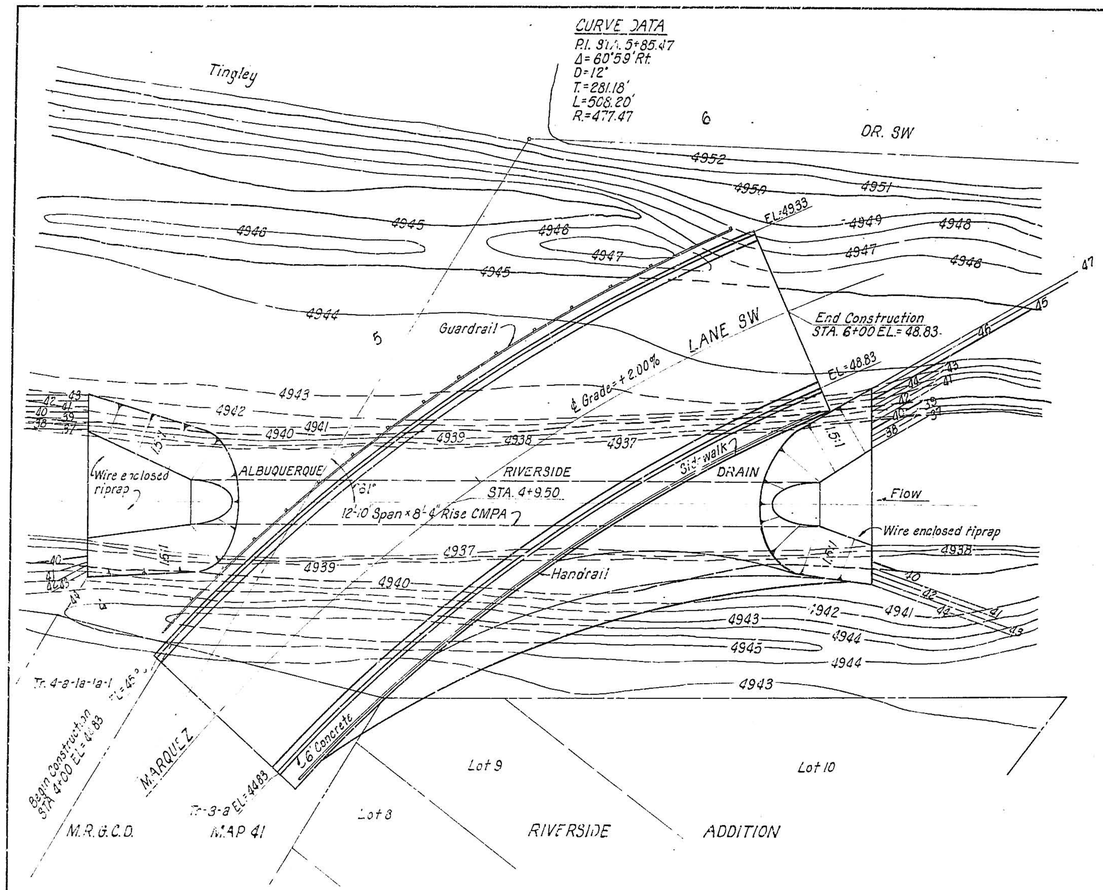
ALBUQUERQUE — NEW MEXICO

BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

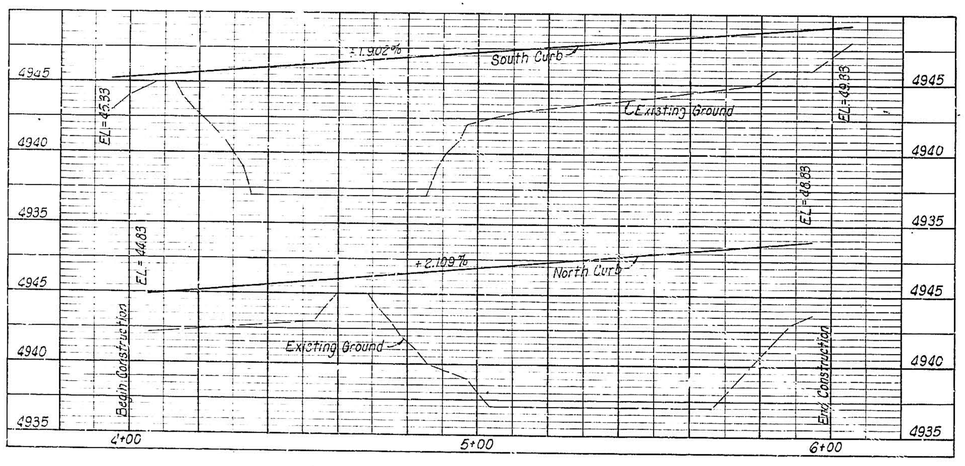
ALCALDE PLACE AND LAGUNA BLVD STRUCTURES

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

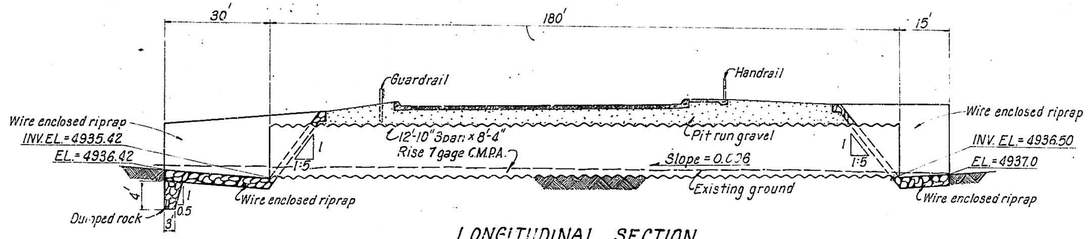
SCALE	DATE	DRAWN: R.A.L.	SHEET 53
AS SHOWN	AUGUST 1961	CHECKED:	OF 96



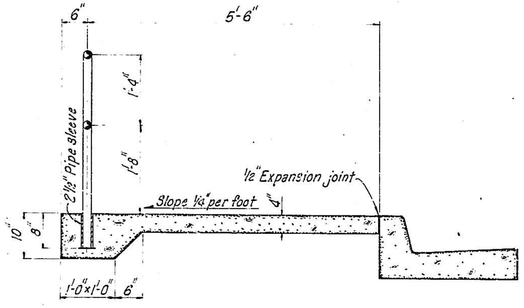
PLAN
Scale: 1" = 20'

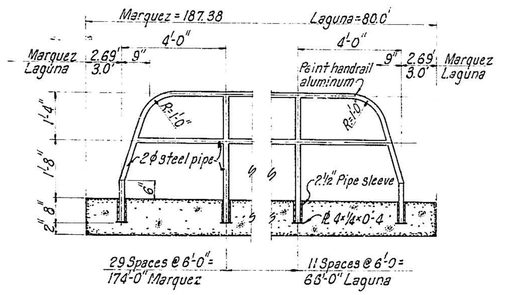


PROFILE
Scale: HORIZ. 1" = 5'
VERT. 1" = 20'



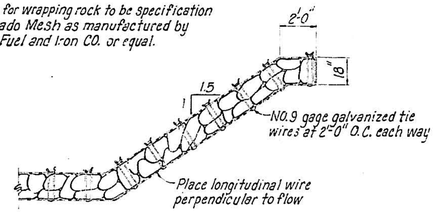
LONGITUDINAL SECTION
Scale: HORIZ. 1" = 5'
VERT. 1" = 20



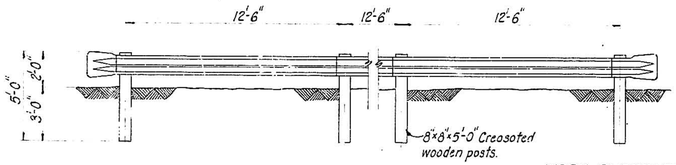


HANDRAIL AND WALK DETAILS
Not To Scale

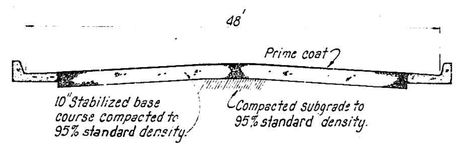
Note: Wire for wrapping rock to be specification U-3 Colorado Mesh as manufactured by Colorado Fuel and Iron CO. or equal.



WIRE ENCLOSED RIPRAP DETAILS
Not To Scale



GUARDRAIL DETAIL
Scale: ¼" = 1'-0"



TYPICAL STREET SECTION
Not To Scale

ESTIMATED QUANTITIES

DESCRIPTION	QUANTITY
Sidewalk	126.7 S.Y.
1-12'-0 Span x 8'-4" Rise 7 ga. corrugated metal pipe arch	150 LIN. FT.
18 Deep wire enclosed riprap	420 S.Y.
Handrail	182 LIN. FT.
Guardrail	200 LIN. FT.
Common excavation	100 C.Y.
Pit run fill material	750.00 C.Y.
Dumped riprap	34.5 C.Y.

WORK SHOWN THIS SHEET IS IN LOT 8

ALBUQUERQUE — NEW MEXICO

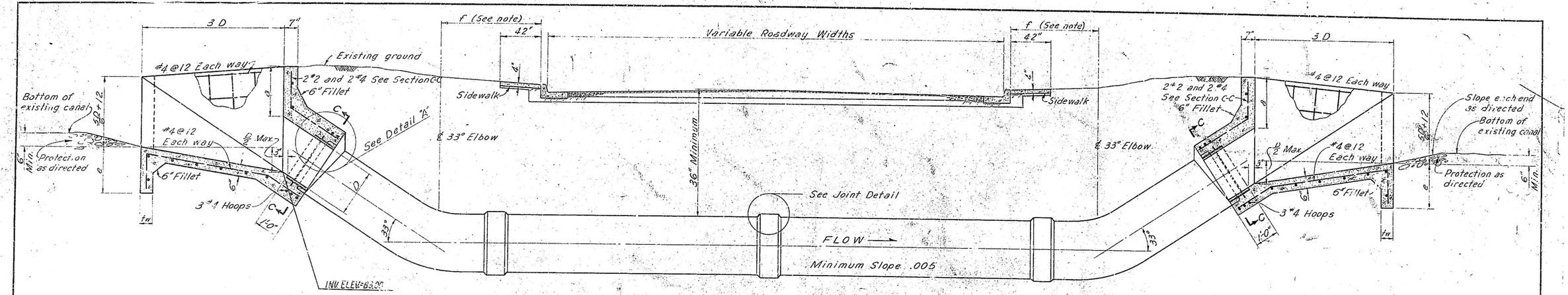
BARELAS PUMP STATION AND METROPOLITAN STORM SEWER SYSTEM

MARQUEZ LANE STRUCTURE

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

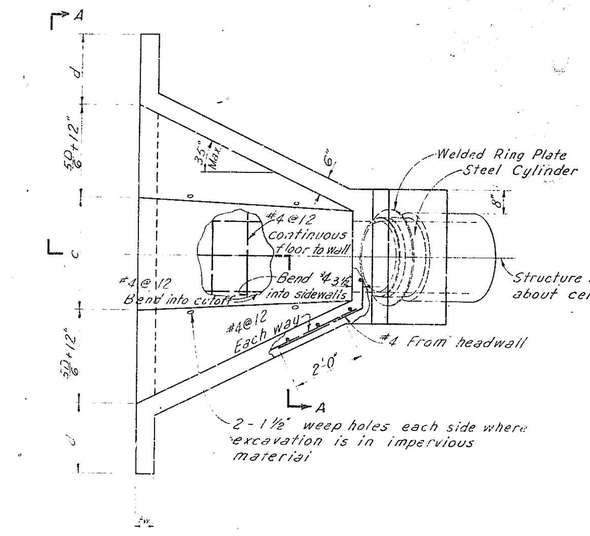
SCALE	DATE	DRAWN: R.A.L.	SHEET 54
AS SHOWN	AUGUST 1961	CHECKED:	OF 56

08 16 16 5461 02 03



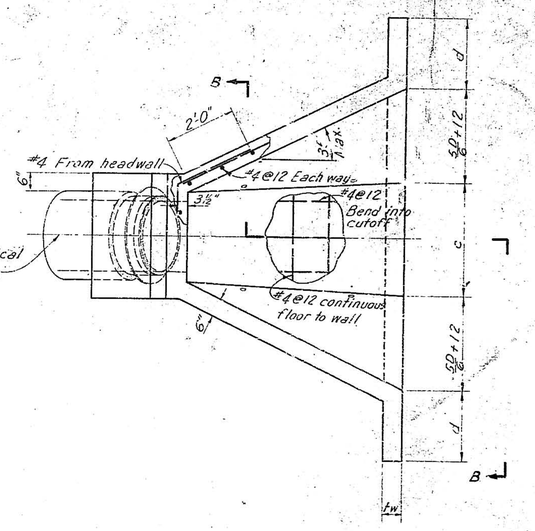
LONGITUDINAL SECTION

Not to Scale



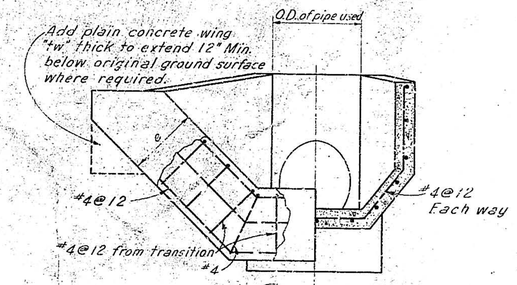
PLAN - INLET TRANSITION

Scale: ½" = 1'-0"



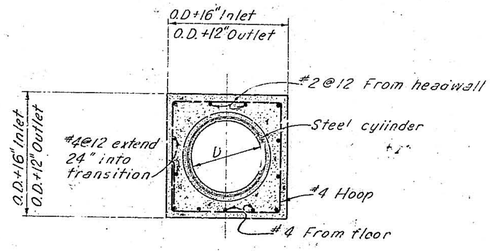
PLAN - OUTLET TRANSITION

Scale: ½" = 1'-0"



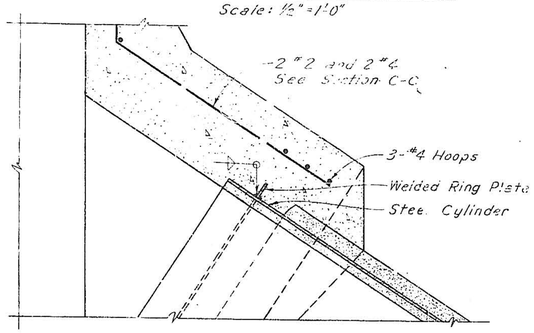
SECTIONS A-A AND B-B

Scale: ½" = 1'-0"



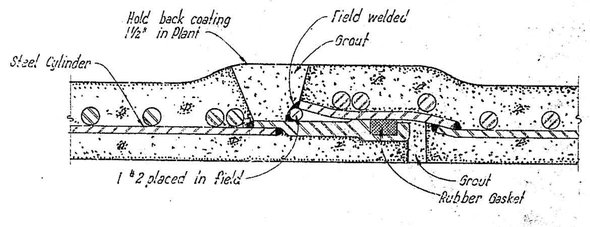
SECTION C-C

Scale: ½" = 1'-0"



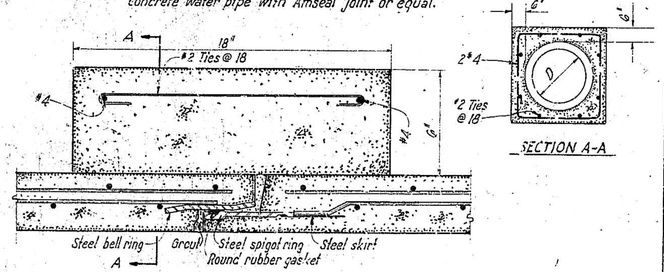
DETAIL "A"

Scale: 1½" = 1'-0"



STEEL CYLINDER JOINT DETAIL

Not to scale



LOW PRESSURE REINFORCED CONCRETE PIPE JOINT DETAIL

Not to scale

SECTION A-A

NOTES:

1. All reinforcement in monolithic concrete shall be placed so that the centers of bars in the outer layer will be 2" from outer face, unless otherwise shown.
2. Lap all bars 20 diameters at splices.
3. Berms may be necessary at either or both headwalls to suit actual laying length of pipe.
4. Values of c as given in table of dimensions may be changed as directed if 35° max. transition wall divergence is not exceeded.
5. Chamfer all exposed corners ¾".
6. Pipe to be Steel Cylinder or low pressure reinforced concrete water pipe with Amseal joint or equal.

TABLE OF DIMENSIONS

D	a	c	d	e	tw
~~18"~~	~~2'-4"~~	~~2'-4"~~	~~19"~~	~~15"~~	~~6"~~
~~24"~~	~~2'-8"~~	~~3'-2"~~	~~24"~~	~~24"~~	~~6"~~
~~30"~~	~~3'-0"~~	~~4'-0"~~	~~2'-6"~~	~~2'-6"~~	~~8"~~
36"	2'-8"	4'-10"	2'-6"	2'-6"	8"
~~42"~~	~~3'-10"~~	~~5'-8"~~	~~2'-6"~~	~~2'-6"~~	~~8"~~
~~48"~~	~~3'-0"~~	~~6'-6"~~	~~2'-6"~~	~~2'-6"~~	~~8"~~
~~54"~~	~~3'-0"~~	~~7'-4"~~	~~2'-6"~~	~~2'-6"~~	~~8"~~
~~60"~~	~~3'-0"~~	~~8'-2"~~	~~2'-6"~~	~~2'-6"~~	~~8"~~
~~72"~~	~~3'-0"~~	~~9'-10"~~	~~2'-6"~~	~~2'-6"~~	~~8"~~
~~84"~~	~~3'-0"~~	~~11'-6"~~	~~2'-6"~~	~~2'-6"~~	~~8"~~

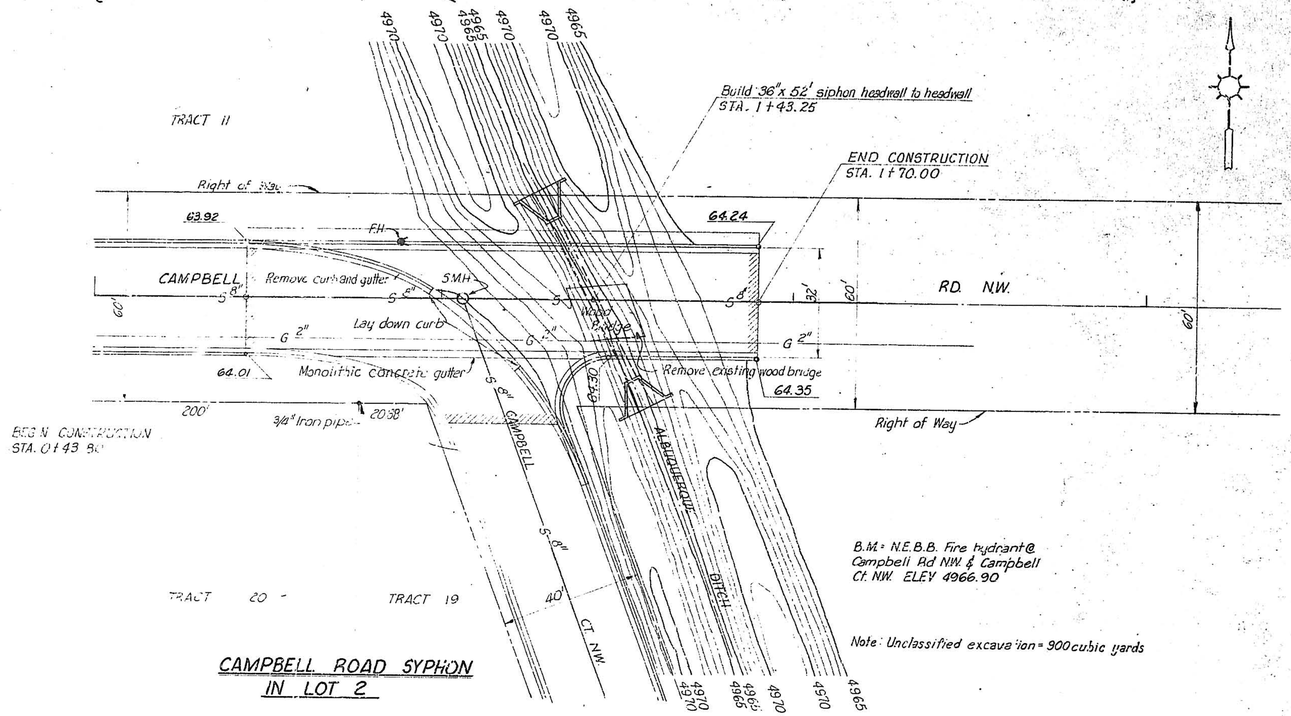
ALBUQUERQUE, NEW MEXICO

PAVING STANDARD

TYPICAL SIPHON DETAILS

GORDON HERKENHOFF & ASSOCIATES, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

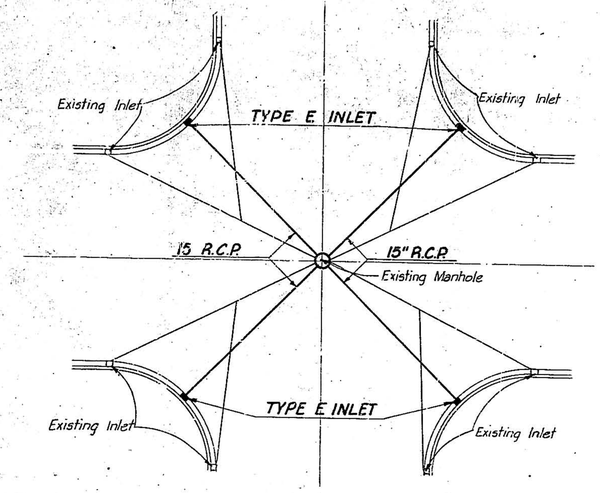
SCALE	DATE	DRAWN: R.D.M.	SHEET 56
AS SHOWN	OCT 1959	CHECKED: G.A.J.	OF 56



B.M.= N.E.B.B. Fire hydrant @ Campbell Rd NW. & Campbell Ct. NW. ELEV 4966.90

Note: Unclassified excavation = 900 cubic yards

CAMPBELL ROAD SYPHON IN LOT 2



TYPICAL INTERSECTION

Not to Scale

GENERAL NOTES

An improved inlet system shall be provided in the downtown area located at the Gold, Central and Copper Avenue intersections with the following streets: 1st, 2nd, 3rd, 4th, 5th and 6th streets. Where more than two existing inlets are connected to the same manhole, the new inlet lines shall be connected to a new manhole utilizing the salvaged manhole cover and ring. Completely new manholes may also be required. New inlets shall be either single grate C or E, or double grate C inlets as directed by the Engineer. All phases of lot 9 shall be as directed by the Engineer, with the payment for each item of work to be at the contract unit price for which the item applies and shall be subject to the terms and conditions of the contract. Any specific item of work shall be as contained in the applicable technical provisions of the contract documents.

SCALES:

HORIZ.: 1" = 20'
VERT.: 1" = 5'

Downtown Inlets are LOT 9

08 16 16 5561 04 03

PLAN
DATE 8-62
BY R.A.M.
SCALE 1" = 20'
TOP 3

PROFILE
DATE 8-62
BY M.C.
SCALE 1" = 5'
TOP 4

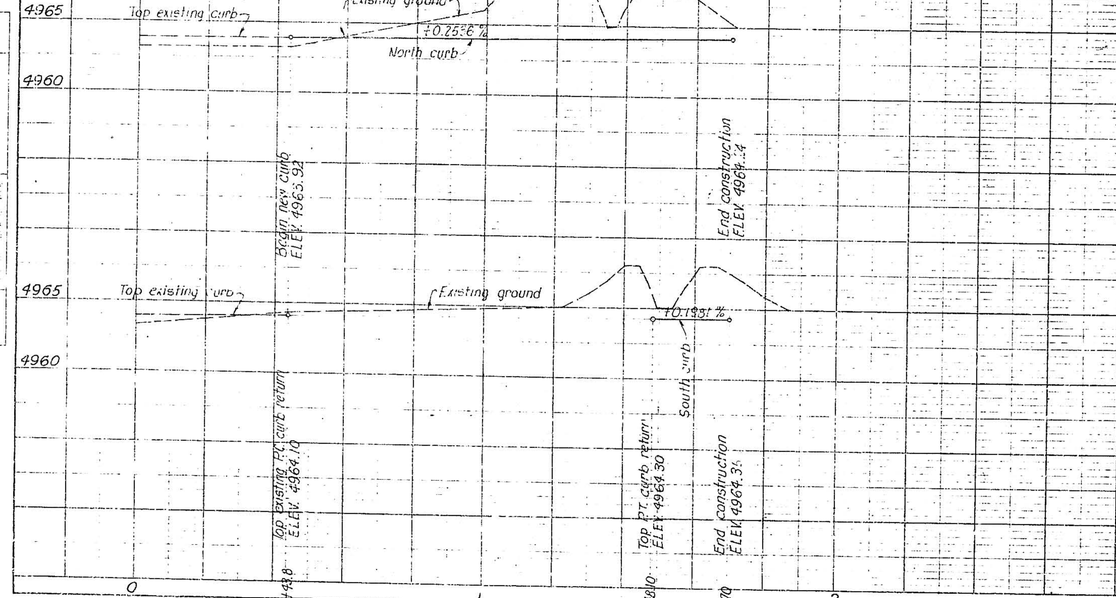


PLATE 1—PLAN-PROFILE O. P. R. & R. E.
100% RAG PAPER MADE AND PRINTED IN U.S.A.
CHARLES BRUNING COMPANY, INC