

CONSTRUCTION PLANS

RUM RIVER DAM

ANOKA, MINNESOTA

MAYOR DONALD K. ELVIG

CITY COMMISSIONERS

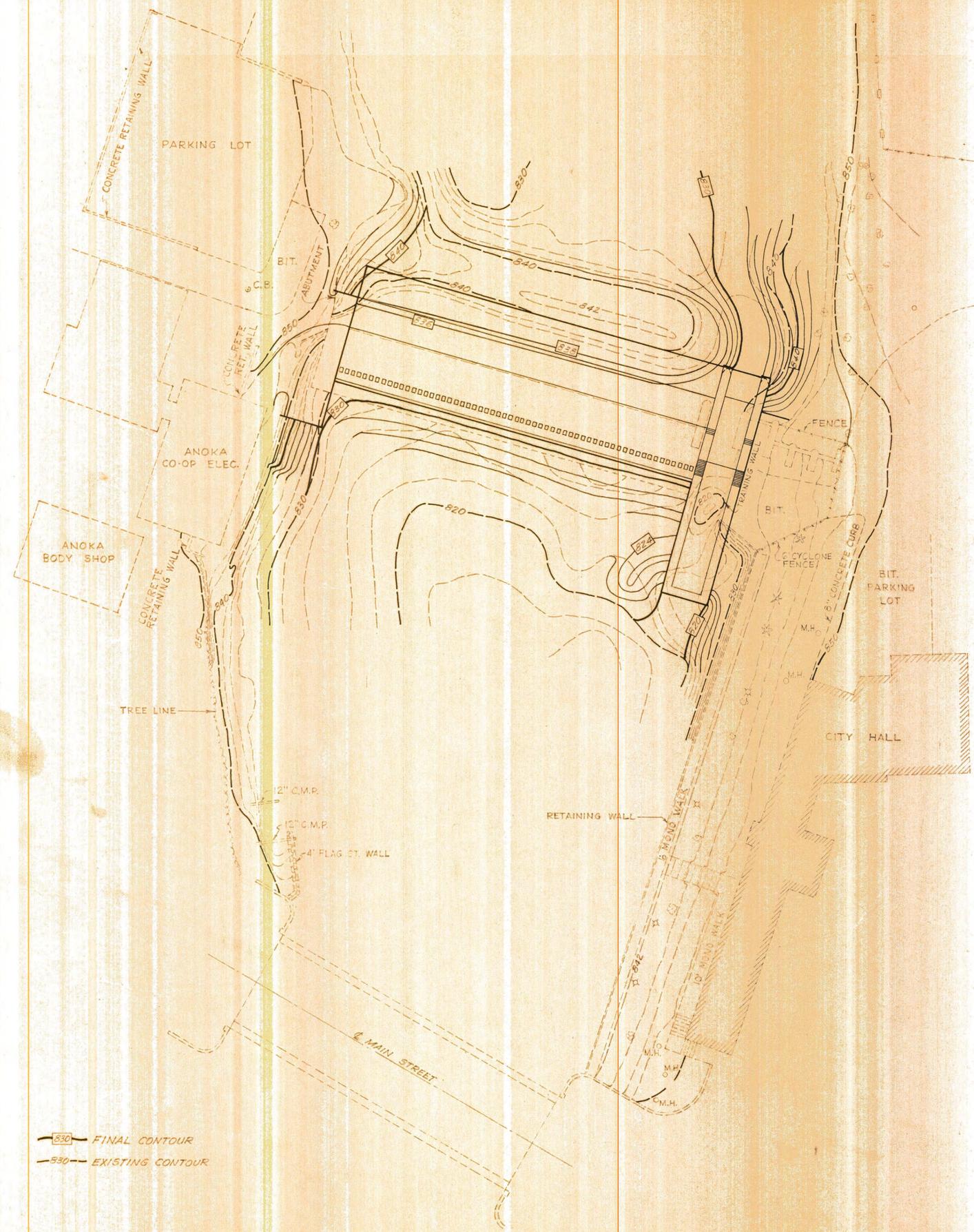
MRS. MARSHALL WAY THOMAS E. WILBERG

LEON DEHEN JERRY E. JACOB

CITY MANAGER S. C. GESKO, JR.

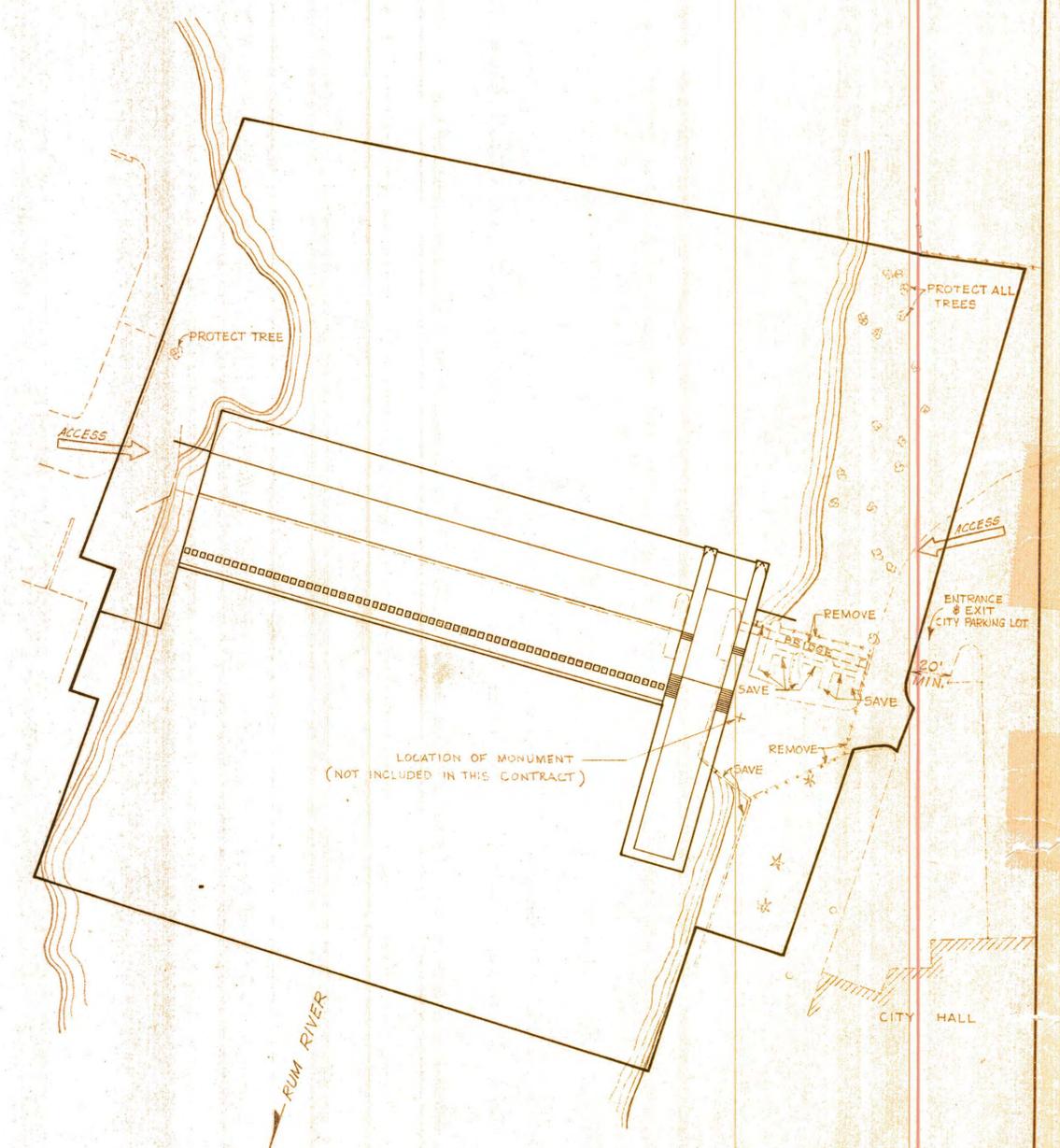
CITY ENGINEER ROBERT B. JOHNSON

BARR ENGINEERING CO.
CONSULTING HYDRAULIC ENGINEERS
1968



—830— FINAL CONTOUR
 -830- EXISTING CONTOUR

LOCATION AND GRADING PLAN

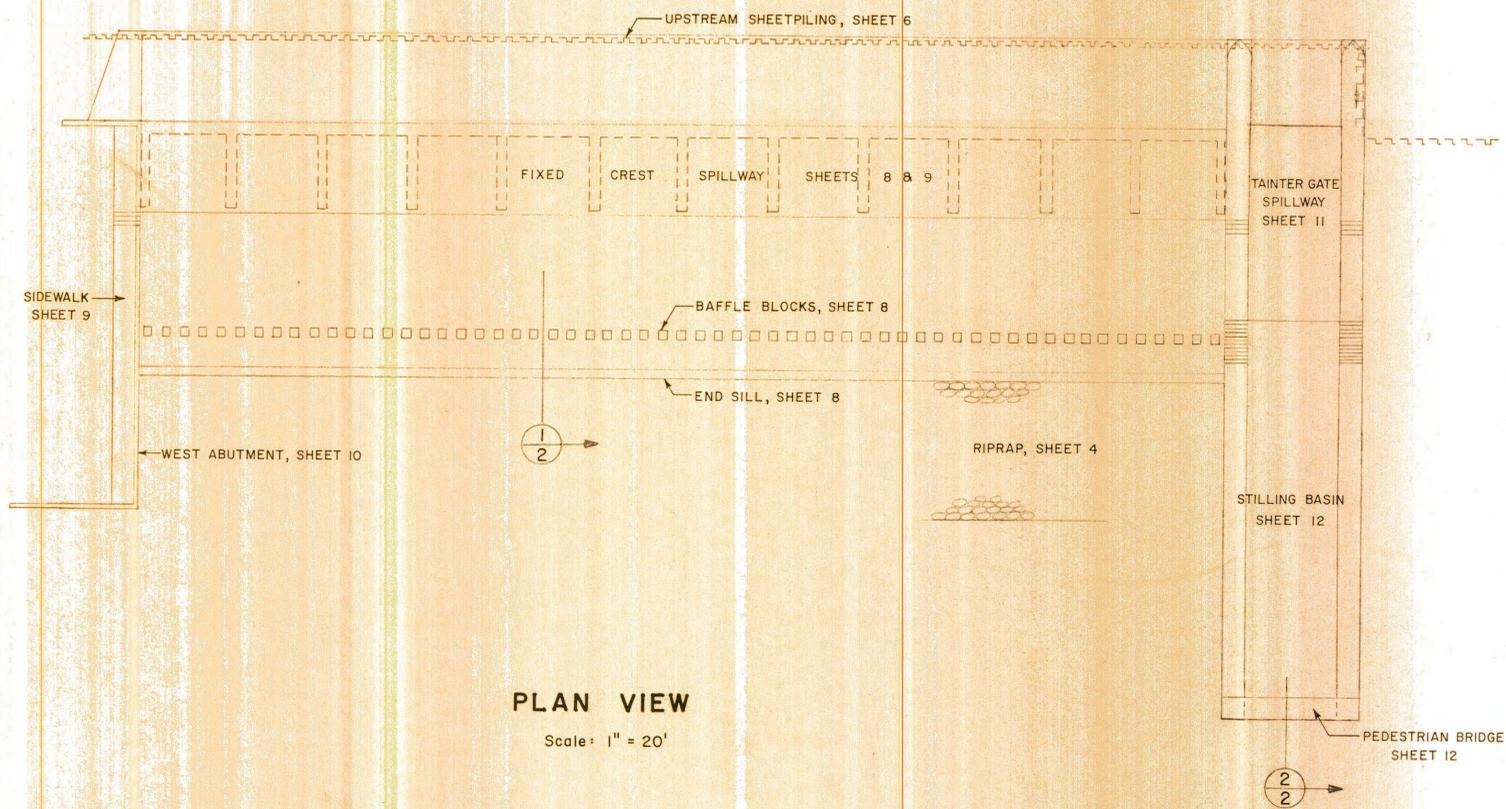


CONSTRUCTION LIMITS

I HEREBY CERTIFY THAT THIS DRAWING OR PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
Douglas W. Barr
 DATE 12-9-68
 REG. NO. 3615

REVISIONS	SCALE:
	1" = 40'
	DWN. BY:
	J. M.
	DATE:
	11-8-68
	DWG. NO.:
	23/2-40042

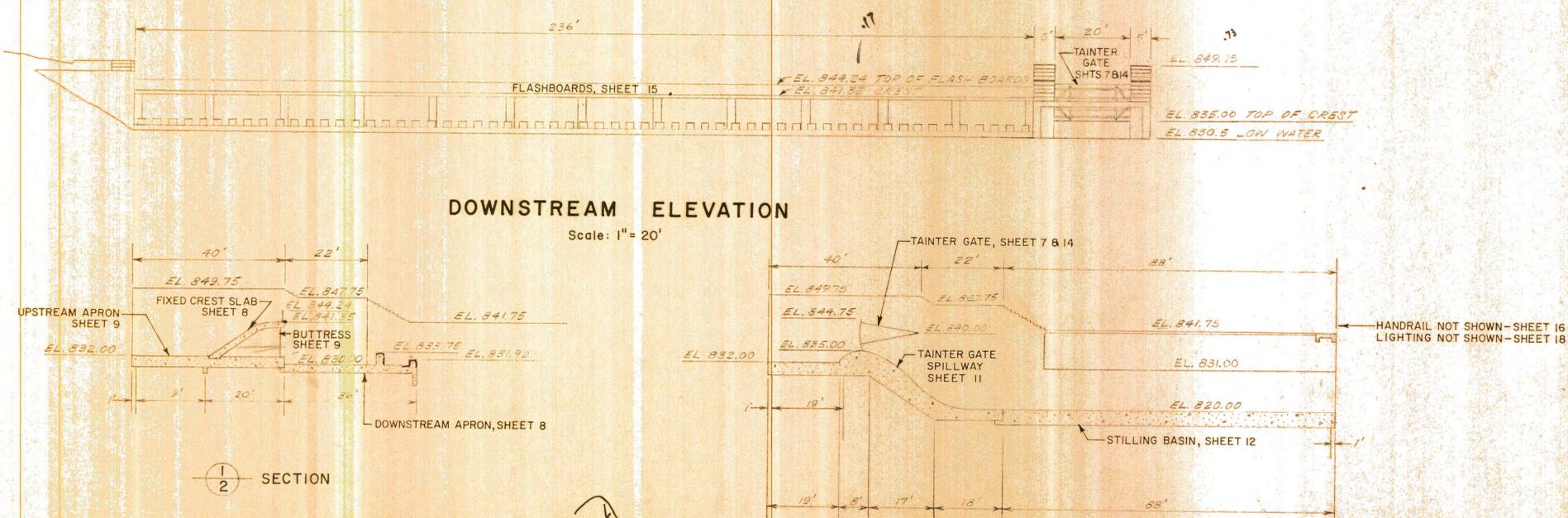
CITY OF ANOKA ANOKA, MINNESOTA	
BARR ENGINEERING CO. CONSULTING HYDRAULIC ENGINEERS MINNEAPOLIS, MINNESOTA	
RUM RIVER DAM LOCATION PLAN	
SHEET NO.	1
9H	



PLAN VIEW
Scale: 1" = 20'

INDEX

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DOWNSTREAM ELEVATION
Scale: 1" = 20'

FIXED CREST SPILLWAY
Scale: 1" = 20'

TANTIER GATE SPILLWAY
Scale: 1" = 20'

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James W. Barr

DATE 12-9-68

REG. NO. 3615

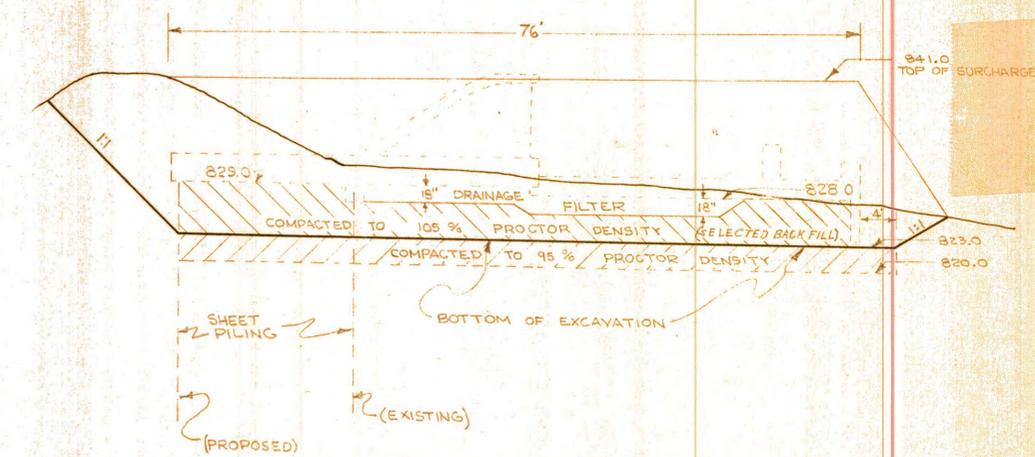
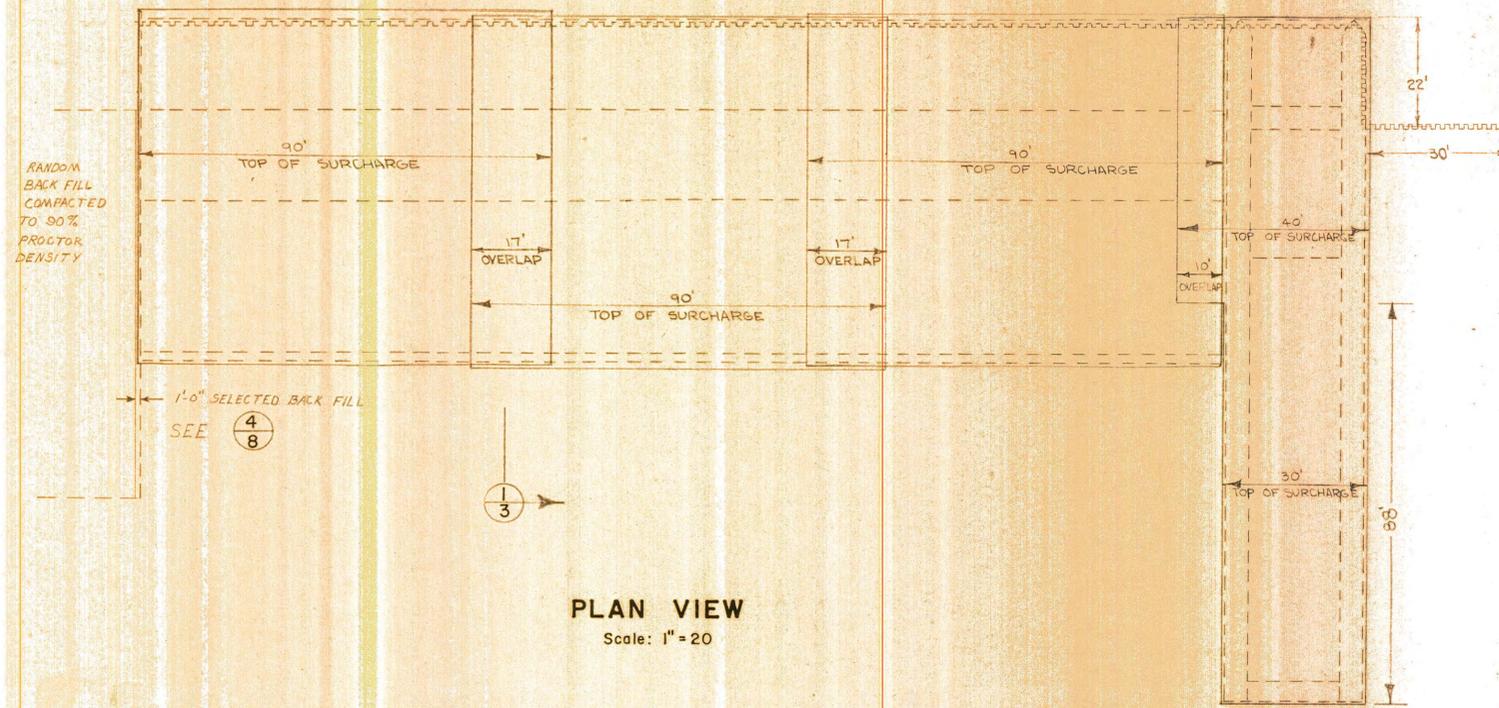
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	DWG. NO.:
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CITY OF ANOKA
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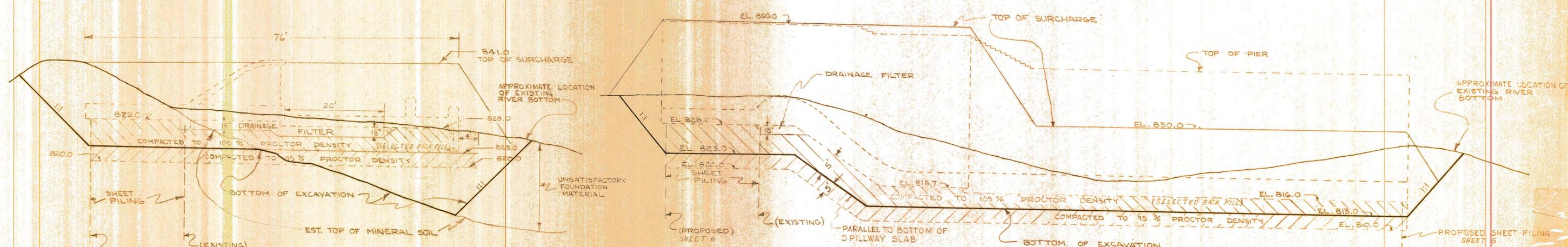
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MINNEAPOLIS, MINNESOTA

RUM RIVER DAM
INDEX SHEET

SHEET NO.
2 OF **19**
SHEETS



NOTE: THIS SECTION TYPICAL WHERE RIVER BOTTOM IS MINERAL SOIL.



NOTE: THIS SECTION TYPICAL WHERE BOTTOM OF SUBCUT IS MINERAL SOIL, IF THE BOTTOM OF THE SUBCUT IS UNSATISFACTORY MATERIAL, THE MATERIAL SHALL BE REMOVED AS SHOWN IN SECTION 1/3.

NOTE: THIS SECTION TYPICAL WHERE OLD SCOUR HOLE HAS FILLED WITH UNSATISFACTORY FOUNDATION MATERIAL.

SECTION 1/3
Scale: 1" = 10'

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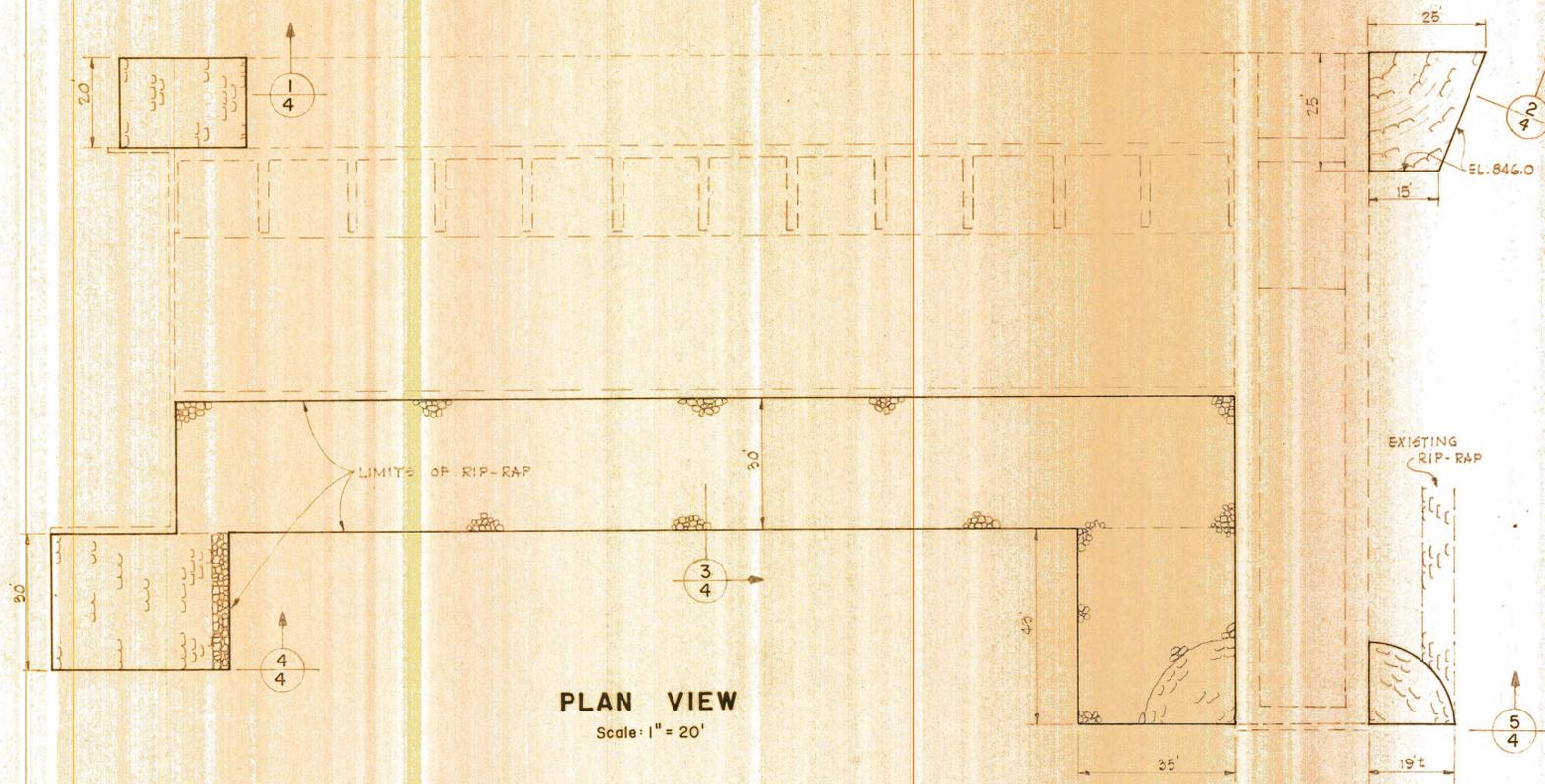
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	DATE:
	11-21-68
	DWG. NO.:
	23/2-4D044

CITY OF ANOKA
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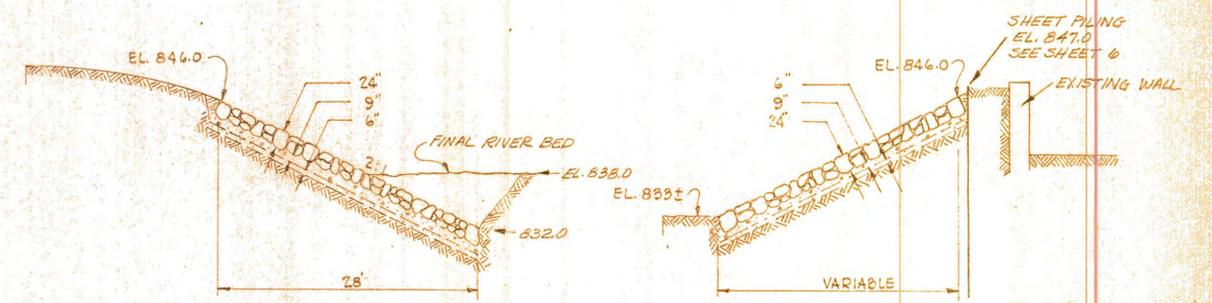
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MINNEAPOLIS, MINNESOTA

RUM RIVER DAM
FOUNDATION PREPARATION

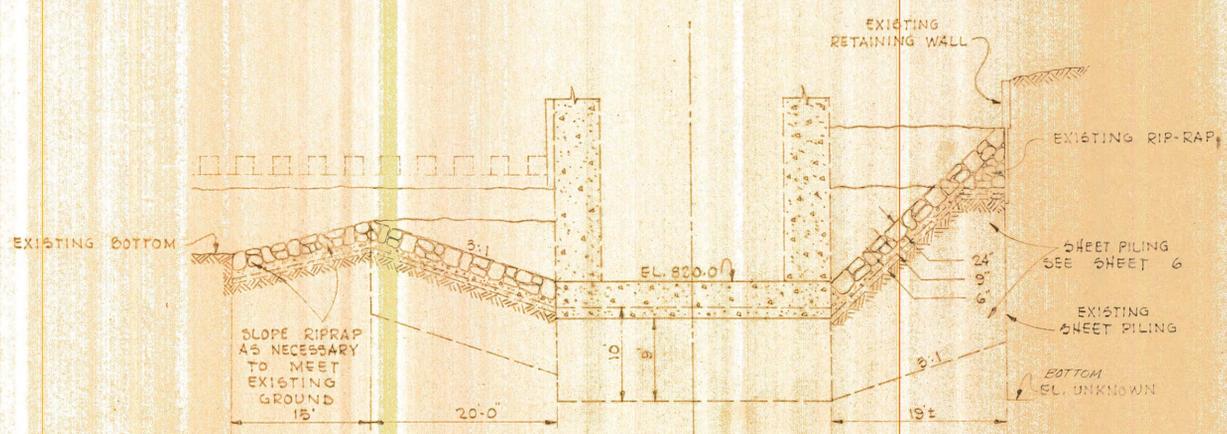
SHEET NO. **3** OF 19 SHEETS



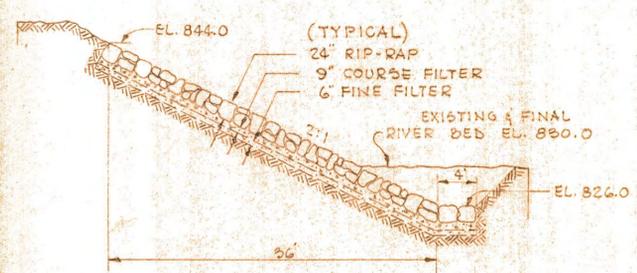
PLAN VIEW
Scale 1" = 20'



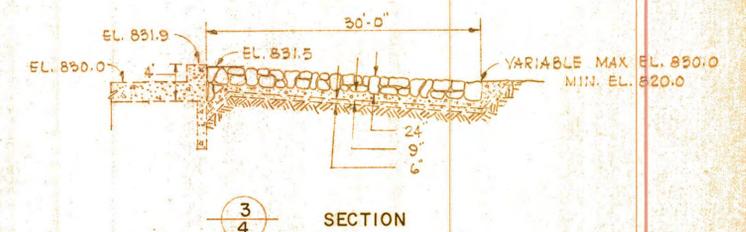
1/4 SECTION **2/4 SECTION**
RIP-RAP ON WEST BANK UPSTREAM OF DAM RIP-RAP ON EAST BANK UPSTREAM OF DAM
Scale 1" = 10'



5/4 SECTION
RIP-RAP AROUND TAITNER GATE SPILLWAY
Scale 1" = 10'



4/4 SECTION
RIP-RAP ON WEST BANK DOWNSTREAM OF DAM
Scale 1" = 10'



3/4 SECTION
RIP-RAP DOWNSTREAM OF FIXED CREST SPILLWAY
Scale 1" = 10'

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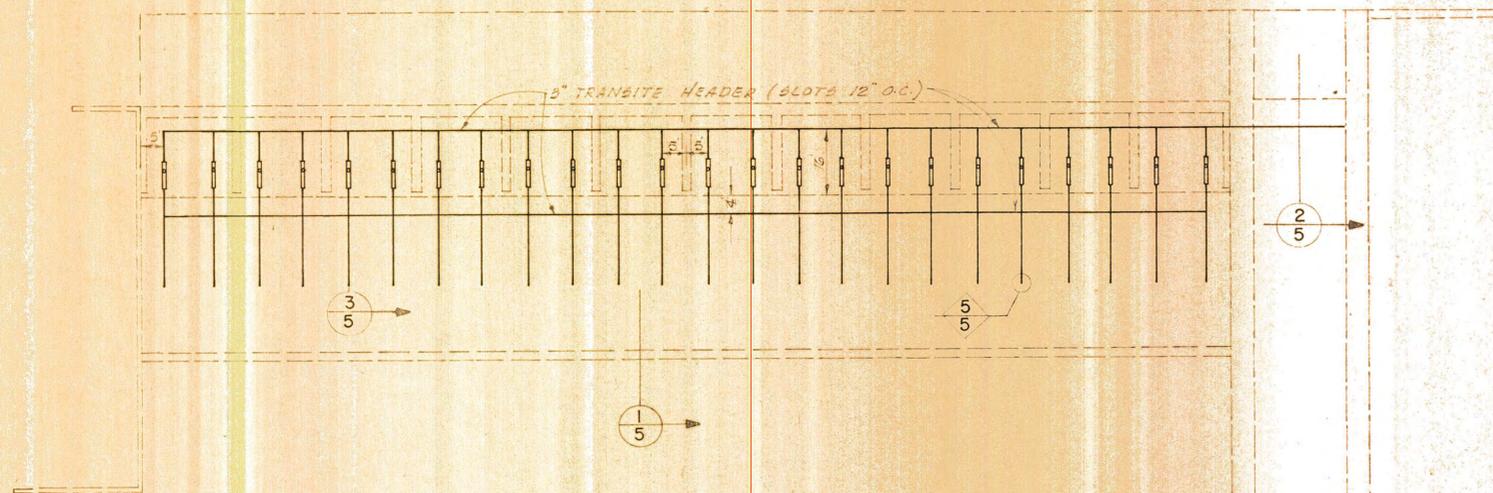
RUM RIVER DAM
RIP-RAP DETAILS

SHEET NO.
4 OF
19
SHEETS

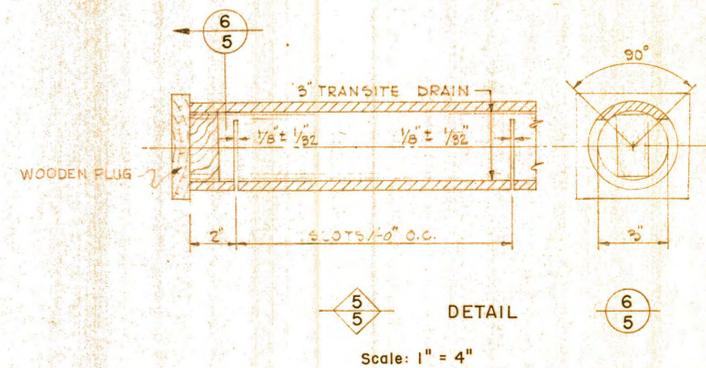
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DATE _____
REG. NO. _____

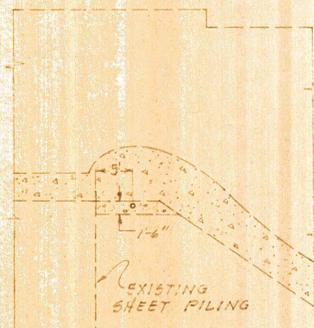
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DATE:	11-25-68
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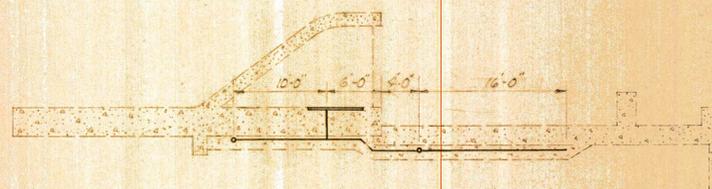
PLAN VIEW
Scale: 1" = 20'



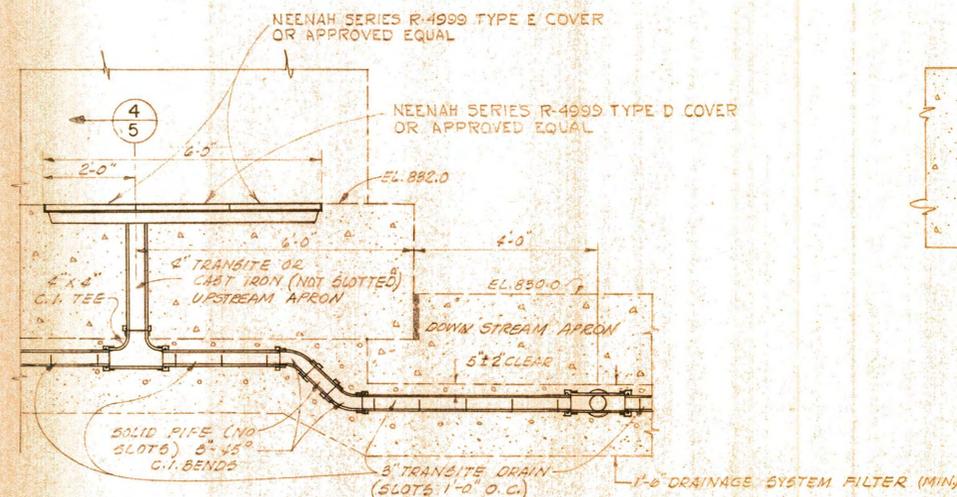
DETAIL
Scale: 1" = 4"



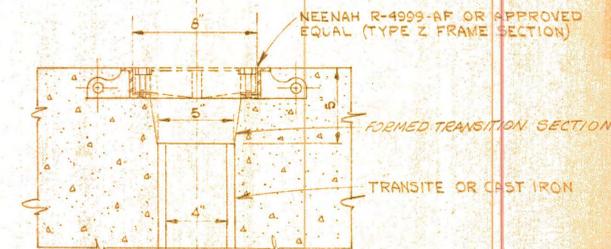
SECTION 2-5
Scale: 1" = 10'



SECTION 1-5
Scale: 1" = 10'



SECTION 3-5
Scale: 1" = 2'



SECTION 4-5
Scale: 1" = 6"

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RUM RIVER DAM
FOUNDATION DRAINAGE

SHEET NO.
5 OF
19
SHEETS

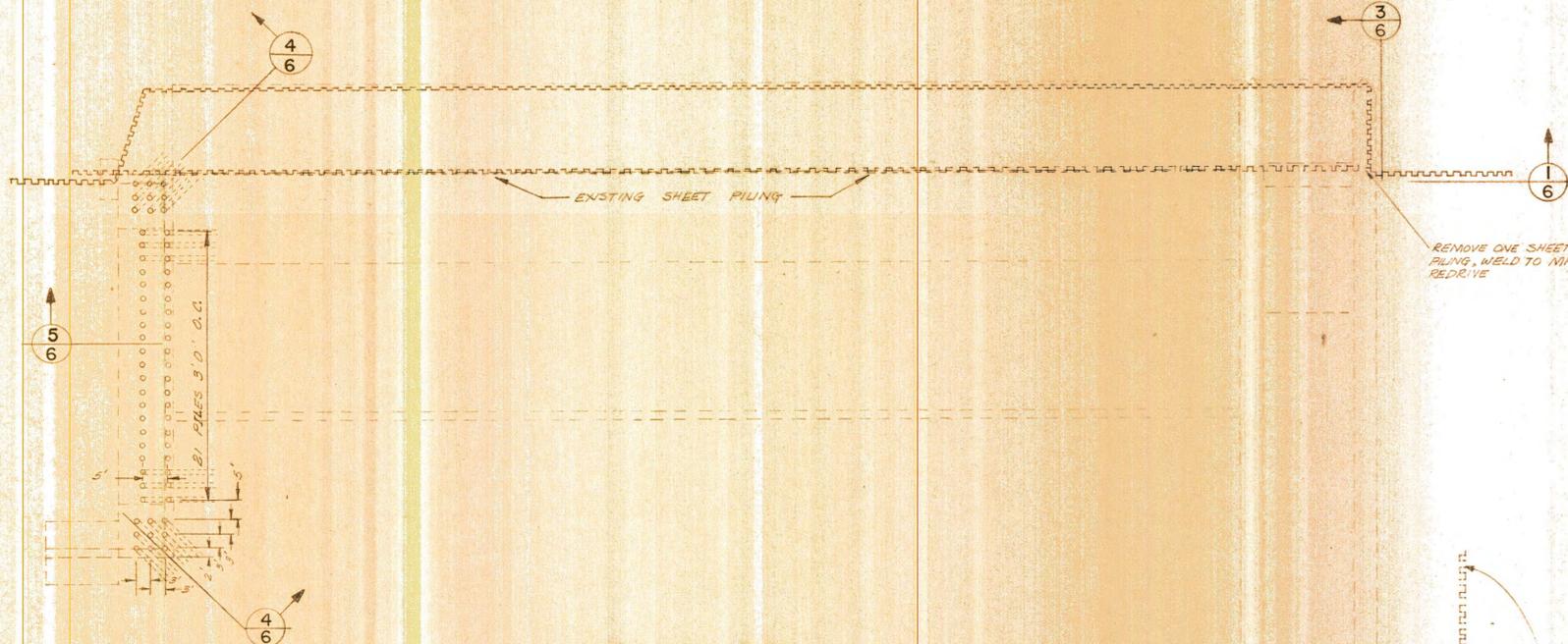
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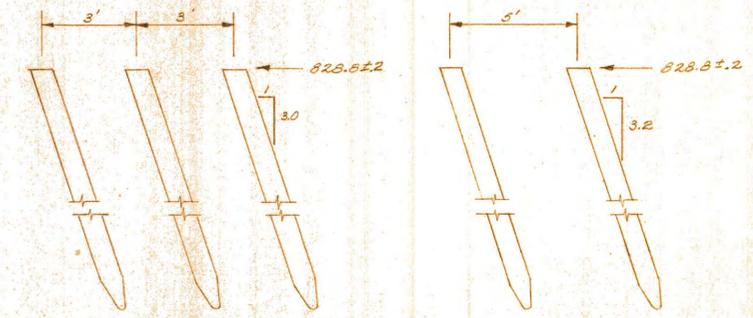
REVISIONS

NO.	DESCRIPTION

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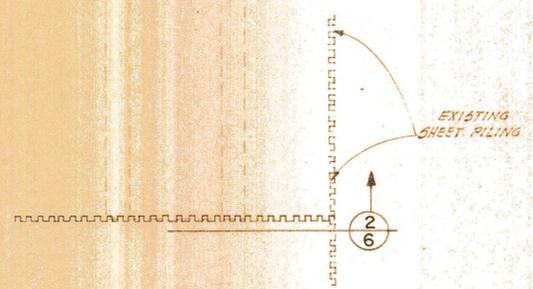


PLAN VIEW
Scale 1" = 20'



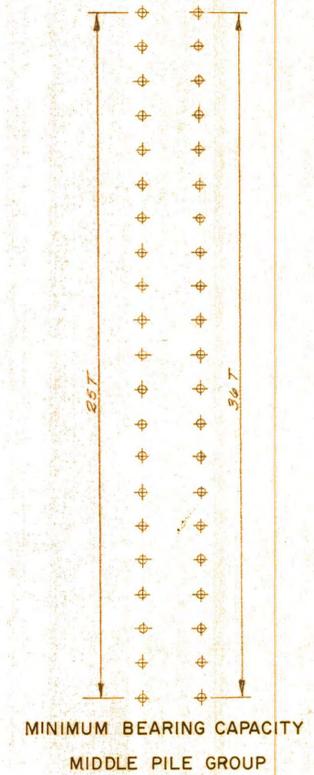
4/6 SECTION
NOT TO SCALE

5/6 SECTION
NOT TO SCALE

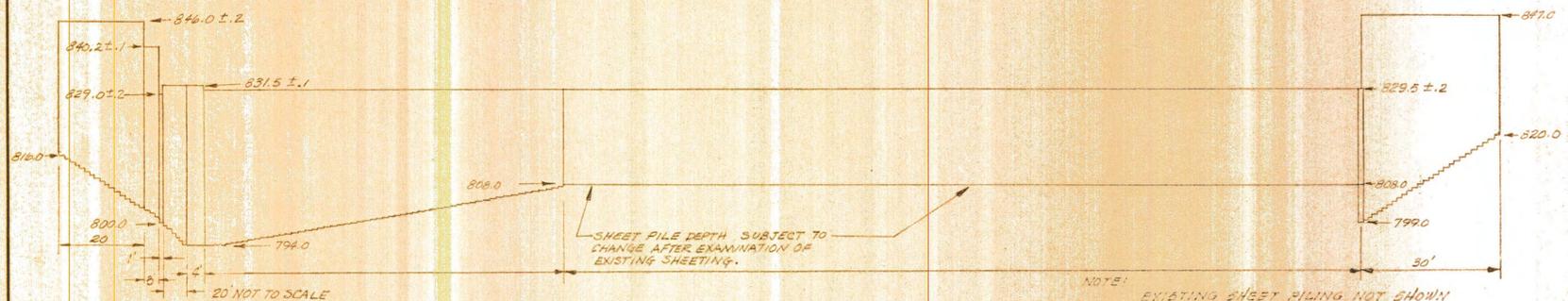


2/6 SECTION

25T	30T	30T
20T	25T	30T
12T	20T	25T
MINIMUM BEARING CAPACITY NORTH PILE GROUP		
12T	20T	25T
20T	25T	30T
25T	30T	30T
MINIMUM BEARING CAPACITY SOUTH PILE GROUP		

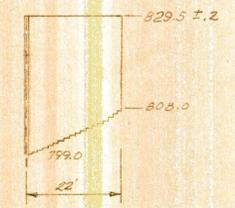


MINIMUM BEARING CAPACITY MIDDLE PILE GROUP

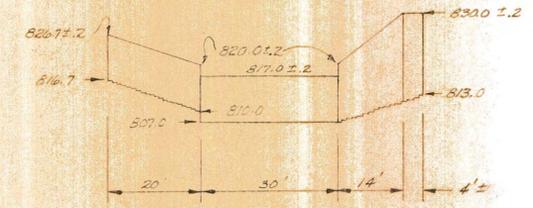


1/6 SECTION
Scale 1" = 20'

NOTE: EXISTING SHEET PILING NOT SHOWN IN THIS SECTION



3/6 SECTION
Scale 1" = 20'



2/6 SECTION
Scale 1" = 20'

SHEET PILING ON EAST BANK UPSTREAM OF DAM

SHEET PILING DOWNSTREAM OF TAINTER GATE SPILLWAY

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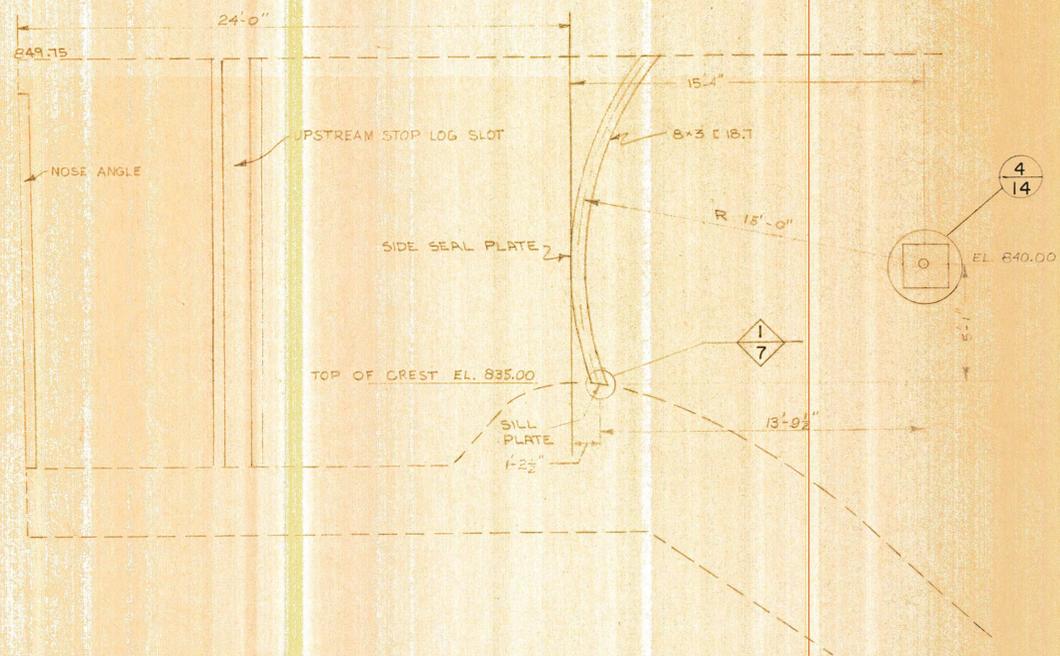
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	DWN. BY:
	L.J.K
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	23/2-4D047
DATE	
REG. NO.	

CITY OF ANOKA
ANOKA, MINNESOTA

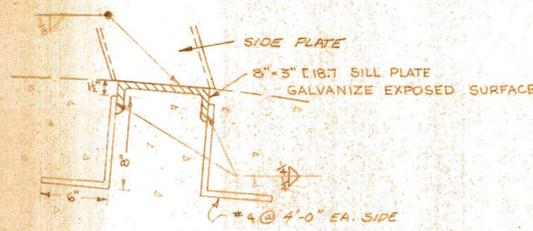
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MINNEAPOLIS, MINNESOTA

RUM RIVER DAM
SHEET PILING

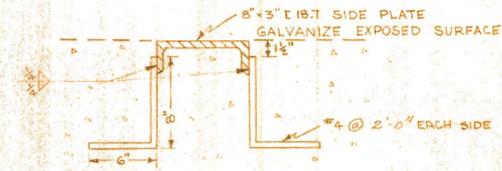
SHEET NO.
6 OF
19 SHEETS



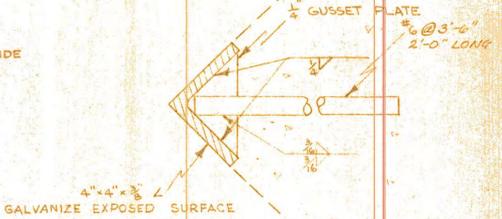
ELEVATION EAST PIER
Scale: 1" = 4'



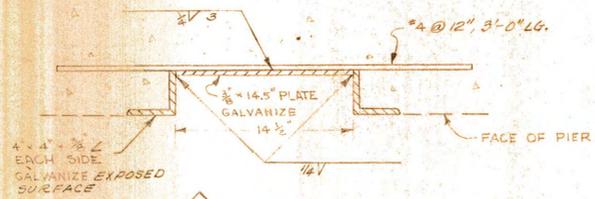
1/7 DETAIL
SILL PLATE
Scale: 1/8" = 1"



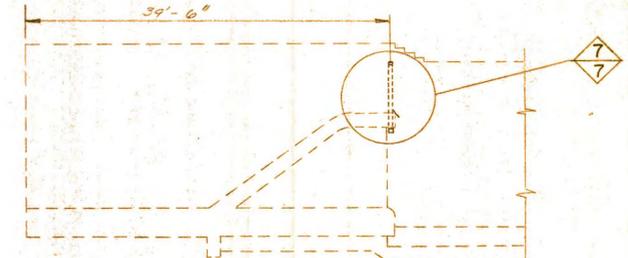
4/7 DETAIL
SIDE PLATE
Scale: 1/8" = 1"



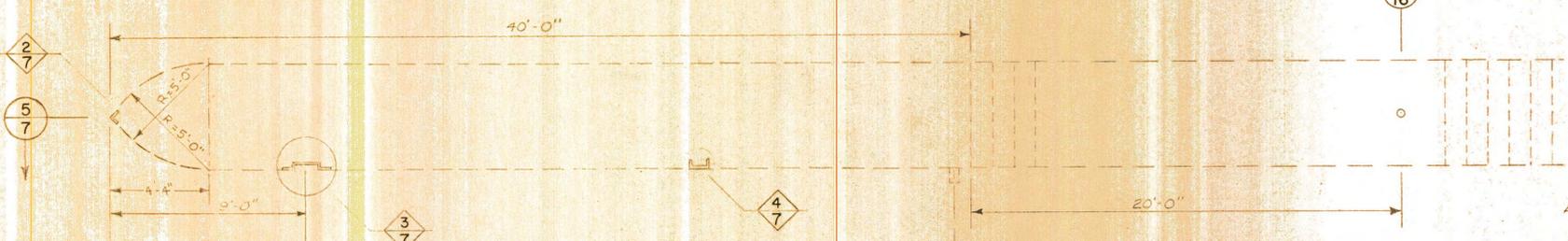
2/7 DETAIL
NOSE ANGLE
Scale: 1/4" = 1"



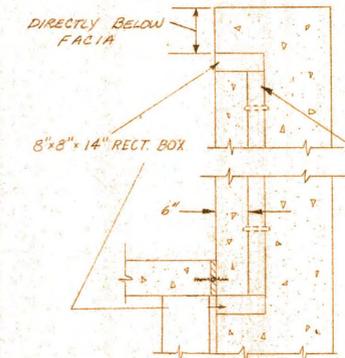
3/7 DETAIL
STOP LOG SLOT
Scale: 1/8" = 1"



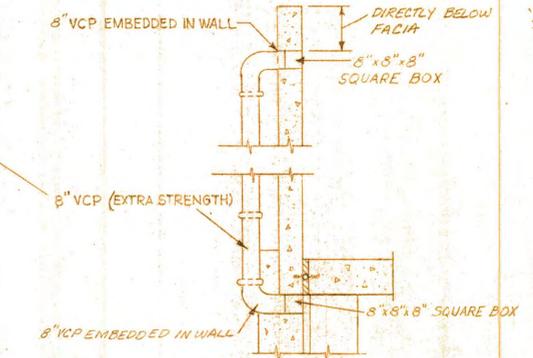
6/7 ELEVATION AIR VENTS
Scale: 1" = 5'



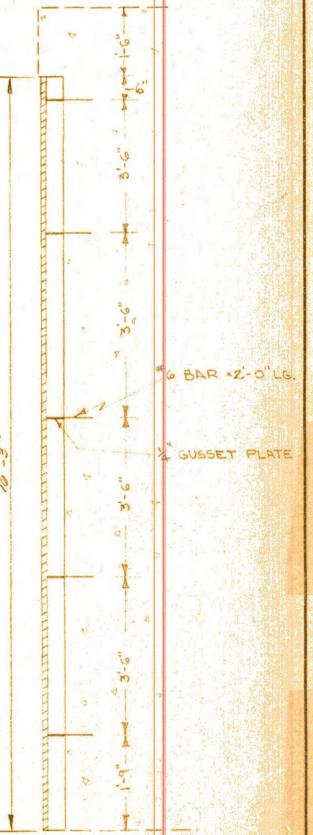
PLAN VIEW EAST PIER
Scale: 1" = 4'



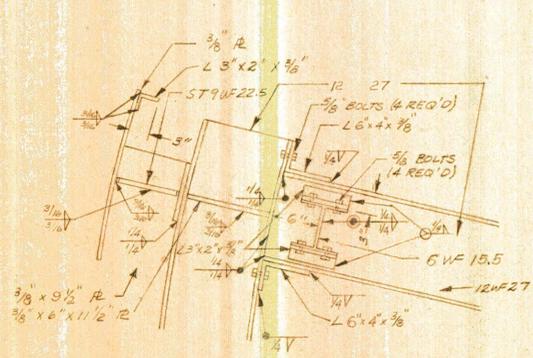
7/7 DETAIL
WEST PIER AIR VENT
Scale: 1" = 4'



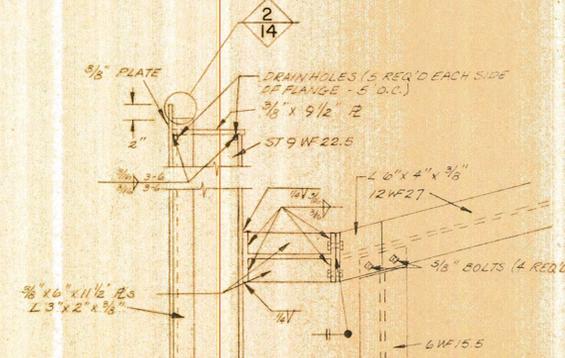
8/7 DETAIL
WEST ABUTMENT AIR VENT
Scale: 1" = 4'



5/7 SECTION
NOSE ANGLE
Scale: 1" = 2'



9/7 DETAIL
Tainter Gate
Scale: 1" = 1'-0"



10/7 DETAIL
Tainter Gate
Scale: 1" = 1'-0"

CITY OF ANOKA
ANOKA, MINNESOTA

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MINNEAPOLIS, MINNESOTA

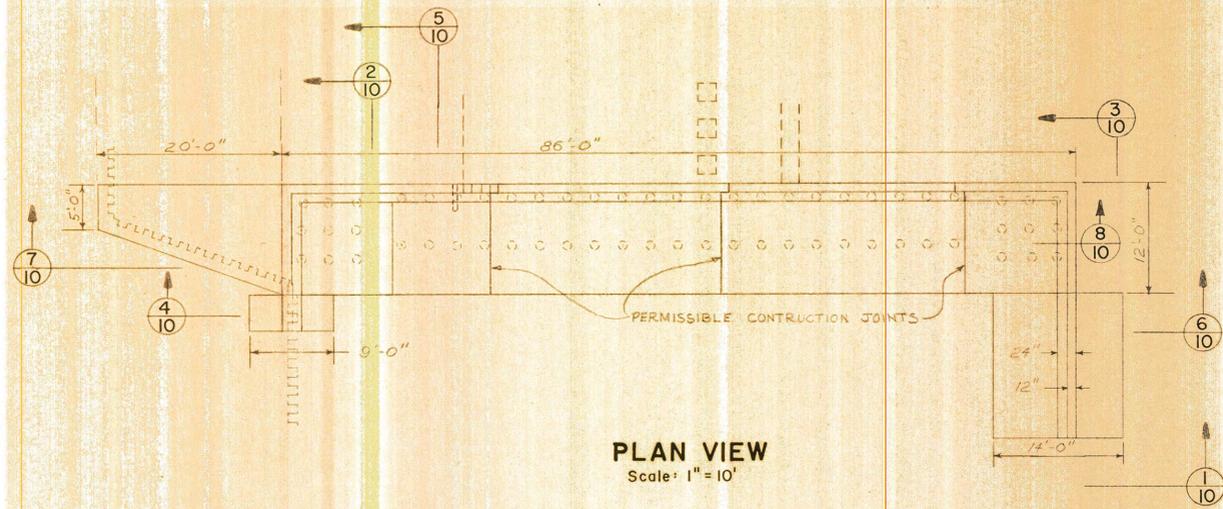
RUM RIVER DAM
MISCELLANEOUS DETAILS

SHEET NO.
7 OF
19 SHEETS

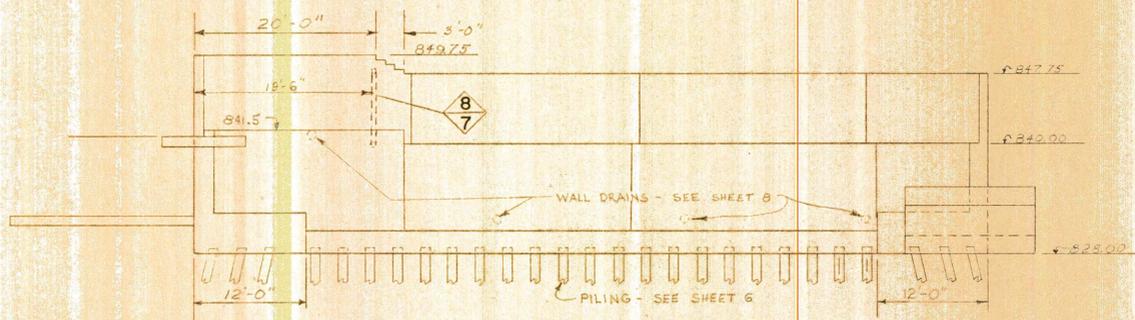
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DATE _____
REG. NO. _____

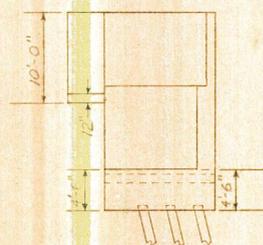
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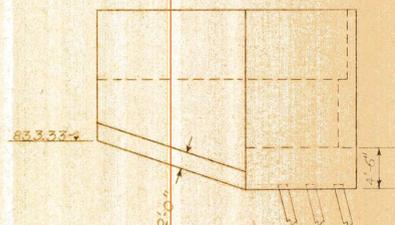
PLAN VIEW
Scale: 1" = 10'



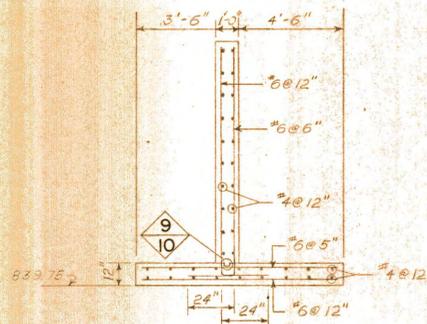
SECTION 1/10
Scale: 1" = 10'



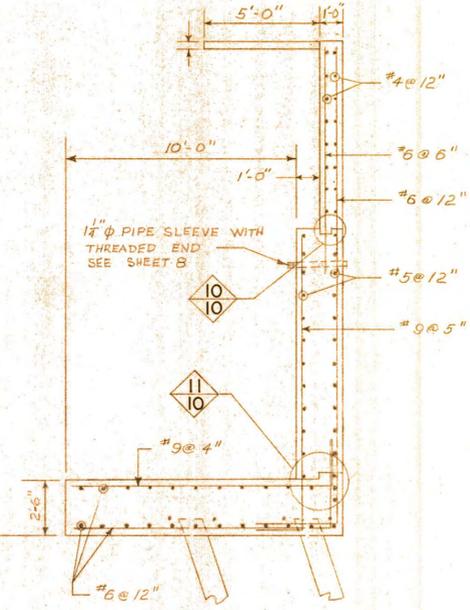
SECTION 2/10
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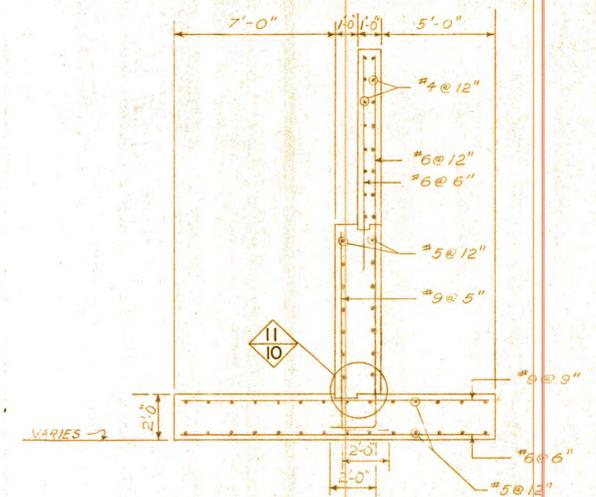
SECTION 3/10
Scale: 1" = 10'



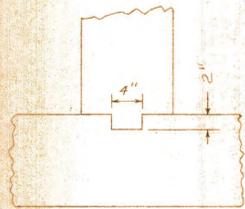
SECTION 4/10
Scale: 1/4" = 1'



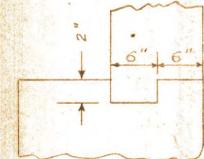
SECTION 5/10
Scale: 1/4" = 1'



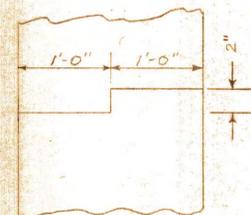
SECTION 6/10
Scale: 1/4" = 1'



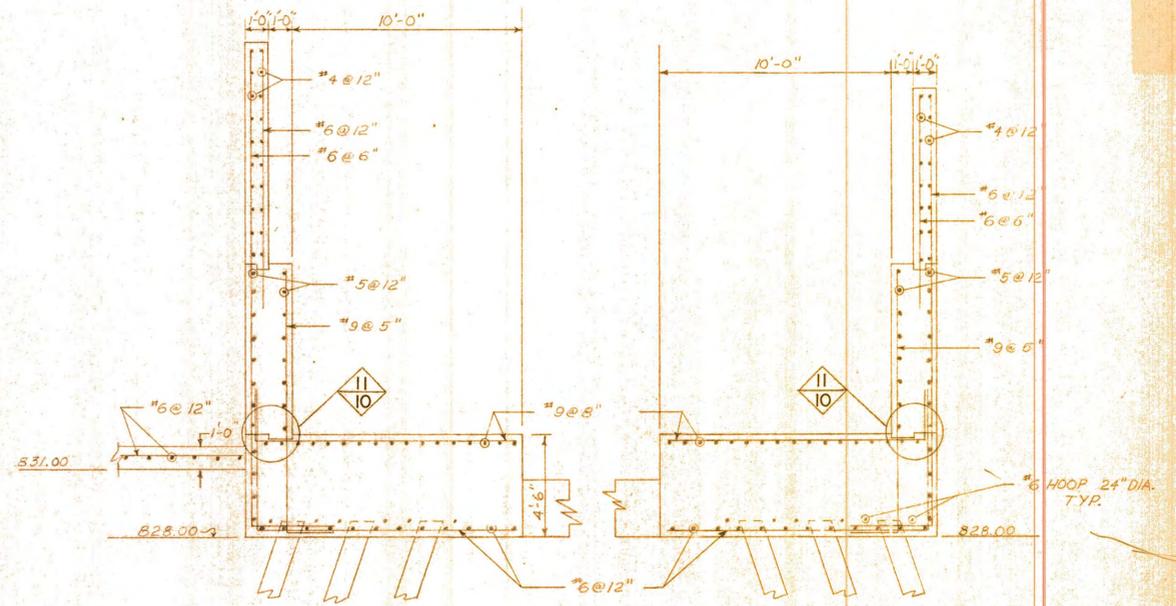
DETAIL 9/10
Scale: 1" = 1'



DETAIL 10/10
Scale: 1" = 1'



DETAIL 11/10
Scale: 1" = 1'



SECTION 7/10
Scale: 1/4" = 1'

SECTION 8/10
Scale: 1/4" = 1'

NOTES 1) 3" COVER UNLESS OTHERWISE NOTED
2) ALL EXPOSED CORNERS SHALL HAVE 1" CHAMFER
3) LOCATION OF WATERSTOPS SHOWN ON SHEET 13

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REVISIONS

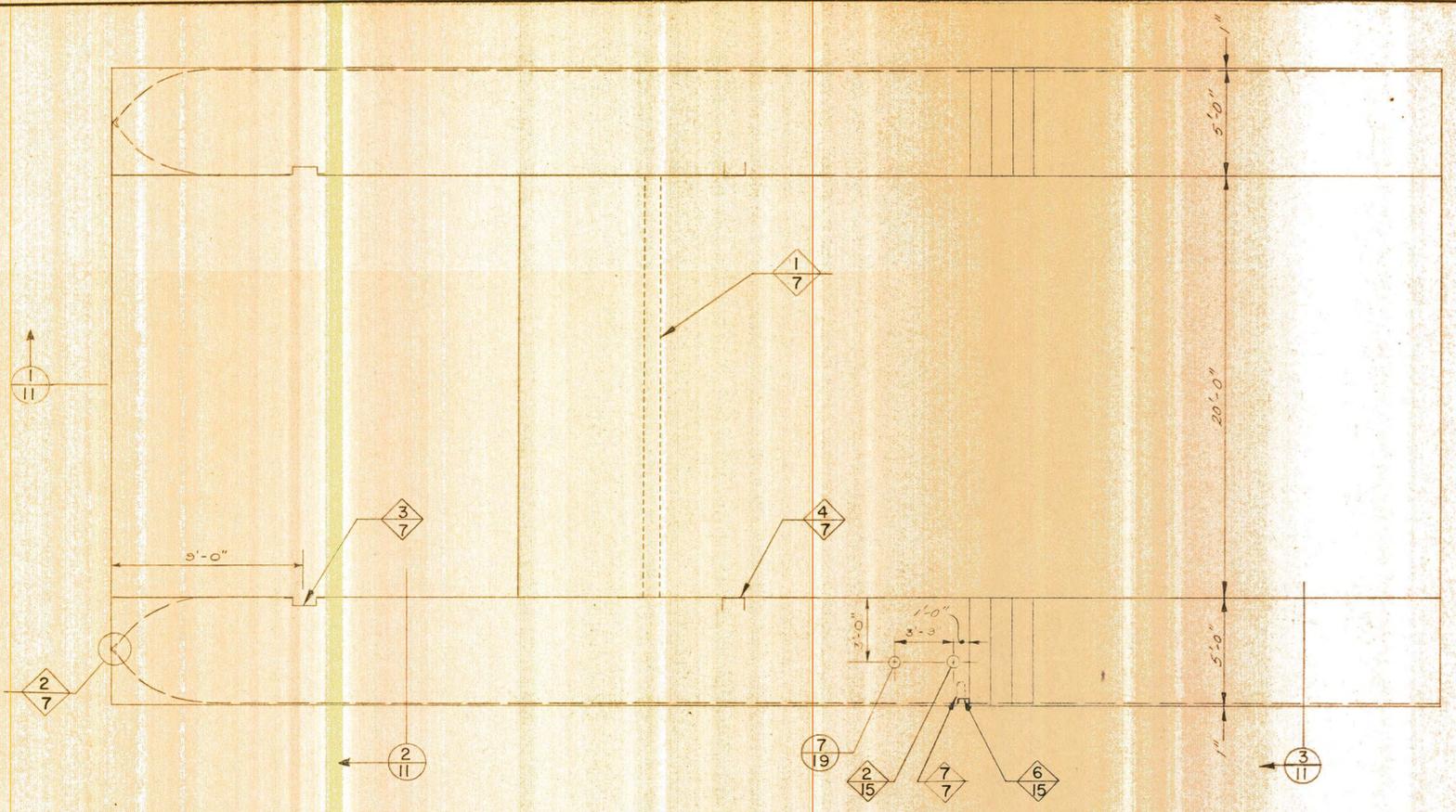
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DWG. NO.: 23/2-4D051

CITY OF ANOKA
ANOKA, MINNESOTA

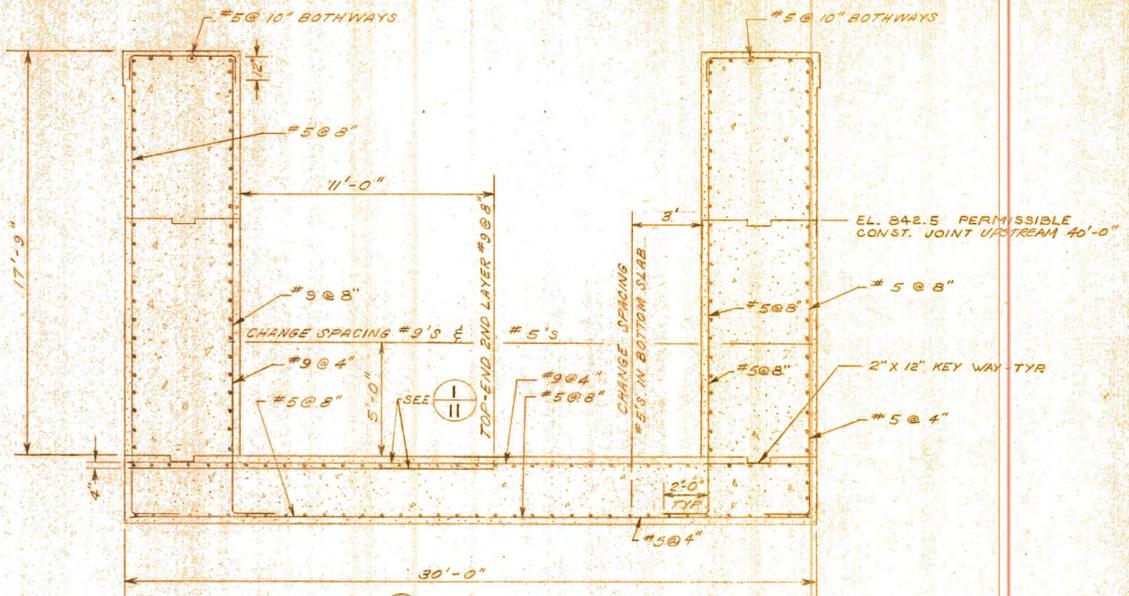
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CONSULTING HYDRAULIC ENGINEERS
MINNEAPOLIS, MINNESOTA

RUM RIVER DAM
WEST ABUTMENT

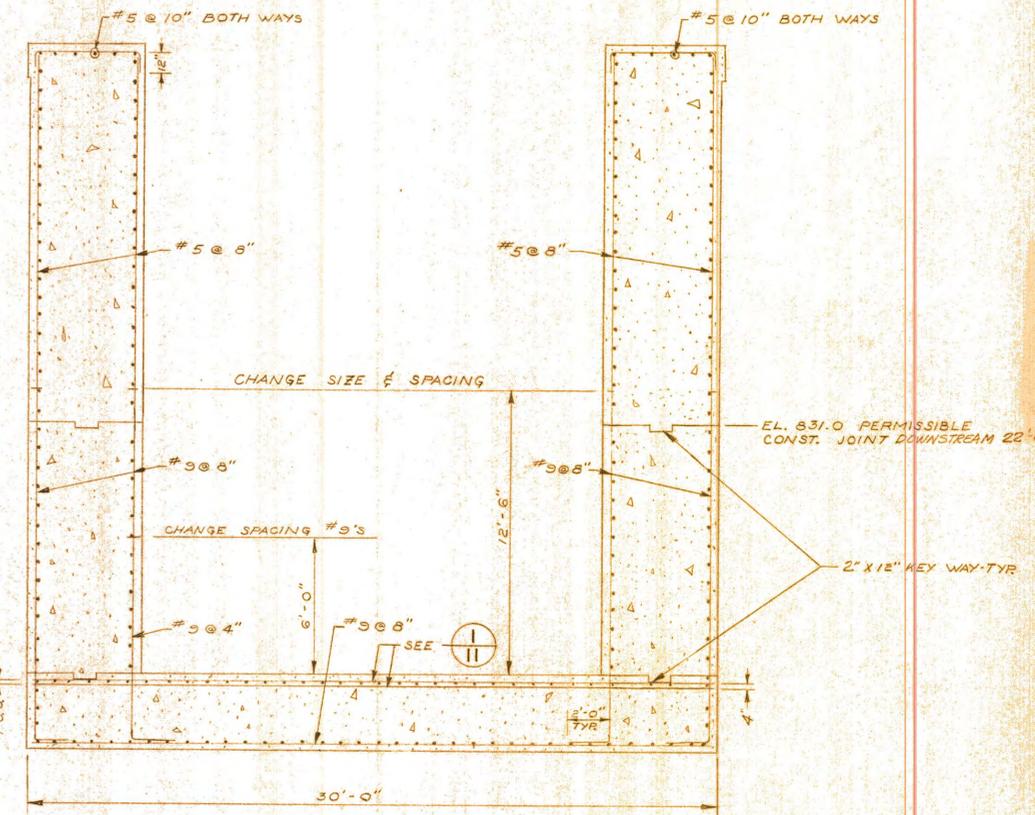
SHEET NO. **10** OF **19** SHEETS



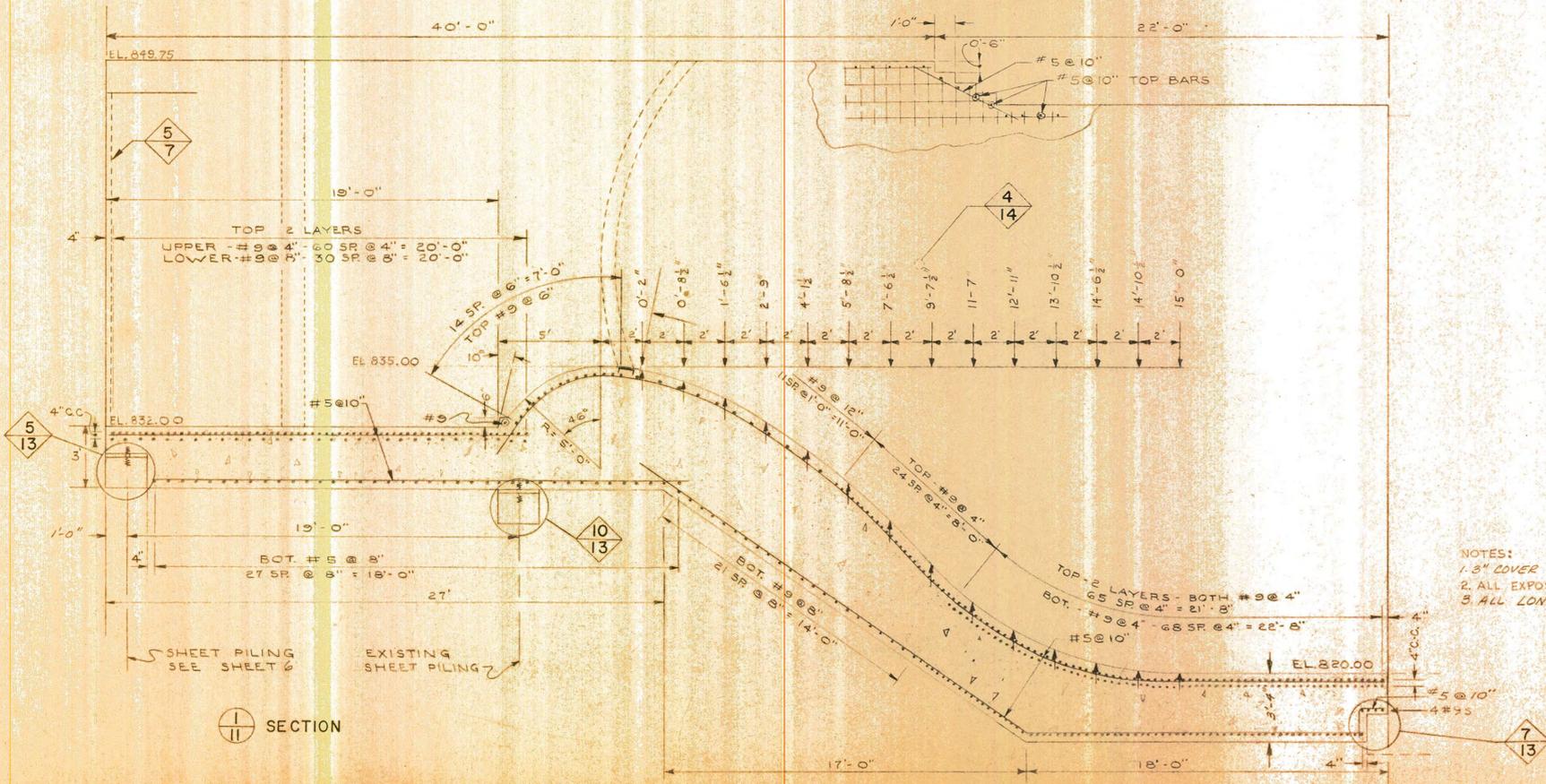
PLAN VIEW



SECTION 2
UPSTREAM 27' EXCEPT AS NOTED



SECTION 3
DOWNSTREAM 35' EXCEPT AS NOTED



SECTION 1

- NOTES:
 1. 3" COVER UNLESS OTHERWISE NOTED
 2. ALL EXPOSED CORNERS SHALL HAVE 1" CHAMFER
 3. ALL LONGITUDINAL STEEL SHALL BE #5@10"

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 REG. NO. _____

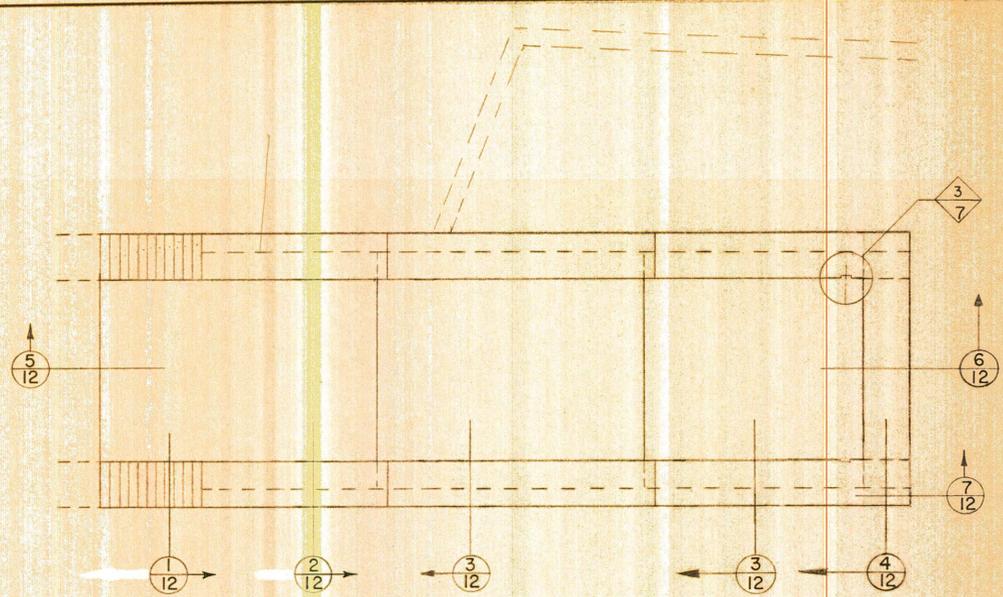
REVISIONS	SCALE: 1" = 4'-0"
DWN. BY: A.K.	
DATE: 11-15-68	
DWG. NO.: 23/2-40052	

CITY OF ANOKA
 ANOKA, MINNESOTA

BARR ENGINEERING CO.
 CONSULTING HYDRAULIC ENGINEERS
 MINNEAPOLIS, MINNESOTA

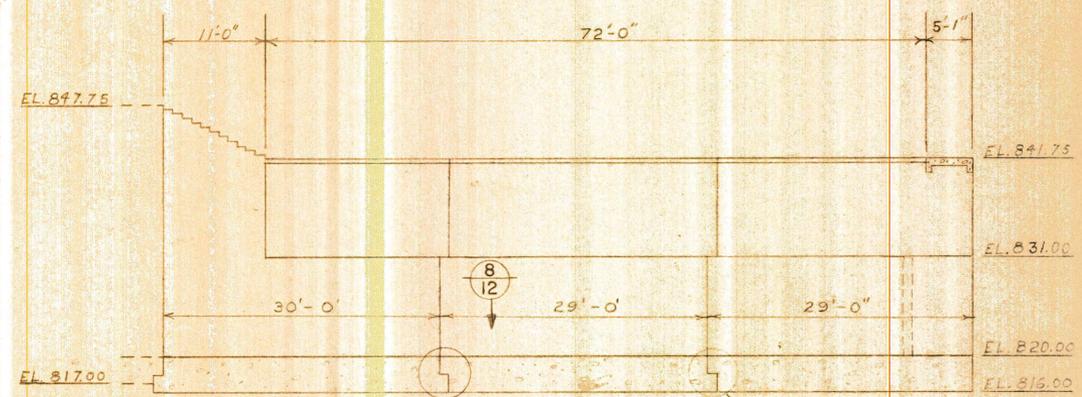
RUM RIVER DAM
 TAINTER GATE SPILLWAY

SHEET NO. 11 OF 19 SHEETS



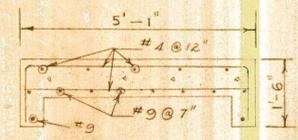
PLAN VIEW

Scale: 1" = 10'



SECTION 8

Scale: 1" = 10'



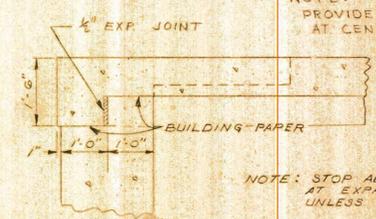
SECTION 6

Scale: 1" = 2'



SECTION 7

Scale: 1" = 2'



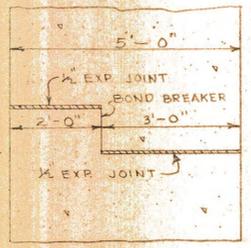
SECTION 4

EXPANSION JOINT

Scale: 1" = 2'

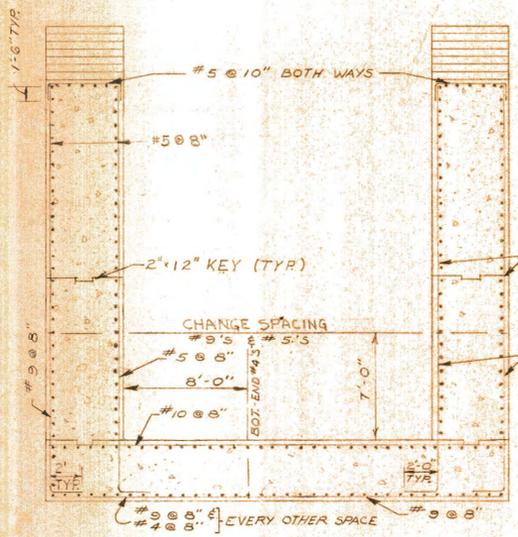
NOTE: PROVIDE 3/8" CAMBER AT CENTER OF BRIDGE

NOTE: STOP ALL REINFORCING AT EXPANSION JOINT UNLESS OTHERWISE NOTED



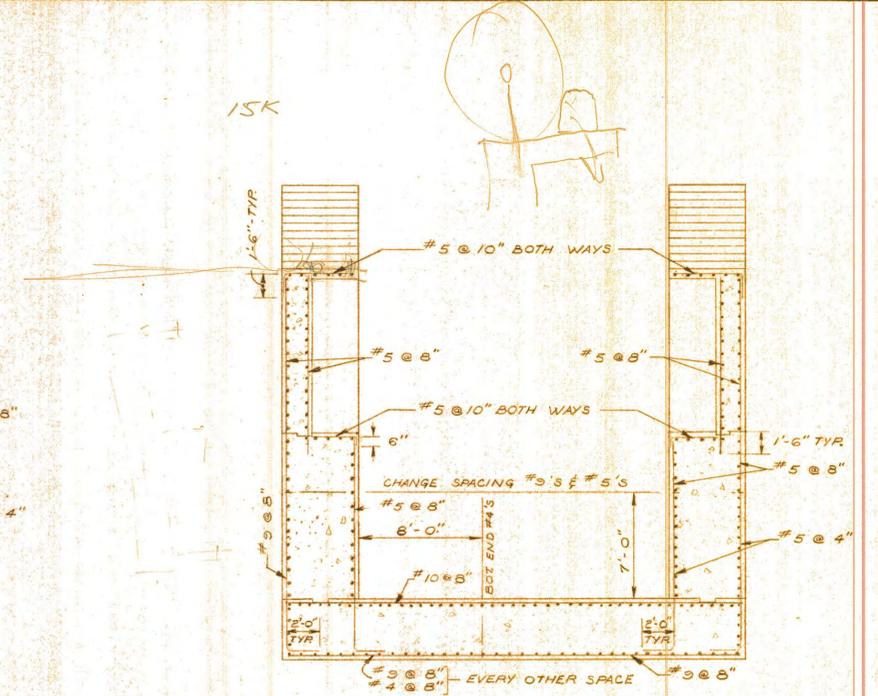
SECTION 8

Scale: 1" = 2'



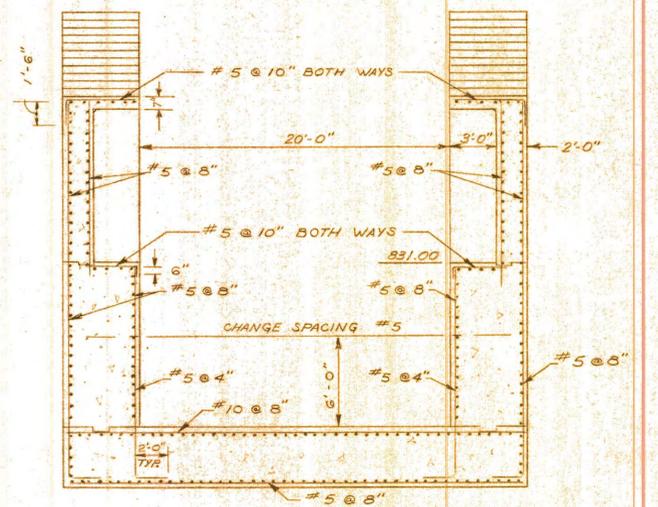
SECTION 1

Scale: 1" = 6'



SECTION 2

Scale: 1" = 6'



SECTION 3

Scale: 1" = 6'

NOTE:
 1) ALL LONGITUDINAL STEEL #5 @ 10"
 2) 5" COVER, UNLESS OTHERWISE NOTED
 3) ALL EXPOSED CORNERS SHALL HAVE 1" CHAMFER

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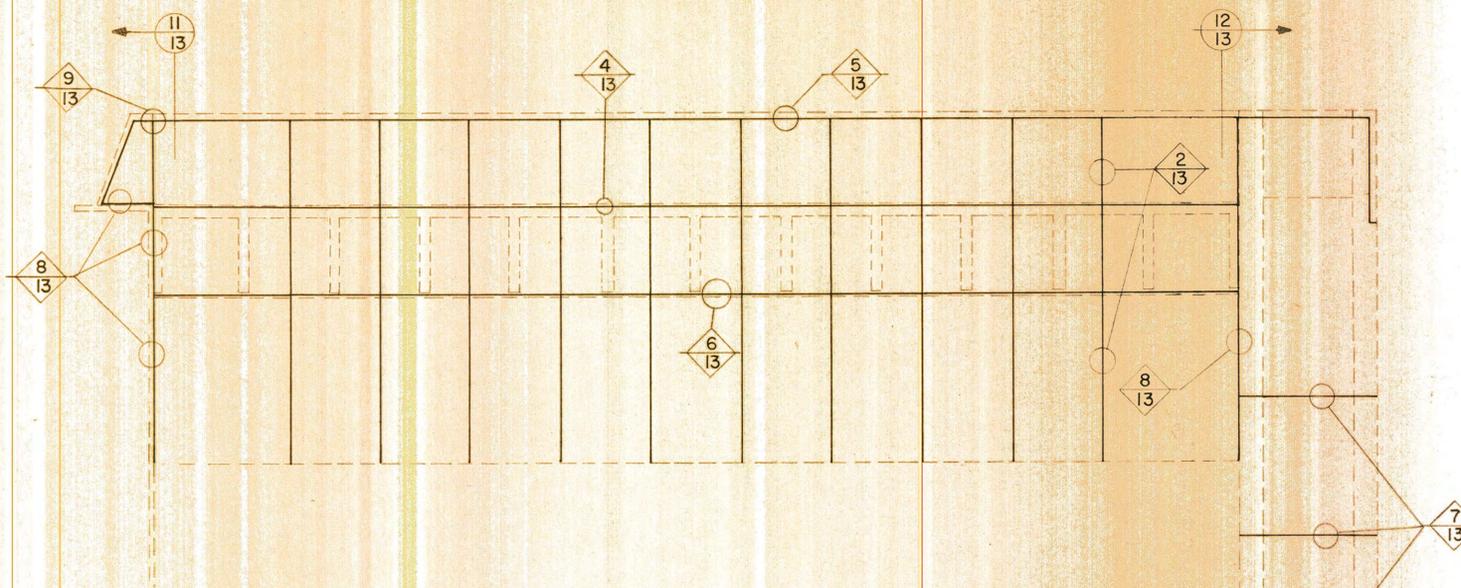
REVISIONS	SCALE:
	AS SHOWN
	DWN. BY:
	M. D. L.
	DATE:
	11-12-68
	DWG. NO.:
	23/2-40053
	DATE:
	REG. NO.:

CITY OF ANOKA
ANOKA, MINNESOTA

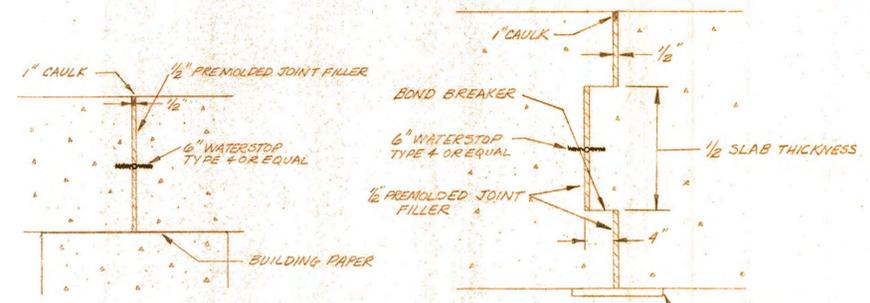
BARR ENGINEERING CO.
CONSULTING HYDRAULIC ENGINEERS
MINNEAPOLIS, MINNESOTA

RUM RIVER DAM
STILLING BASIN

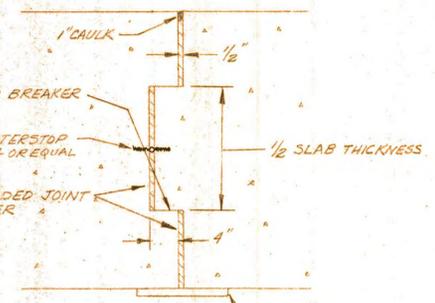
SHEET NO.
12
OF
19
SHEETS



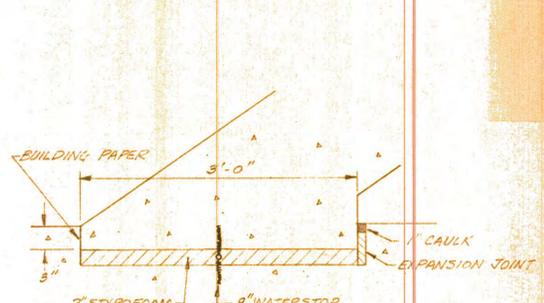
PLAN VIEW
Scale: 1" = 20'



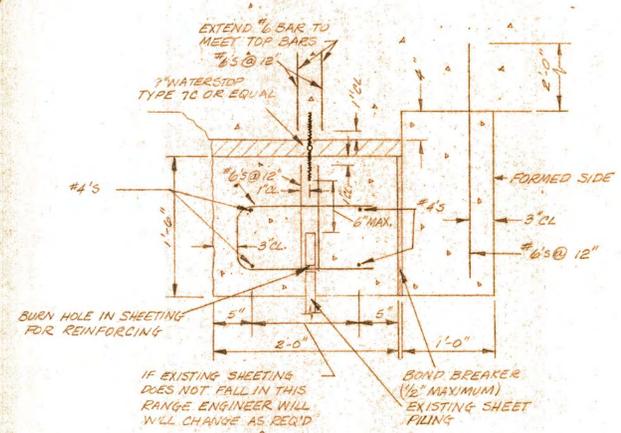
1/13 DETAIL
TOP OF BUTTRESS
Scale: 1" = 1'



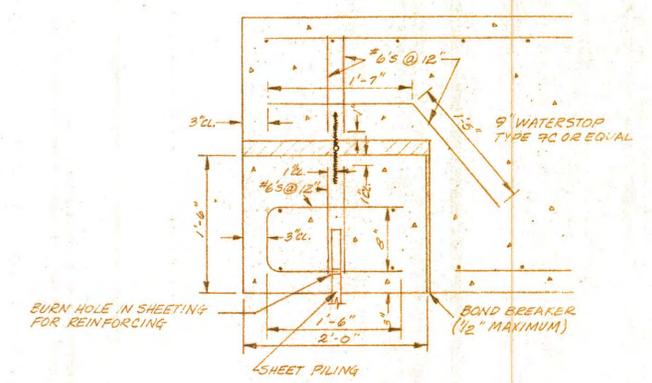
2/13 DETAIL
FIXED CREST APRON
Scale: 1" = 1'



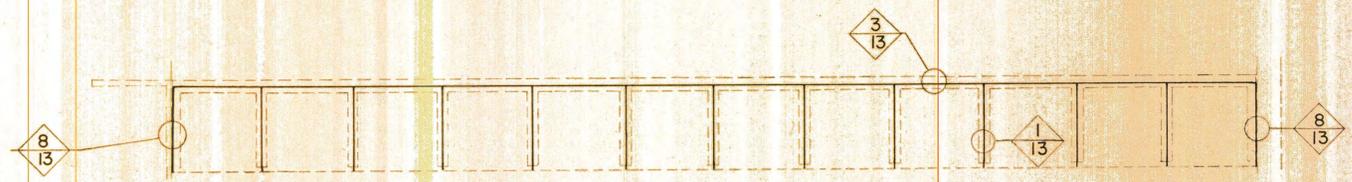
3/13 DETAIL
BOTTOM FIXED CREST SLAB
Scale: 1" = 1'



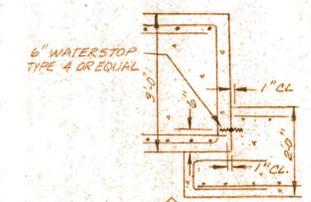
4/13 DETAIL
DOWNSTREAM CUTOFF (FIXED CREST)
Scale: 1" = 1'



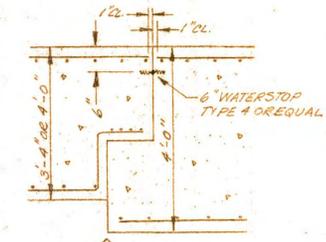
5/13 DETAIL
UPSTREAM CUTOFF
Scale: 1" = 1'



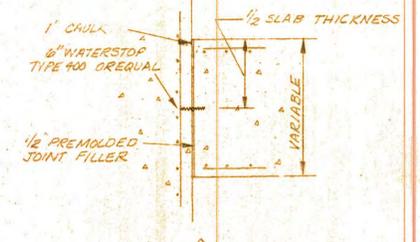
PLAN VIEW (FIXED CREST SLAB)
Scale: 1" = 20'



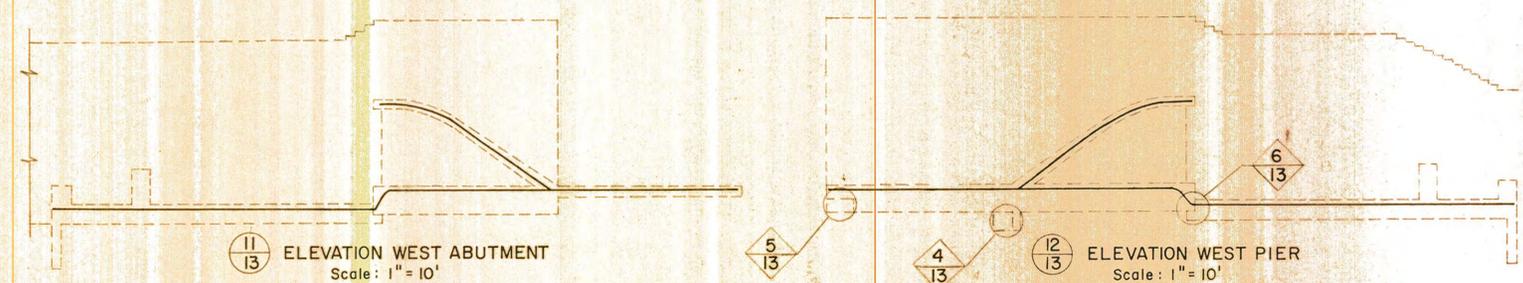
6/13 DETAIL
CONNECTION UPSTREAM APRON TO DOWNSTREAM APRON
Scale: 1" = 2'



7/13 DETAIL
SPILLWAY & STILLING BASIN
Scale: 1" = 2'

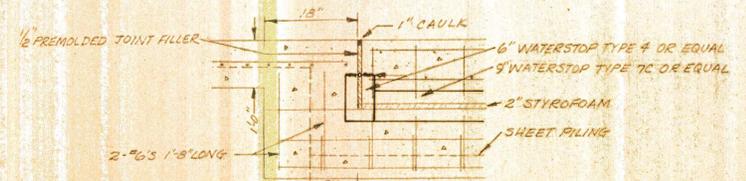


8/13 DETAIL
WALL TO SLAB CONNECTION
No Scale

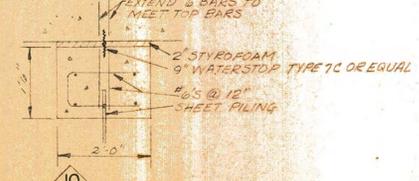


11/13 ELEVATION WEST ABUTMENT
Scale: 1" = 10'

12/13 ELEVATION WEST PIER
Scale: 1" = 10'



9/13 DETAIL
SHEET PILING CONNECTION TO WEST ABUTMENT
Scale: 1" = 2'



10/13 DETAIL
DOWNSTREAM CUTOFF FOR SPILLWAY
Scale: 1" = 2'

NOTE:
MIN. COMPRESSIVE STRENGTH OF STYROFOAM = 5 PSI

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	DWN. BY: L.K.
	DATE: 11-29-68
	DWG. NO.: 23/2-40054

CITY OF ANOKA
ANOKA, MINNESOTA

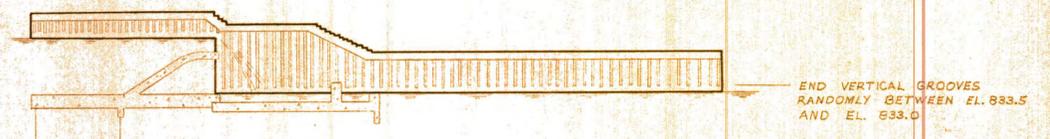
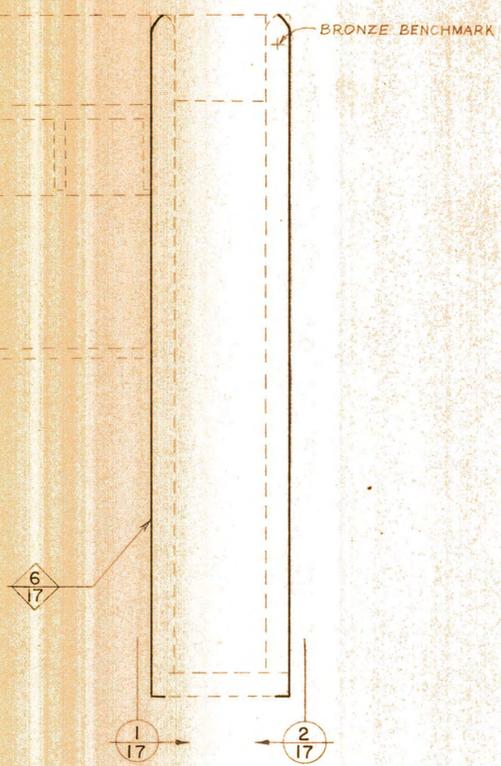
BARR ENGINEERING CO.
CONSULTING HYDRAULIC ENGINEERS
MINNEAPOLIS, MINNESOTA

RUM RIVER DAM
WATERSTOPS

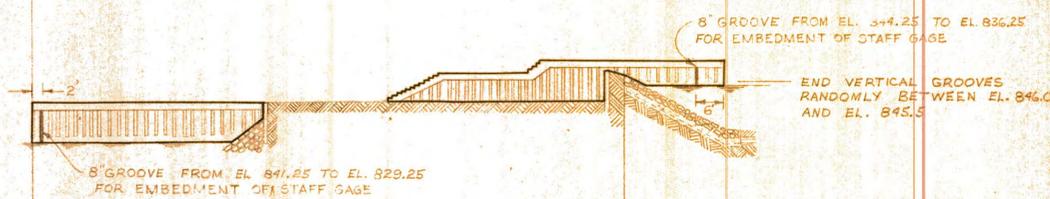
SHEET NO. **13** OF **19** SHEETS



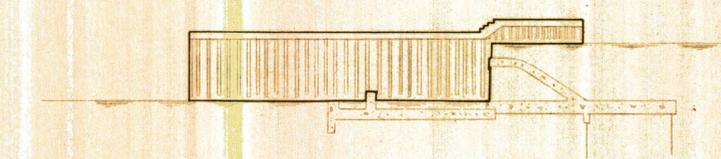
PLAN VIEW
Scale: 1" = 20'



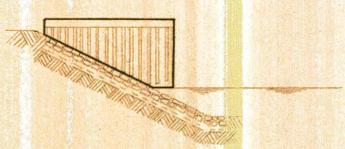
1 ELEVATION
Scale 1" = 20'



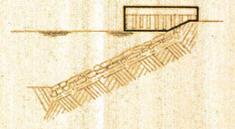
2 ELEVATION
Scale 1" = 20'



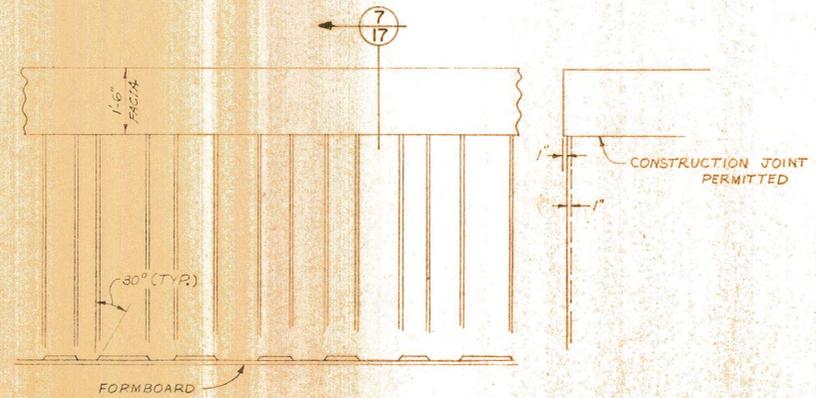
4 ELEVATION
Scale 1" = 20'



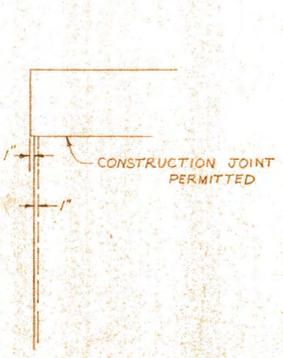
3 ELEVATION
Scale 1" = 20'



5 ELEVATION
Scale 1" = 20'



6 DETAIL
Scale 1" = 2'



7 SECTION
Scale 1" = 2'

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GINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.

DATE _____
REG. NO. _____

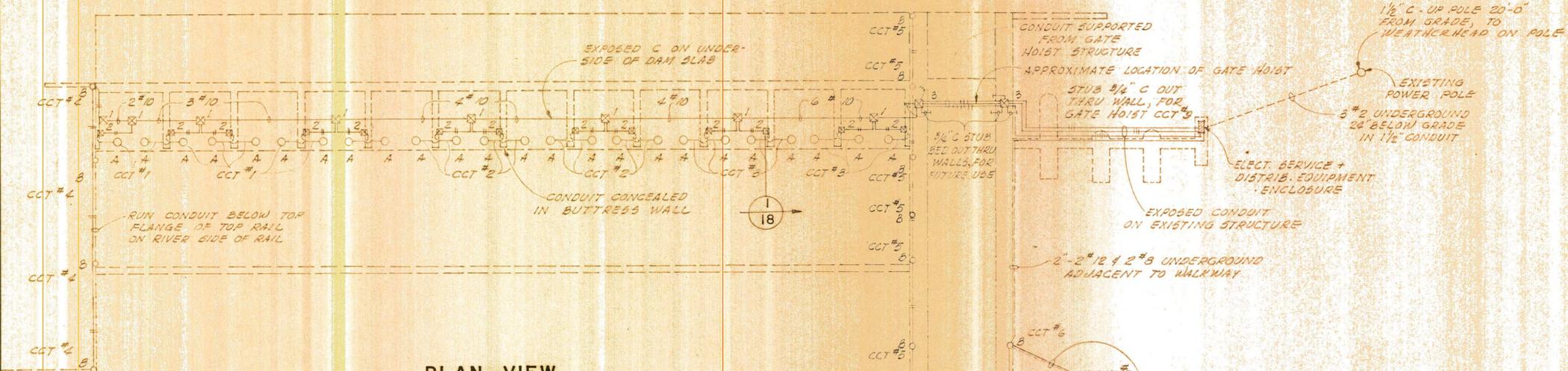
REVISIONS	SCALE:
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	DWN. BY: A. K.
	DATE: 11-29-68
	DWG. NO.:
	23/2-40058

CITY OF ANOKA
ANOKA, MINNESOTA

BARR ENGINEERING CO.
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MINNEAPOLIS, MINNESOTA

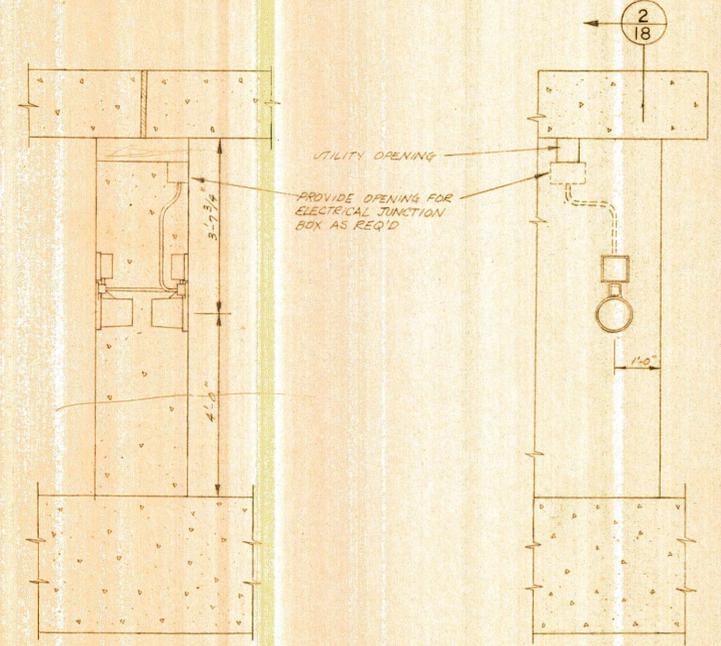
RUM RIVER DAM
ARCHITECTURAL TREATMENT

SHEET NO. **17** OF **19** SHEETS



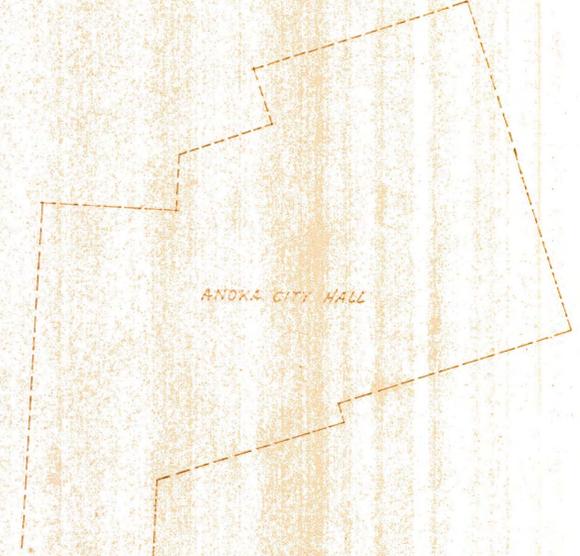
PLAN VIEW

Scale: 1" = 20'



2/18 SECTION THROUGH PIER
Scale: 1" = 2'

1/18 SECTION
Scale 1" = 2'

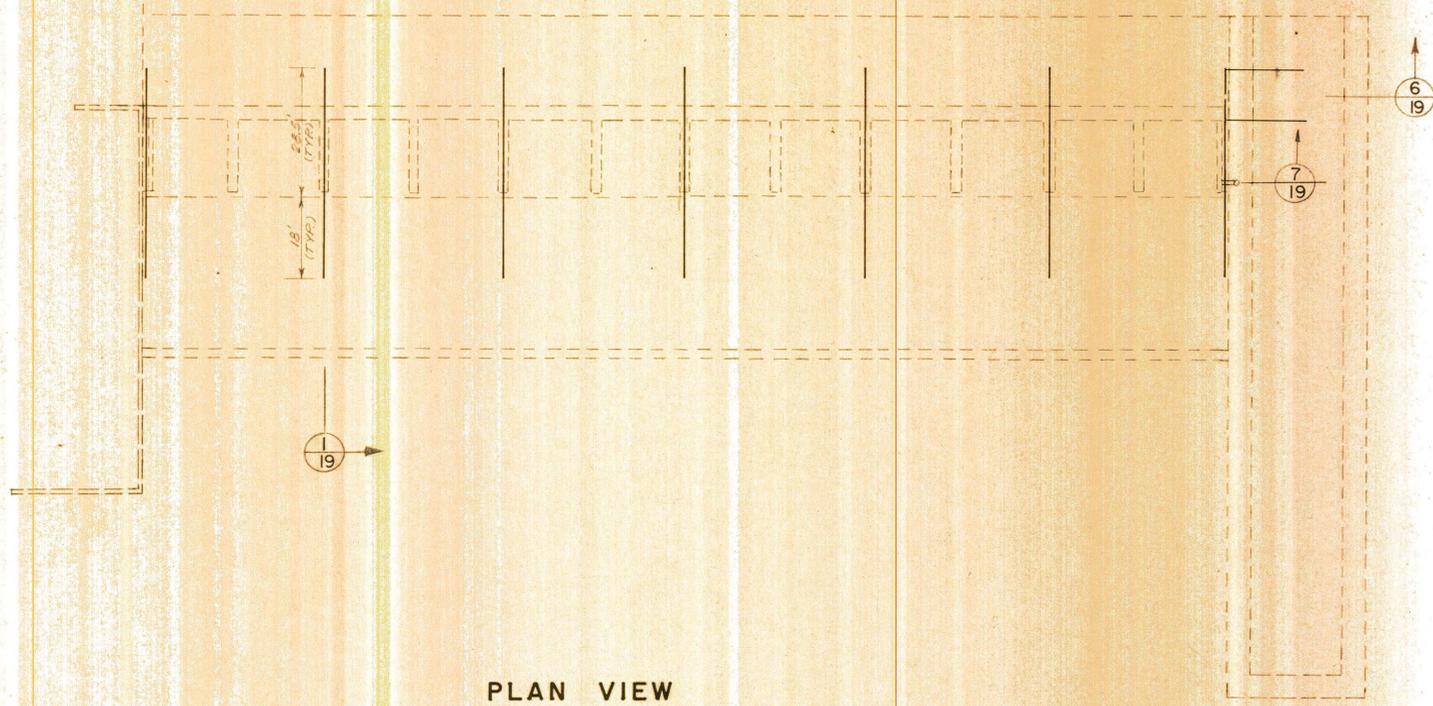


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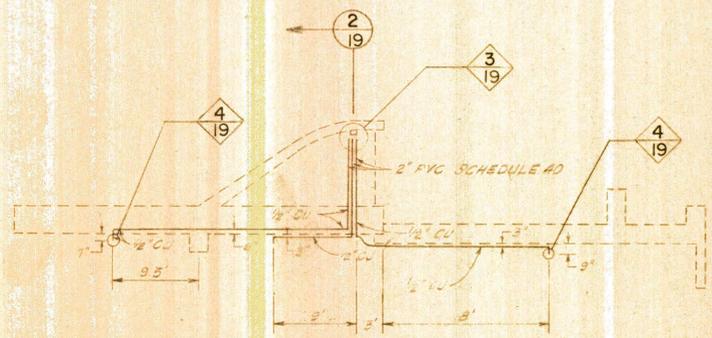
REVISIONS	

SCALE:
1" = 20'
DWN. BY:
R.W.M.
DATE:
11-29-68
DWG. NO.:
23/2-40059

CITY OF ANOKA ANOKA, MINNESOTA	
BARR ENGINEERING CO. CONSULTING HYDRAULIC ENGINEERS MINNEAPOLIS, MINNESOTA	
RUM RIVER DAM	ELECTRICAL CONSTRUCTION
SHEET NO. 18 OF 19 SHEETS	

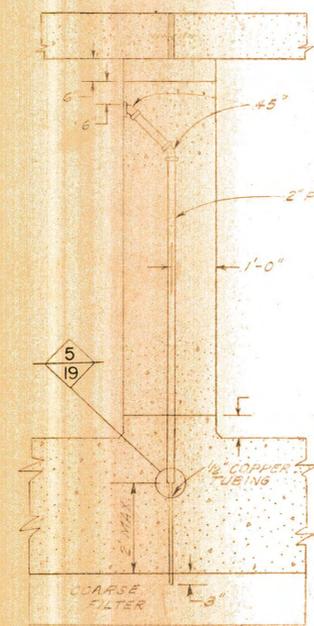


PLAN VIEW
Scale: 1" = 20'

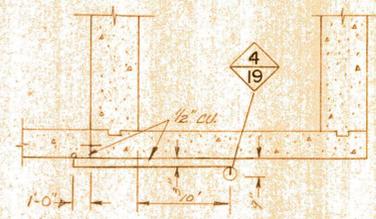


NOTE: ALL COPPER PIPE SHALL BE SOFT SEAMLESS TUBING CONFORMING ASTM SPECIFICATIONS B-88-39 TYPE K

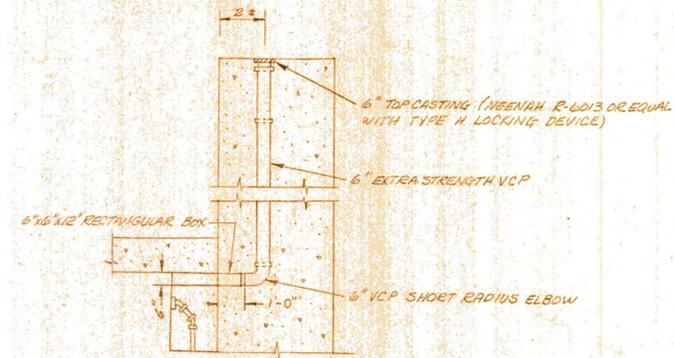
1-19 SECTION
Scale: 1" = 10'



2-19 SECTION
Scale: 1" = 2'



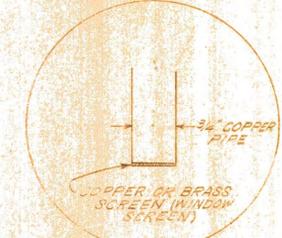
6-19 SECTION THROUGH GATE SPILLWAY
Scale: 1" = 10'



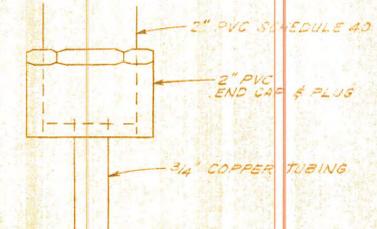
7-19 SECTION THROUGH PIER
Scale: 1" = 4'



3-19 SECTION BUTTRESS OUTLET
Scale: 1" = 2'



4-19 DETAIL
Scale: None



5-19 DETAIL
PVC TO COPPER TRANSITION
Scale: 1/2" = 1"

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	A. C. B
	DATE:
	11-14-68
	DWG. NO.:
	23/2-4D060
	DATE:
	REG. NO.:

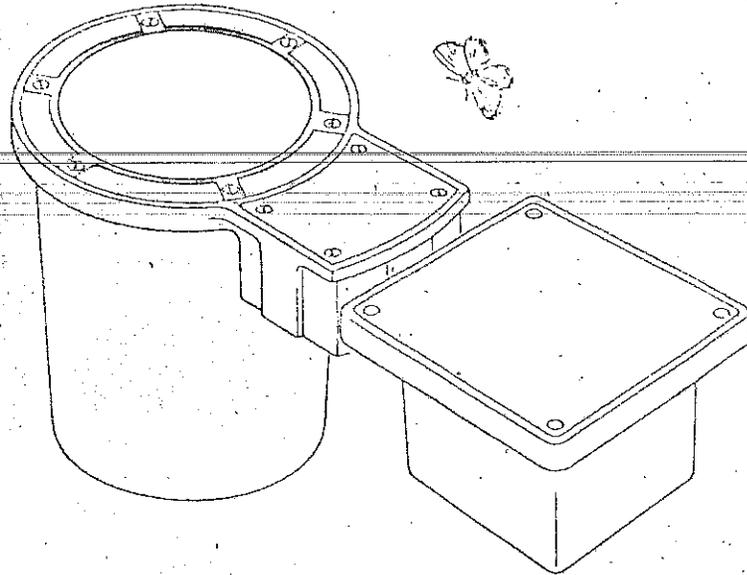
CITY OF ANOKA
ANOKA, MINNESOTA

BARR ENGINEERING CO.
CONSULTING HYDRAULIC ENGINEERS
MINNEAPOLIS, MINNESOTA

RUM RIVER DAM
PIEZOMETER SYSTEM

SHEET NO. **19** OF **19** SHEETS

Frank - Pam - Dick
12-24-68



Intense, controlled, adjustable up lighting... all cast construction for recessed mounting.

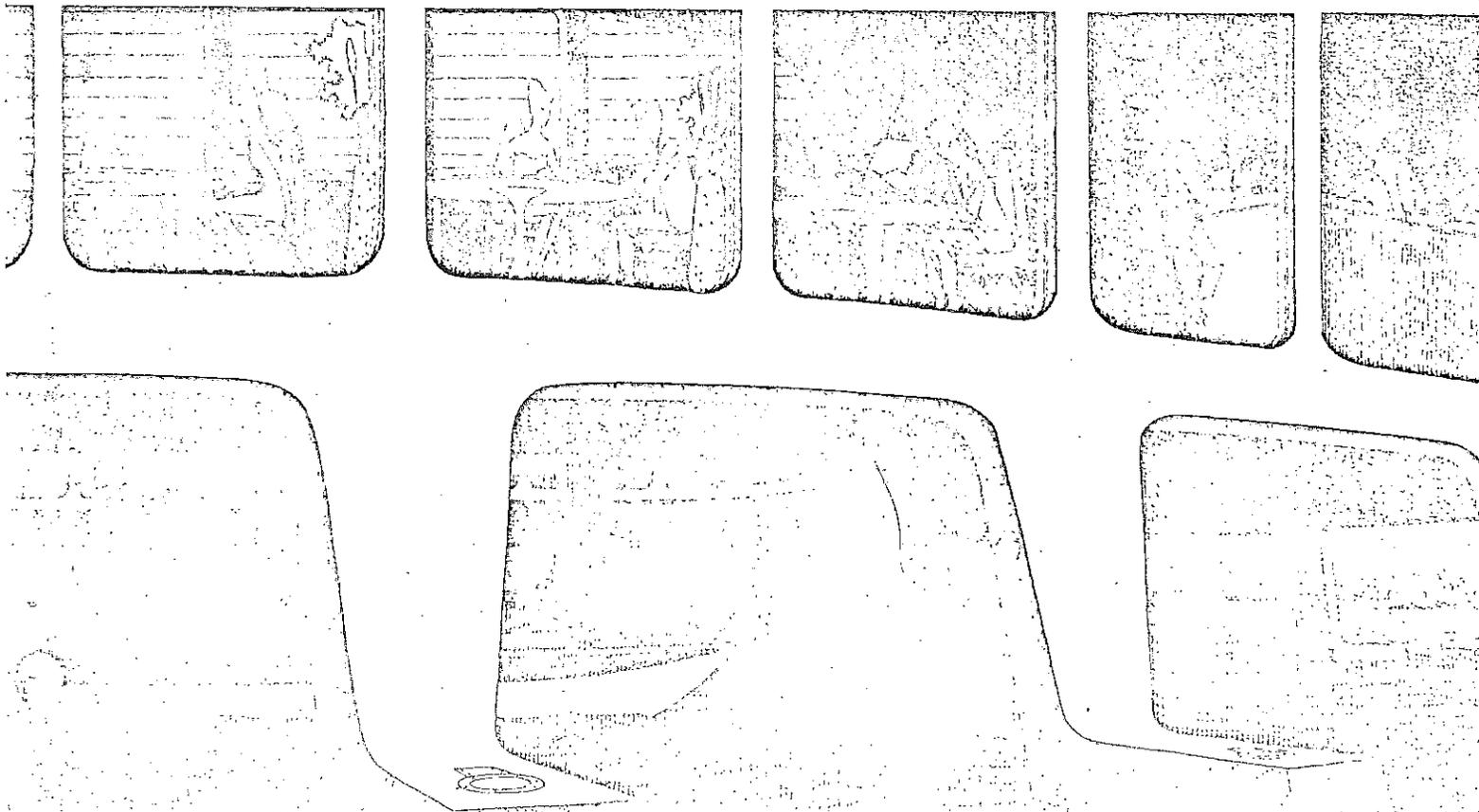
For accenting and spotlighting building facades, columns, trees or signs, the unit is flush mounted in ground, concrete or other surface materials providing an unobtrusive light source. The recessed housing is fully contained with integrally cast and pre-wired junction box. Lamp rotation is 360°, angular adjustment is 20°, enabling these units to be used ideally for effect lighting of monuments, public buildings, exterior displays, flag poles, mosaics, textured walls and trees.

Mercury vapor illumination is especially effective on light green foliage or wherever a tint of blue white color is desirable.

Flat or convex impact resistant tempered lens is gasketed for weathertight installation.

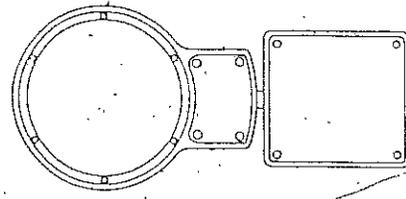
APPLICATIONS

- Museums
- Civic Centers
- Multi-story Structures
- Malls & Parks
- Churches
- Monuments
- Shopping Centers
- Industrial Parks



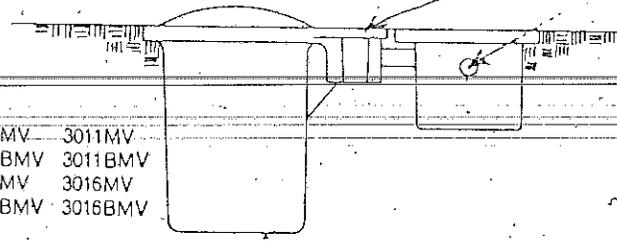
Plum Holes Done 12-27-68

3000 SERIES
Weather-resistant All Aluminum or Bronze Construction



*2-3/8" dia by 2-3/8" x 3/8" 19.3 Dubs in
No Hub Here*

- 3010MV 3011MV
- 3010BMV 3011BMV
- 3015MV 3016MV
- 3015BMV 3016BMV



Catalog No.	Description	Dimension			Wattage & Lamp
		Depth	Diameter	Overall width with J-Box & Transformer	
3010MV	Convex lens, cast aluminum	10 1/4"	9 1/2"	20"	H4JM or H4GS 100W/MV PAR38
3010BMV	Convex lens, cast bronze	10 1/4"	9 1/2"	20"	H4JM or H4GS 100W/MV PAR38
3011MV	Flat lens, cast aluminum	10 1/4"	9 1/2"	20"	H4JM or H4GS 100W/MV PAR38
3011BMV	Flat lens, cast bronze	10 1/4"	9 1/2"	20"	H4JM or H4GS 100W/MV PAR38
3015MV	Convex lens, cast aluminum	10 1/4"	9 1/2"	20"	175W/MV R40 medium base only
3015BMV	Convex lens, cast bronze	10 1/4"	9 1/2"	20"	175W/MV R40 medium base only
3016MV	Flat lens, cast aluminum	10 1/4"	9 1/2"	20"	175W/MV R40 medium base only
3016BMV	Flat lens, cast bronze	10 1/4"	9 1/2"	20"	175W/MV R40 medium base only

Catalog numbers are for complete units.

ENGINEERING SPECIFICATIONS

CONSTRUCTION — For flush mounting in ground, concrete or other surface materials. All cast aluminum or bronze construction with integral pre-wired J-box. Transformer box is standard with one 1/2" N.P.T. in side. Additional tapings available on request. A water-tight isolation seal is provided between the J-box and housing to prevent entry of condensation from the conduit system. All cast bronze construction is recommended for use in areas where soil has high alkaline content or where corrosive elements are present.

LENS — Available with clear tempered convex lens or 3/8" thick clear tempered impact resistant flat lens.

ADJUSTABILITY — 360° horizontal rotation. 20° angular tilt from vertical in two directions. Swivel is all cast construction with positive lock.

GASKETING — Lens & J-box access plates are fully gasketed for water-tight seal using silicone and neoprene gaskets.

WIRING — Pre-wired hi-temp wire.

SOCKET — Units for 'R' type lamps are supplied with medium base socket. Units for PAR lamps are supplied with medium PAR connector.

RELAMPING — Requires removal of 2 flat head screws.

FINISH — Cast aluminum housings have protective epoxy exterior finish; interior is flat black. Bronze units are all cast.

MERCURY VAPOR TRANSFORMER — Transformer housing for flush-mounting with 120 volt code and coil universal power factor transformer is supplied as standard with mercury vapor units. Transformer housing has cast top access plate with gasketed water-tight seal with neoprene gasket. Construction of transformer housing is furnished in same material as lamp housing — cast aluminum or bronze. Transformer housing is attached to lamp housing with 2 flat head screws. NOTE: If voltage or transformers other than standard are required, please contact your agent or factory for price quotation.

CAUTION — Due to the high temperature of lens, care should be exercised in the installation of units in walk over areas near swimming pools, playgrounds or parks where the possibility of contact with bare feet exists.

