

RAMSEY COUNTY
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLANS FOR EXCAVATION AND
INSTALLATION OF FIVE:

PHALEN FILTER POND SYSTEMS

LOCATIONS AS FOLLOWS:

- ① Wheelock Parkway Pond Area: Phalen Golf Course abutting Wheelock Parkway one block east of Arcade Street (St. Paul);
- ② Johnson Parkway Pond Area: Phalen Park abutting the intersection of Johnson Parkway and East Shore Drive (St. Paul);
- ③ Arlington Pond Area: Southeast quadrant of East Shore Drive and Arlington Street (St. Paul);
- ④ Wakefield Pond Area: Northwest quadrant of Larpenteur Avenue and Prosperity Road (Maplewood); and
- ⑤ County Ditch 16 Pond Area: Between Noel Drive and Edgerton Street, one block north of Little Canada Road (Little Canada);

in the Cities of St. Paul, Maplewood and Little Canada.

E.P.A. PROJECT NO. S-804690020
RAMSEY COUNTY PROJECT NO. 47284

ASBUILT PLAN
CONFORMING TO
CONCT. RECORDS
DATE: 12/26/84

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES/ STANDARD PLATES
3	STANDARD PLANTING DETAILS
4	GENERAL DETAILS
5	WHELOCK PKWY
6,7	JOHNSON PKWY
8	ARLINGTON
9,10,11	WAKEFIELD
12	CO. DITCH 16

DESIGN SOJAD *[Signature]* DATE 11-21-83
DRAWN BY *[Signature]* DATE 11-21-83
CHECKED BY *[Signature]* DATE 11-21-83
I HEREBY CERTIFY THAT THIS 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.
DATE 11-21-83 REG. NO. 11659 ENGR. *[Signature]*

RECOMMENDED FOR APPROVAL *[Signature]* DATE 11-22-83
RECOMMENDED FOR APPROVAL *[Signature]* DATE 11-21-83
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RECOMMENDED FOR APPROVAL *[Signature]* DATE 11-21-83
APPROVED *[Signature]* DATE 11-22-83

RECOMMENDED FOR APPROVAL *[Signature]* DATE 12-5-83
APPROVED *[Signature]* DATE 12-12-83
MINNESOTA DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL _____ DATE _____
RECOMMENDED FOR APPROVAL _____ DATE _____
APPROVAL _____ DATE _____

PLAN REVISIONS		
DATE	SHEET NO.	BY
8/24/84	12	<i>[Signature]</i>
8/24/84	OMIT 6	<i>[Signature]</i>

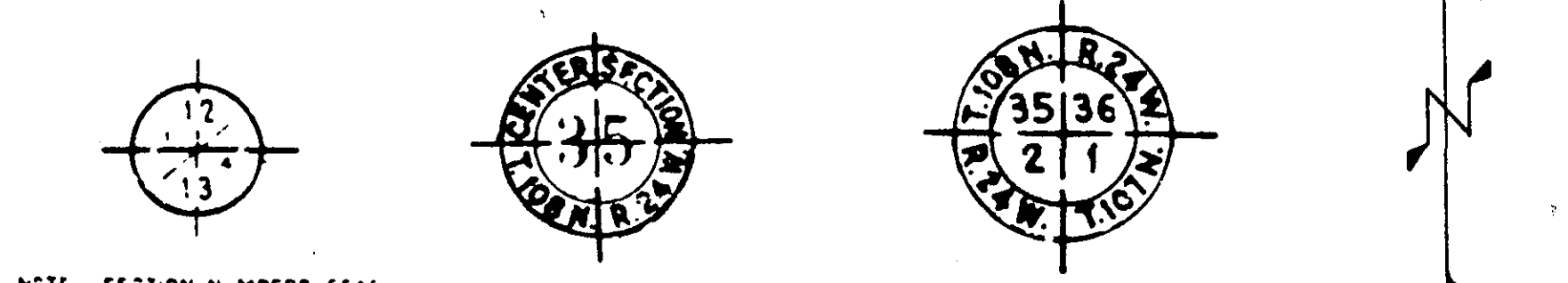
ENV. 31

PLANS SYMBOLS

STATE LINE	-----	SPRINGS	○
COUNTY LINE	-----	MARSH	-----
TOWNSHIP OR RANGE LINE	-----	TIMBER	(TIMBER)
SECTION LINE	-----	ORCHARD	-----
QUARTER LINE	-----	BRUSH	-----
SIXTEENTH LINE	-----	NURSERY	-----
RIGHT OF WAY LINE	-----	CATCH BASIN	C.B. □
PRESENT RIGHT OF WAY LINE	-----	FIRE HYDRANT	▽
CONTROL OF ACCESS LINE	-----	CATTLE GUARD	-----
PROPERTY LINE (Except Land Lines)	-----	OVERPASS (Highway Over)	-----
VACATED PLATTED PROPERTY	-----	UNDERPASS (Highway Under)	-----
CORPORATE OR CITY LIMITS	-----	BRIDGE	-----
TRUNK HIGHWAY CENTER LINE	-----	BUILDING (One Story Frame)	-----
RETAINING WALL	-----	F FRAGILE C CONCRETE	-----
RAILROAD	-----	S STONE T TILE	-----
RAILROAD RIGHT OF WAY LINE	-----	B BRICK ST STUCCO	-----
RIVER OR CREEK	-----	IRON PIPE OR ROD	-----
DRY RUN	-----	MONUMENT (STONE, CONCRETE, OR METAL)	○
DRAINAGE DITCH	-----	WOODEN HUB	○
DRAIN TILE	-----	GRAVEL PIT	○
CULVERT	-----	SAND PIT	○
DROP INLET	-----	BORROW PIT	○
GUARD RAIL	-----	ROCK QUARRY	○
BARBED WIRE FENCE	-----		
WOVEN WIRE FENCE	-----		
CHAIN LINK FENCE	-----		
RAILROAD SNOW FENCE	-----		
STONE WALL OR FENCE	-----		
HEDGE	-----		
RAILROAD CROSSING SIGN	-----		
RAILROAD CROSSING BELL	-----		
ELECTRIC WARNING SIGN	-----		
CROSSING GATE	-----		
MEANDER CORNER	-----		

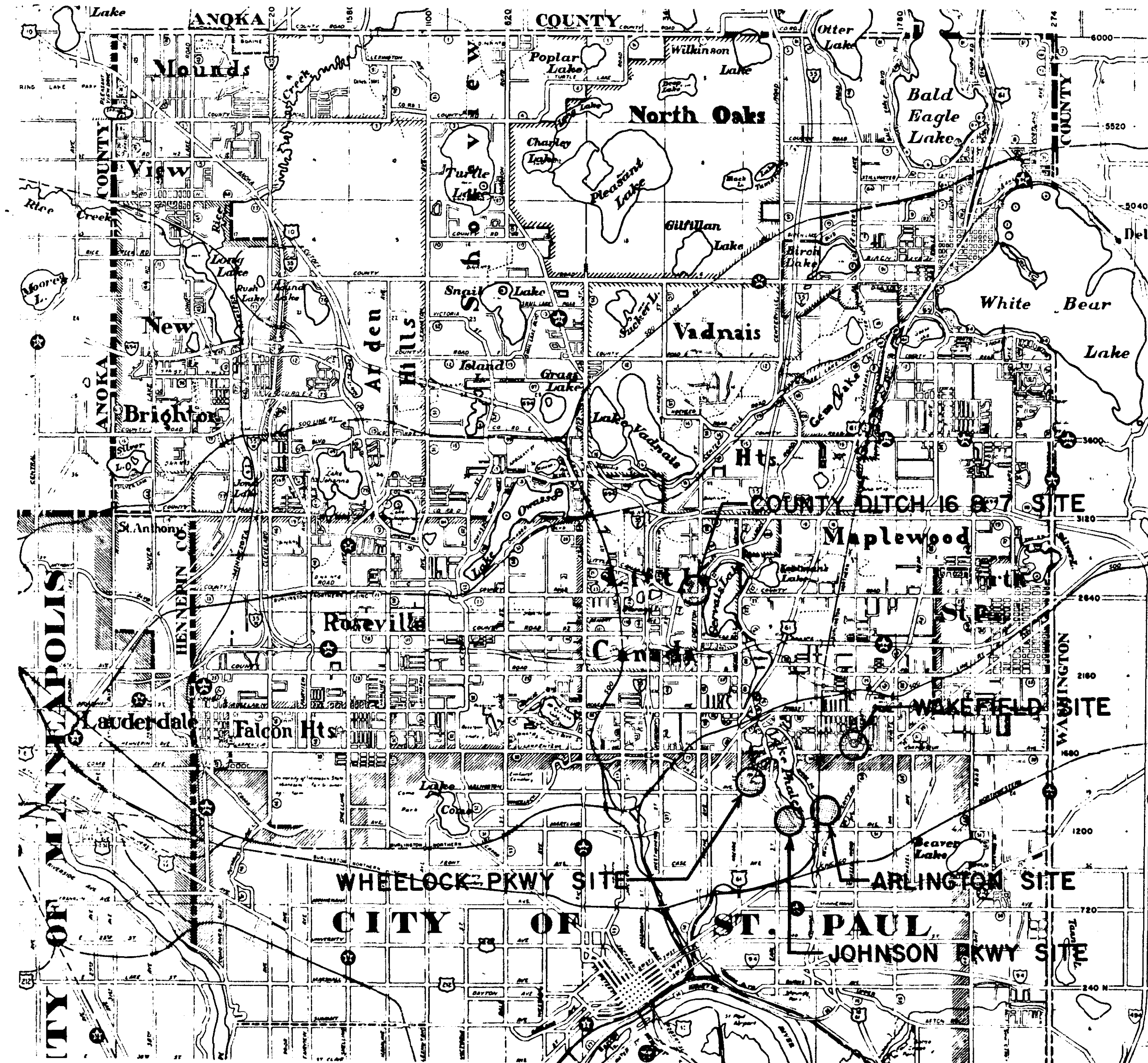
UTILITIES SYMBOLS

POWER POLE LINE	-----	CONDUIT	-----
TELEPHONE OR TELEGRAPH POLE LINE	-----	TELEPHONE CABLE IN CONDUIT	-----
JOINT TELEPHONE AND POWER OR POWER POLES	-----	ELECTRIC CABLE IN CONDUIT	-----
ANCHOR	-----	TELEPHONE MANHOLE	-----
STEEL TOWER	-----	ELECTRIC MANHOLE	-----
STREET LIGHT	-----	BURIED TELEPHONE CABLE	-----
PERESTAL TELEPHONE CABLE TERMINAL	-----	BURIED ELECTRIC CABLE	-----
GAS MAIN	-----	AERIAL TELEPHONE CABLE	-----
WATER MAIN	-----	SEWER (SANITARY OR STORM)	-----
		SEWER MANHOLE	-----



PIT DATA

PIT NO. _____	Located in _____
PIT NO. _____	Located in _____



THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION SHALL GOVERN

 ** STATEMENT OF ESTIMATED QUANTITIES **

ITEM NO.	ITEM	UNIT	WHEELLOCK PARKWAY		JOHNSON PARKWAY		ARLINGTON		WAKEFIELD		CO. DITCH 16		TOTAL EST. QUANTITIES
			ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	ESTIMATED QUANTITIES	FINAL ESTIMATED QUANTITIES	
2021.501	MOBILIZATION	L.S.	1.0	1.0	1.0		1.0	1	1.0		1.0	1	5.0
2101.502	CLEARING	TREE	0.0	0.0	1.0		0.0	0	5.0		0.0	0	6.0
2101.507	GRUBBING	TREE	0.0	0.0	1.0		0.0	0	5.0		0.0	0	6.0
2104.521	SALVAGE FENCE	L.F.	0.0	0.0	0.0		110.0	30.0	0.0		0.0	0	110.0
2105.501	COMMON ELEVATION	C.Y.	338.0	338.0	4414.0		936.0	4160	366.0		552.0	1209.0	6606.0
2125.525	TOPSOIL BORROW (LV)	C.Y.	89.0	74.0	672.0		111.0	42.0	178.0		0.0	0	1050.0
2130.501	WATER	M.GAL	0.1	0.0	0.1		0.1	0	0.1		0.1	0	0.5
2451.507	BRANULAR BEDDING (L.V.)	C.Y.	10.0	10.0	0.0		0.0	0	0.0		10.0	0	20.0
2451.511	COARSE FILTER AGGREGATE (LV)	C.Y.	216.0	237.2	303.0		428.0	264.4	321.0		250.0	168.0	1518.0
2451.513	FINE FILTER AGGREGATE (L.V.)	C.Y.	408.0	358.7	584.0		727.0	644.5	803.0		448.0	781.5	2790.0
2501.515	24" R.C. PIPE APRONS	EACH	0.0	0	3.0		0.0	0	0.0		1.0	1.0	4.0
2503.511	24" R.C. PIPE SEWER, CL II	L.F.	0.0	0	317.0		0.0	0	0.0		34.0	38.0	371.0
2503.511	24" R.C. PIPE SEWER, CLASS V (JACKED)	L.F.	0.0	0	56.0		0.0	0	0.0		0.0	0	56.0
2503.511	8" PVC PIPE SEWER (PERFORATED)	L.F.	404.0	427.3	574.0		870.0	768.1	595.0		514.0	971.8	2957.0
2503.511	12" PVC PIPE SEWER	L.F.	193.0	193.9	206.0		223.0	237.9	227.0		331.0	543.2	1180.0
2503.511	24" PVC PIPE SEWER	L.F.	0.0	0	0.0		0.0	0	0.0		0.0	0	0.0
2503.573	INSTALL 8" PVC PIPE CAP	EACH	26.0	28	30.0		35.0	32	446.0		0.0	0	446.0
2503.573	INSTALL 12" PVC PIPE CAP	EACH	2.0	2	2.0		2.0	3	26.0		30.0	14.0	147.0
2503.573	INSTALL 8" X 12" PVC TEE PIPE CONNECTION	EACH	26.0	28	30.0		35.0	3	2.0		2.0	2	11.0
2503.573	INSTALL 12" X 12" PVC TEE PIPE CONNECTION	EACH	0.0	0	0.0		1.0	1	0.0		0.0	0	1.0
2503.573	INSTALL 12" X 12" PVC TEE PIPE CONNECTION	EACH	0.0	0	0.0		2.0	2	0.0		0.0	0	2.0
2503.573	INSTALL 12" X 45 PVC ELBOW	EACH	0.0	0	0.0		2.0	4	0.0		2.0	2	4.0
2503.573	INSTALL 12" X 45 PVC ELBOW	EACH	0.0	0	0.0		0.0	0	0.0		0.0	0	0.0
2503.573	INSTALL 24" X 45 PVC ELBOW	EACH	0.0	0	0.0		0.0	0	1.0		0.0	0	1.0
2506.506	CONSTRUCT MANHOLES, DESIGN A OR F	L.F.	0.0	0	2.0		0.0	0	3.0		0.0	0	5.0
2506.508	CONSTRUCT MANHOLES, DESIGN 4020 (72")	EACH	0.0	0	2.0		0.0	0	0.0		0.0	0	2.0
2506.516	CASTING ASSEMBLIES	EACH	0.0	0	2.0		0.0	0	3.0		0.0	0	5.0
2506.521	INSTALL CASTINGS	EACH	0.0	0	2.0		0.0	0	3.0		0.0	0	5.0
2511.501	ROUTED RIPRAP	C.Y.	0.0	0	0.0		0.0	0	44.0		4.6	4.6	48.6
2511.501	FILTER BLANKET, TYPE I	C.Y.	0.0	0	0.0		0.0	0	22.0		2.3	2.3	24.3
2557.501	WIRE FENCE, DESIGN CHAIN LINK (72")	L.F.	0.0	0	755.0		0.0	0	0.0		0.0	0	755.0
2557.517	VEHICULAR GATES (DBL SWING 20')	EACH	0.0	0	2.0		0.0	0	0.0		0.0	0	2.0
2571.502	F & P SHADE TREES (3" TILIA AMERICANA)	TREE	0.0	0	15.0		0.0	0	0.0		0.0	0	15.0
2575.501	ROADSIDE SEEDING	ACRE	0.0	0	1.3		0.18	0.17	0.7		0.43	0.82	2.61
2575.502	SEED MIXTURE 5	POUND	0.0	0	65.0		9.0	8.5	35.0		22.0	45.0	131.0
2575.505	SODDING	S.Y.	854.0	638	373.0		213.0	31.0	0.0		0.0	0	1440.0
2575.511	MULCH MATERIAL, TYPE I	TON	0.0	0	1.3		0.18	0.17	0.7		0.43	0.82	2.61
013.604	GEOTEXTILE (CONSTRUCTION FABRIC)	S.Y.	348.0	515	616.0		791.0	874.2	626.0		480.0	1153.0	2881.0
231.604	AGGREGATE BASE RECONDITIONING	S.Y.	0.0	0	20.0		0.0	0	0.0		0.0	0	20.0
346.601	BITUMINOUS PATH RESTORATION	S.Y.	0.0	0	20.0		0.0	0	0.0		0.0	0	20.0
411.601	MODIFY EXISTING RC OUTLET STRUCT. (ARLINGTON)	L.S.	0.0	0	0.0		1.0	1.0	0.0		0.0	0	1.0
411.601	INSTALL CONC. SPILLWAY/WEIR CONTROL (WAKEFIELD)	L.S.	0.0	0	0.0		0.0	0	1.0		0.0	0	1.0
412.601	INSTALL MODIFIED LK OVERFLOW STRUCT. (WAKEFIELD)	L.S.	0.0	0	0.0		0.0	0	1.0		0.0	0	1.0
412.601	INSTALL TIMBER DIVERSION WEIRS (WAKEFIELD)	L.S.	0.0	0	0.0		0.0	0	1.0		0.0	0	1.0
412.602	INSTALL TIMBER WEIR BOX (WHEELLOCK)	EACH	1.0	1	0.0		0.0	0	0.0		0.0	0	1.0
412.604	INSTALL STEEL SHEETING	S.F.	507.0	527	0.0		0.0	0	0.0		720.0	780.0	1227.0
503.607	PIPE BEDDING (CA-3)	TON	14.0	14.0	0.0		0.0	0	35.0		15.0	160.6	64.0
506.602	CONSTRUCT DEEPS MANHOLE	EACH	1.0	1	2.0		0.0	0	0.0		1.0	1.0	4.0

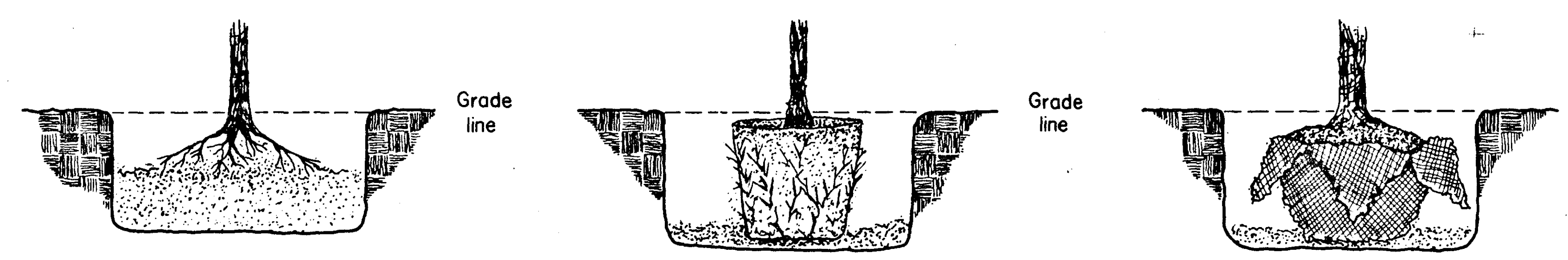
 ** STANDARD DETAIL PLATES **

PLATE NUMBER	PLATE
30001	REINFORCED CONCRETE PIPE
3006D	GASKET JOINT FOR REINFORCED CONCRETE PIPE
3100F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3133A	RIPRAP AT RCP OUTLETS
3145B	CONCRETE PIPE TIES
4000I	MANHOLE OR CATCH BASIN
4005K	MANHOLE OR CATCH BASIN
4010F	CONCRETE SHORT CONE AND ADJUSTING RING
4011D	PRECAST CONCRETE BASE
4020C	MANHOLE OR CATCH BASIN
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4110D	COVER CASTING FOR MANHOLE
4180G	MANHOLE OR CATCH BASIN STEP
8000H	STANDARD BARRIADAES
9322I	CHAIN LINK FENCE

ASBUILT PLAN
 CONFORMING TO
 CONST RECORDS
 DATE: 1/21/05

I HEREBY CERTIFY THAT THIS 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.
 James E. Johnson
 DATE: 1/23/05 REG. NO. 16159

STANDARD PLANTING DETAILS



BARE ROOT

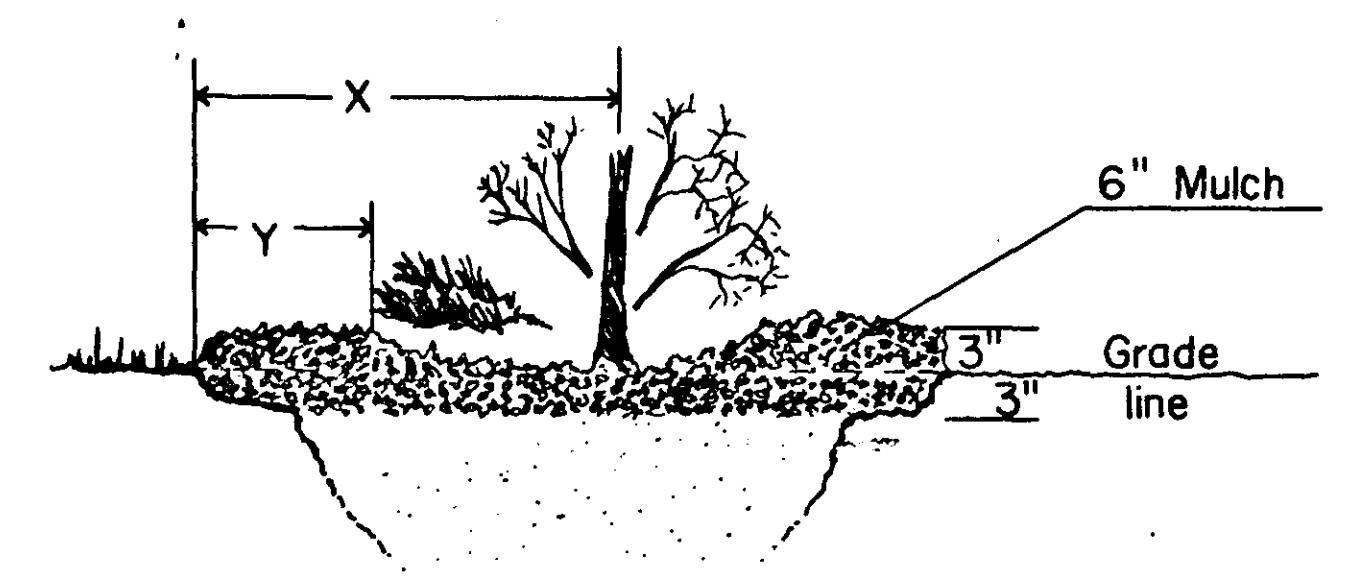
1. Place and tamp enough planting soil into hole so that the plant can be placed at proper depth.
2. Set plant at grade and with roots evenly distributed.
3. Complete planting operations, plumb plant and water thoroughly.

POT / CONTAINER

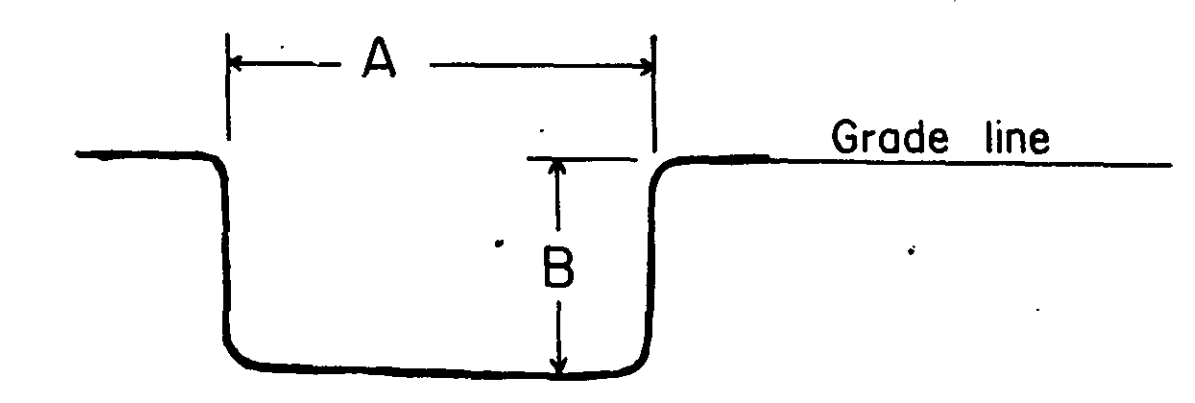
1. Place and tamp enough planting soil into hole so that plant can be set at proper depth.
2. Remove pot or container and roughen sides of root ball with a stick or something sharp to expose root ends.
3. Set plant into hole and complete planting operations, plumb plant and water thoroughly.

B & B

1. Place and tamp enough planting soil into hole so that plant can be set at proper depth, if needed.
2. Set plant into hole and remove cords and burlap to expose top of ball.
3. Complete planting operations, plumb plant and water thoroughly.

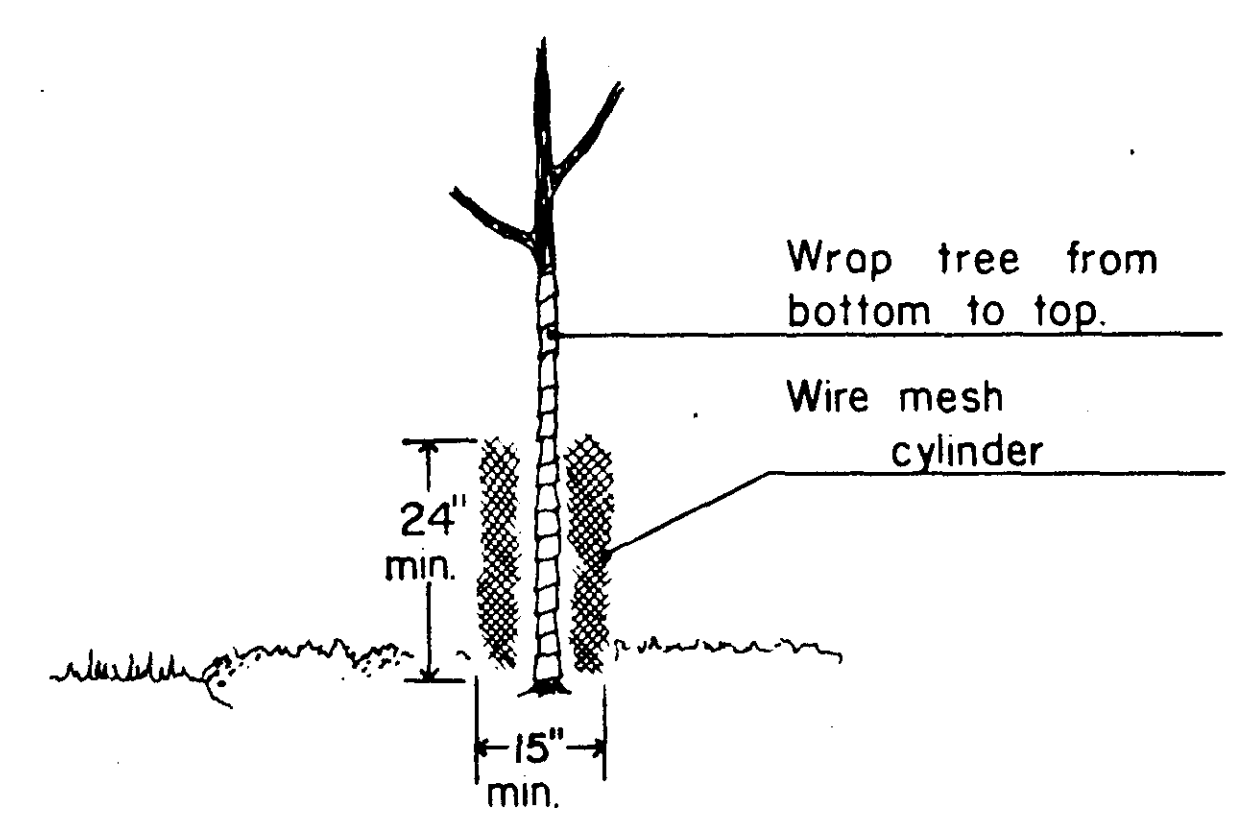


Type of plant	X (center of plant to the mulch line)	Y (outer edge of widest branches to the mulch line)
Evergreen trees & shrubs.		__' minimum.
Shade trees & Half trees.	__' minimum.	
Deciduous shrubs.	__' minimum.	
Vines & Ground covers	__" minimum. or	__" minimum.

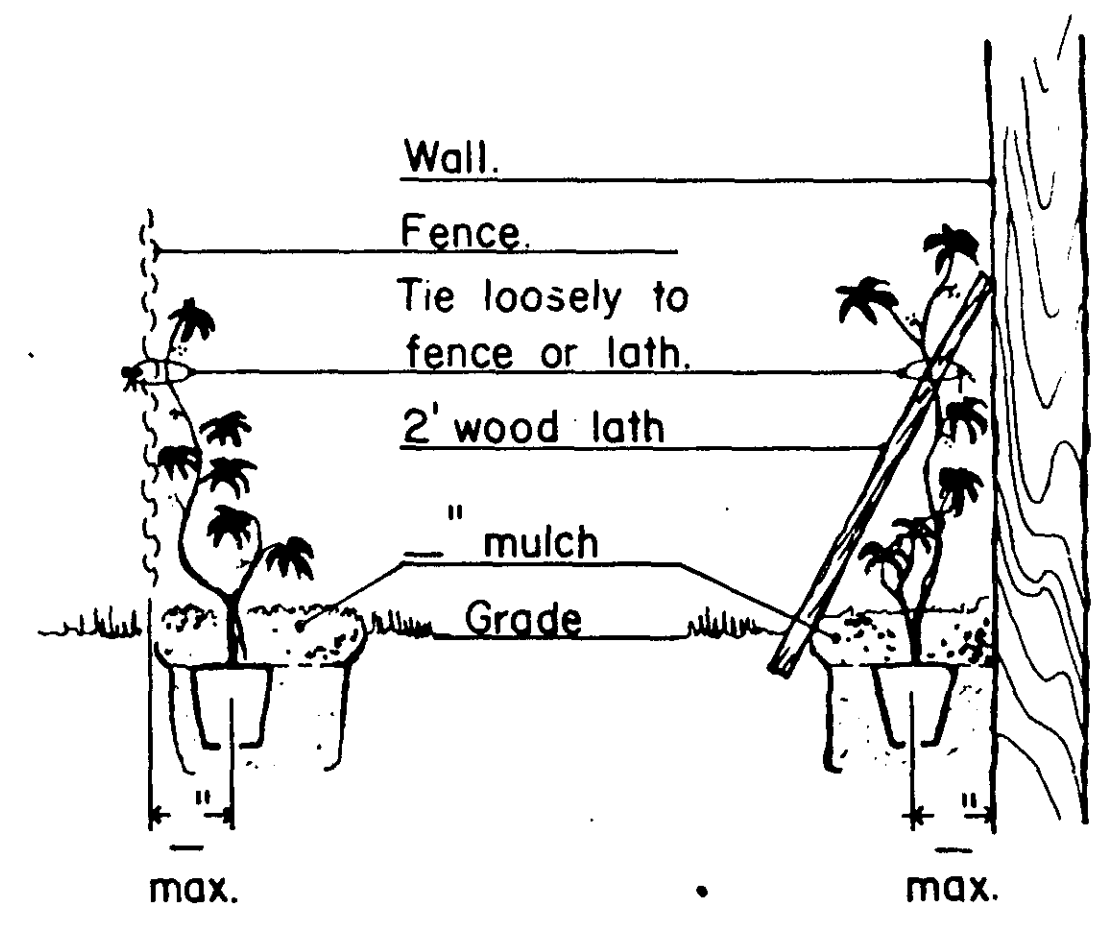


Minimum hole size		Type plant	Size range
A	x B		
62"	x 28"	B & B Shade tree	over 3" cal. thru 4" cal.
48"	x 21"	B & B Shade tree. B.R. Shade tree. Evergreen tree.	up to 3" cal. over 2" cal. up to 8' hi.
36"	x 18"	Evergreen shrub. B.R. Shade tree Deciduous shrubs (B.R.) B.R. Half tree.	over 30" spread. up to 2" cal. over 5' hi. over 8' hi. (1" cal.)
30"	x 18"	Evergreen shrub. B.R. Half tree. Deciduous shrub. (B.R.)	up to 30" spread. up to 8' hi. up to 5' hi.
24"	x 18"	Container / Potted	up to 5 gallon.
12"	x 12"	Vine / Ground cover (potted)	up to 1 gallon.

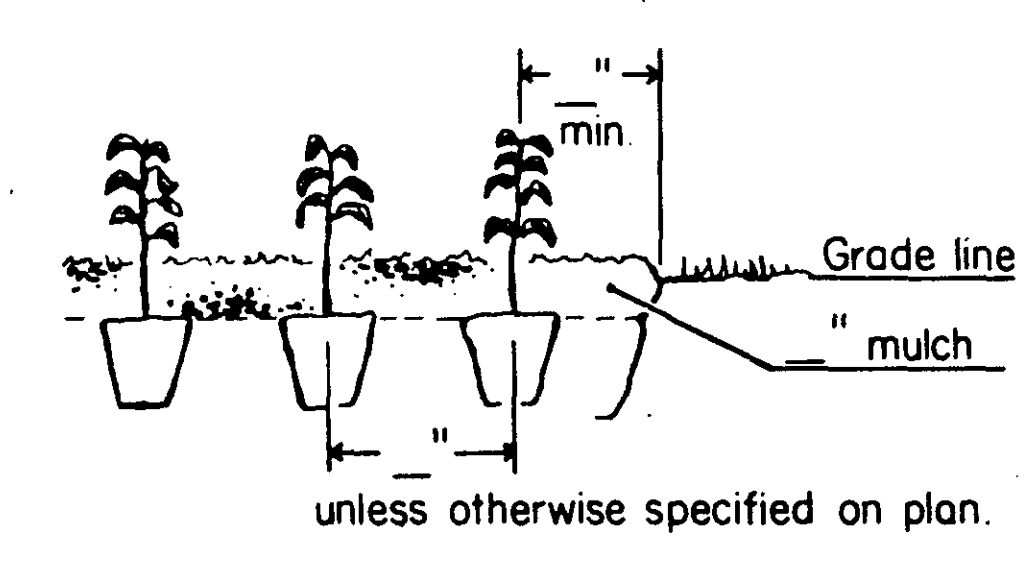
PLANTING DETAILS



PROTECTION DETAIL



VINE PLANTING



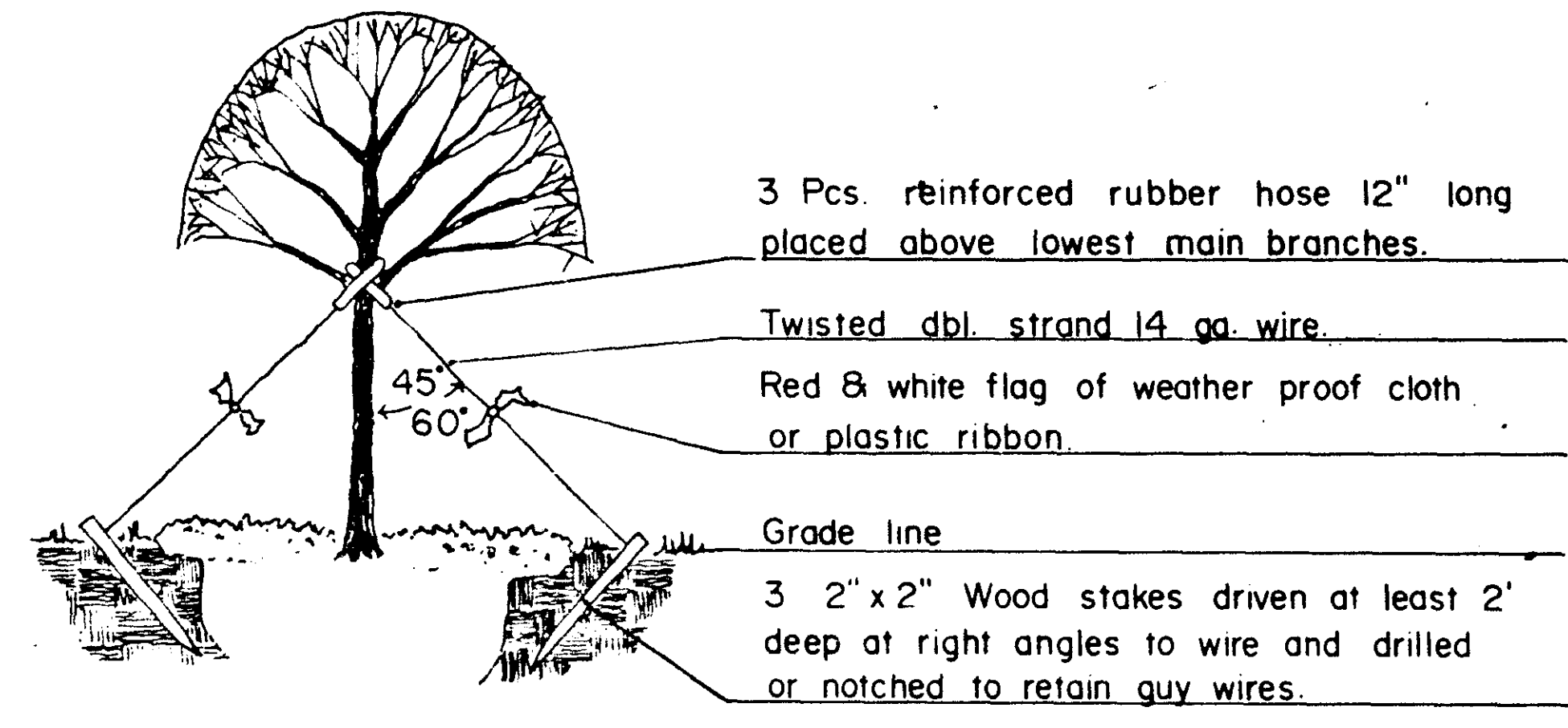
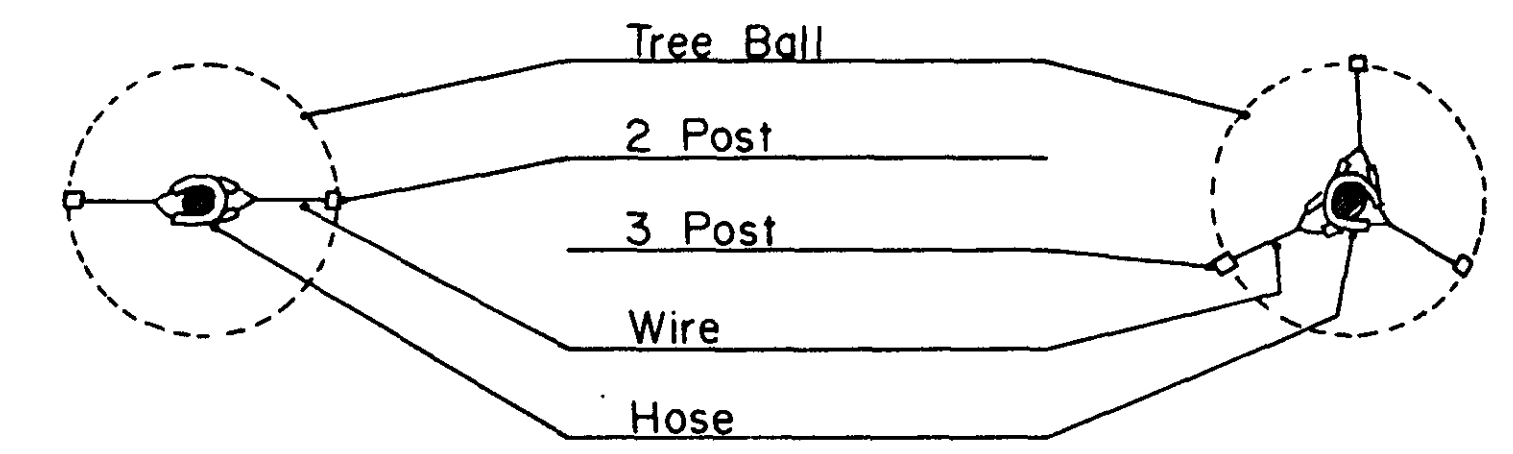
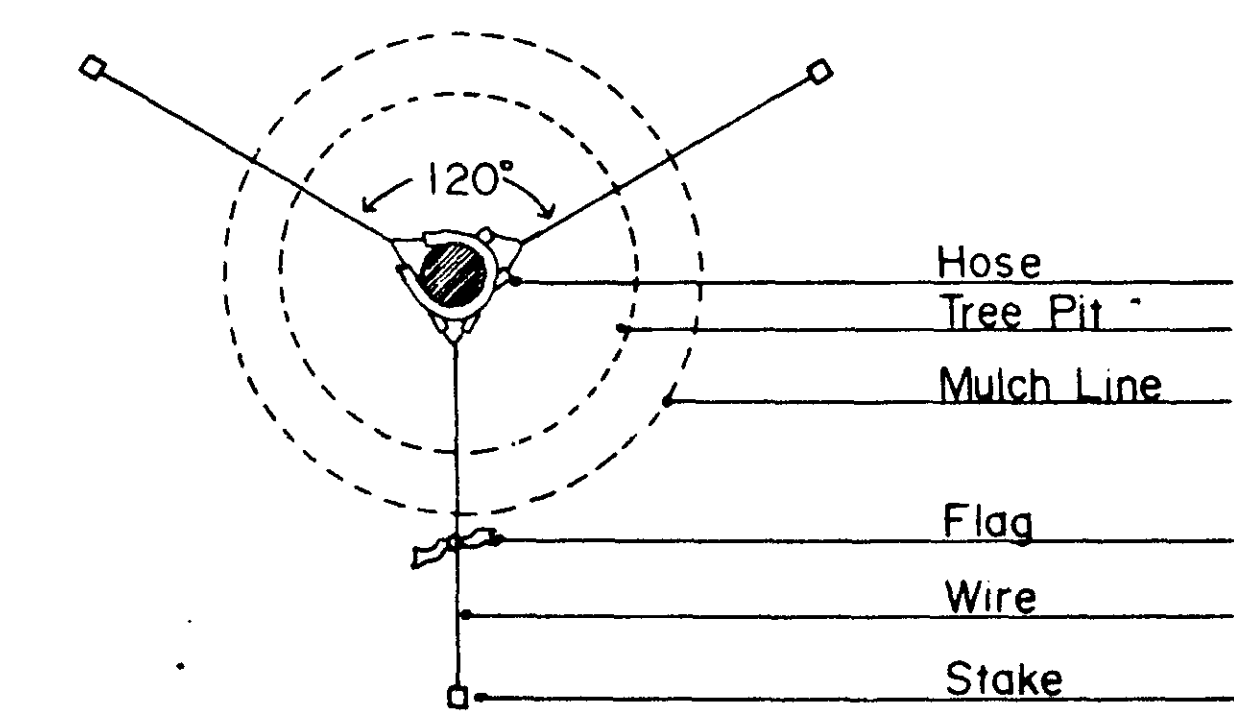
GROUND COVER PLANTING

MULCHING DETAIL

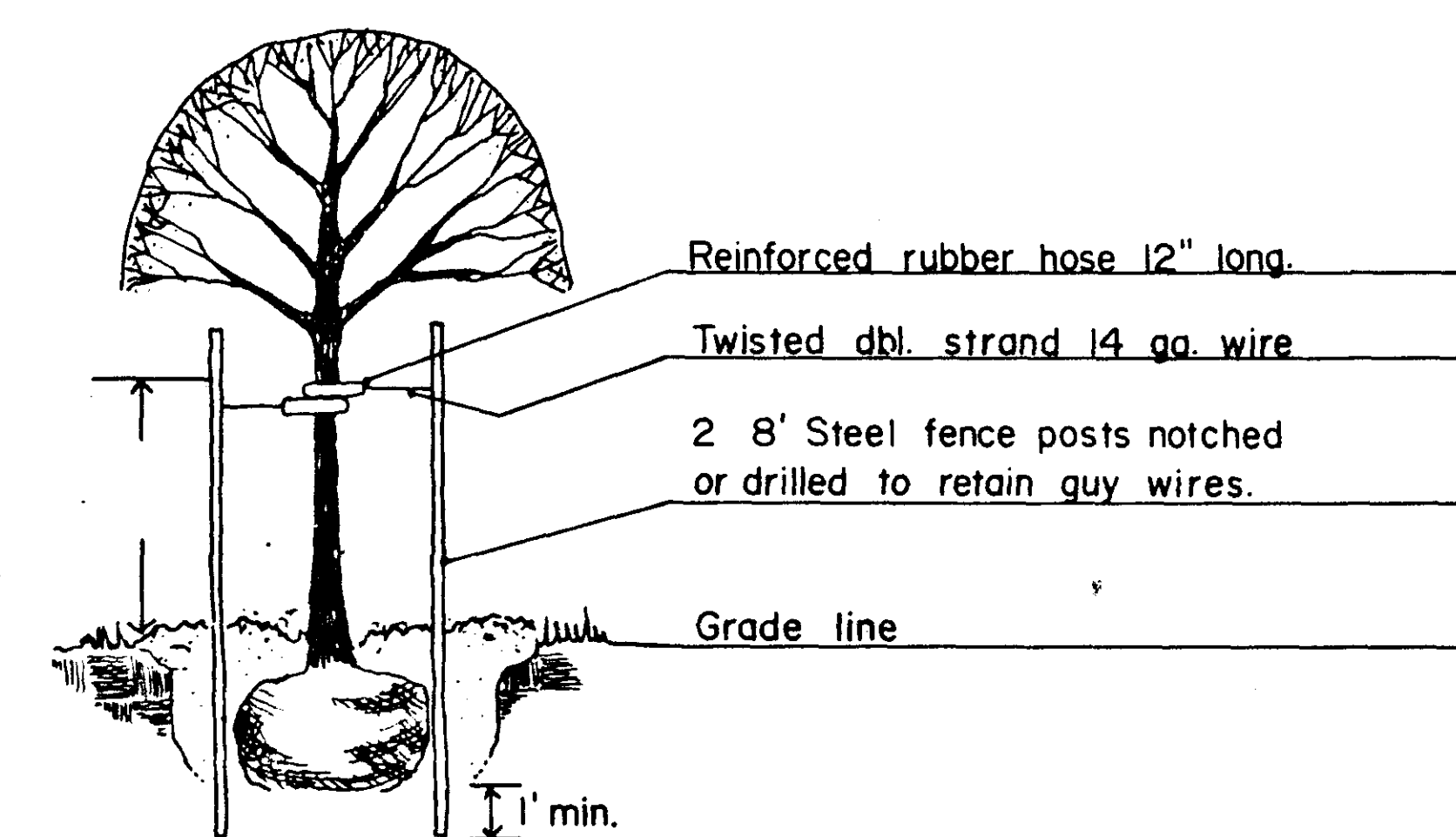
MINIMUM HOLE SIZE

GENERAL NOTES

- Planting Soil: Mn/Dot 2571.2C1, Mn/Dot 2571.3D, Mn/Dot 3877.2B
- Fertilizer: Mn/Dot 2571.2C3, Mn/Dot 3881
- Mulch Material: Mn/Dot 2571.2C4, Mn/Dot 2571.3H, Mn/Dot 3882
- Guying: Mn/Dot 2571.3J (Normal area)
- Wrapping: Mn/Dot 2571.2D3, Mn/Dot 2571.3J
- Rodent protection: Mn/Dot 2571.2D1 and special provisions, Mn/Dot 2571.3J
- Mass plantings: Plant spacings of ' or less shall be mass excavated and spacings of ' or less shall be continuously mulched.



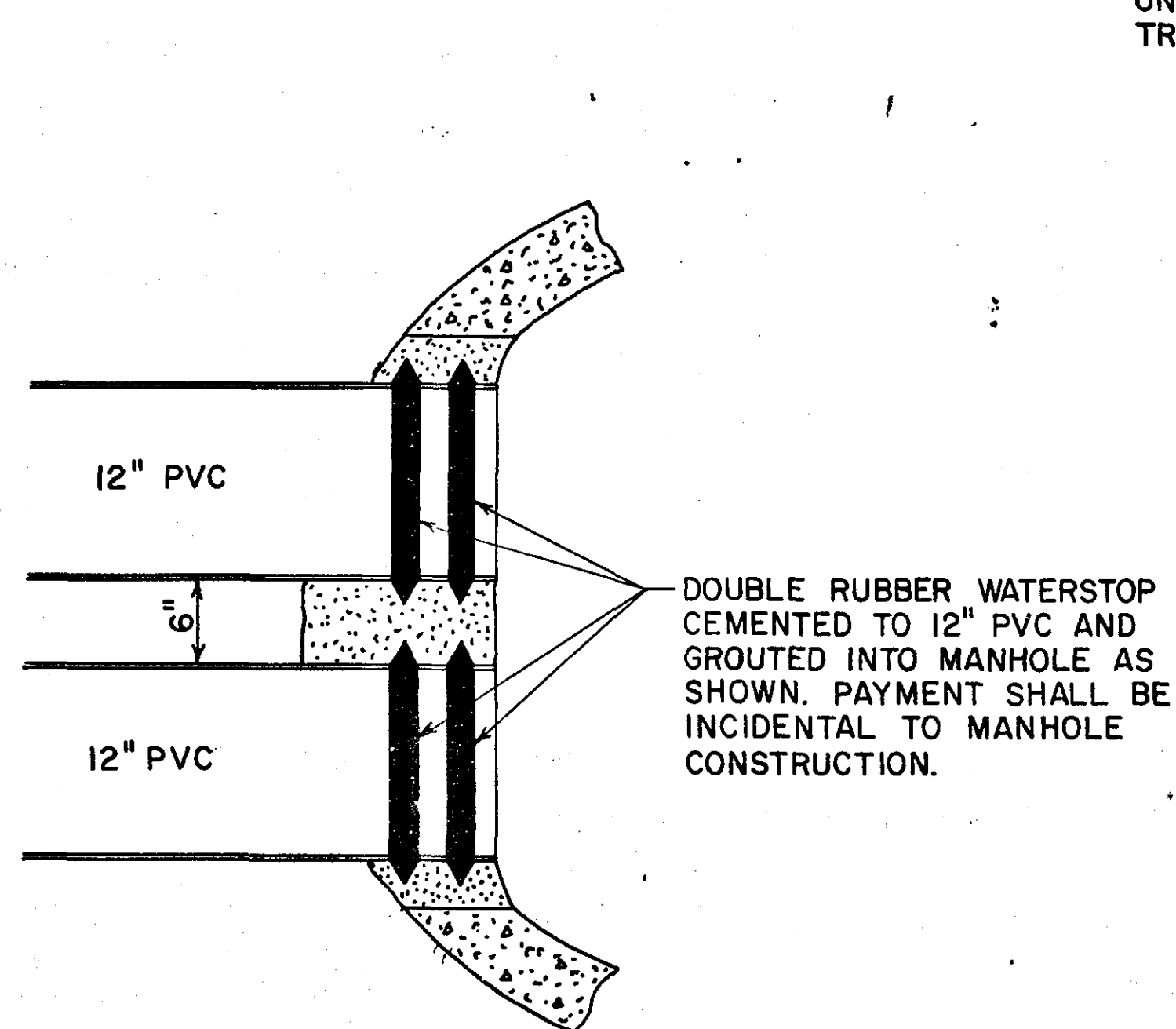
STAKING AND GUYING (NORMAL AREA)



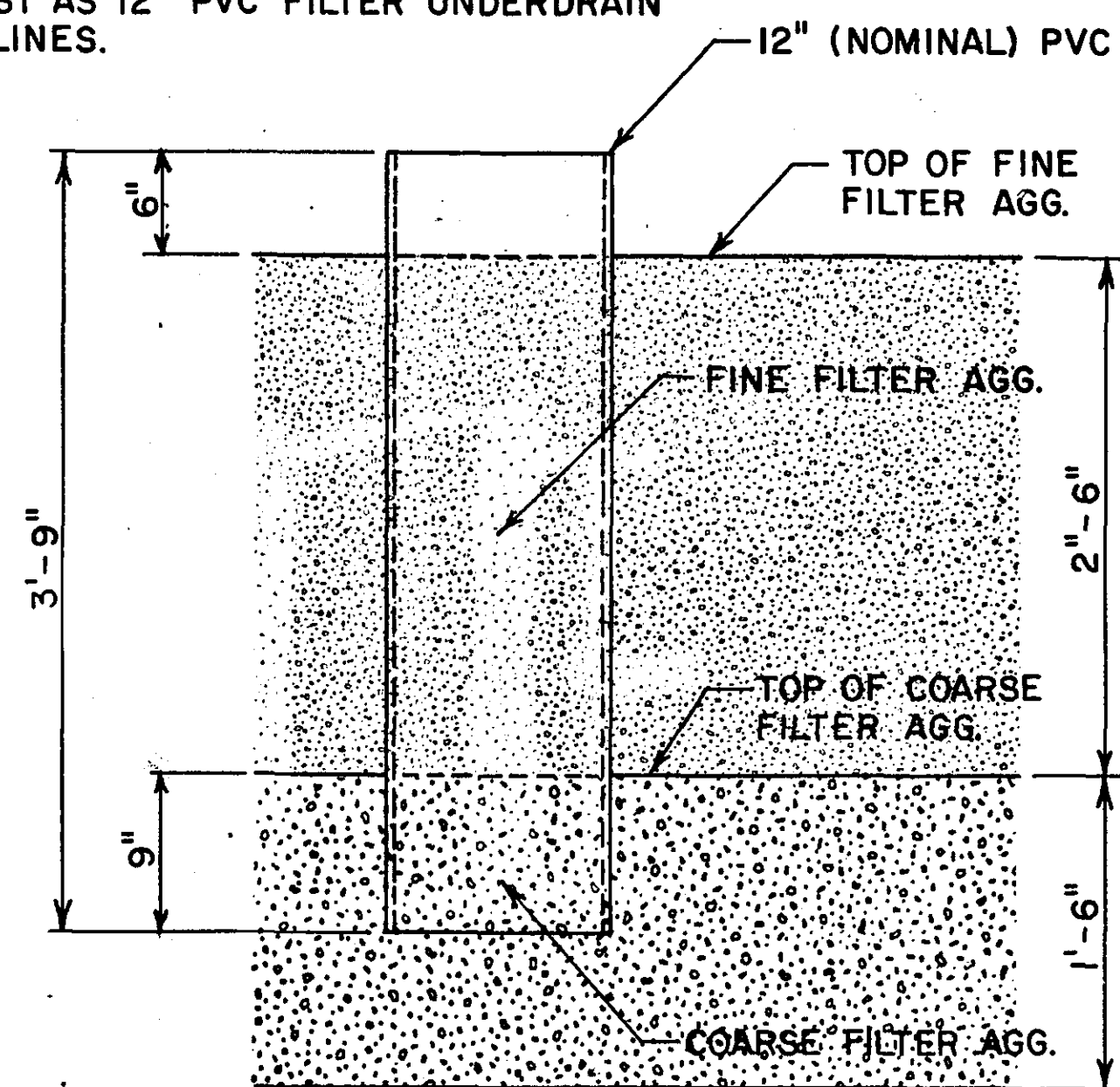
STAKING AND GUYING (RESTRICTED AREA)

I hereby certify that this plan, specification, or report 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.
Daniel A. Schacht
 Date 11-23-83 Reg. No. 11657

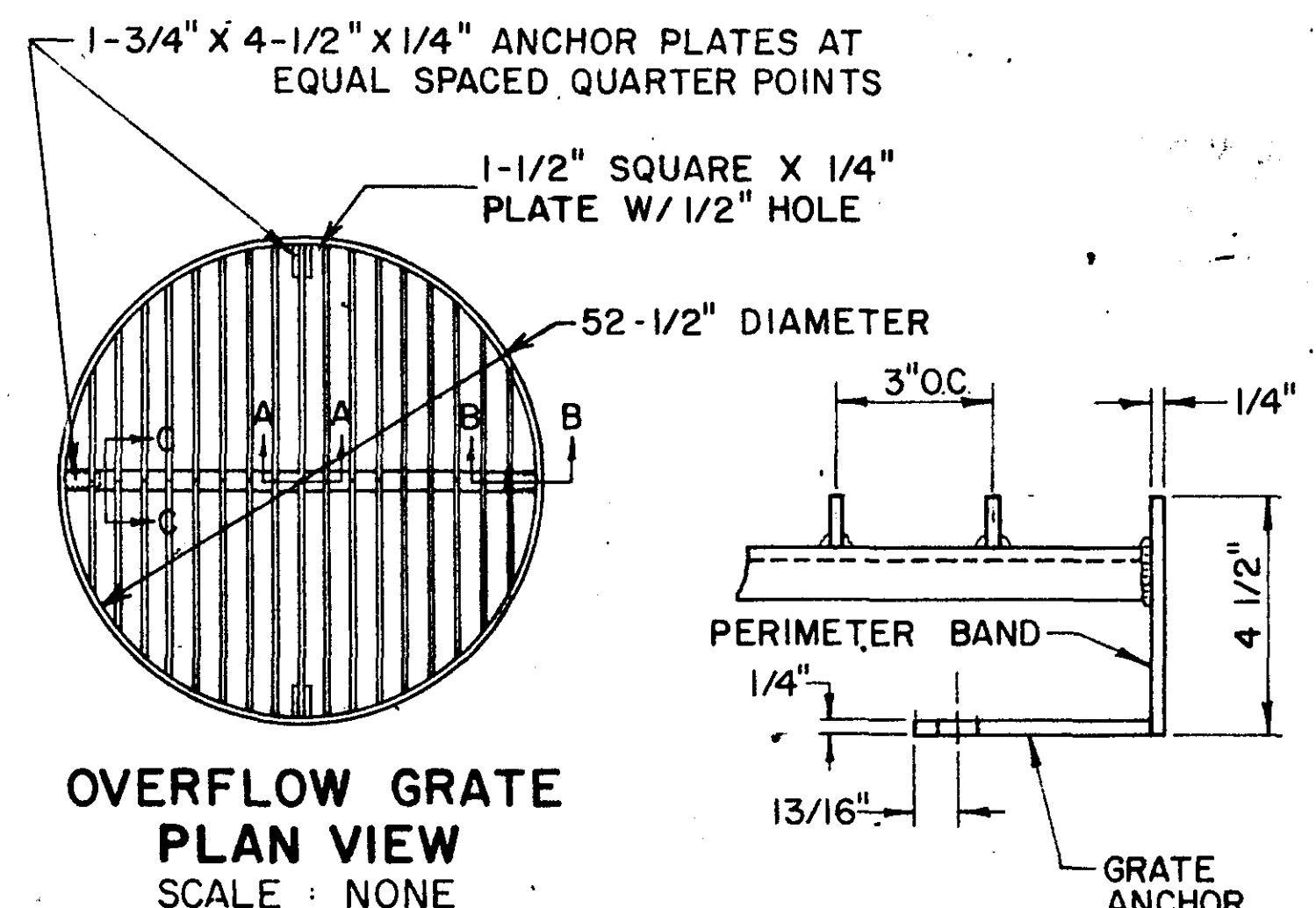
BASIS FOR PAYMENT FOR 12" PVC MONITORING TUBES SHALL BE PER LINEAL FOOT AT THE SAME UNIT COST AS 12" PVC FILTER UNDERDRAIN TRUNK LINES.



12" DOUBLE PVC CONNECTION TO 4' RCP MH

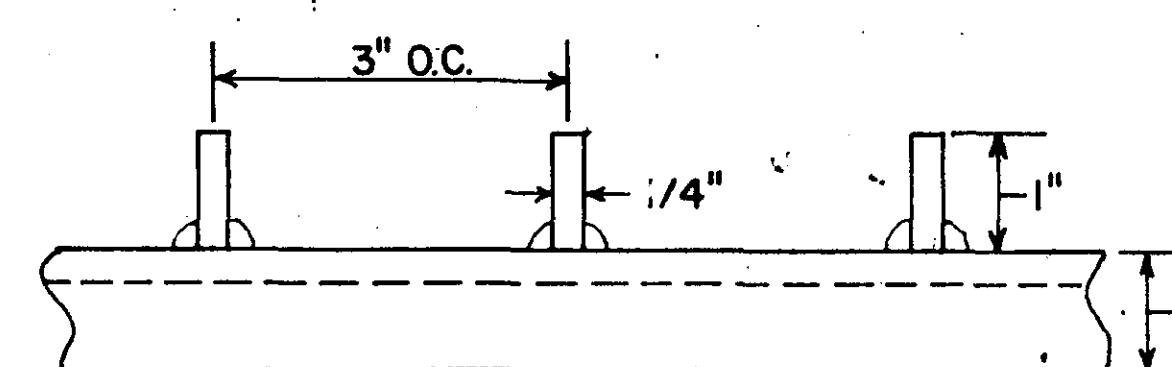


MONITOR TUBE DETAIL
SCALE: 1"=1'

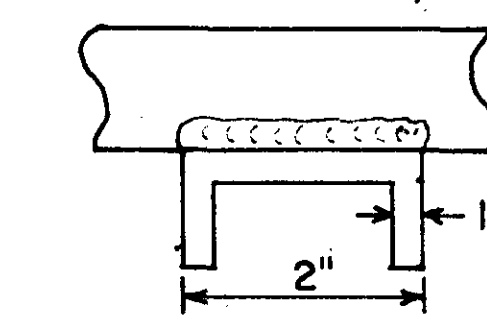


OVERFLOW GRATE
PLAN VIEW
SCALE: NONE

SECTION B-B
SCALE: 1"=4"

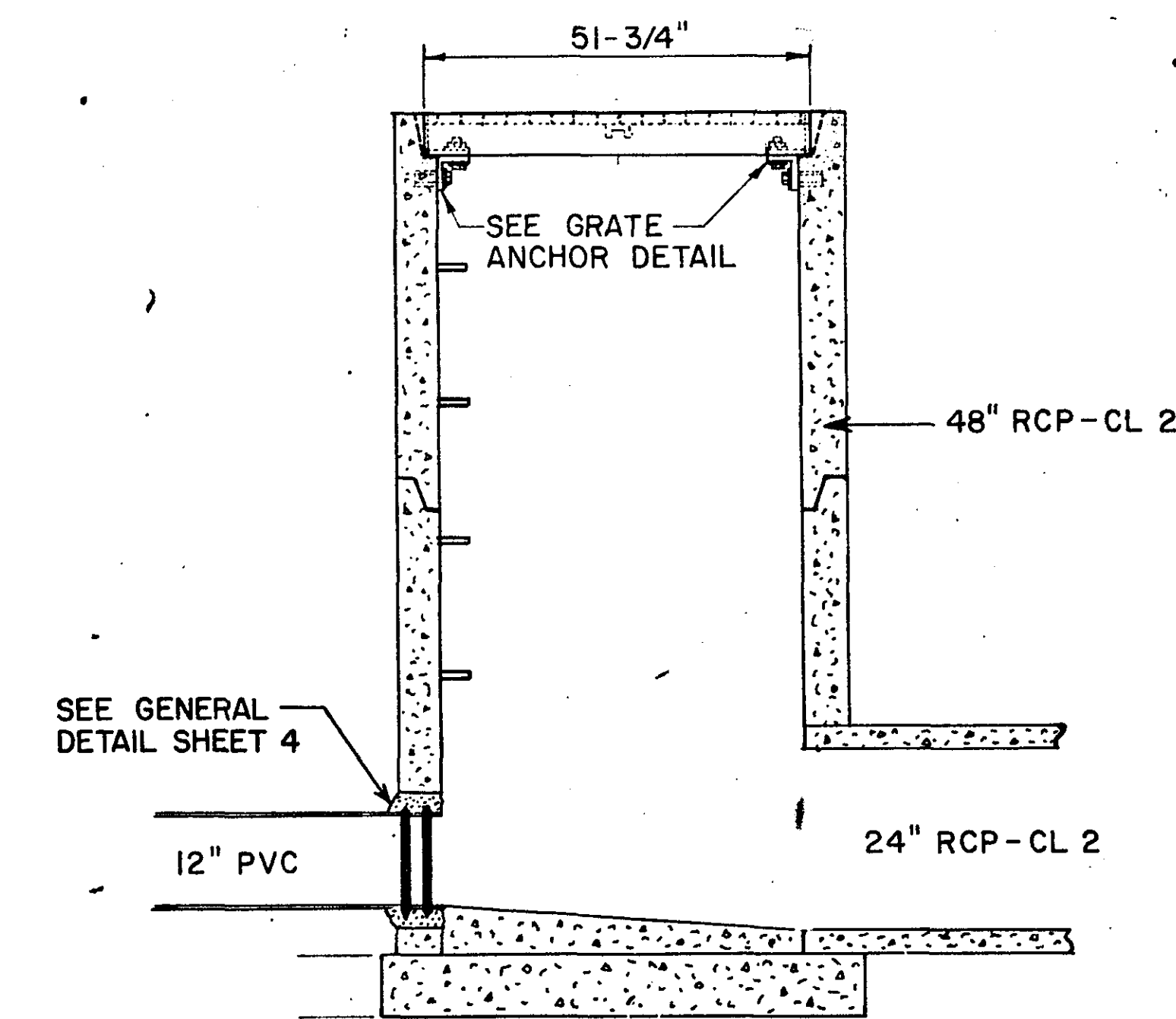


SECTION A-A DETAIL
SCALE: 1"=2"

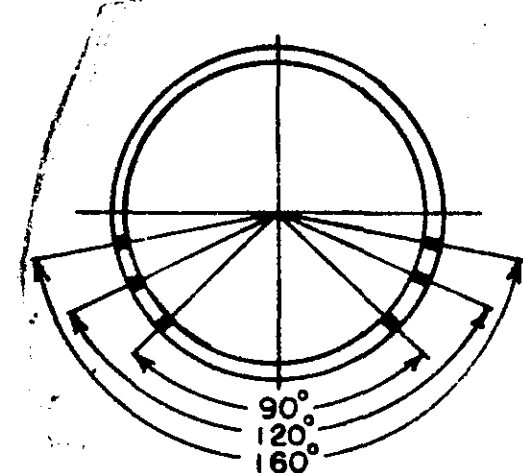


SECTION C-C
SCALE: 1"=2"

GRATE & HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153 - SEE MDOT SPECIFICATION 3392

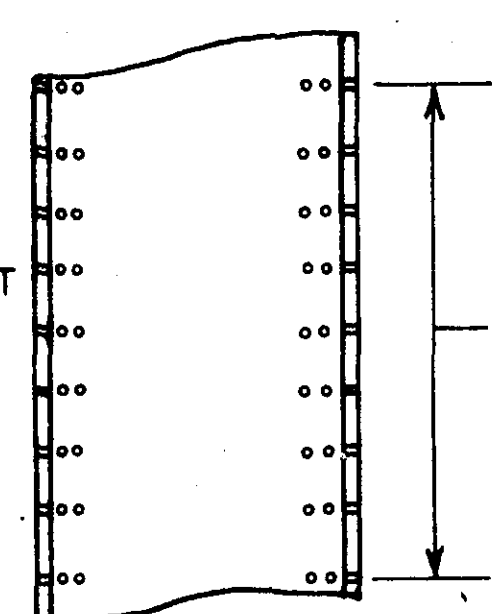


DIVERSION DISCHARGE/ EMERGENCY
OVERFLOW STRUCTURE DETAIL
DDEOS STRUCTURE
SCALE: 1"=2'



PERFORATION HOLE SIZE 1/4" SPACED AT EIGHT PERFORATIONS PER ROW PER FOOT (MINOR VARIATIONS OF HOLE SIZE AND CONFIGURATION MAY BE ALLOWED SUBJECT TO WRITTEN APPROVAL BY THE ENGINEER.)

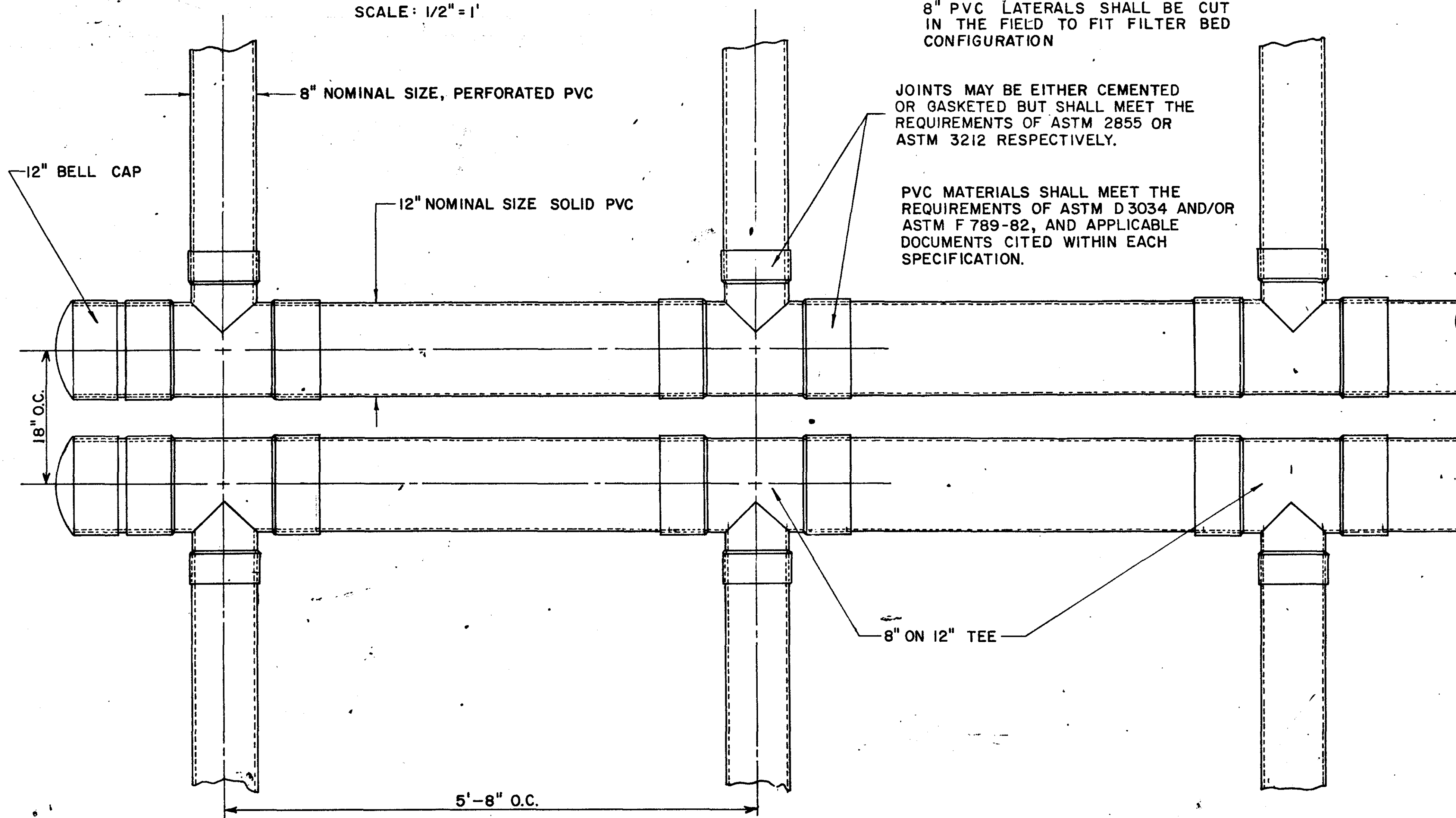
PERFORATION DETAIL
SCALE: 1/2"=1'



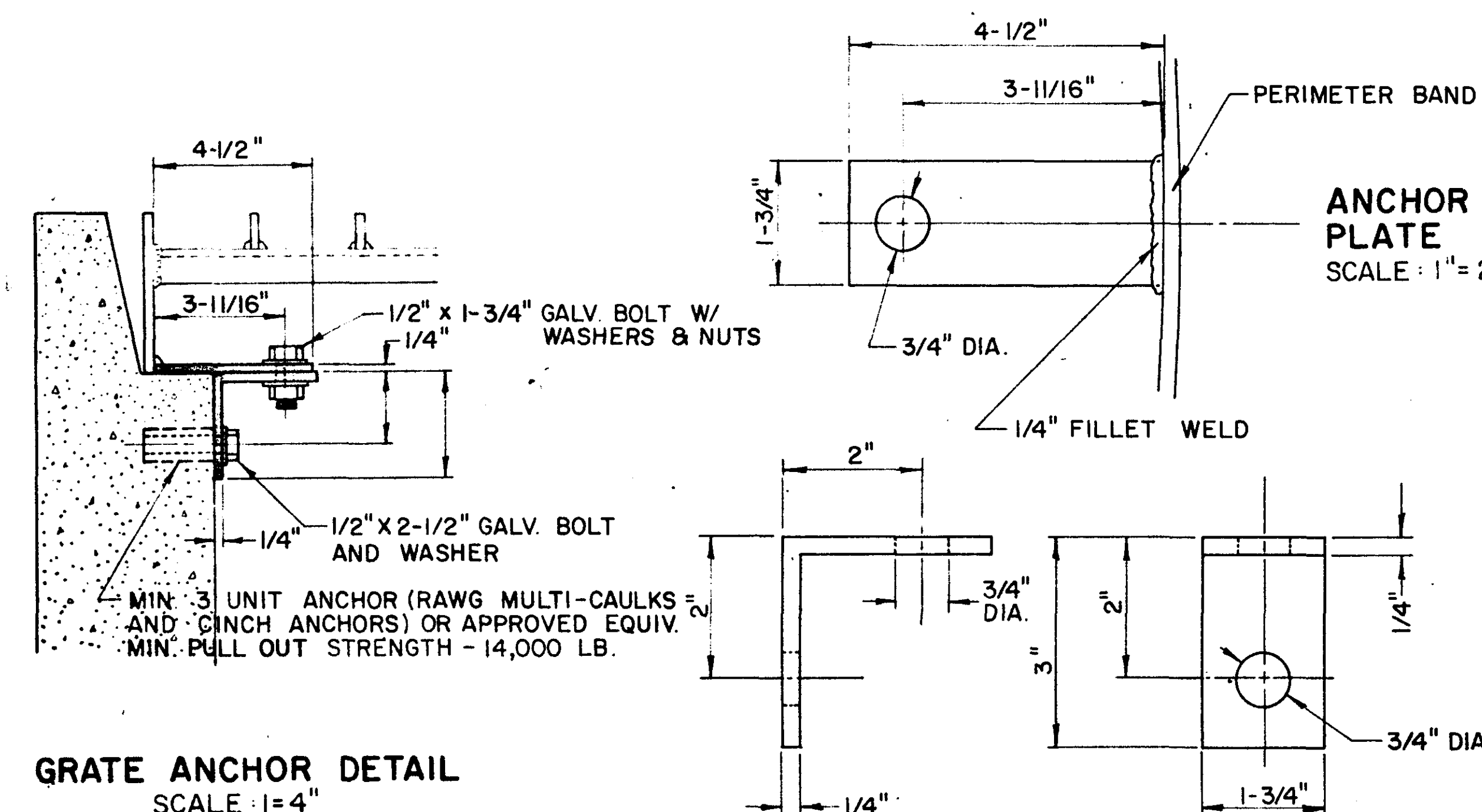
8" PVC LATERALS SHALL BE CUT IN THE FIELD TO FIT FILTER BED CONFIGURATION

JOINTS MAY BE EITHER CEMENTED OR GASKETED BUT SHALL MEET THE REQUIREMENTS OF ASTM 2855 OR ASTM 3212 RESPECTIVELY.

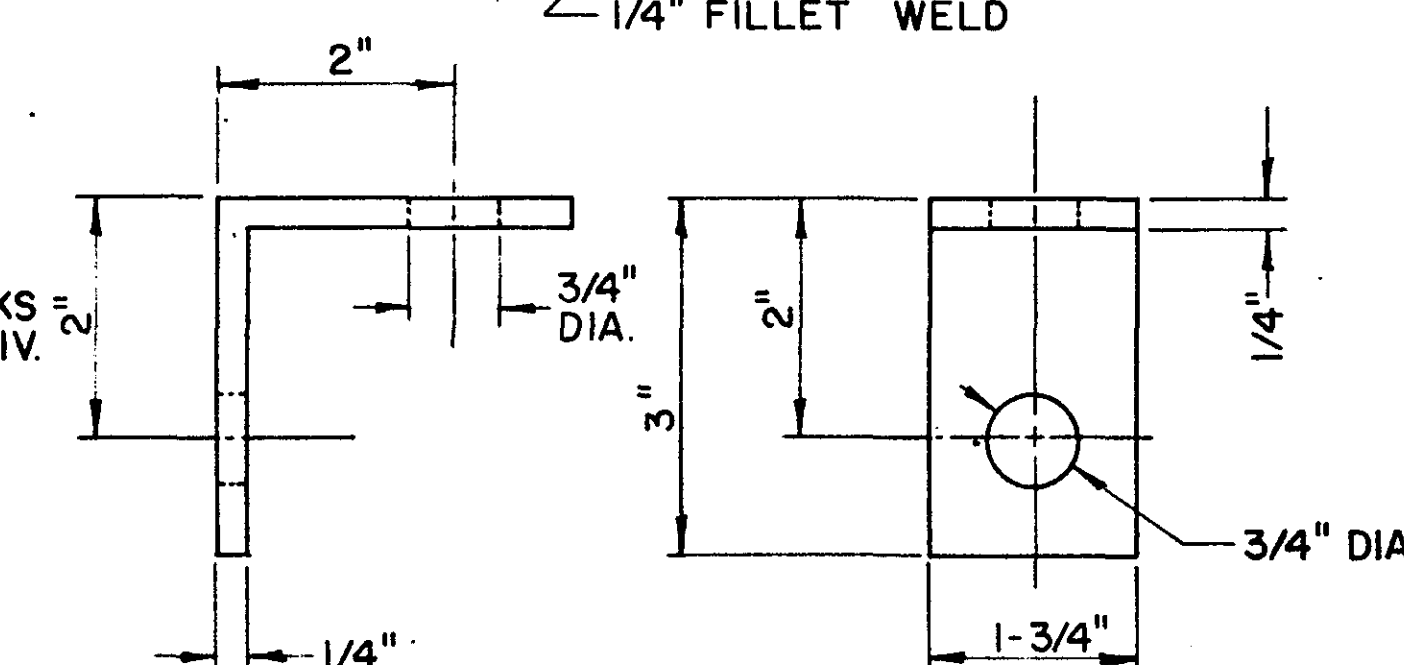
PVC MATERIALS SHALL MEET THE REQUIREMENTS OF ASTM D 3034 AND/OR ASTM F 789-82, AND APPLICABLE DOCUMENTS CITED WITHIN EACH SPECIFICATION.



PVC UNDERDRAIN DETAIL



GRATE ANCHOR DETAIL
SCALE: 1"=4"



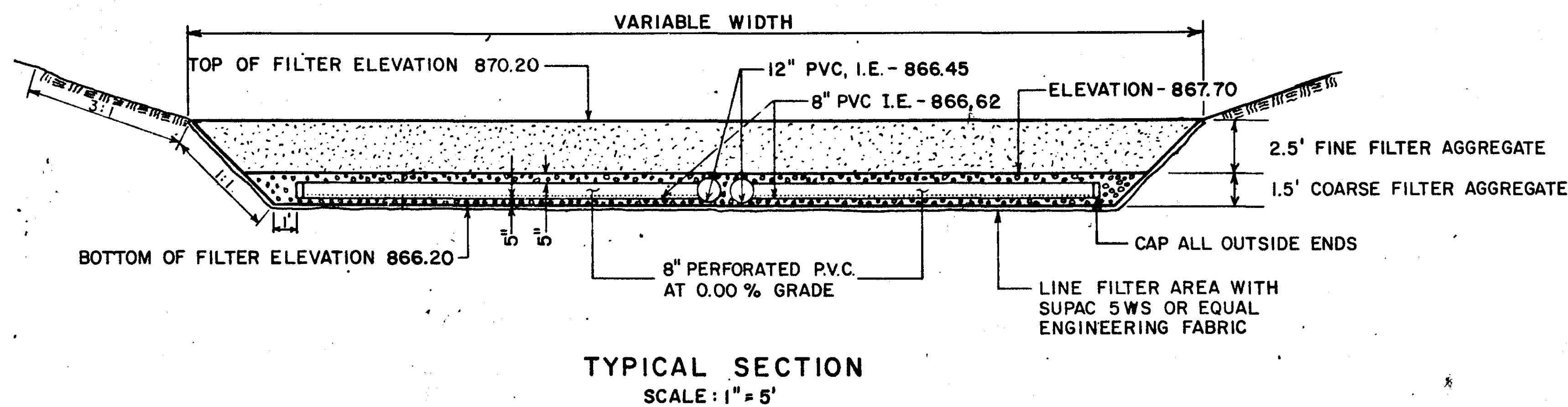
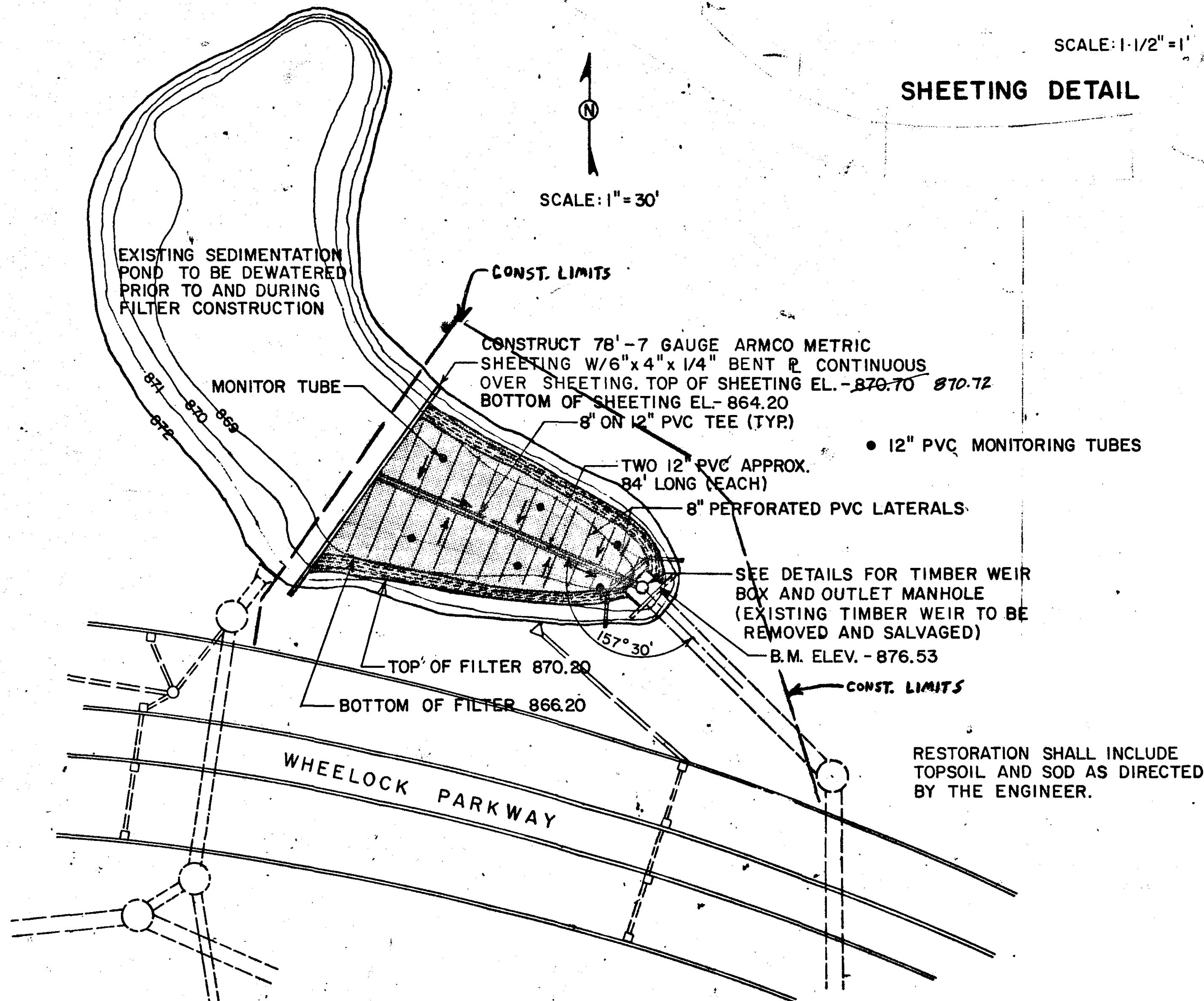
ANGLE SUPPORT
SCALE: 1"=2"

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *[Signature]*
DATE: 12/26/04

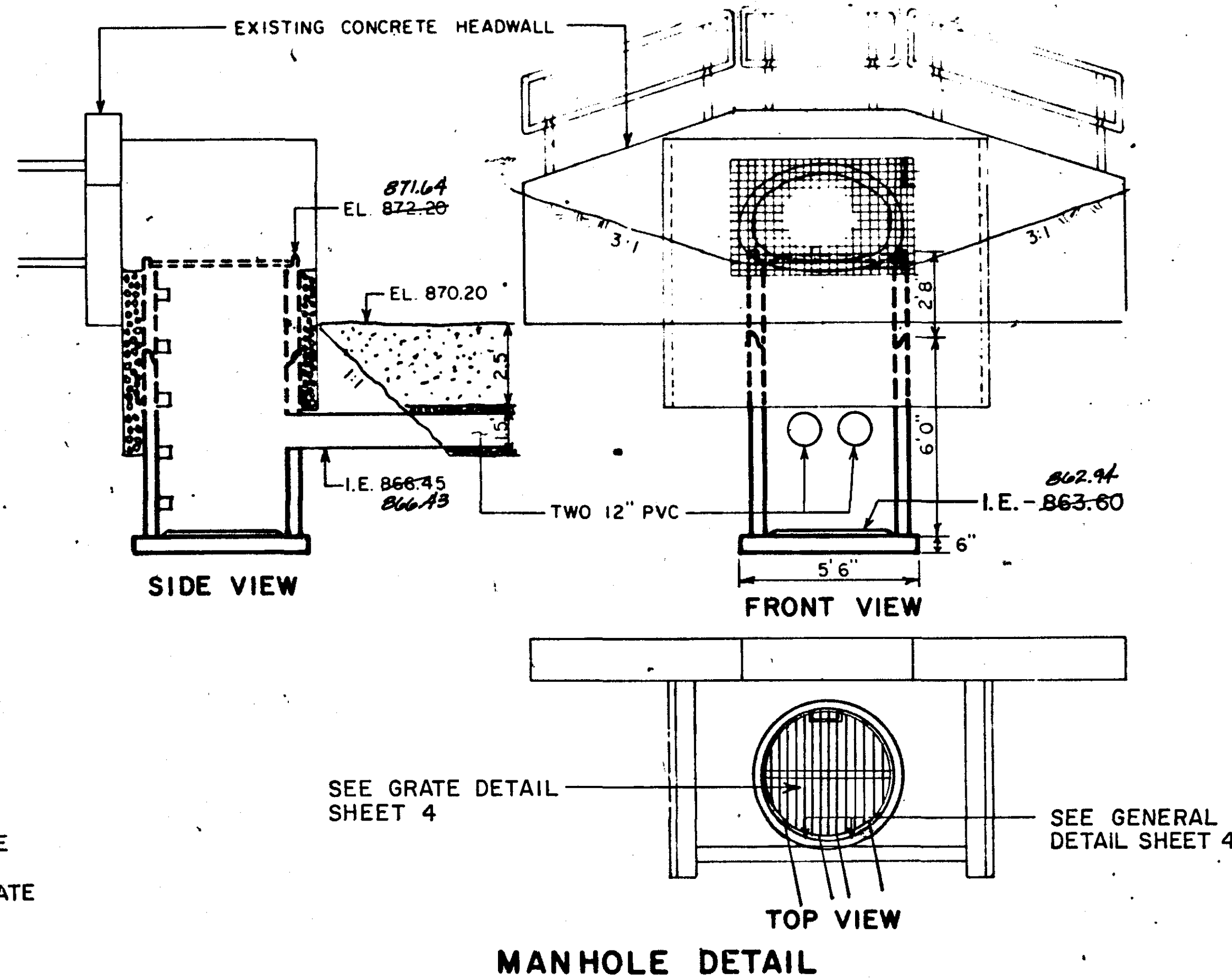
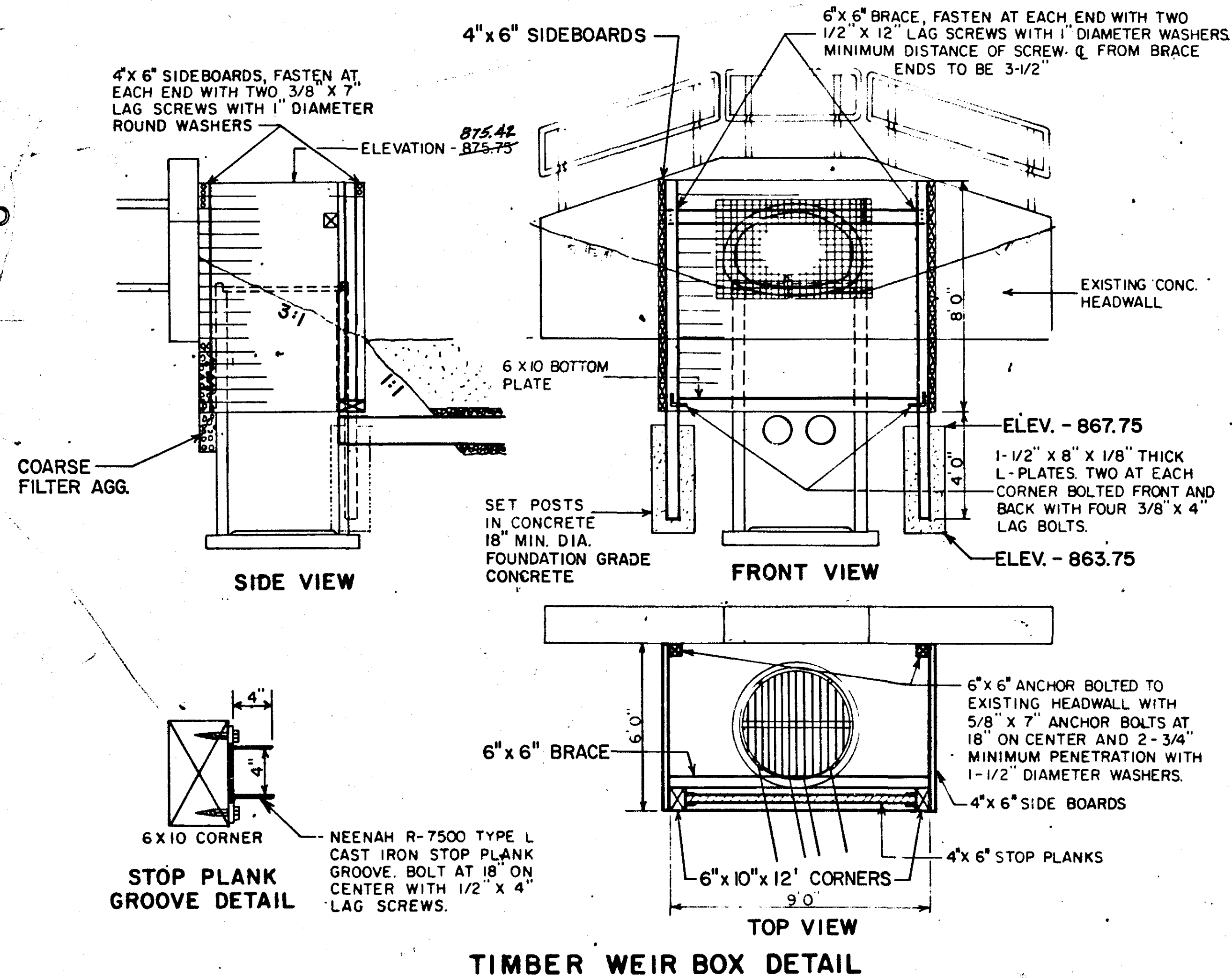
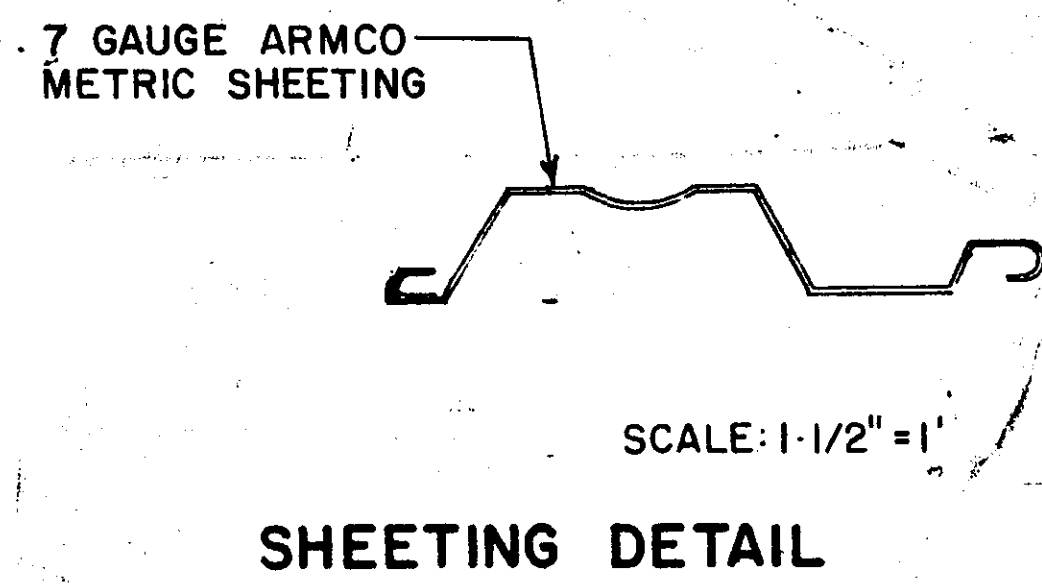
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.
[Signature]
Date: 11/21/03 Reg. No. 16152

REVISIONS	DATE	BY	REVISIONS	DATE	BY

PHALEN GOLF COURSE



NOTE: ALL HARDWARE SHALL BE GALVANIZED



ASBUILT PLAN
CONFORMING TO
CONST RECORDS

DONE BY: *[Signature]*

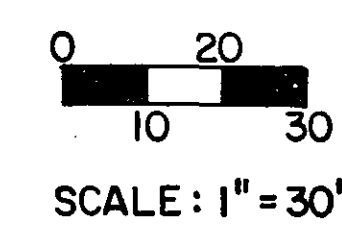
DATE: 12/26/84

I hereby certify that this plan, specification, or report 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.

Daniel J. Schacht

Date 11/23/85 Reg. No. 11659

LAKE PHALEN



NOTE: JOHNSON PKWY. CROSSING SHALL BE JACKED - NO OPEN CUTTING WILL BE ALLOWED WITHIN THE ROAD BED.

BIKE PATH SHALL BE MATCHED TO EXISTING - BASE SHALL BE 4" CL-5 W/4" 2341 WEAR BIT. SURFACE.

• 12" PVC MONITORING TUBES

RESTORATION SHALL INCLUDE MINOR SOD REPLACEMENT ADJACENT TO JOHNSON PARKWAY & BIKE PATH. REMAINING AREAS SHALL BE TOPSOILED SEEDED & MULCHED.

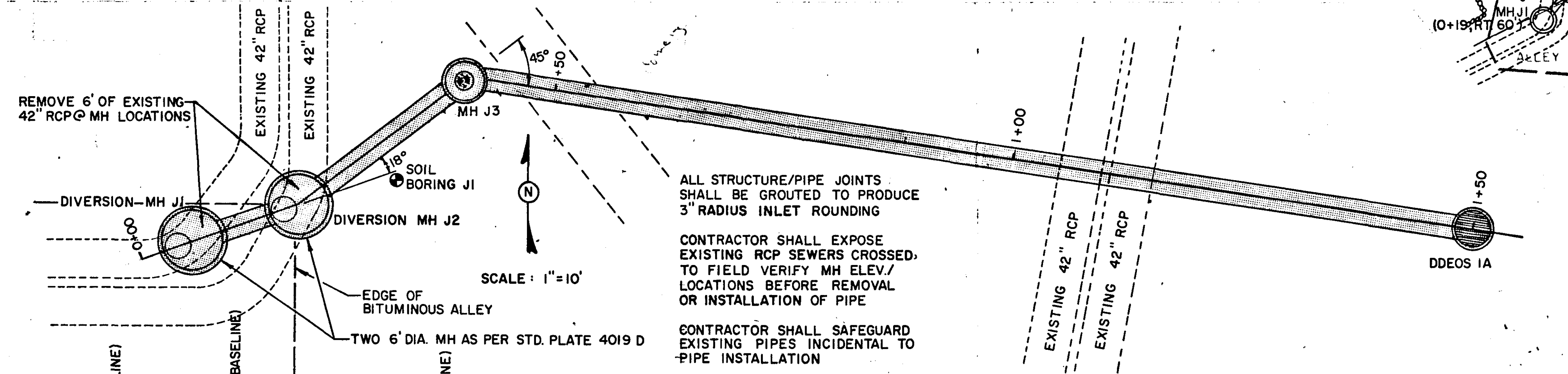
NO. 1	NO. 2	NO. 3	NO. 4
0+30, 40'R	1+70, 30'L	3+25, 40'L	2+60, 30'R
TOP EL. = 865	TOP EL. = 860	TOP EL. = 860	TOP EL. = 860
0'-1" TOPSOIL LOAM	0'-1" TS & SAND	0'-1" TS & SAND	0'-1" TOPSOIL
1'-2" LOAM		1'-2" SAND W/PEAT	1'-2" SAND, GR. & CLAY
			2'-3" SAND & PEAT
2'-8" LOAMY SAND	1'-8" SAND	3'-9" SAND	3'-4" SAND W/SILT
			4'-7" BROWN SAND
8'-9" CLAY			7'-9" SAND W/CLAY (WET)
9'-12" WET SAND	8'-12" WET SAND	9'-11" SAND & GR.	9'-11" COARSER SAND (WET)
		11'-12" SAND	

SOIL BORING INFORMATION

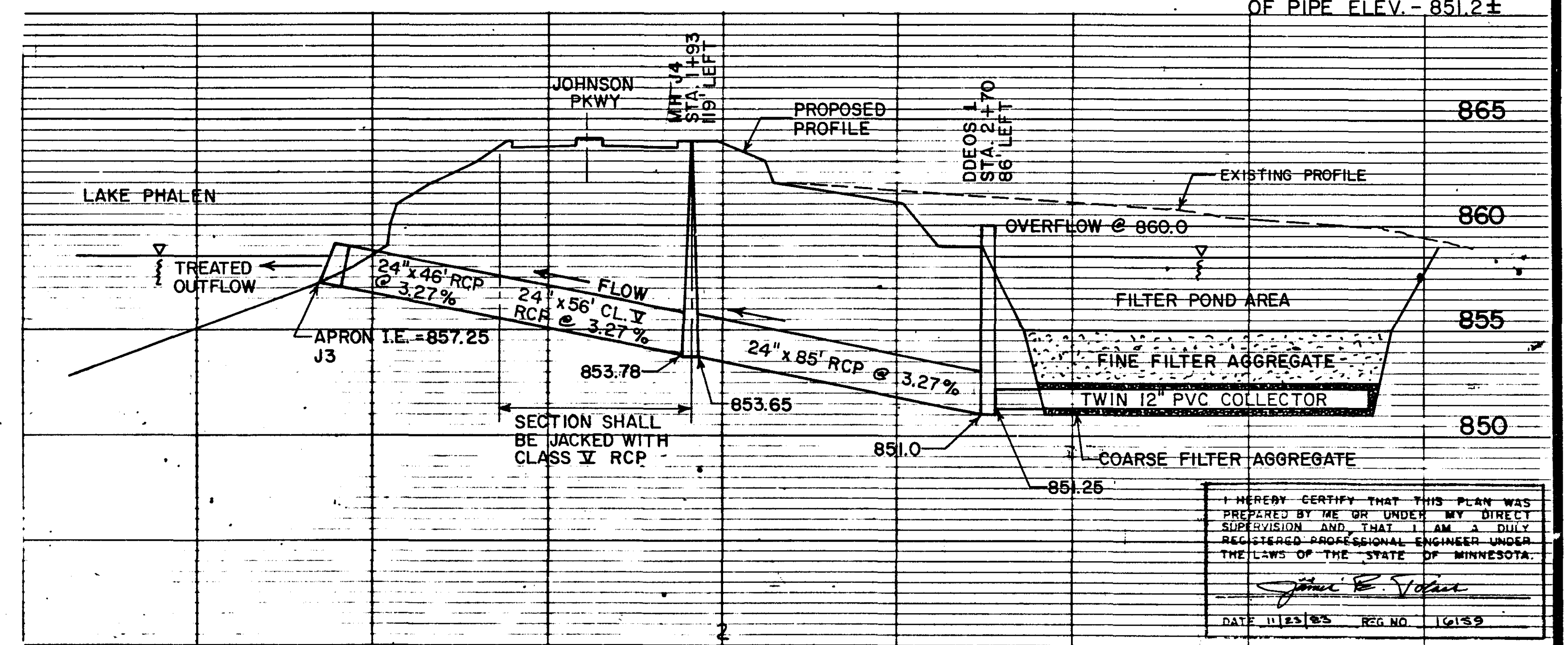
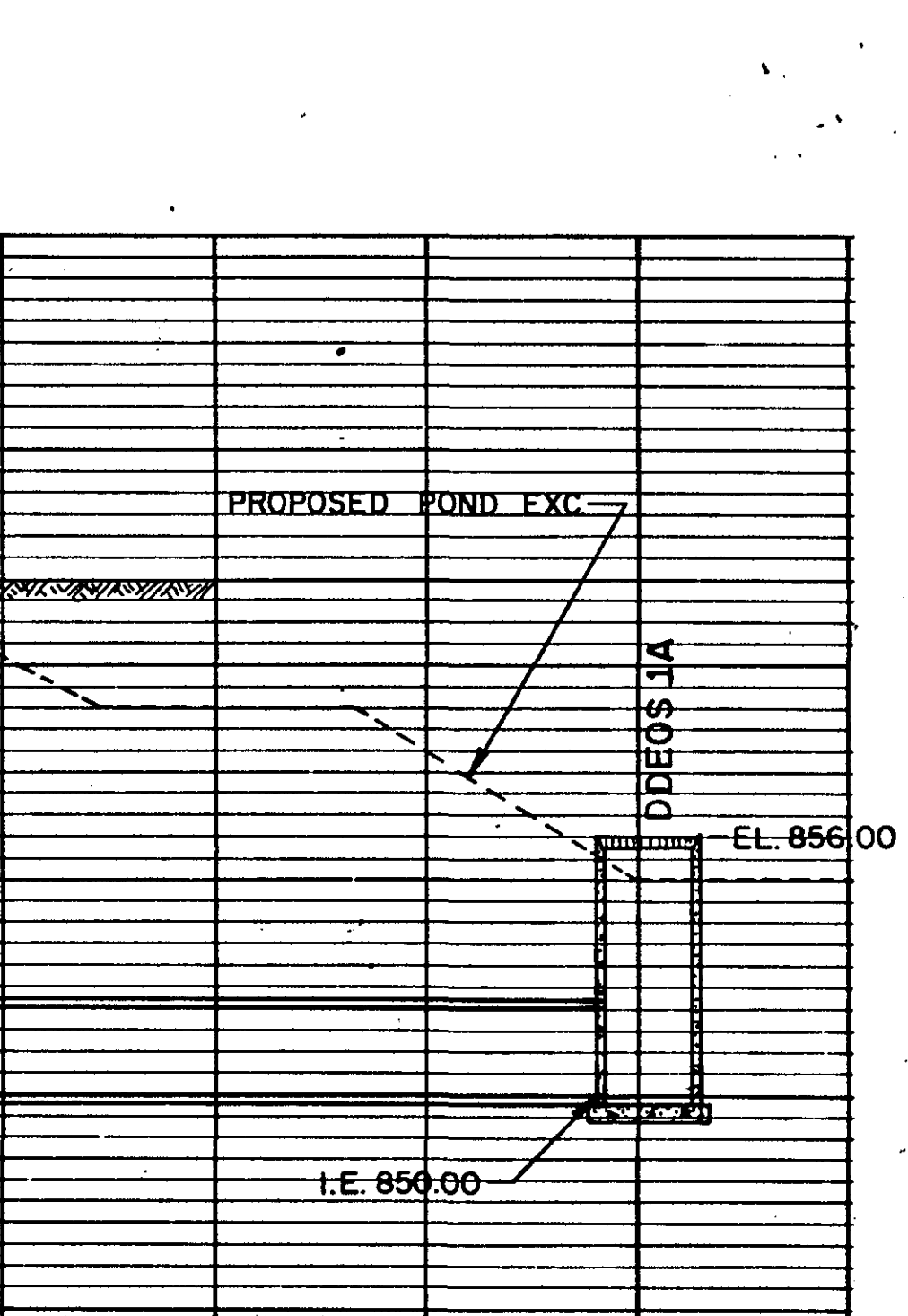
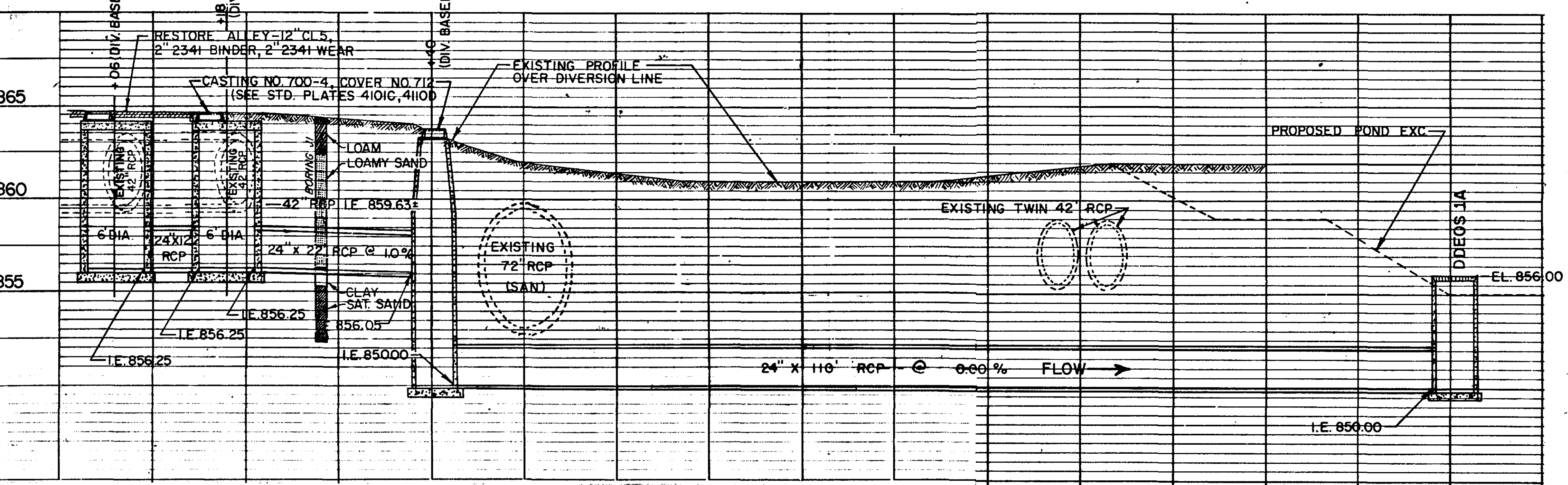
PLANT 15 - 3" BASSWOOD (TILIA AMERICANA). NO SUBSTITUTION ON SPECIES PERMITTED. LOCATIONS TO BE STAKED BY ST. PAUL PARKS DEPT.

B.M. TOP OF MH CASTING. EL. = 865.30

SALVAGE & REINSTALL ALLEY SIGNS/BARRICADES. PAYMENT SHALL BE INCIDENTAL TO MH INSTALLATION.

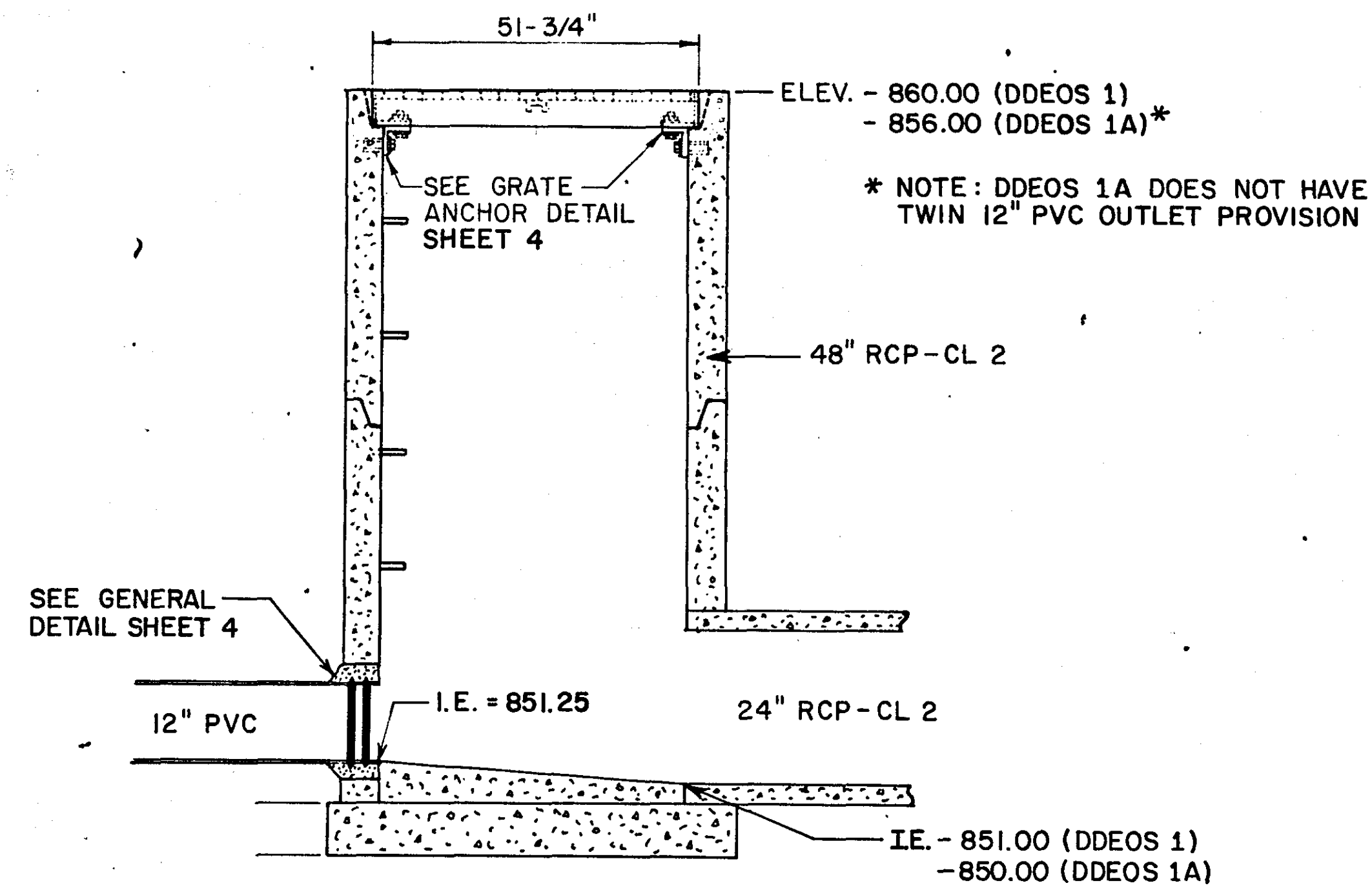


ALL STRUCTURE/PIPE JOINTS SHALL BE GROUTED TO PRODUCE 3" RADIUS INLET ROUNDING
 CONTRACTOR SHALL EXPOSE EXISTING RCP SEWERS CROSSED. TO FIELD VERIFY MH ELEV./ LOCATIONS BEFORE REMOVAL OR INSTALLATION OF PIPE
 CONTRACTOR SHALL SAFEGUARD EXISTING PIPES INCIDENTAL TO PIPE INSTALLATION

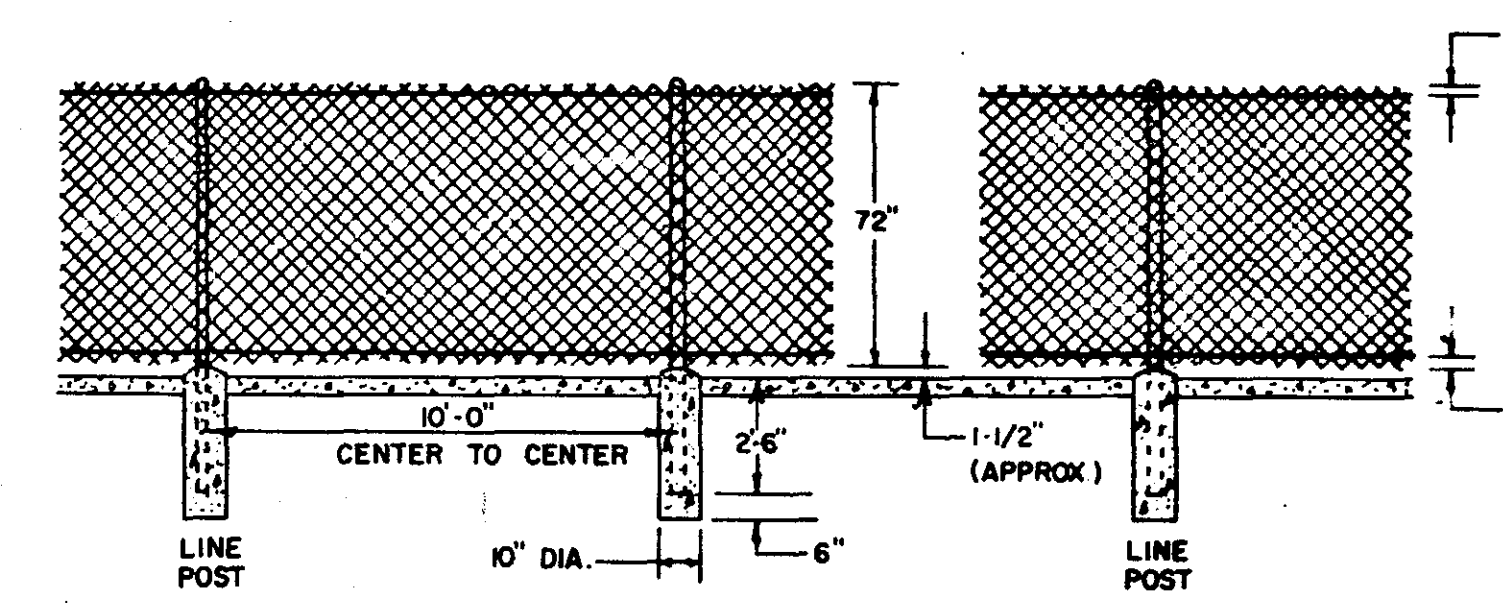


I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE 11/23/85 REG. NO. 16159

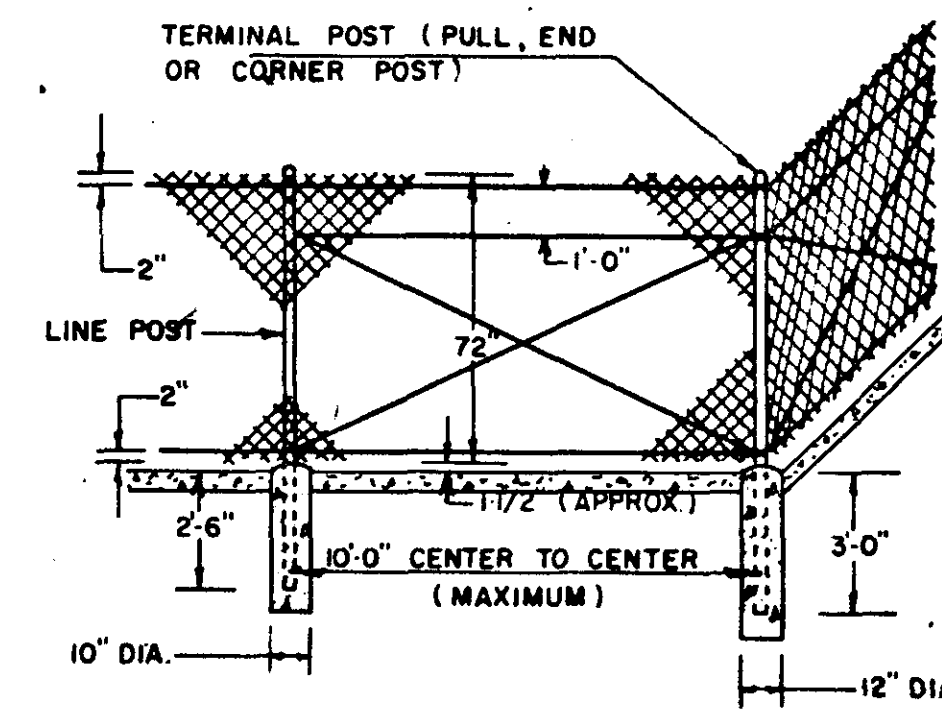
GRATE & HARDWARE SHALL BE GALVANIZED
IN ACCORDANCE WITH ASTM A 153 - SEE MDOT
SPECIFICATION 3392



**DIVERSION DISCHARGE/ EMERGENCY
OVERFLOW STRUCTURE DETAIL
DDEOS STRUCTURES 1 & 1A**
SCALE: 1" = 2'



LINE SECTION

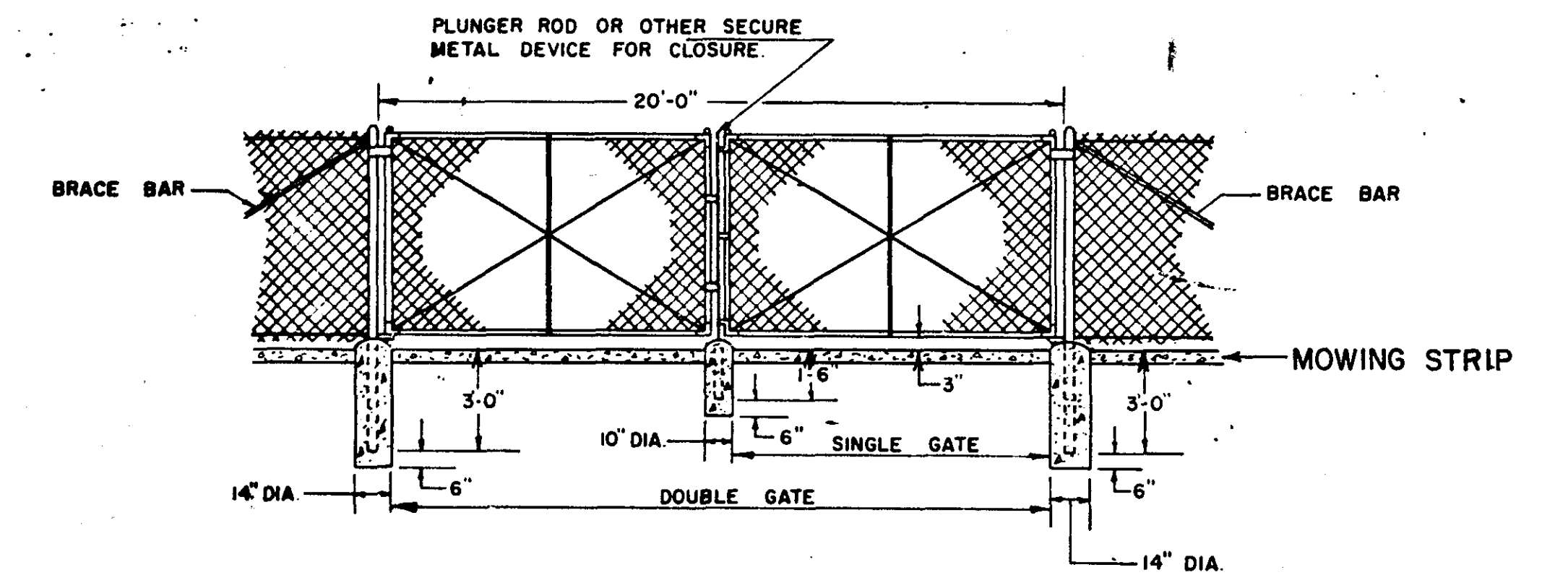


**PULL, END OR CORNER POST
& ADJACENT LINE POST**

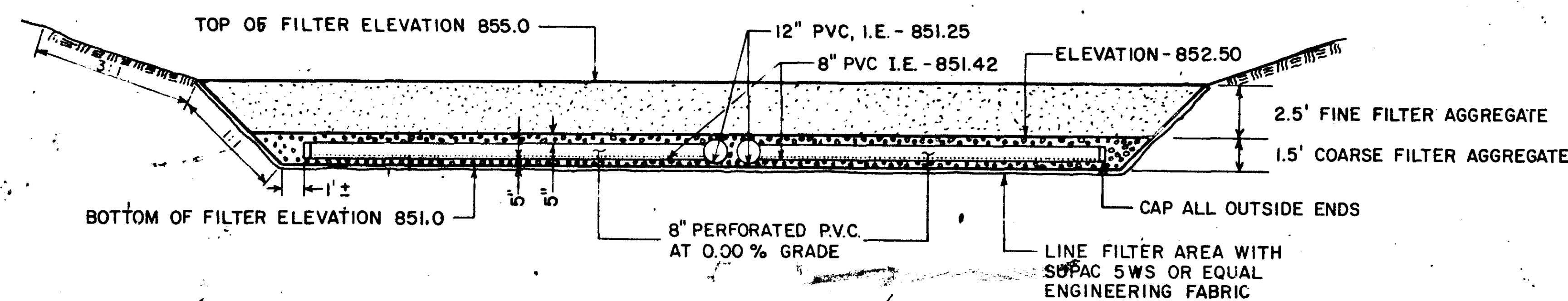
MOWING STRIP SHALL BE
INCIDENTAL TO FENCE INSTALLATION

CONCRETE MIX SHALL
BE MN/DOT 3A35

CONCRETE MOWING STRIP

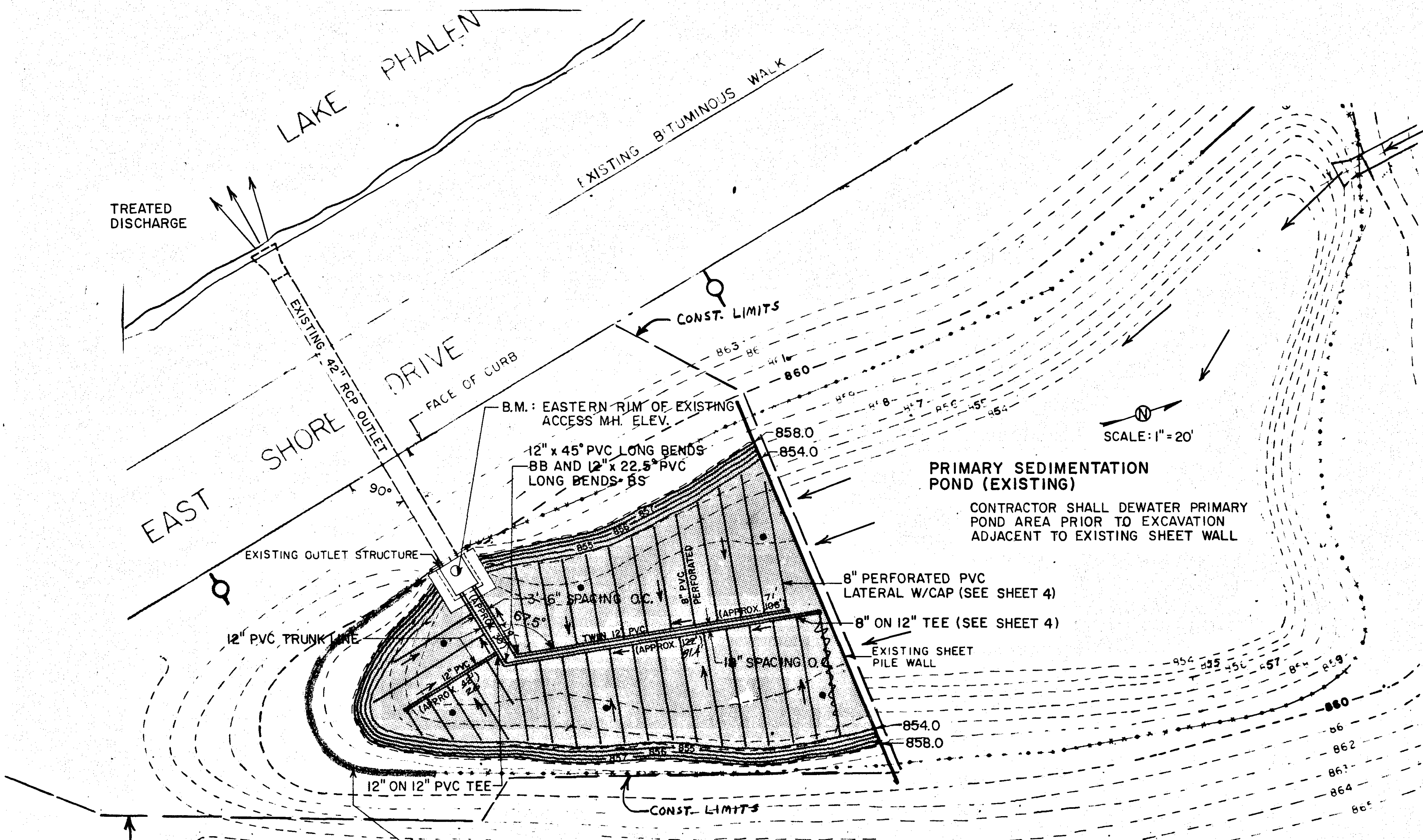


VEHICULAR GATE



TYPICAL SECTION
SCALE: 1" = 5'

I HEREBY CERTIFY THAT THIS 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.
James E. Tolson
DATE 11/23/09 REG. NO. 16159



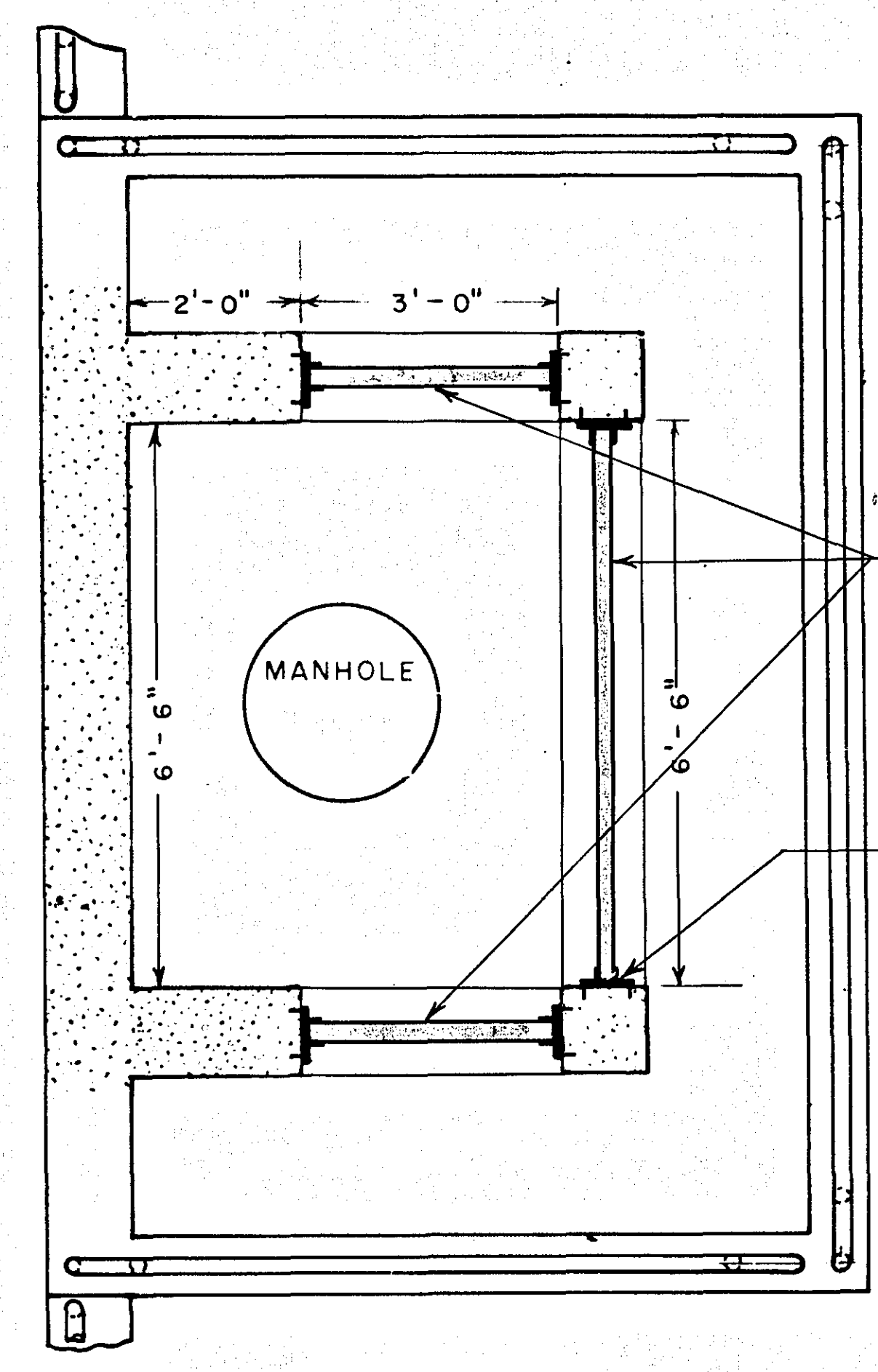
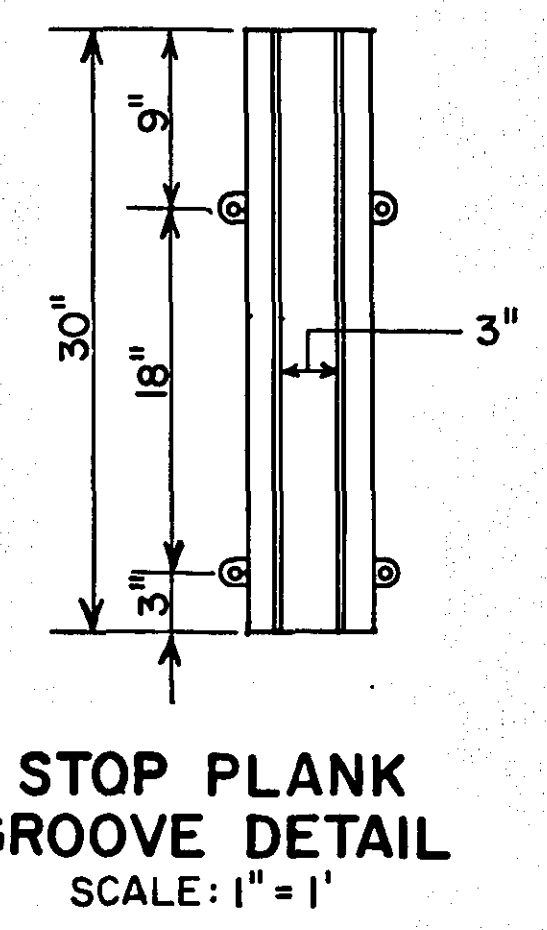
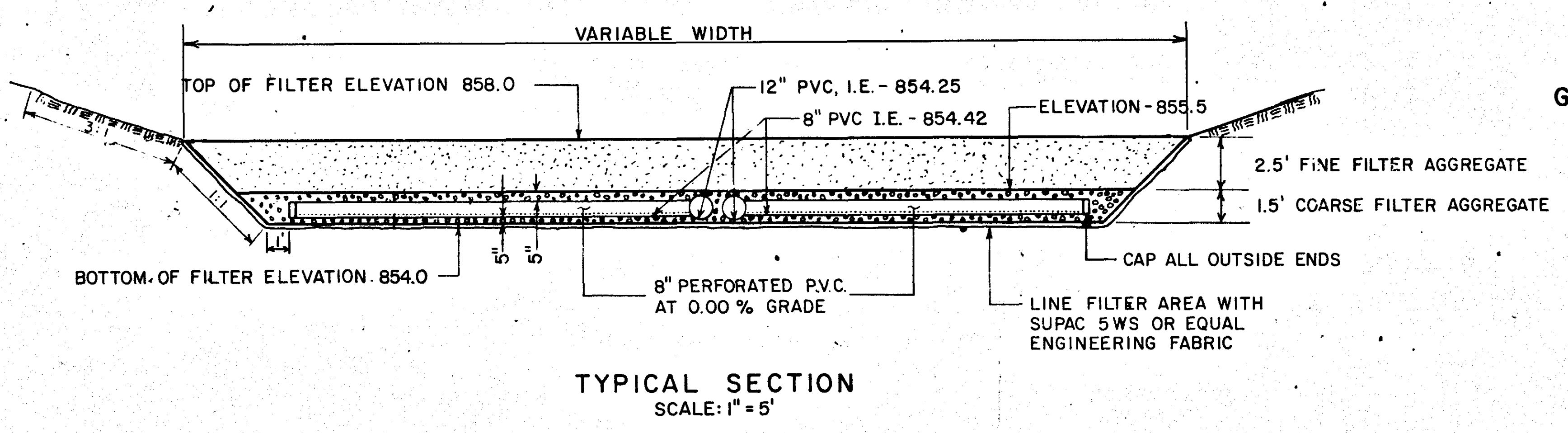
EXISTING 42" RCP DIVERSION TO POND AREA

PRIMARY SEDIMENTATION POND (EXISTING)
CONTRACTOR SHALL DEWATER PRIMARY POND AREA PRIOR TO EXCAVATION ADJACENT TO EXISTING SHEET WALL

CONTRACTOR SHALL SECURE A SUITABLE DISPOSAL SITE FOR MATERIALS EXCAVATED IN PREPARATION OF FILTER BED
ALL TURF AREAS TO BE TOPSOILED SEEDED & MULCHED AS DIRECTED BY THE ENGINEER.

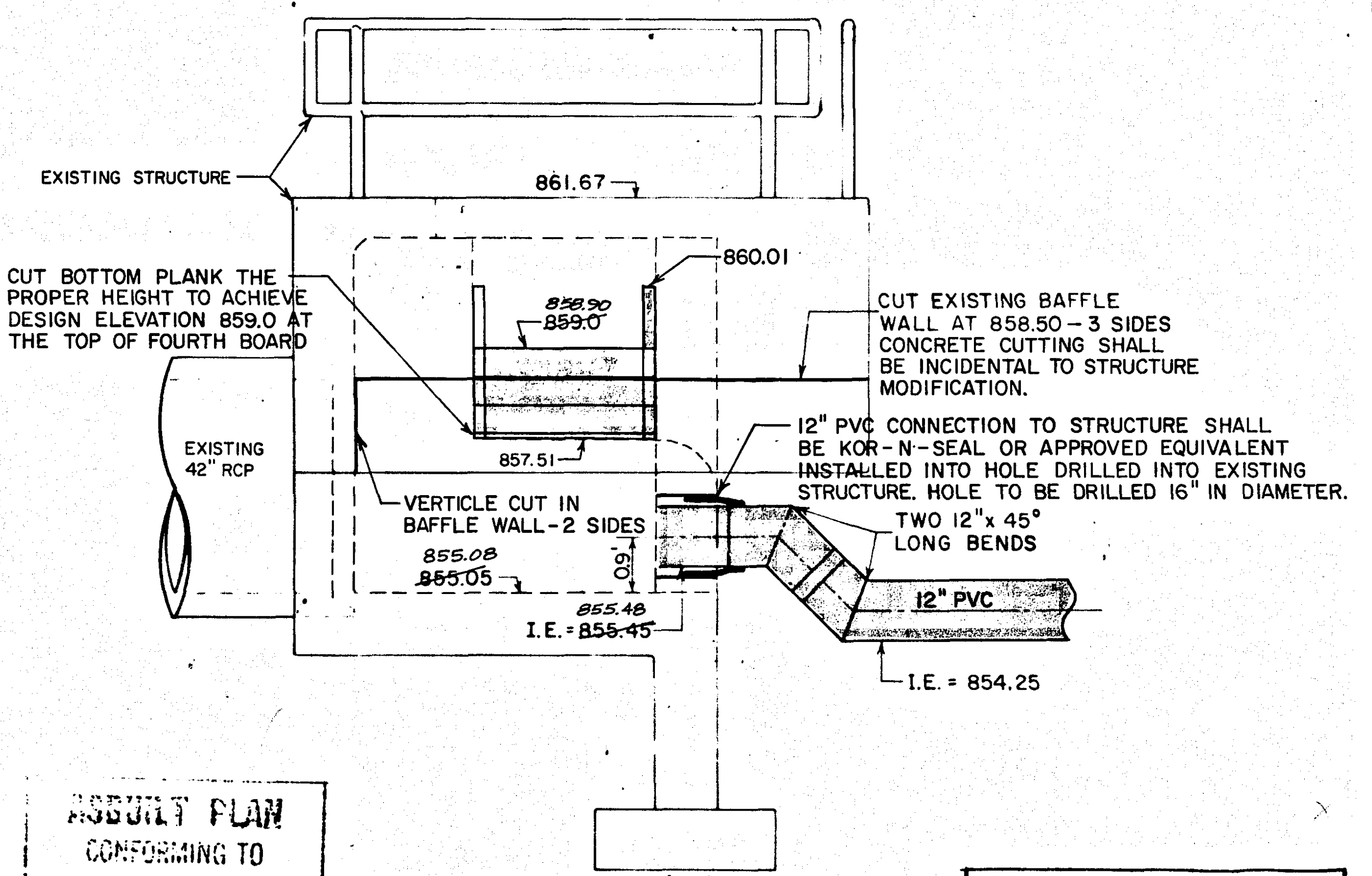
SALVAGE EXISTING 6' CYCLONE FENCE. CONTRACTOR SHALL REINSTALL UPON PROJECT COMPLETION - CONTRACTOR SHALL REPLACE W/O ADDITIONAL COMPENSATION ANY FENCE MATERIALS DAMAGED DURING SALVAGE, STORAGE, AND/OR INSTALLATION

• 12" PVC MONITORING TUBES



HDI STAINLESS STEEL DROP IN ANCHORS W/STAINLESS STEEL 1/2" BOLTS (HDI CAT. NO. 5490064)
FURNISH & INSTALL 3"x6" TREATED STOP PLANKS TO ELEVATION 859.00. SHAPE BOTTOM OF BOTTOM PLANK TO CONFORM TO CONCRETE SURFACE AND PLACE ON DOUBLE BEAD OF SILICONE CAULK.
FURNISH & INSTALL NEENAH R-7500 STOP PLANK GROOVES-TYPE L, Y=3", Z=2-1/2".

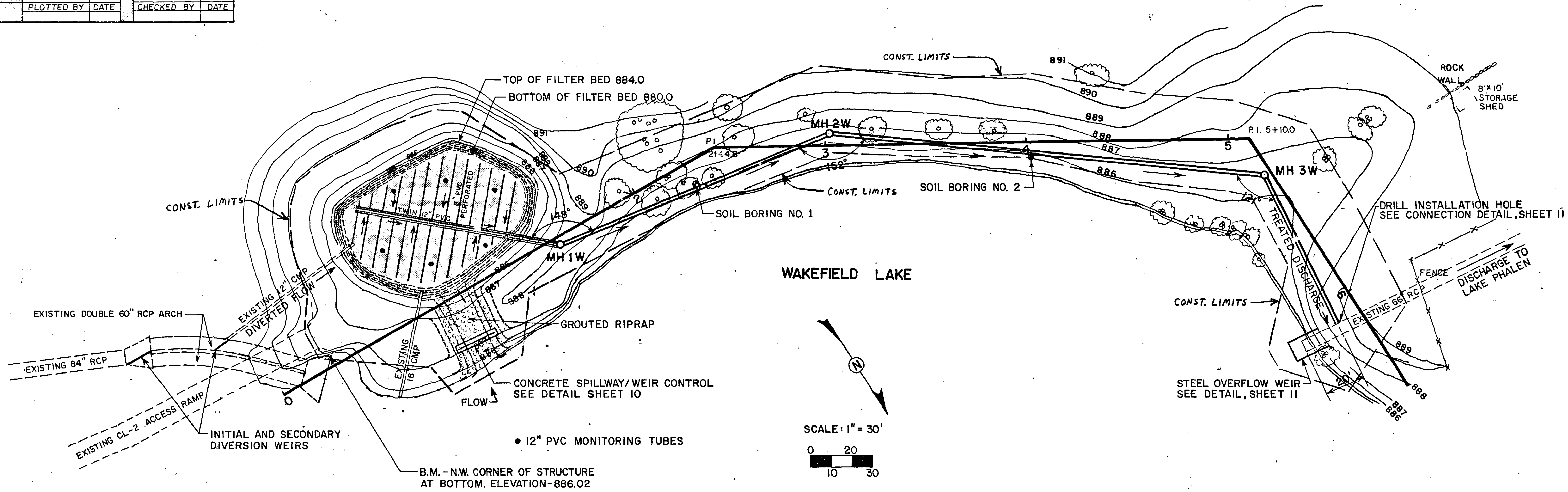
OUTLET STRUCTURE MODIFICATION



ASBUILT PLAN CONFORMING TO CONCT. RECORDS
DONE BY: [Signature]
DATE: 12/24/04

I HEREBY CERTIFY THAT THIS 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.
Daniel D. Schacht
DATE 11/23/03 REG. NO. 11659

TOPOGRAPHY	PLOTTED BY	DATE	CHECKED BY	DATE
UTILITIES	PLOTTED BY	DATE	CHECKED BY	DATE
PROFILE	PLOTTED BY	DATE	CHECKED BY	DATE



ALL PIPE SHALL BE LAID IN A DRY TRENCH CONDITION

CONTRACTOR SHALL DEWATER POND AND MAINTAIN IN SUCH A CONDITION THROUGHOUT PLACEMENT OF ALL FILTER MATERIALS. THIS SHALL BE CONSIDERED INCIDENTAL TO COMMON EXCAVATION AND FILTER PLACEMENT

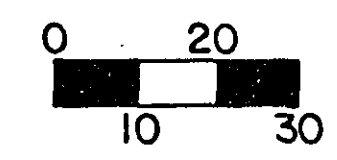
CONTRACTOR SHALL NOT DISTURB VEGETATION IMMEDIATELY ADJACENT TO WATER SURFACE ALONG 24" PVC ALIGNMENT. CONTRACTOR SHALL REMOVE ONLY THOSE TREES MARKED FOR REMOVAL, ALL OTHER SHALL BE SAFEGUARDED

ALL DISTURBED AREAS SHALL BE DRESSED WITH 3" OF TOPSOIL FOLLOWED BY SEED & MULCH APPLICATION. INITIATION OF SUCH RESTORATION MEASURES SHALL BE WITHIN 48 HRS. OF FINAL GRADING OPERATIONS

TREES MARKED FOR CLEARING AND GRUBBING

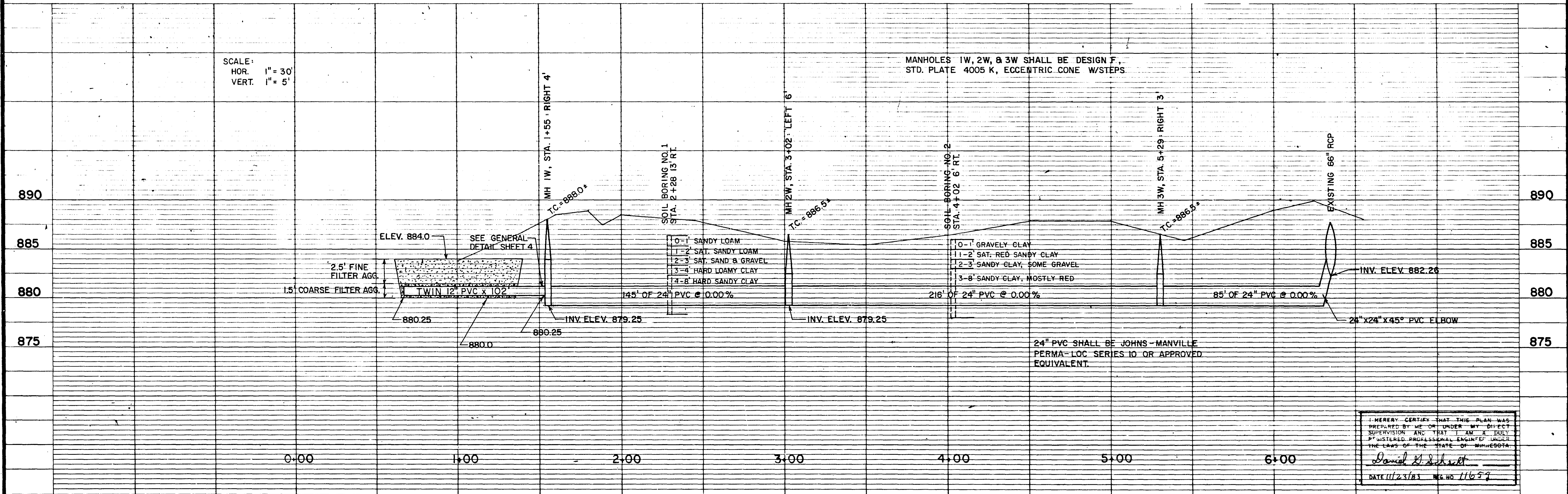
WAKEFIELD LAKE

SCALE: 1" = 30'



SCALE:
HOR. 1" = 30'
VERT. 1" = 5'

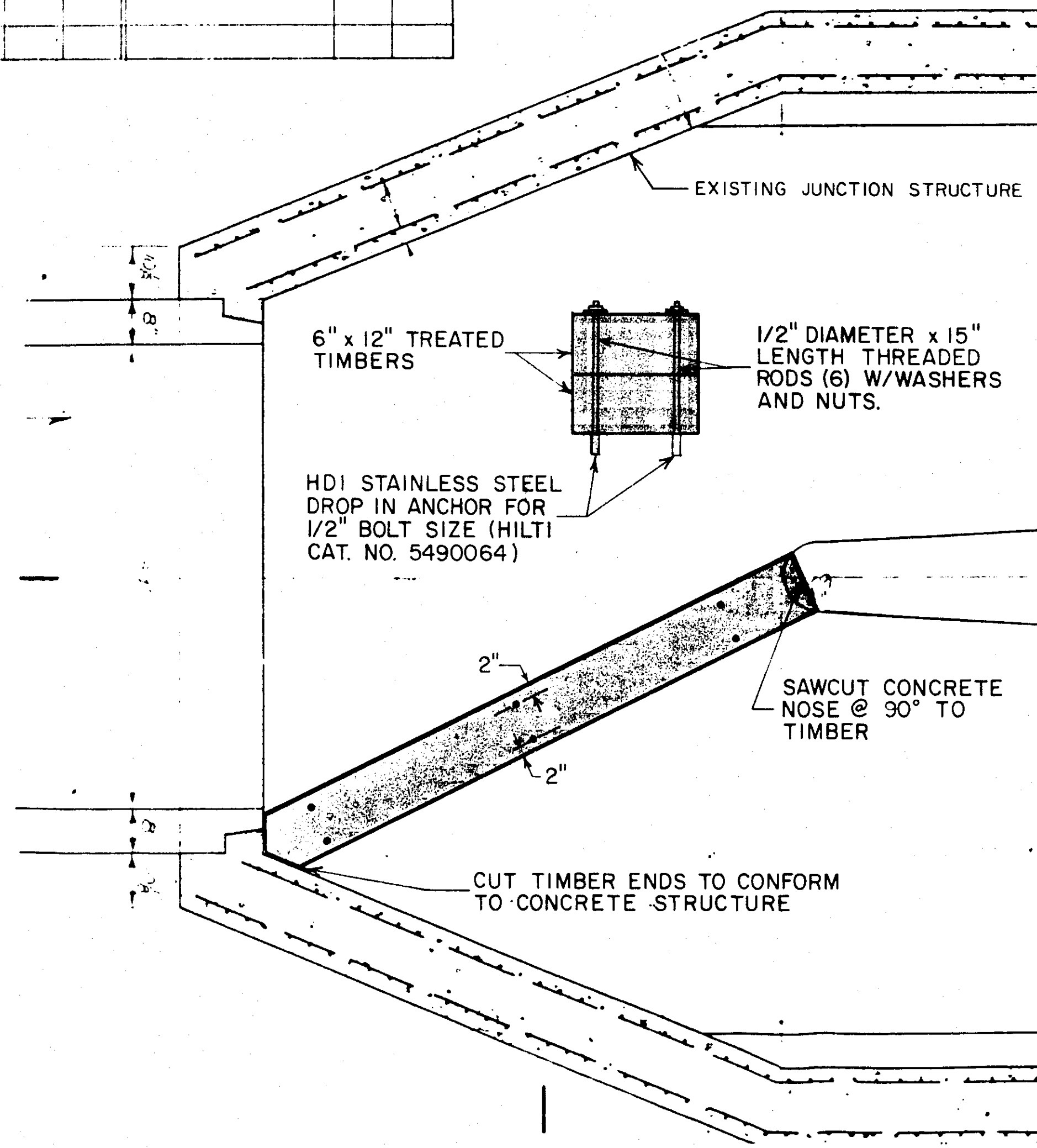
MANHOLES 1W, 2W, & 3W SHALL BE DESIGN F, STD. PLATE 4005 K, ECCENTRIC CONE W/STEPS



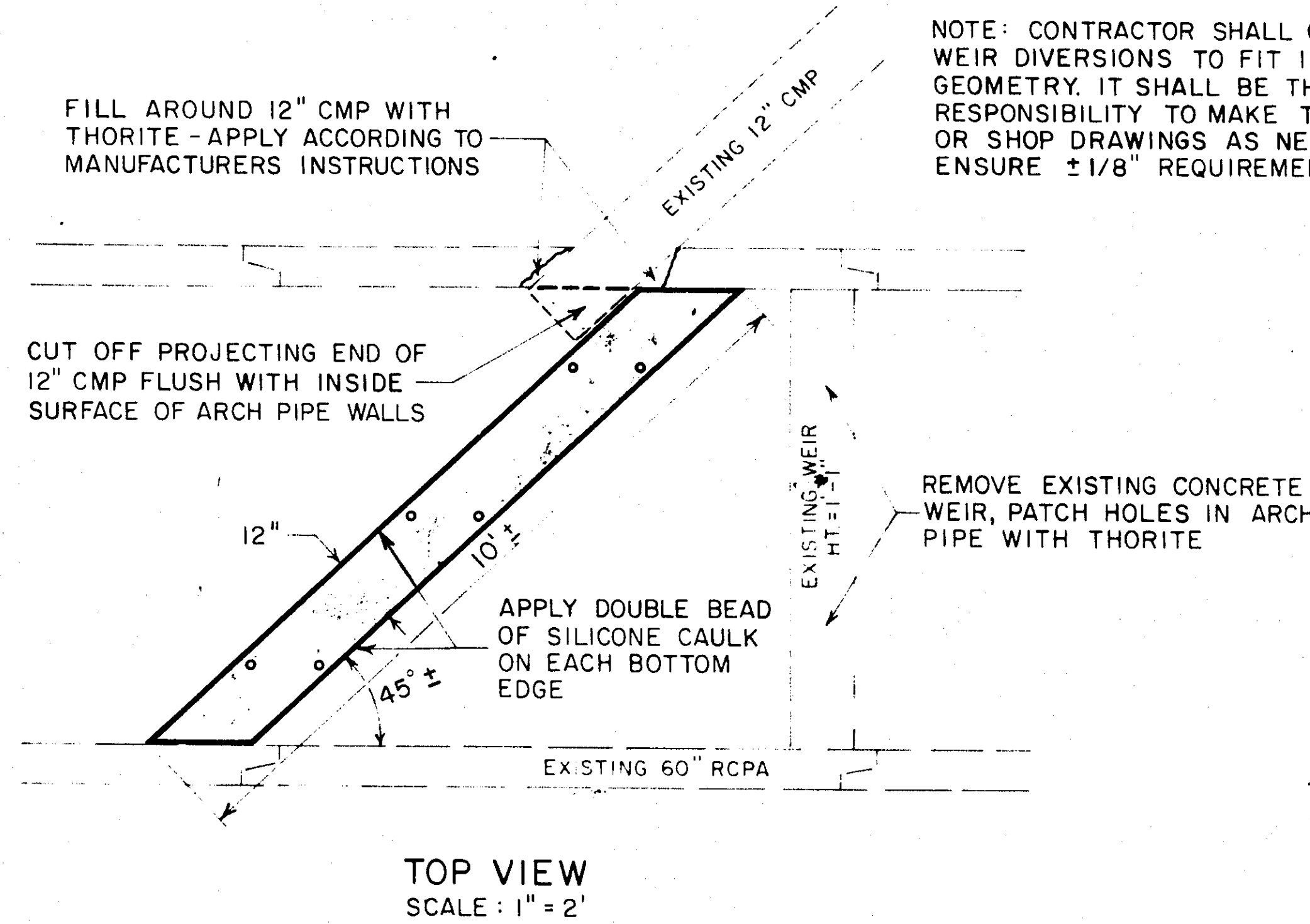
24" PVC SHALL BE JOHNS-MANVILLE PERMA-LOC SERIES 10 OR APPROVED EQUIVALENT.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David E. Schmitt
DATE 11/23/83 REG. NO. 11659

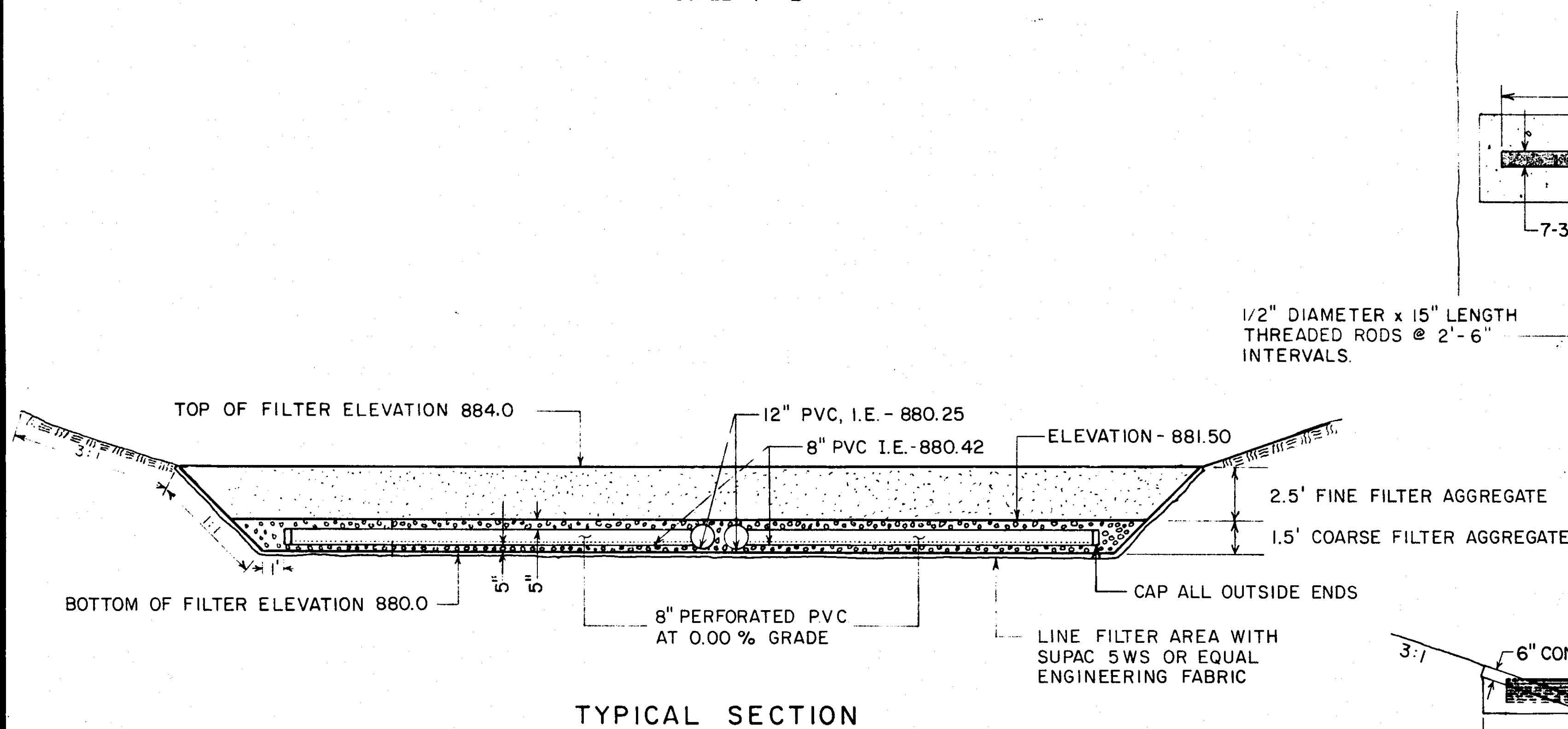
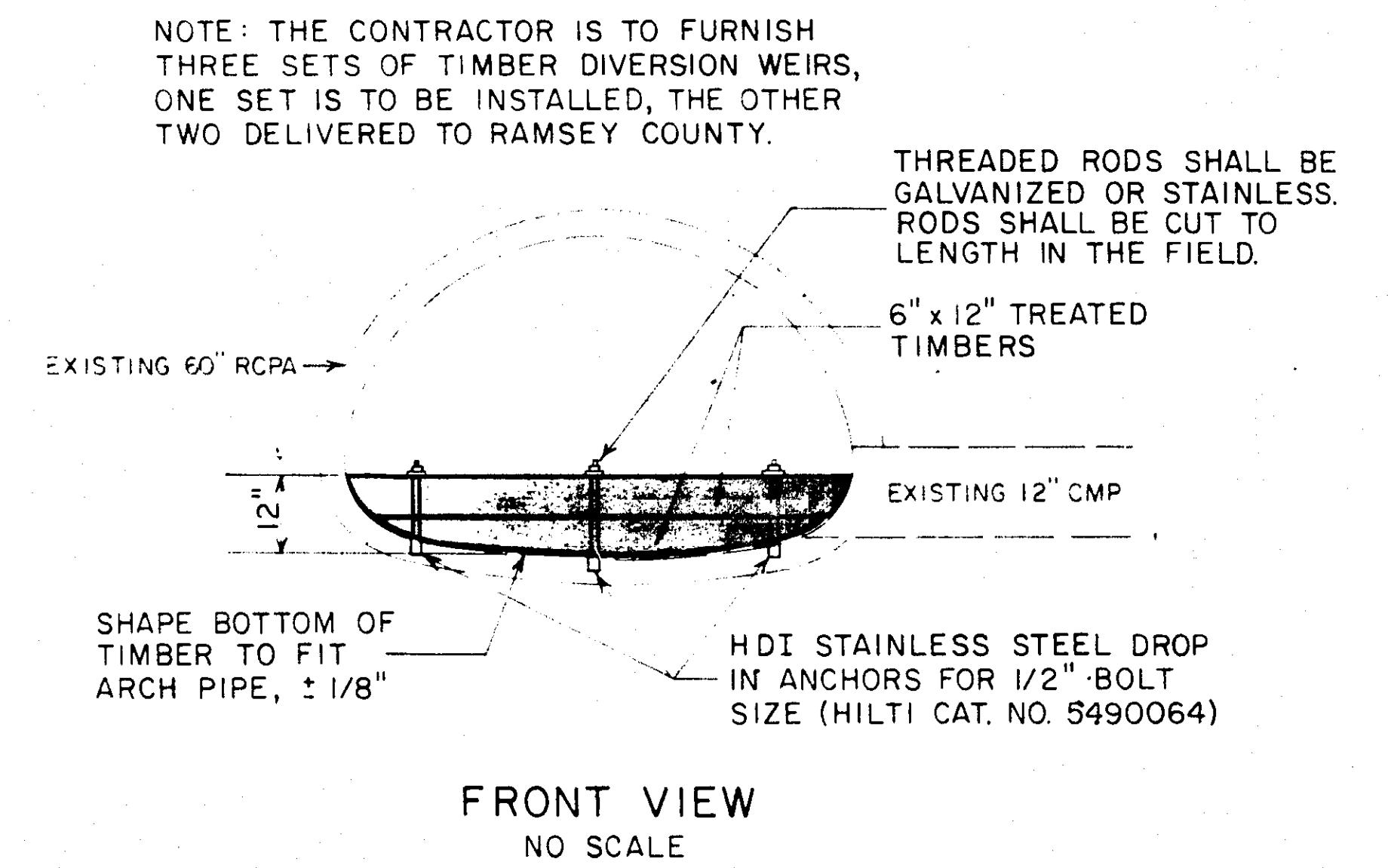
REVISIONS	DATE	BY	REVISIONS	DATE	BY



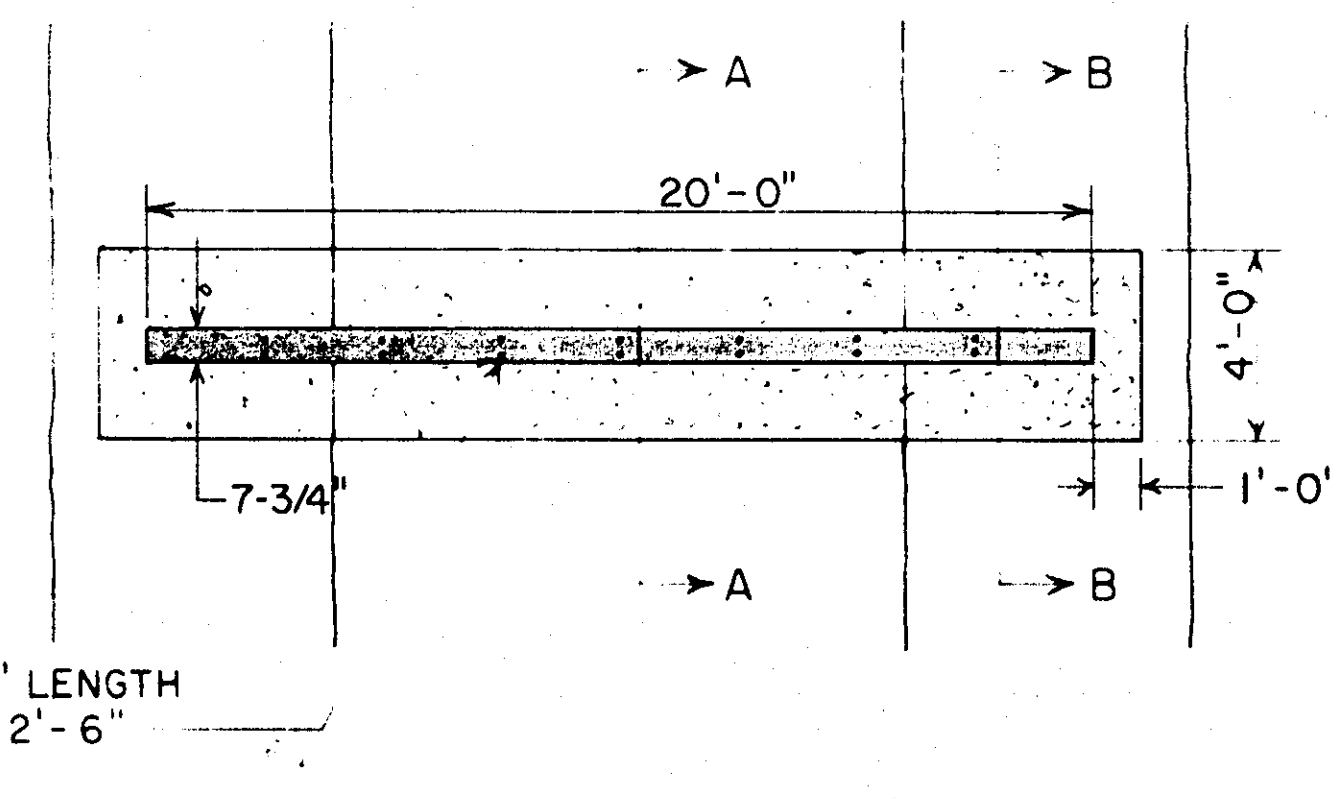
INITIAL DIVERSION WEIR
SCALE: 1" = 2'



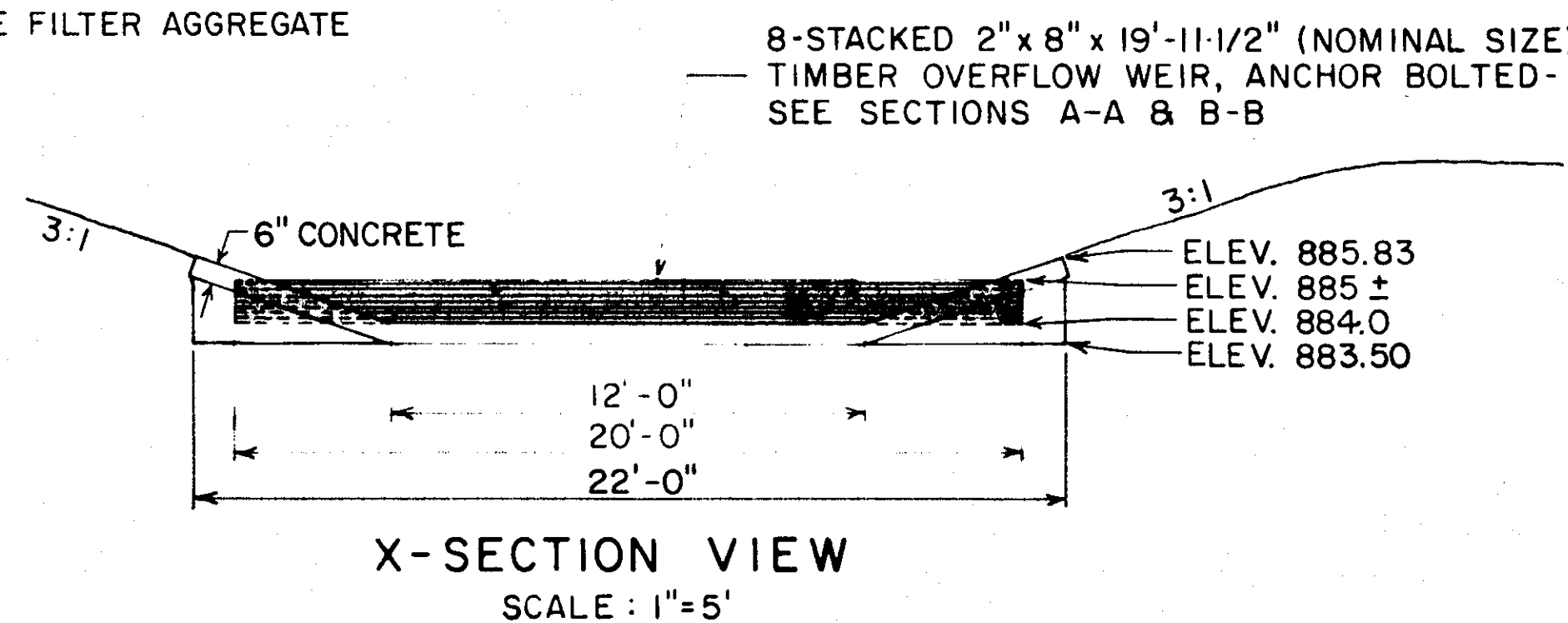
SECONDARY DIVERSION WEIR



TYPICAL SECTION

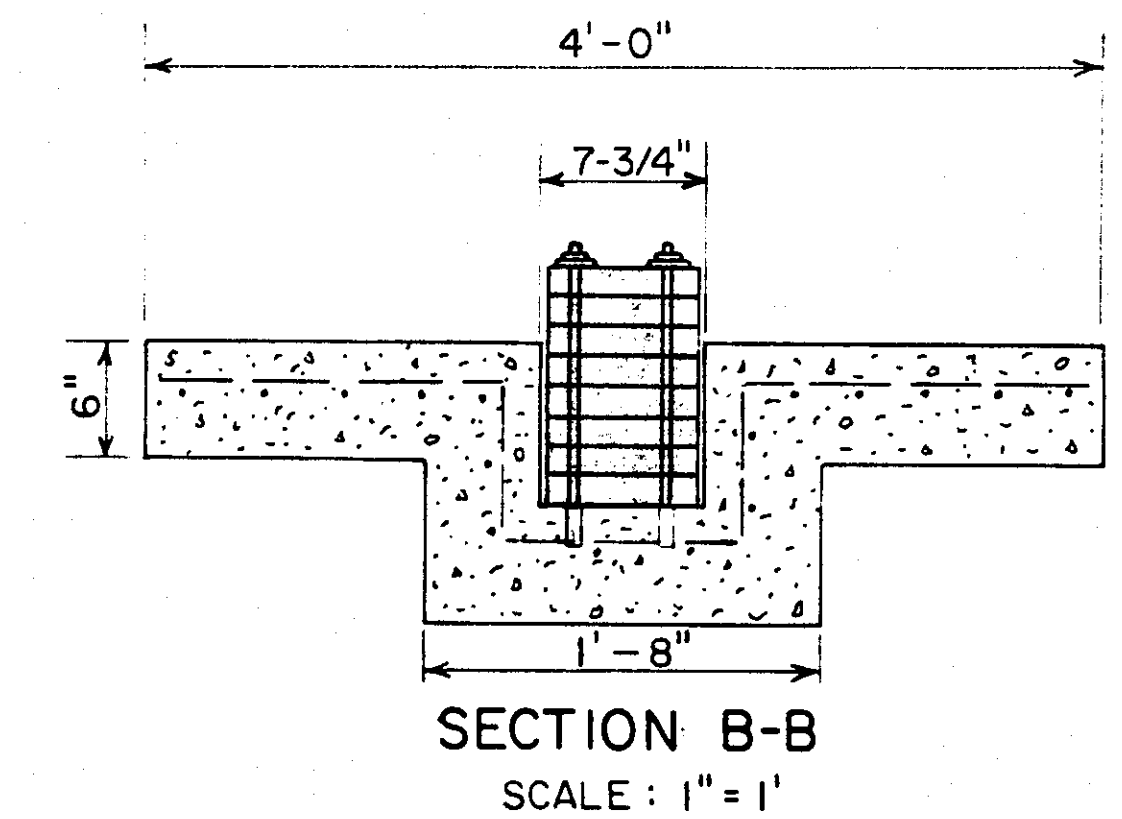


TOP VIEW
SCALE: 1" = 5'

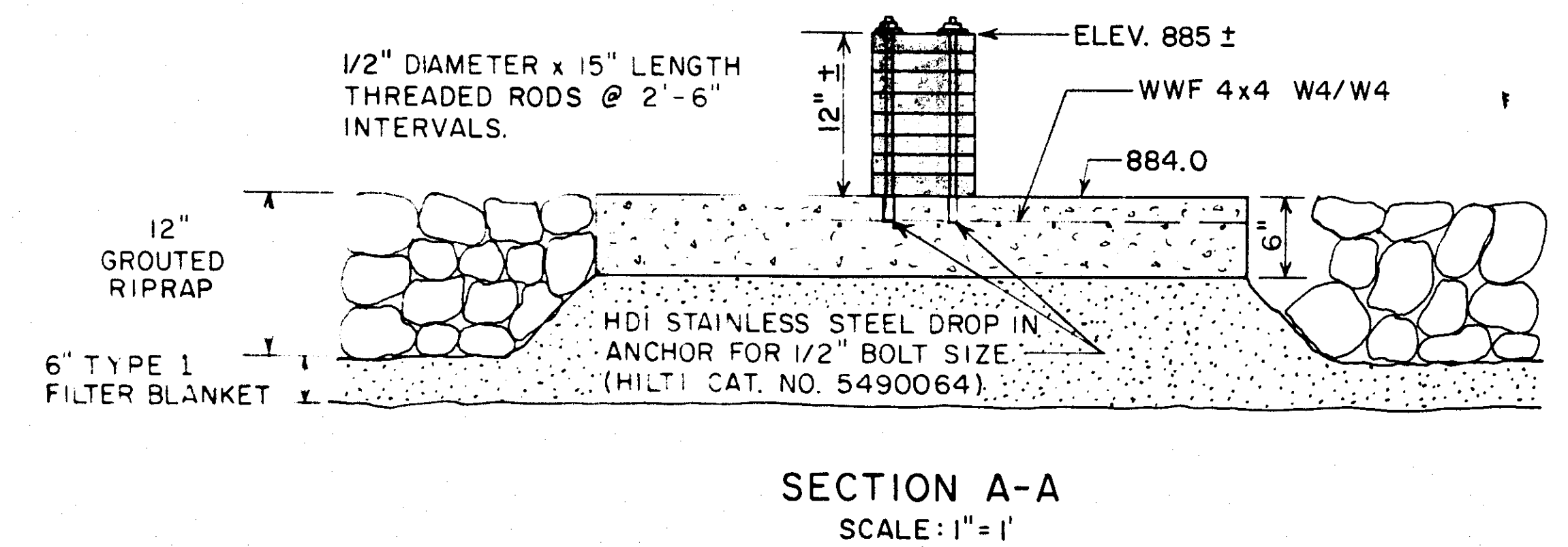


X-SECTION VIEW
SCALE: 1" = 5'

CONCRETE MIX SHALL BE 3A35
DESIGN IN ACCORDANCE WITH
SPEC. 2461 - MN/DOT SPEC. MANUAL.
AIR CONTENT SHALL BE 5.5%, ±1.5%



SECTION B-B
SCALE: 1" = 1'

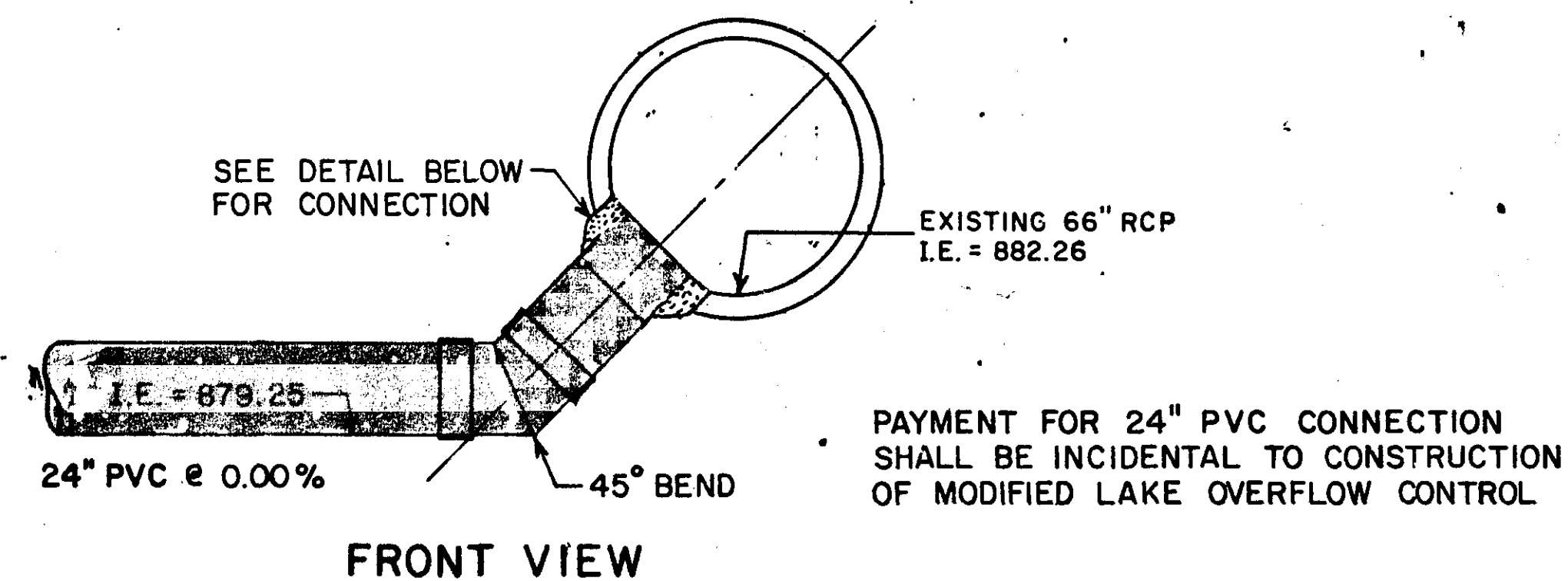
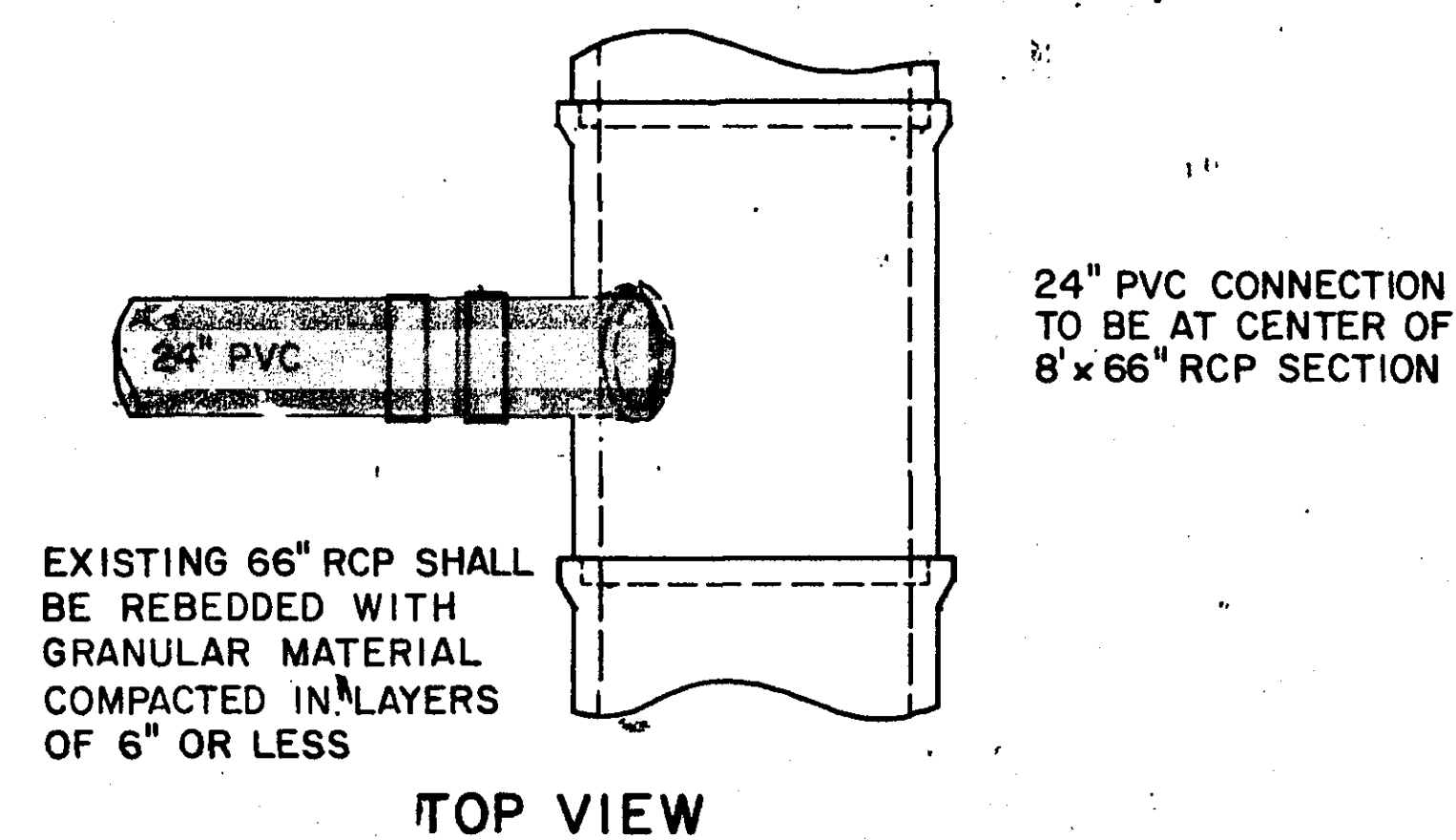


SECTION A-A
SCALE: 1" = 1'

CONCRETE SPILLWAY / WEIR CONTROL

I HEREBY CERTIFY THAT THIS 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.
Daniel W. Schmitt
DATE 11/23/83 REG. NO. 11654

REVISIONS	DATE BY	REVISIONS	DATE BY

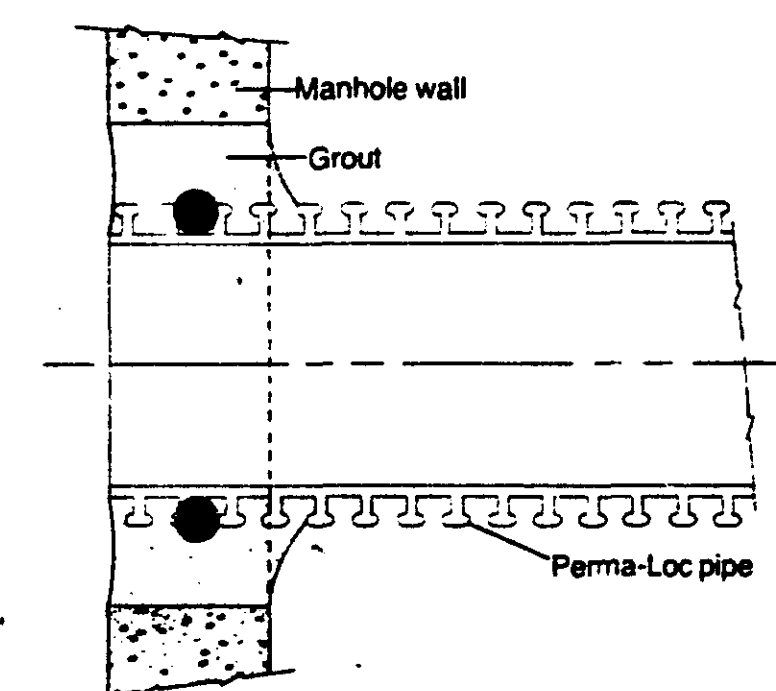


FILTER POND DISCHARGE CONNECTION

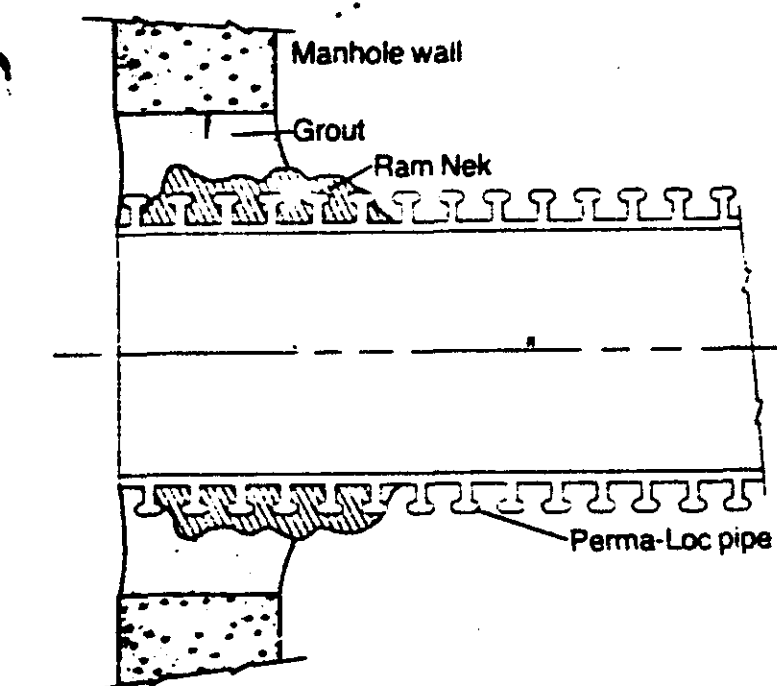
SCALE: 1" = 4'

Details of manhole entries using grout or caulking

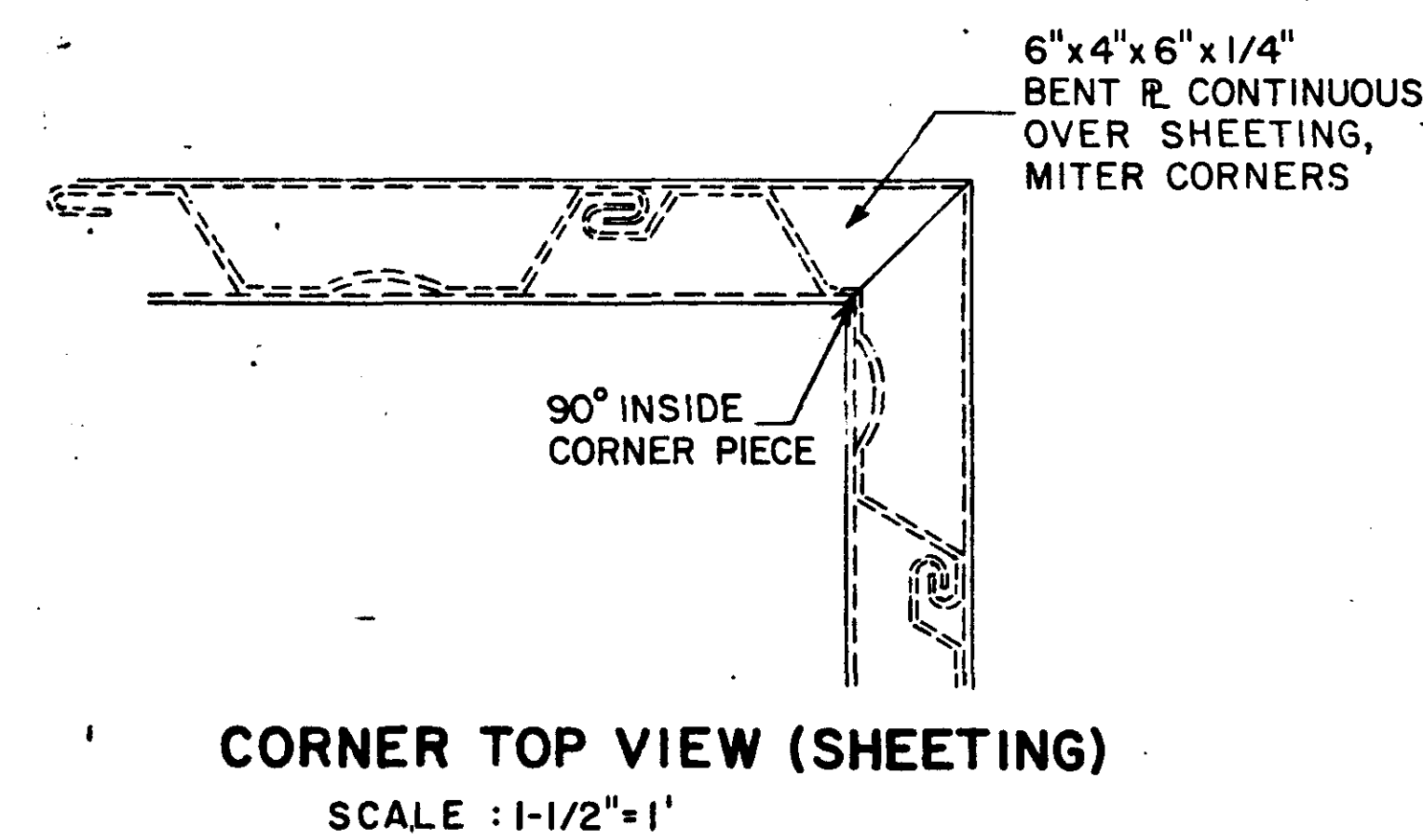
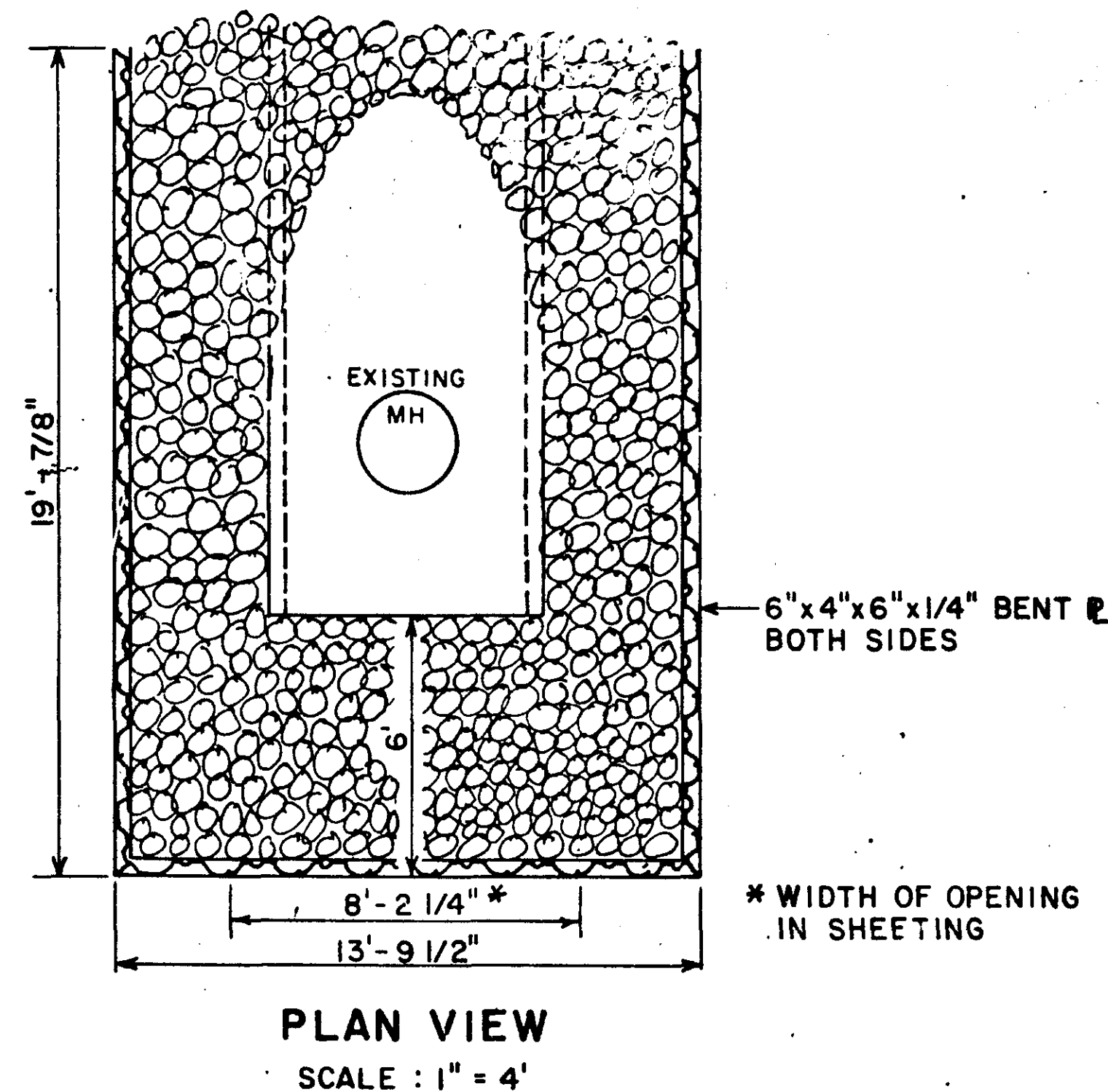
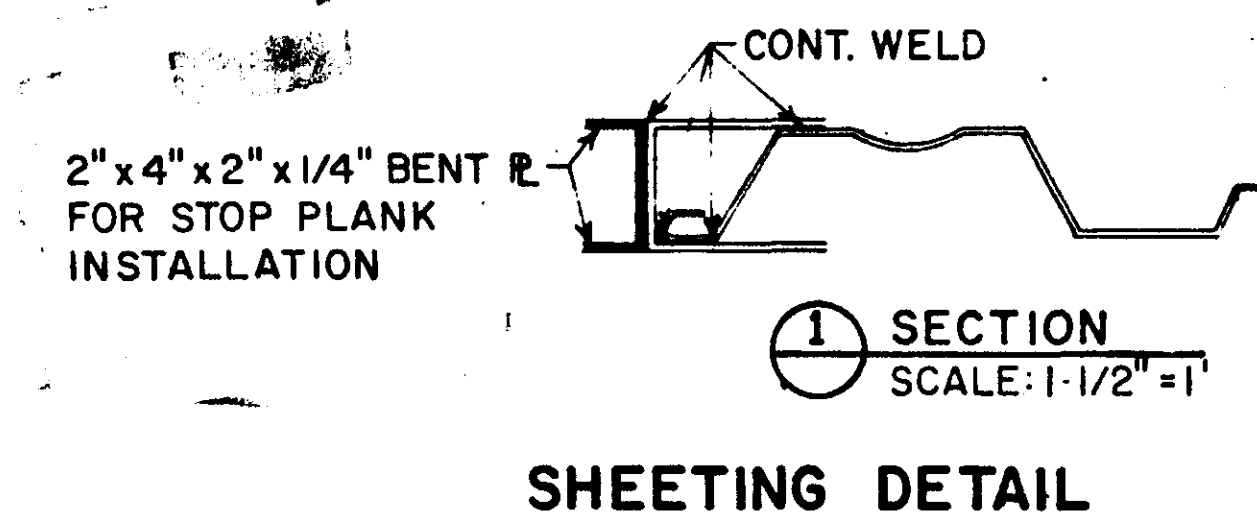
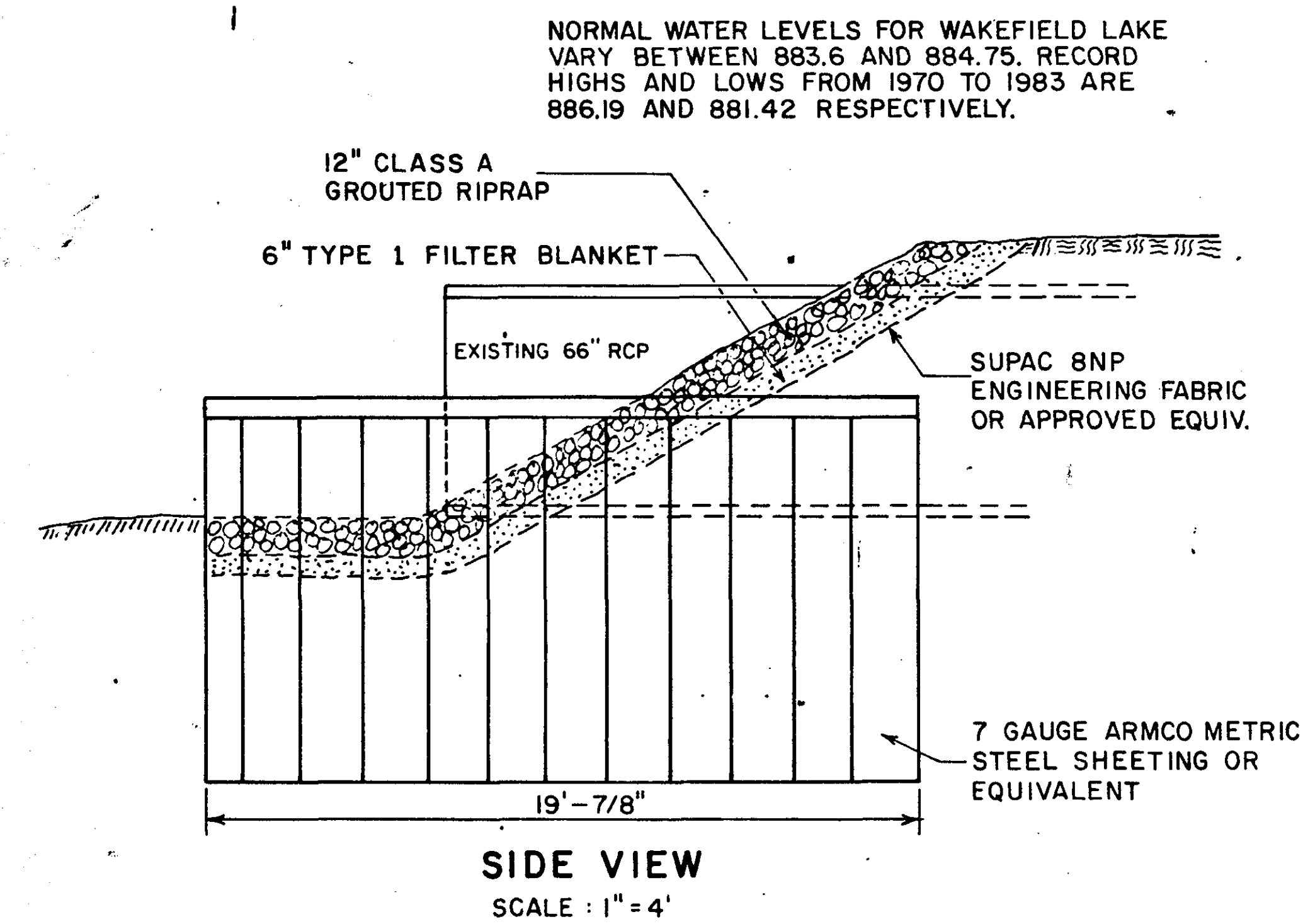
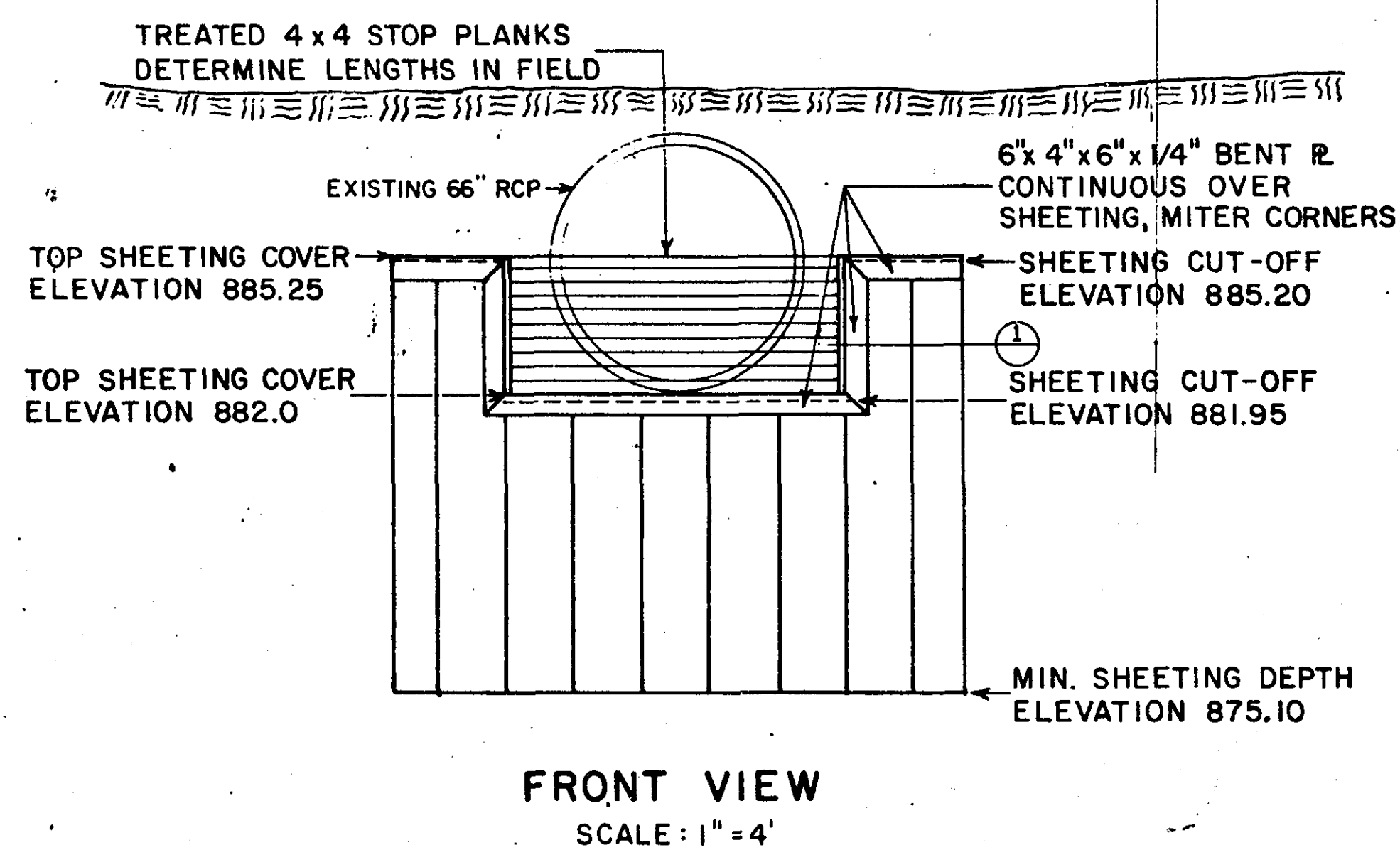
Grout only Perma-Loc manhole entry



Grout to Ram Neck Perma-Loc manhole entry



TYPICAL 24" PVC PERMALOK CONNECTION TO REINFORCED CONCRETE MANHOLES

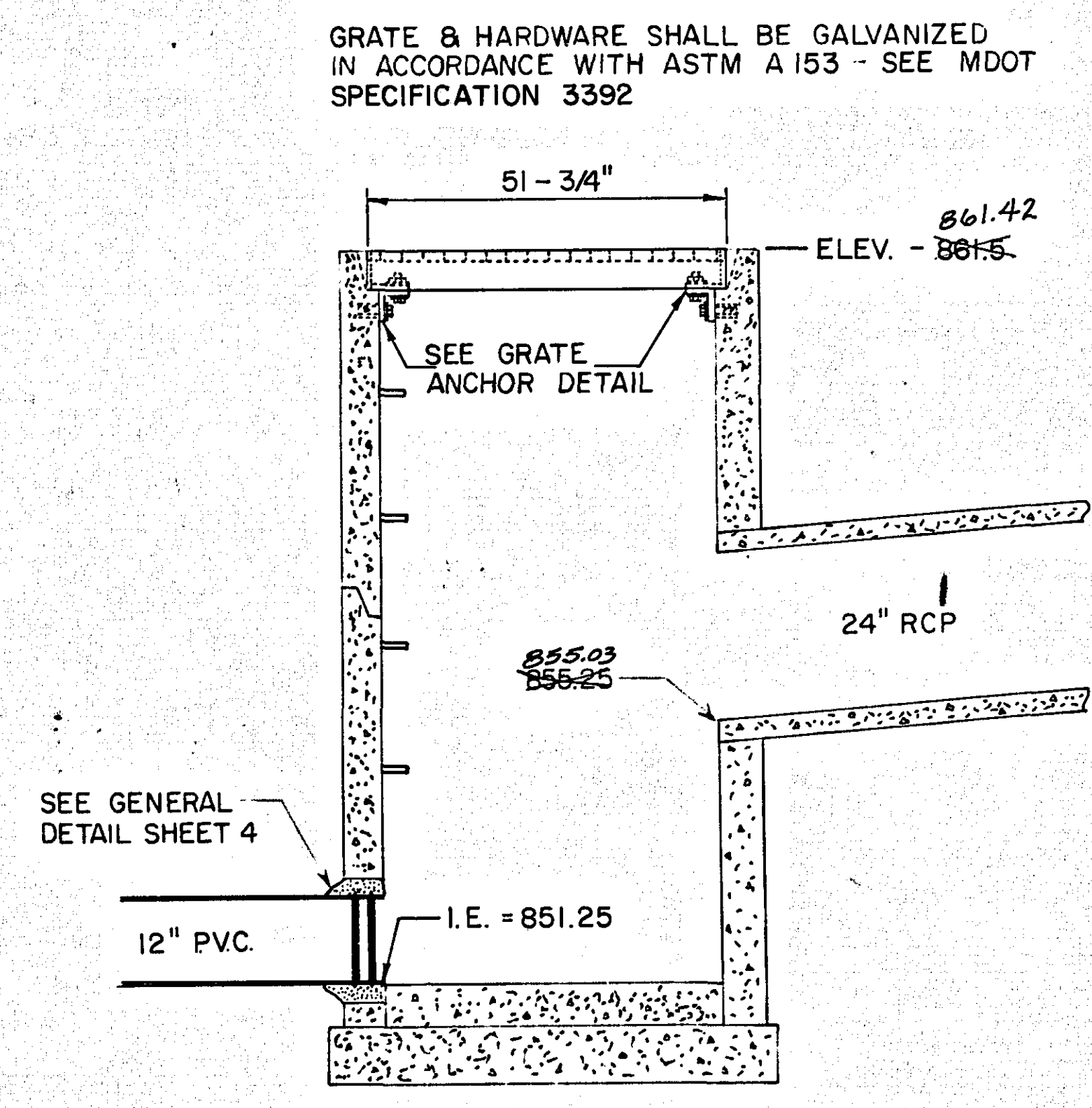
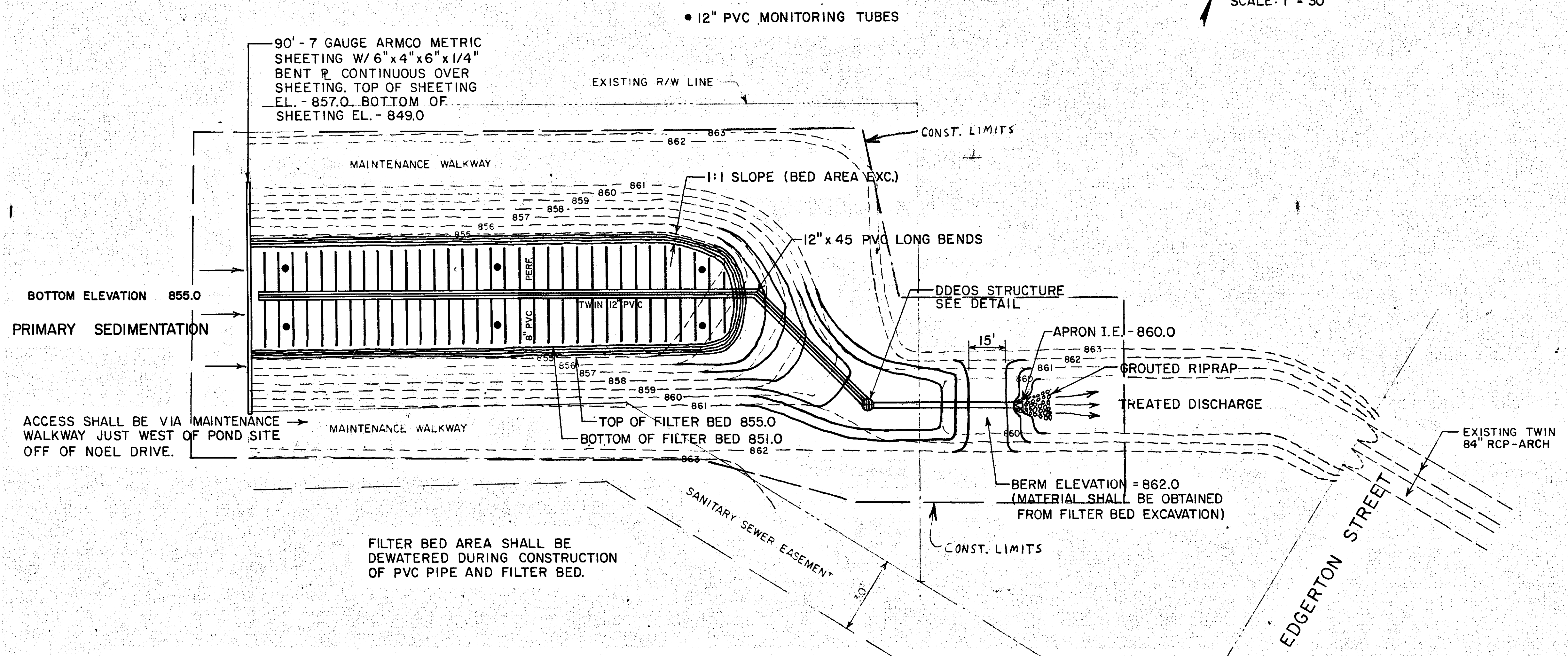
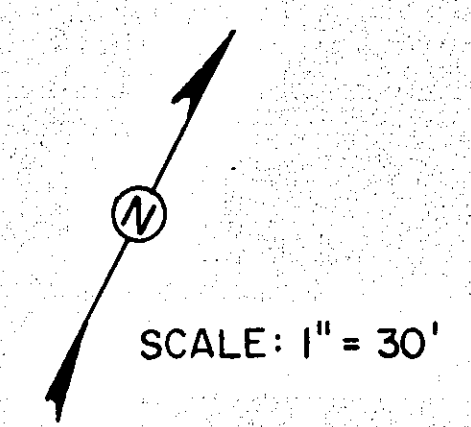


MODIFIED LAKE OVERFLOW CONTROL

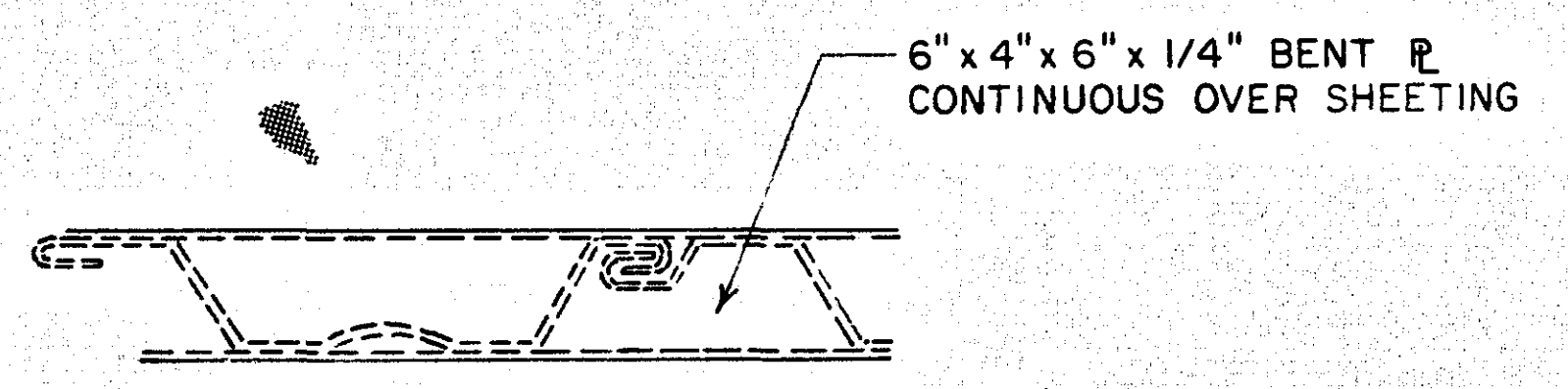
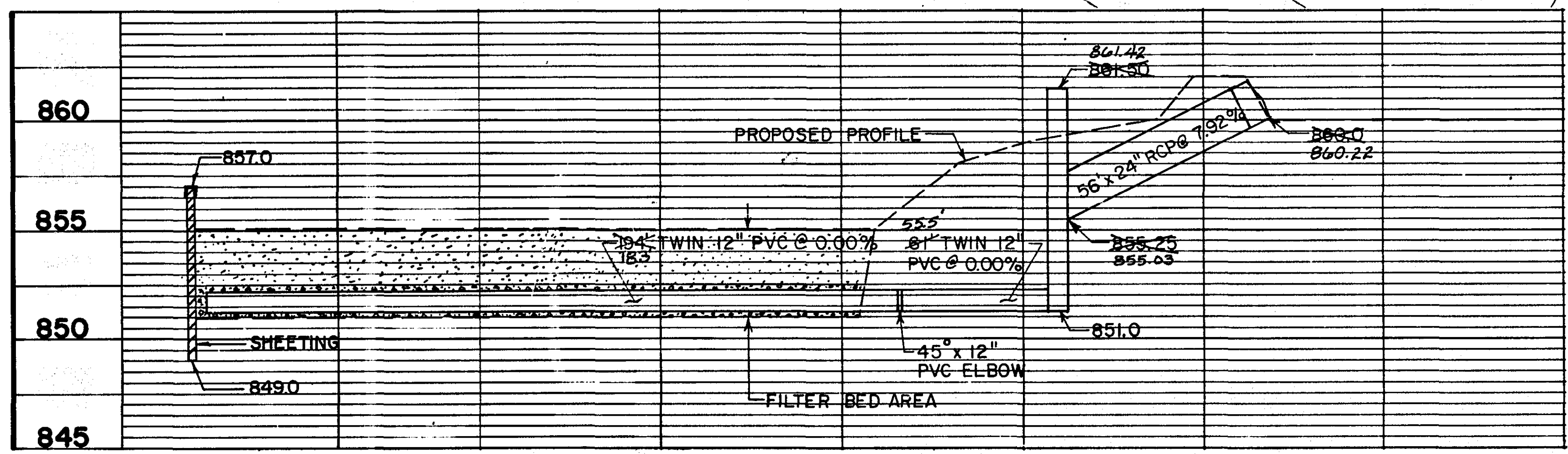
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Daniel H. Scholtz

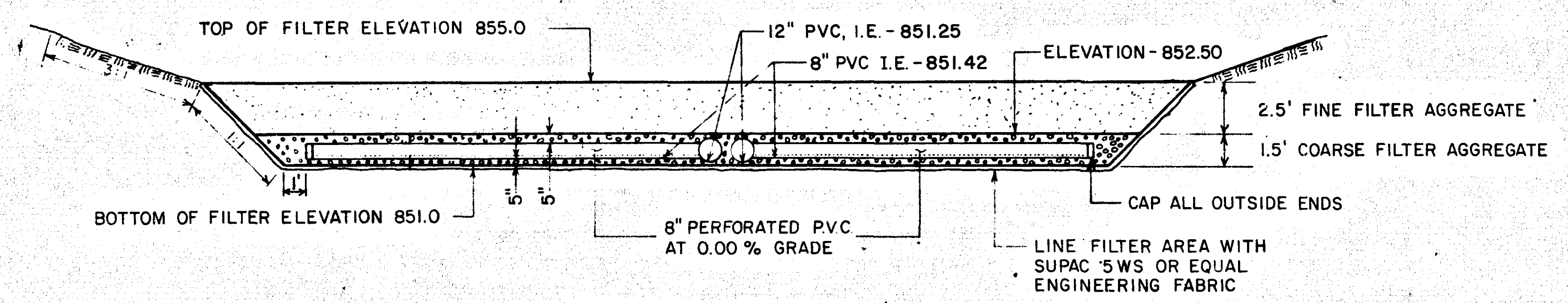
Date: 11/23/83 Reg. No. 11654



DIVERSION DISCHARGE/ EMERGENCY OVERFLOW STRUCTURE DETAIL
DDEOS STRUCTURE
SCALE = 2'



SHEETING DETAIL



TYPICAL SECTION
SCALE: 1" = 5'

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: *ASH*
DATE: 12/26/84

REVISIONS	DATE	BY	REVISIONS	DATE	BY

I HEREBY CERTIFY THAT THIS 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
James E. Tolson
DATE 11/23/83 REG NO. 16159

ORIGINAL DOCUMENT
VERY POOR