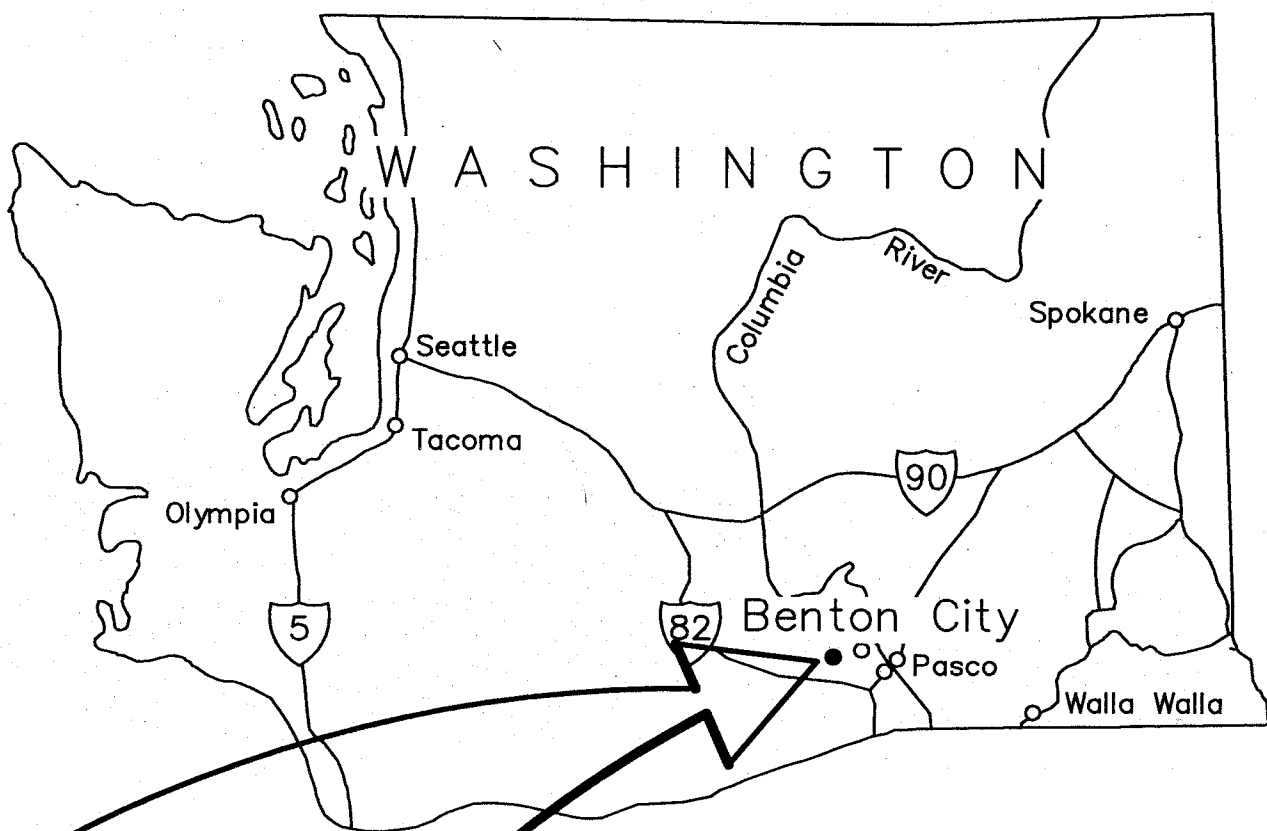


BENTON IRRIGATION DISTRICT

IRRIGATION SYSTEM IMPROVEMENTS

RIVER PUMP STATION

2009

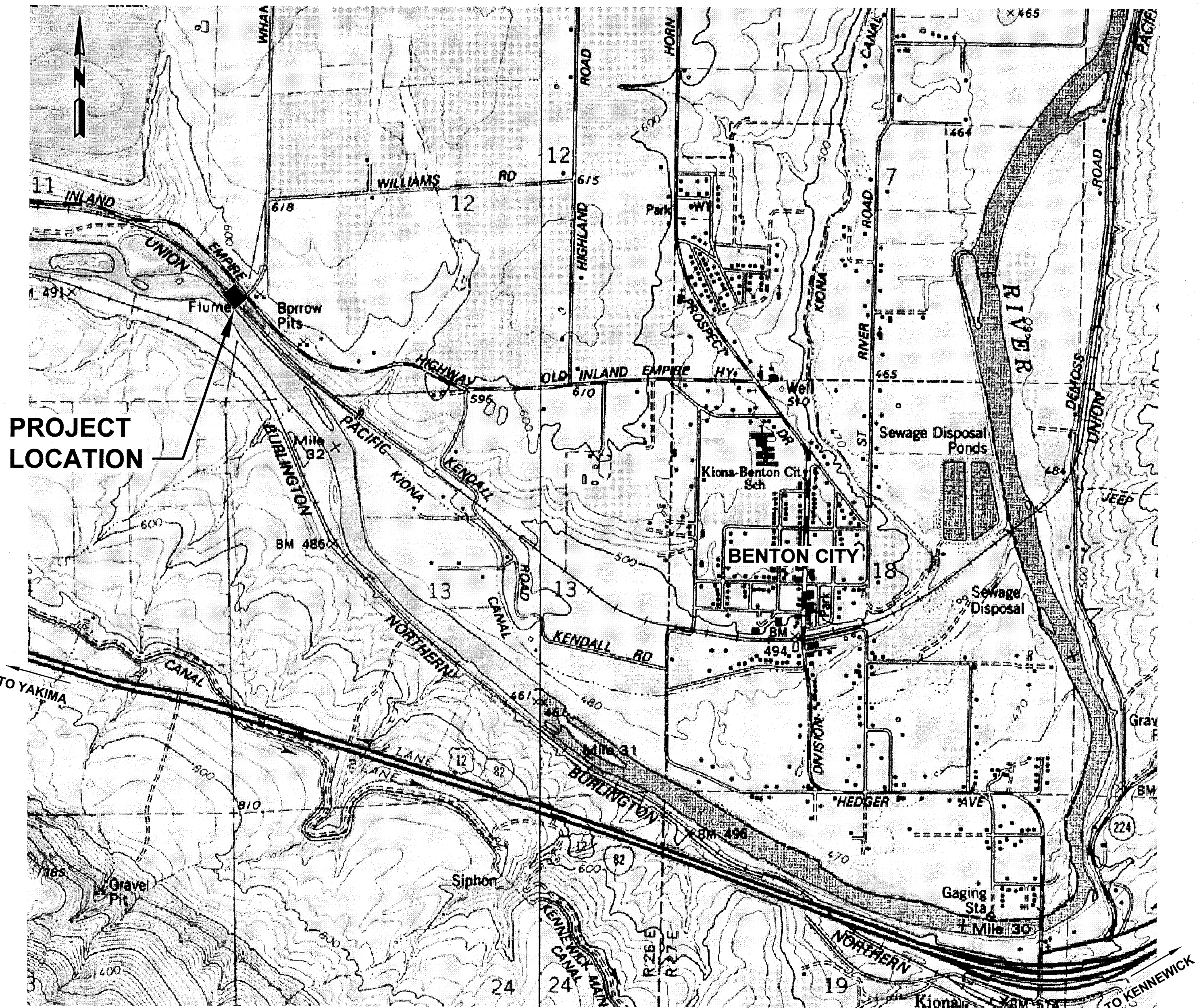


INDEX

COVER	CONTROL BUILDING (42-45)
GENERAL (1-4)	CB1 SITE PLAN
G1 LEGEND	CB2 FLOOR PLAN
G2 SITE PLAN	CB3 ELEVATIONS I
G3 EXISTING PUMP STATION SITE PLAN	CB4 ELEVATIONS II
G4 PUMP STATION SITE PLAN	TYPICAL DETAILS (46-60)
SITE (5-14)	T1 STRUCTURAL DETAILS I
S1 GRADING PLAN I	T2 STRUCTURAL DETAILS II
S2 GRADING PLAN II	T3 STRUCTURAL DETAILS III
S3 RETAINING WALL NO. 1 PLAN AND ELEVATION	T4 STRUCTURAL DETAILS IV
S4 RETAINING WALL NO. 1 SECTIONS	T5 WATER DETAILS
S5 RETAINING WALL NO. 2 PLAN AND DETAILS	T6 PIPE SUPPORT DETAILS
S6 RETAINING WALL NO. 3 PLAN AND DETAILS	T7 MISCELLANEOUS DETAILS I
S7 RETAINING WALL NO. 4 PLAN AND ELEVATION	T8 MISCELLANEOUS DETAILS II
S8 RETAINING WALL NO. 4 SECTIONS	T9 MISCELLANEOUS DETAILS III
S9 STAIRWAY PLAN AND ELEVATION	T10 MISCELLANEOUS DETAILS IV
S10 STAIRWAY DETAILS	T11 FENCE DETAILS
PIPING (15-20)	T12 IRRIGATION DETAILS
P1 SITE PIPING PLAN	T13 TRENCH DETAILS
P2 PUMP STATION PIPING DETAIL	T14 THRUST BLOCK DETAILS
P3 SECTIONS I	T15 DETAILS
P4 SOUTH MAIN LINES - PLAN AND PROFILE	ELECTRICAL - RIVER PUMP STATION
P5 NORTH MAIN LINE - PLAN AND PROFILE I	E1 LEGEND, SCHEDULES AND ABBREVIATIONS
P6 NORTH MAIN LINE - PLAN AND PROFILE II	E2 SITE PLAN
INTAKE STRUCTURE (21-34)	E3 POWER AND LIGHTING PLAN
IS1 GENERAL PLAN	E4 SIGNAL PLAN
IS2 STRUCTURAL PLAN	E5 CONTROL BUILDING POWER / SIGNAL PLAN
IS3 STRUCTURAL SECTIONS I	E6 CONTROL BUILDING FACILITIES / LIGHTING PLAN
IS4 STRUCTURAL SECTIONS II	E7 INTAKE STRUCTURE PLAN
IS5 STRUCTURAL SECTIONS III	E8 DETAILS
IS6 STRUCTURAL SECTIONS IV	E9 MEDIUM VOLTAGE ONE-LINE DIAGRAM
IS7 MECHANICAL PLAN - UPPER	E10 LOW VOLTAGE ONE-LINE DIAGRAM
IS8 MECHANICAL PLAN - LOWER	INSTRUMENTATION - RIVER PUMP
IS9 MECHANICAL SECTIONS I	STATION CONTROL PANEL
IS10 MECHANICAL SECTIONS II	I1 PLC ETHERNET BLOCK DIAGRAM AND I&C LEGEND
IS11 MECHANICAL DETAILS I	I2 PLC DEVICENET BLOCK DIAGRAM
IS12 MECHANICAL DETAILS II	I3 LAYOUT AND POWER SCHEMATIC
IS13 MECHANICAL DETAILS III	I4 DISCRETE INPUT SCHEMATIC
IS14 MECHANICAL DETAILS IV	I5 DISCRETE OUTPUT SCHEMATIC
PUMP STATION (35-41)	I6 ANALOG INPUT SCHEMATIC
PS1 GENERAL PLAN	
PS2 STRUCTURAL PLAN	
PS3 STRUCTURAL SECTION I	
PS4 STRUCTURAL SECTION II	
PS5 MECHANICAL PLAN	
PS6 MECHANICAL SECTION	
PS7 MECHANICAL SECTION II	

RECORD DRAWINGS

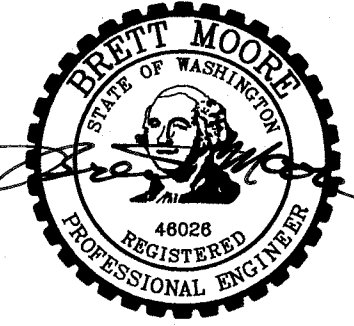
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VICINITY MAP
NTS

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1901 N. Fir Street - La Grande, OR 97850 Ph: (541)963-8309 Fax: (541)963-5456
LA GRANDE, OR. WALLA WALLA, WA.

PLAN LEGEND

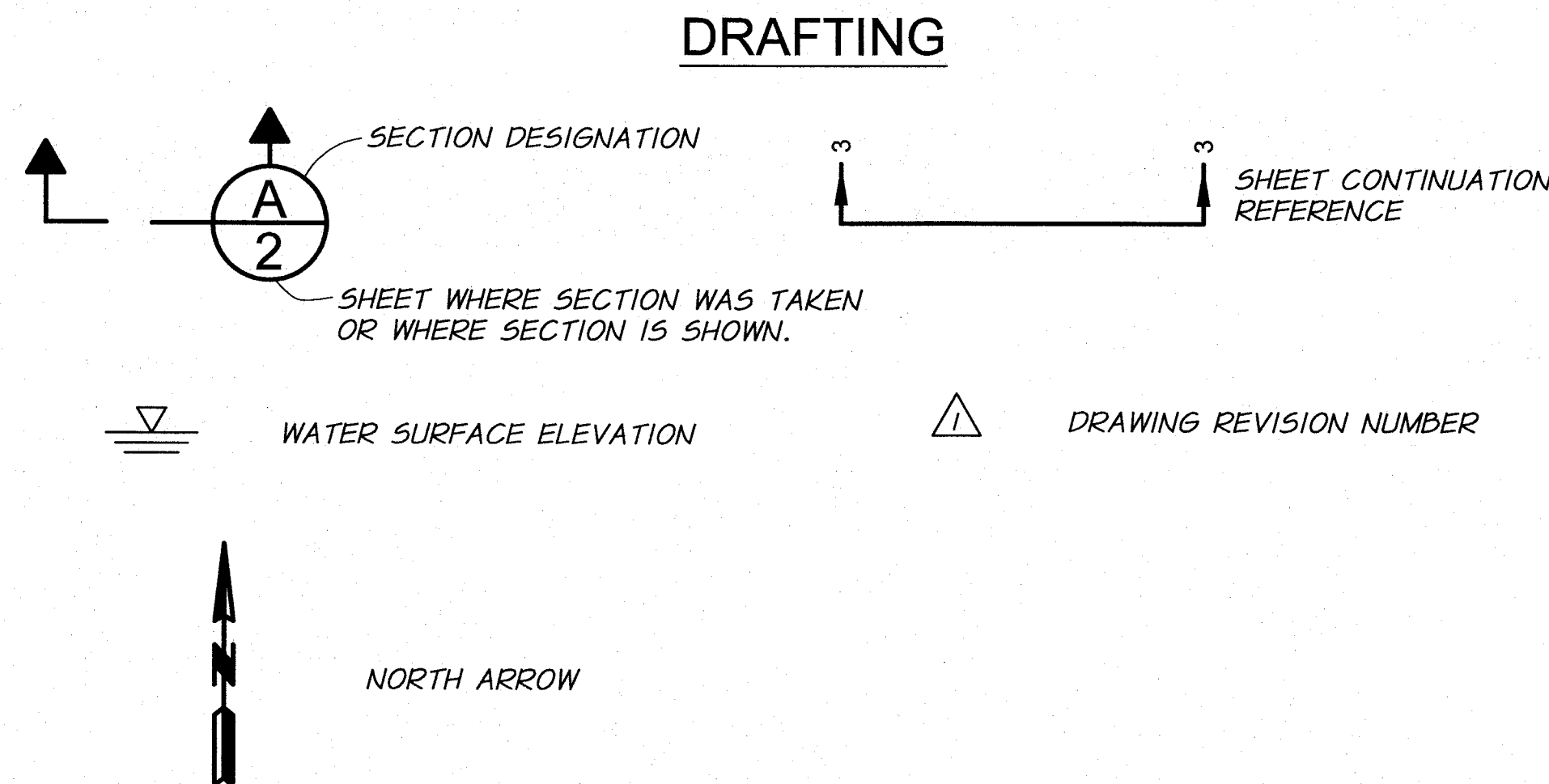
WATER		
EXISTING		PROPOSED
WATER LINE	— — — W — — — W —	6"W
VALVE	⊠	⊠
CAP	⌈	⌈
COUPLING	⌈⌈	⌈⌈
REDUCER	▷	▷
FIRE HYDRANT	⊙	⊙
WATER METER	⊞	⊞
AIR RELEASE VALVE	↑	↑
BLOW OFF	○	●

MISCELLANEOUS UTILITIES		
EXISTING		PROPOSED
BURIED POWER	— P — P — P —	— P — P — P —
OVERHEAD POWER	— OHP — OHP —	— OHP — OHP —
BURIED TELEPHONE	— T — T — T —	— T — T — T —
GAS SERVICE	— G — G —	
SIGNAL CABLE IN CONDUIT	— SC —	— SC —
IRRIGATION	— IRR —	— IRR —
UTILITY POLE	⊙	
GUY WIRE	⌒	
TELEPHONE RISER	◇	

SITE SURVEY		
EXISTING		PROPOSED
INDEX CONTOUR	— 750 —	
INTERMEDIATE CONTOUR	— 749 —	
PROPERTY LINE/RIGHT-OF-WAY CENTERLINE	— — — — —	— — — — —
EASEMENT	— — — — —	— — — — —
SECTION LINE	— — — — —	— — — — —
CULVERT	⌈ — — — — — — — ⌋	⌈ — — — — — — — ⌋
BENCH MARK	⊙	⊙
MONUMENT	⊠	⊠
CONTROL POINT	⊙	⊙
TEST PIT	⊙	●
SPOT ELEVATION	FG 2147.0	

GENERAL		
EXISTING		PROPOSED
FENCE LINE/GATE	— x — x — x —	— x — x — x —
CHAINLINK FENCE	— — — — —	— — — — —
CREEK/DITCH CENTERLINE	—	—
RIVERBANK/SHORELINE	— — — — —	— — — — —
SIGN	⌈	⌈
CONIFER TREE	⊙	
DECIDUOUS TREE	⊙	
SHRUB	⊙	
BUILDING	⌈	⌈

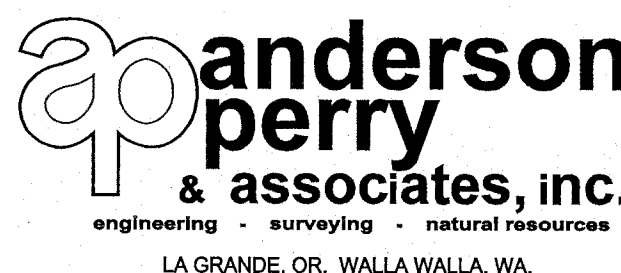
STREET AND CURB		
EXISTING		PROPOSED
PAVED STREET	1ST ST.	
GRAVEL DRIVEWAY/STREET		



DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg	JOB NUMBER	1199-336	DATE	2009
DRAWN BY	D. CHRISTMAN		ACAD FILE	LEGEND-PumpSta.dwg		
REVIEWED BY	H. PERRY					
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

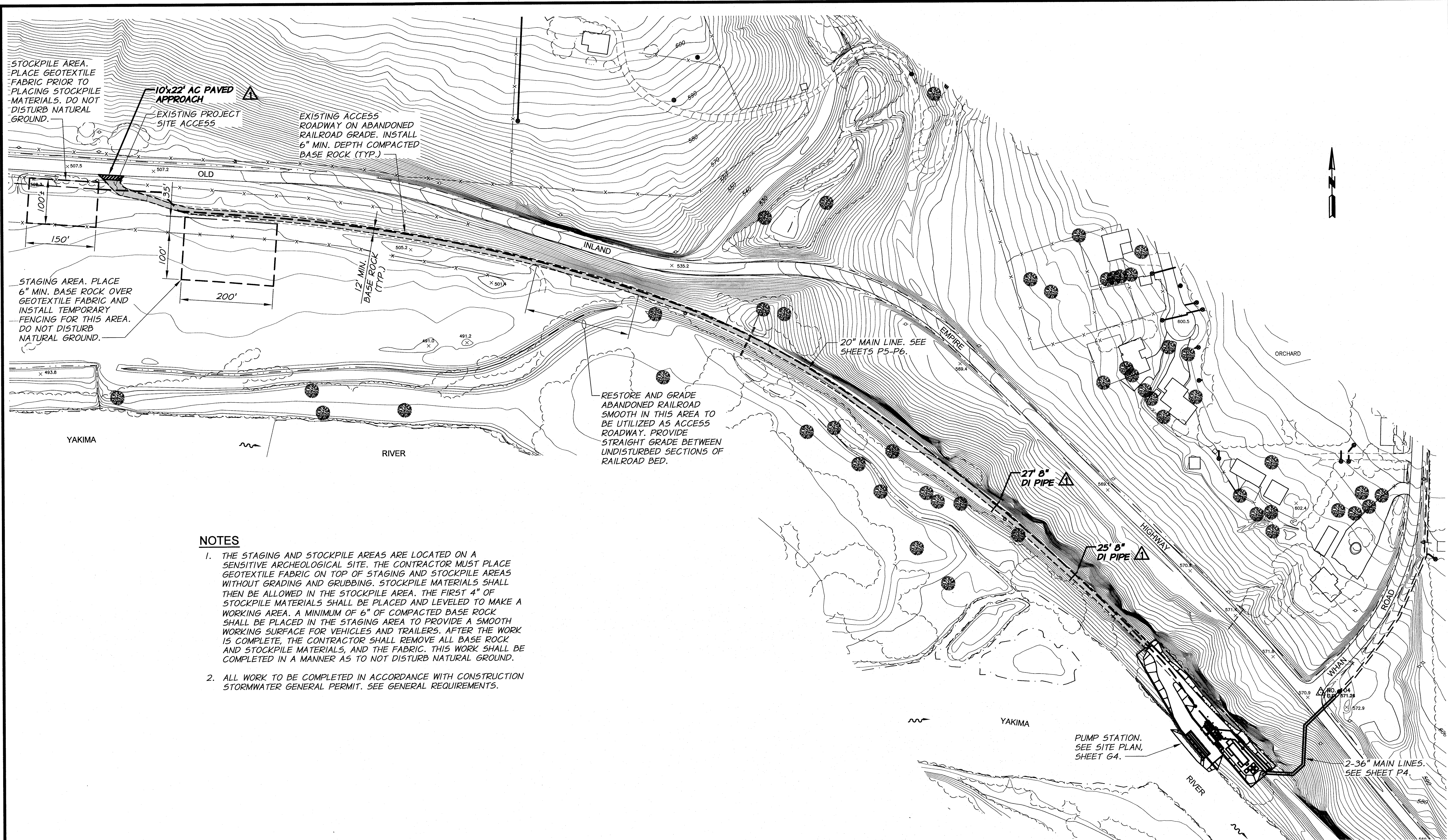
LEGEND

SHEET

G1

1 OF 60

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STOCKPILE AREA.
PLACE GEOTEXTILE
FABRIC PRIOR TO
PLACING STOCKPILE
MATERIALS. DO NOT
DISTURB NATURAL
GROUND.

10x22 AC PAVED
APPROACH
EXISTING PROJECT
SITE ACCESS

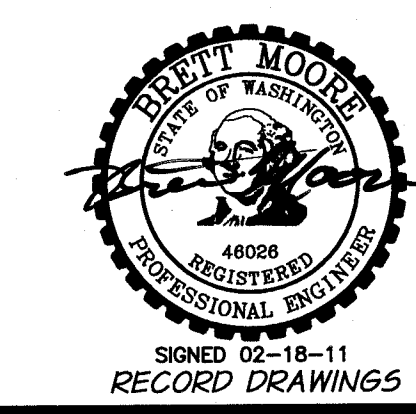
EXISTING ACCESS
ROADWAY ON ABANDONED
RAILROAD GRADE. INSTALL
6" MIN. DEPTH COMPACTED
BASE ROCK (TYP.)

STAGING AREA. PLACE
6" MIN. BASE ROCK OVER
GEOTEXTILE FABRIC AND
INSTALL TEMPORARY
FENCING FOR THIS AREA.
DO NOT DISTURB
NATURAL GROUND.

RESTORE AND GRADE
ABANDONED RAILROAD
SMOOTH IN THIS AREA TO
BE UTILIZED AS ACCESS
ROADWAY. PROVIDE
STRAIGHT GRADE BETWEEN
UNDISTURBED SECTIONS OF
RAILROAD BED.

NOTES

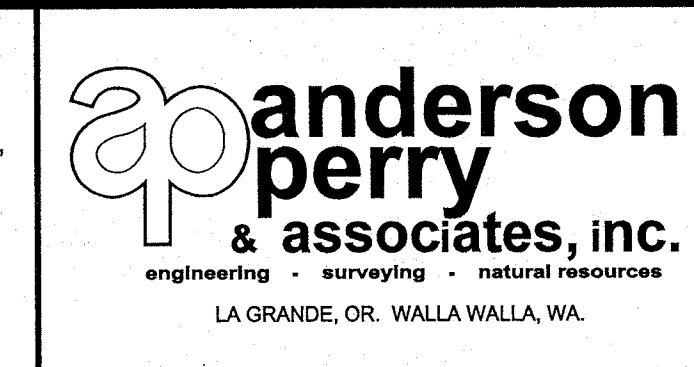
1. THE STAGING AND STOCKPILE AREAS ARE LOCATED ON A SENSITIVE ARCHEOLOGICAL SITE. THE CONTRACTOR MUST PLACE GEOTEXTILE FABRIC ON TOP OF STAGING AND STOCKPILE AREAS WITHOUT GRADING AND GRUBBING. STOCKPILE MATERIALS SHALL THEN BE ALLOWED IN THE STOCKPILE AREA. THE FIRST 4" OF STOCKPILE MATERIALS SHALL BE PLACED AND LEVELED TO MAKE A WORKING AREA. A MINIMUM OF 6" OF COMPACTED BASE ROCK SHALL BE PLACED IN THE STAGING AREA TO PROVIDE A SMOOTH WORKING SURFACE FOR VEHICLES AND TRAILERS. AFTER THE WORK IS COMPLETE, THE CONTRACTOR SHALL REMOVE ALL BASE ROCK AND STOCKPILE MATERIALS, AND THE FABRIC. THIS WORK SHALL BE COMPLETED IN A MANNER AS TO NOT DISTURB NATURAL GROUND.
2. ALL WORK TO BE COMPLETED IN ACCORDANCE WITH CONSTRUCTION STORMWATER GENERAL PERMIT. SEE GENERAL REQUIREMENTS.



					
△ RECORD DRAWINGS		H.P. 11/10			
REVISION		BY		DATE	
DESIGNED BY B. MOORE		XREFS: TB-PumpSta.dwg		JOB NUMBER 1199-336	
DRAWN BY D. CHRISTMAN				DATE 2009	
REVIEWED BY H. PERRY				ACAD FILE: Site-General.dwg	
				COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	



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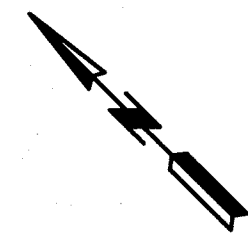


BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

SITE PLAN

SHEET
G2
2 OF 60

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GRAVEL ROADWAY
(ABANDONED
RAILROAD GRADE)

100 YR. FLOOD
EL. 492.4±

ORDINARY H.W.
EL. 478.2±

LOCATION
OF NEW WET
WELL AND
PUMP
SYSTEM

LOCATION OF NEW
INLET SCREENING
STRUCTURE

EDGE OF WATER AT
TIME OF SURVEY
SEP. '08 (TYP)

LOCATION
OF NEW
CONTROL
BUILDING

UTILITY
EASEMENT

RIGHT-OF-WAY

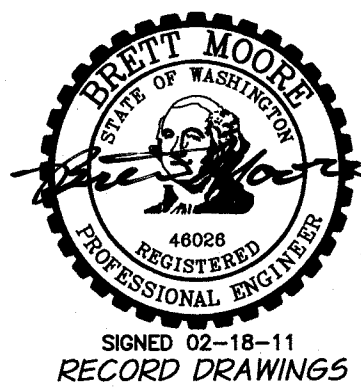
GUARDRAIL

WHAN
ROAD

OLD INLAND EMPIRE HIGHWAY

YAKIMA

RIVER

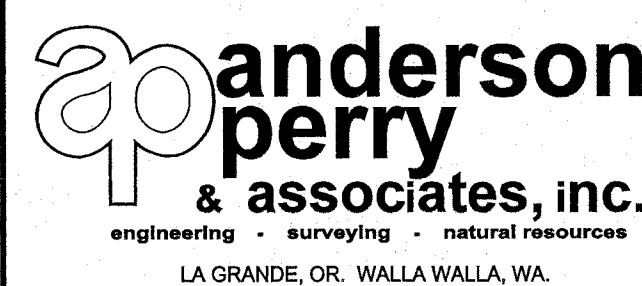


REVISION	BY	DATE	HORIZ. SCALE 1"=20'	VERT. SCALE
DESIGNED BY B. MOORE			JOB NUMBER 1199-336	DATE 2009
DRAWN BY D. CHRISTMAN			ACAD FILE: ExtgPumpSite.dwg	
REVIEWED BY H. PERRY			COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	

20 0 20 40 60
SCALE IN FEET

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

EXISTING PUMP STATION SITE PLAN

SHEET

G3

3 OF 60

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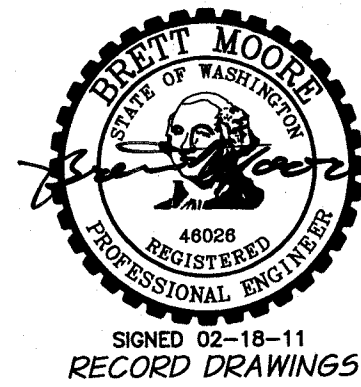
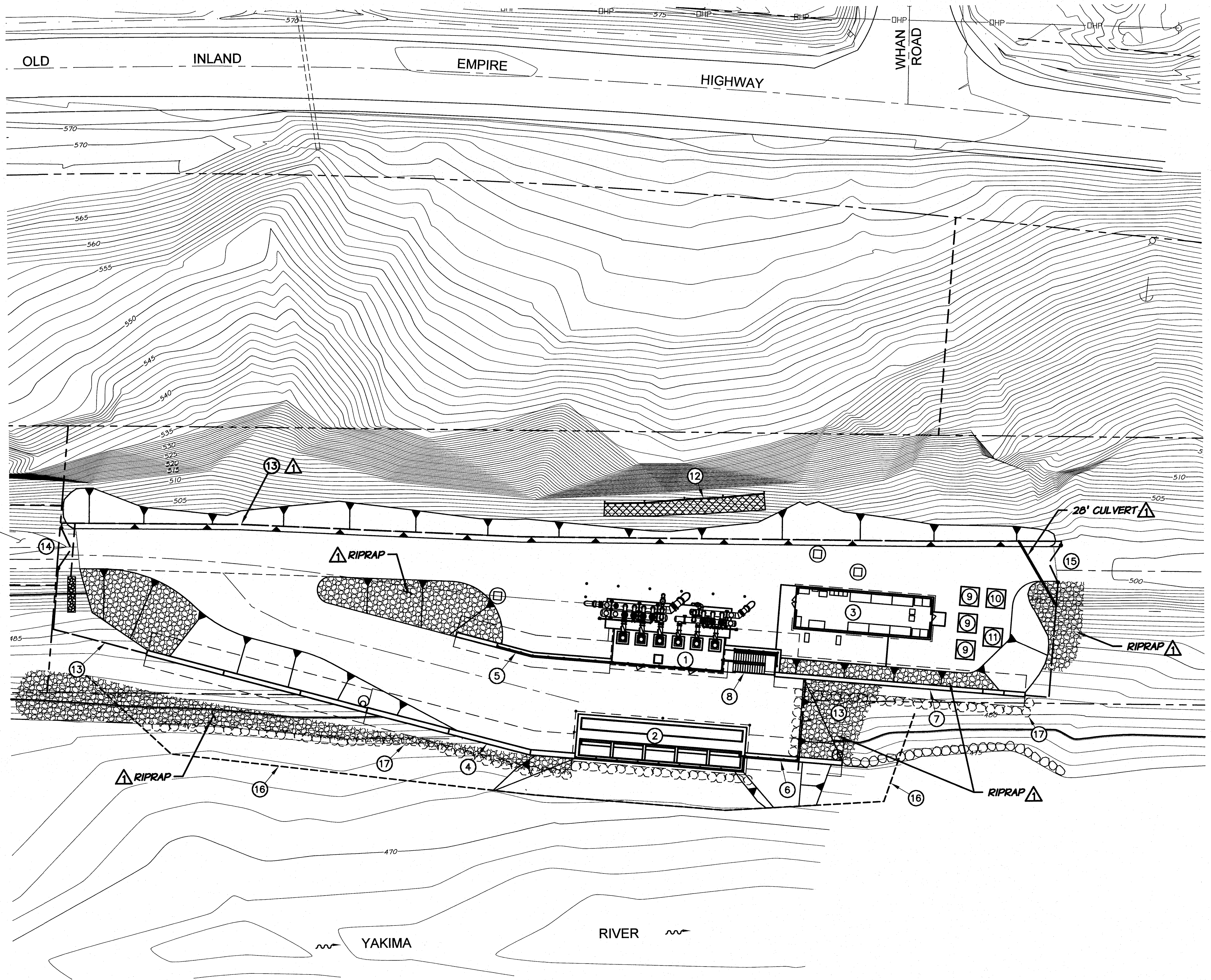
FACILITIES AND EQUIPMENT SCHEDULE

- ① IRRIGATION PUMP STATION. SEE SHEET P51.
- ② INTAKE STRUCTURE. SEE SHEET I51.
- ③ CONTROL BUILDING. SEE SHEET CB1.
- ④ RETAINING WALL NO. 1. SEE SHEETS 53-54.
- ⑤ RETAINING WALL NO. 2. SEE SHEET 55.
- ⑥ RETAINING WALL NO. 3. SEE SHEETS 56.
- ⑦ RETAINING WALL NO. 4. SEE SHEETS 57-58.
- ⑧ PUMP STATION/INTAKE STRUCTURE ACCESS STAIRWAY. SEE SHEET 59.
- ⑨ ELECTRICAL TRANSFORMER
- ⑩ ELECTRICAL METERING UNIT
- ⑪ ELECTRICAL JUNCTION BOX
- ⑫ ROCK FALL WOVEN PROTECTION FABRIC. SEE DETAIL, SHEET T10. PROVIDE 60 FT. WIDTH CENTERED ON ROCK FACE TO THE NORTHEAST OF THE PUMP STATION.
- ⑬ CHAINLINK FENCE. SEE DETAILS, SHEET T11.
- ⑭ DUAL 7.5 FT. SWING GATES. SEE DETAIL, SHEET T11.
- ⑮ DUAL 7 FT. SWING GATES. SEE DETAIL, SHEET T11.
- ⑯ TEMPORARY SHEETPILE COFFER DAM FOR WORK AREA ISOLATION.
- ⑰ TOE ROCK. PLACE BELOW SURFACE TO HELP CONTROL EROSION.

NOTES

- 1. CONSTRUCTION STAKING SHALL BE PROVIDED BY THE ENGINEER. SEE GENERAL REQUIREMENTS.
- 2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH REQUIREMENTS OF THE FILL/REMOVAL PERMIT AND OTHER APPLICABLE REGULATORY REQUIREMENTS.

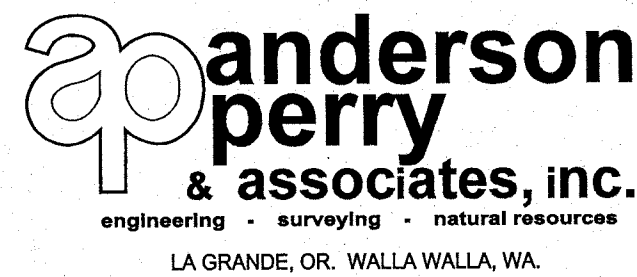
ENTRANCE ROAD.
SEE SHEET G2 FOR
CONTINUATION.



REVISION		BY	DATE	H.P. 11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg	
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336	DATE 2009
REVIEWED BY	H. PERRY	ACAD FILE:	SitePlan.dwg	
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

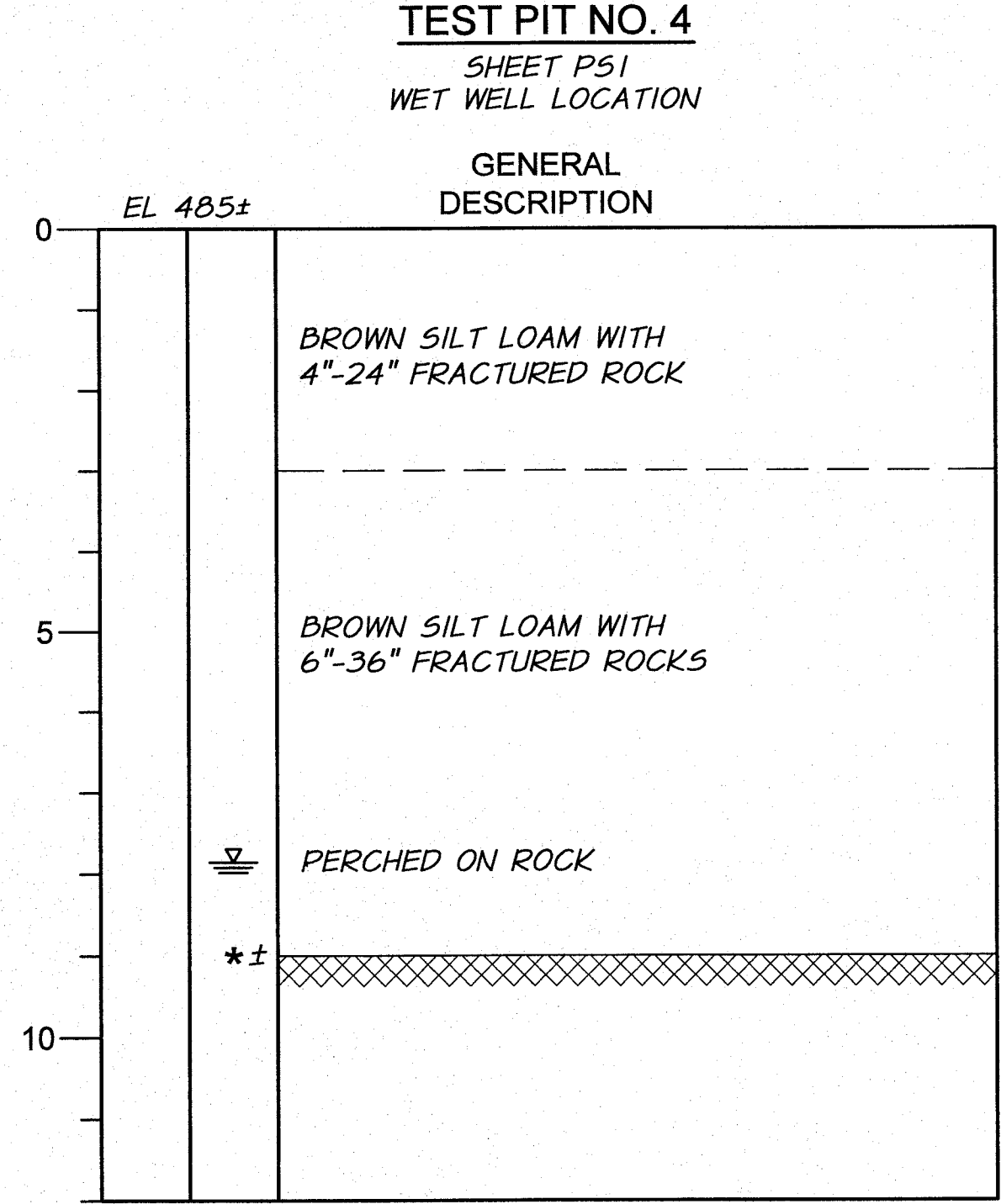
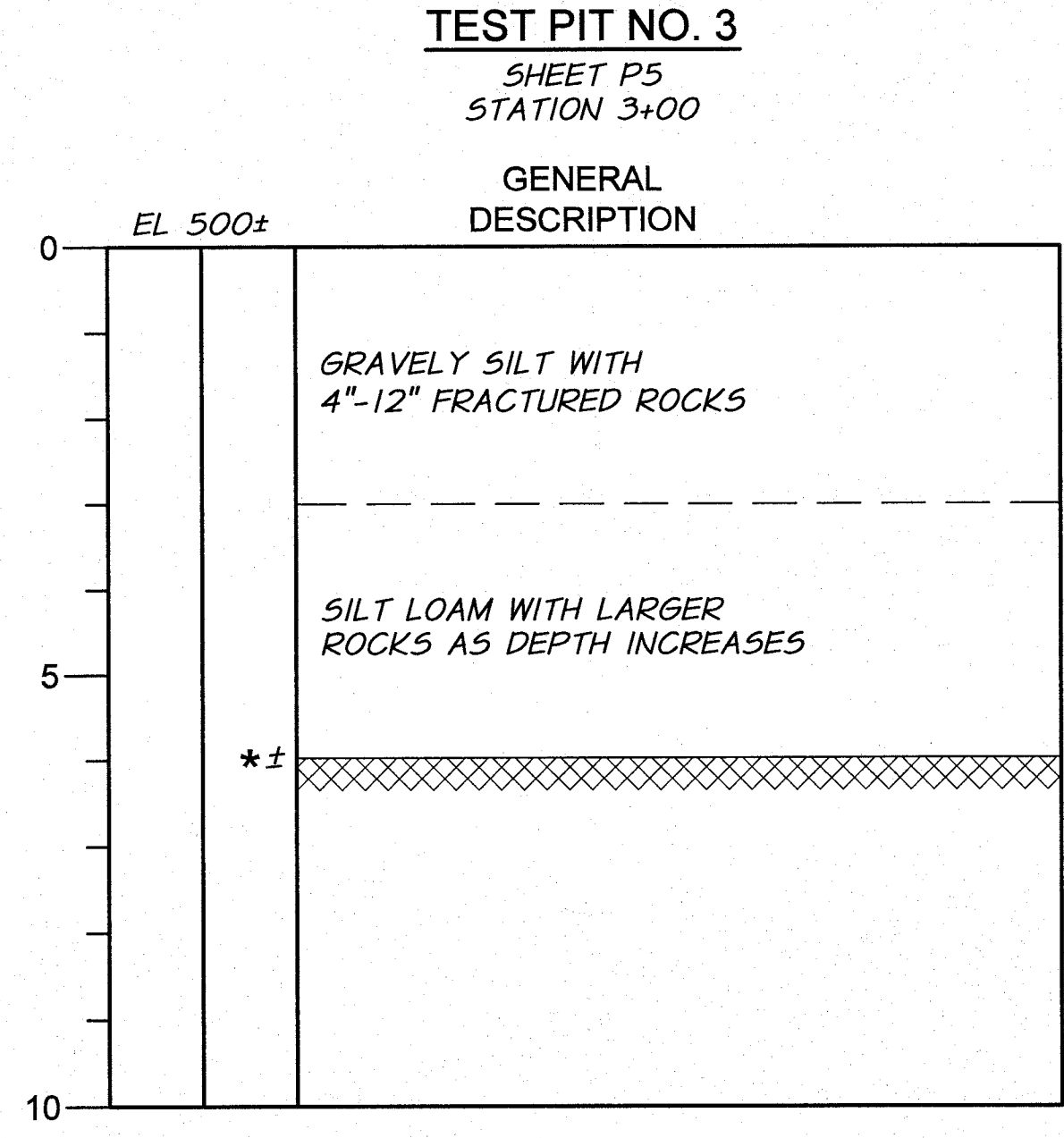
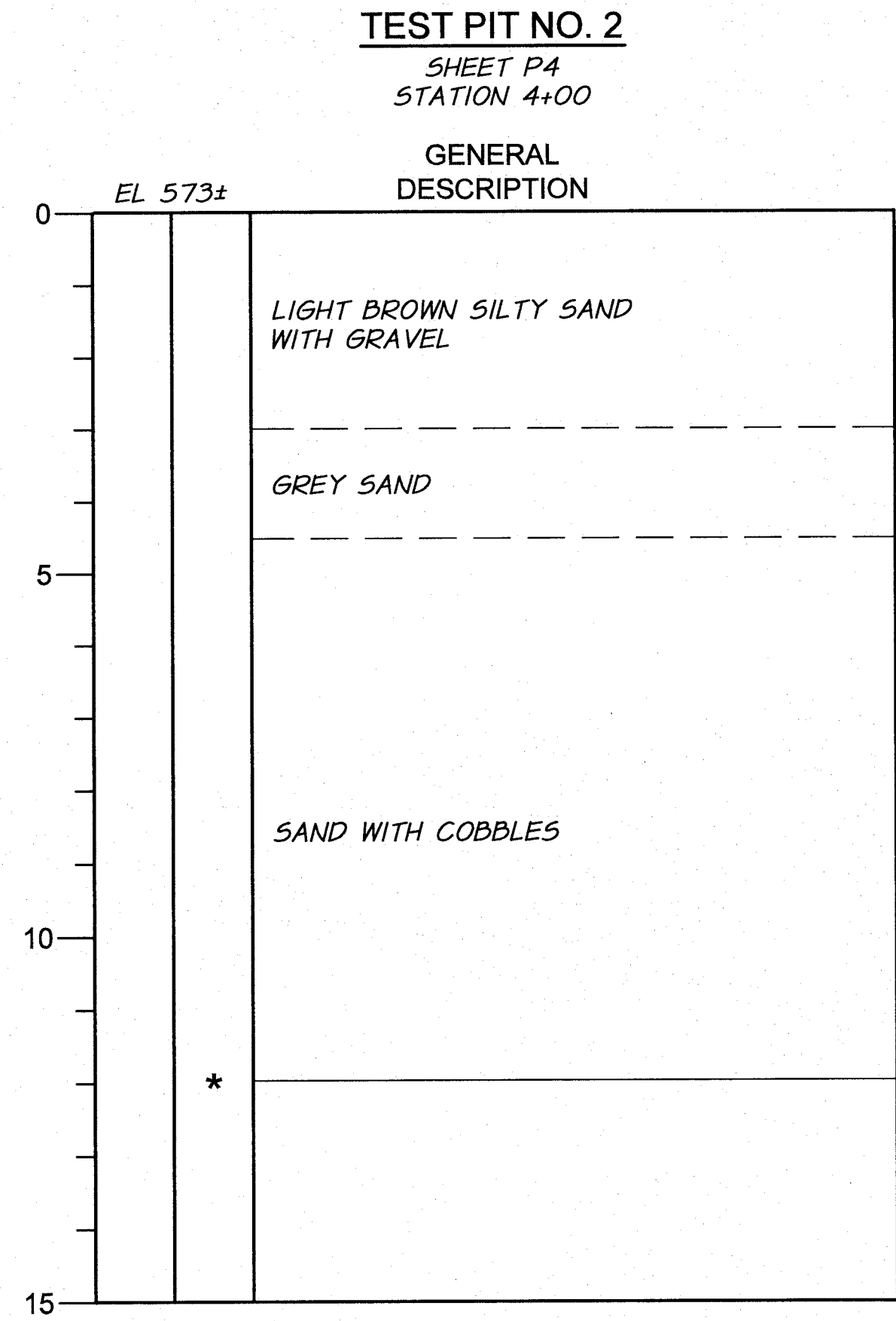
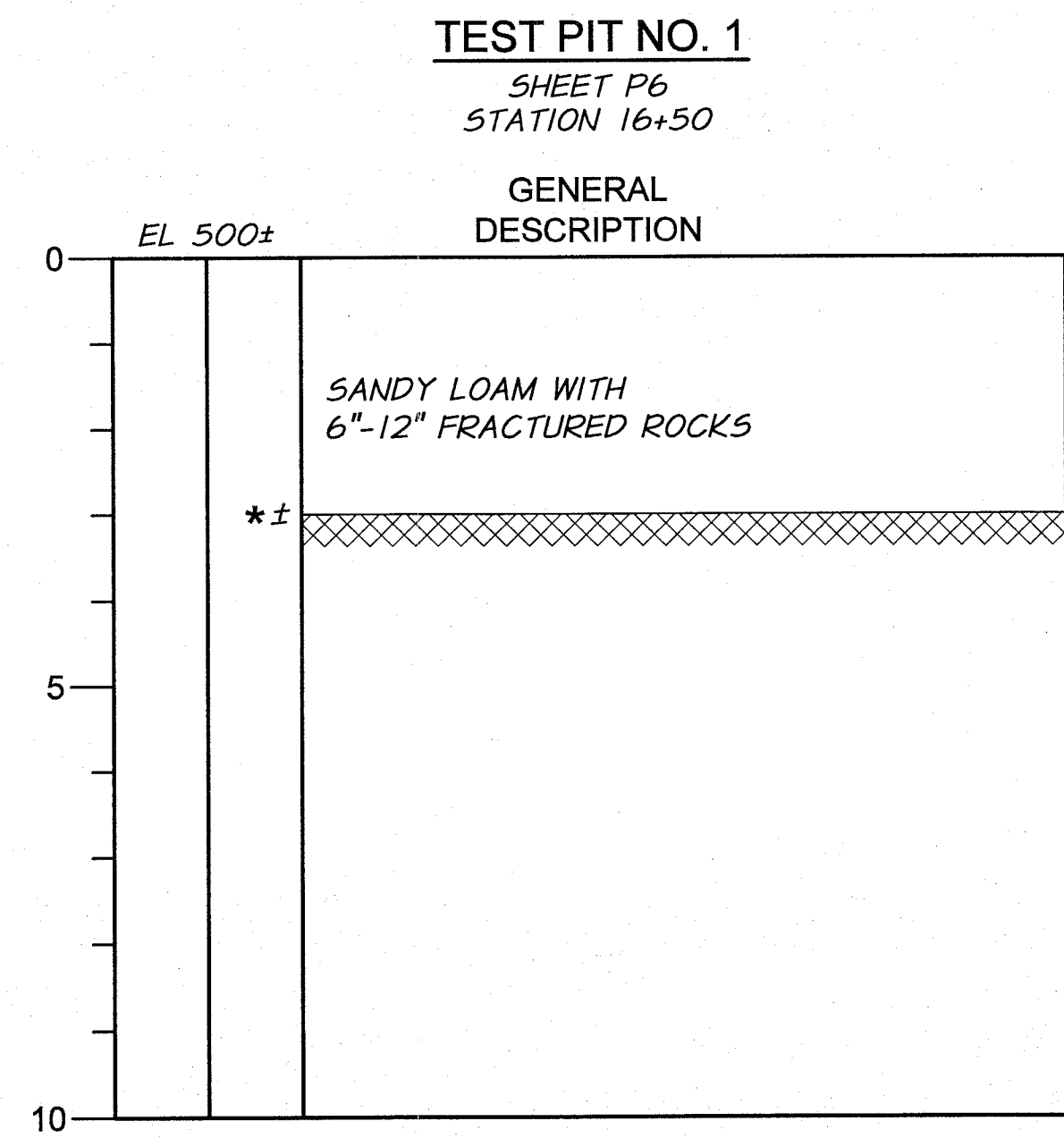
PUMP STATION SITE PLAN

SHEET

G4

4 OF 60

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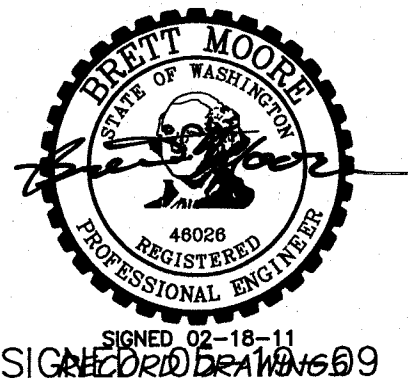
LEGEND

* BOTTOM OF PIT

GROUND WATER

SOUND ROCK (BASALT)

- NOTES:**
- TEST PITS WERE EXCAVATED ON MAY 12, 2009 WITH TRACK EXCAVATOR.
 - THE SOILS DATA AND GROUNDWATER CONDITIONS WHEN SHOWN ON THE PLANS ARE PROVIDED SOLELY FOR THE CONTRACTOR'S INFORMATION. SUCH DATA IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS WITH RESPECT TO THE ACTUAL SUBSURFACE CONDITIONS. INFORMATION SHOWN SHALL NOT RELIEVE THE CONTRACTOR FROM MAKING SUCH ADDITIONAL INVESTIGATIONS AS HE MAY ELECT TO ACQUAINT HIMSELF WITH THE ACTUAL CONDITIONS TO BE ENCOUNTERED IN EXECUTING THE WORK. GROUNDWATER CONDITIONS IN PARTICULAR ARE SUBJECT TO CHANGE AND MAY BE SUBSTANTIALLY DIFFERENT THAN THOSE SHOWN ON THE DRAWINGS.

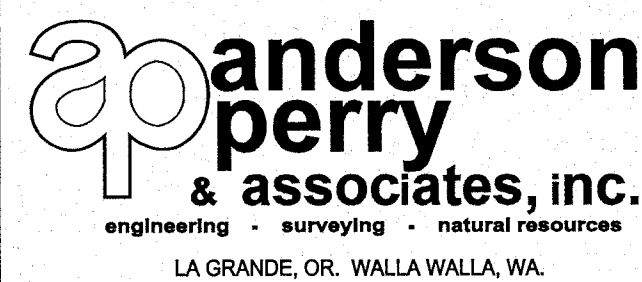


SIGNED 02-18-11
RECORD DRAWING 09

REVISION		BY	DATE	HORIZ. SCALE	NO SCALE	VERT. SCALE		
DESIGNED BY		B. MOORE		XREF5: TB-Pump5ta.dwg				
DRAWN BY		E. ARNTZ		JOB NUMBER		1199-336	DATE	2009
REVIEWED BY		H. PERRY		ACAD FILE:		TEST_PITS.dwg		
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

TEST PITS

SHEET

G5

4A OF 60

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- INSTALL 12" RIPRAP
AT CULVERT
OUTLET MIN. 3 FT.
WIDE X 18" DEEP
TO BOTTOM OF
SLOPE AS SHOWN —

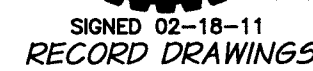


EDGE OF WATER
/ AT TIME OF
SURVEY (TYP) —

TEMPORARY
SHEET PILE
COFFER DAM AS
REQUIRED FOR
CONSTRUCTION -

BACKFILL WEST SIDE OF
RETAINING WALL NO. 1 TO
MATCH EXISTING CONTOURS AND
APPROVED BY THE ENGINEER.

RETAINING
WALL NO. 1.
— SEE SHEET 53.



A horizontal scale bar with the text "SCALE IN FEET" centered below it. The bar has tick marks at intervals of 10 units, labeled 10, 0, 10, 20, and 30 from left to right.

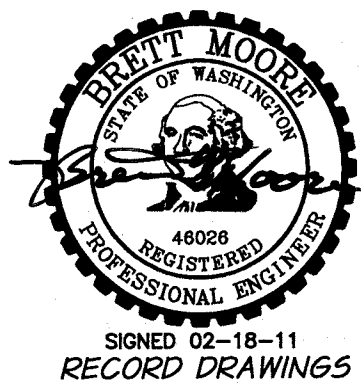
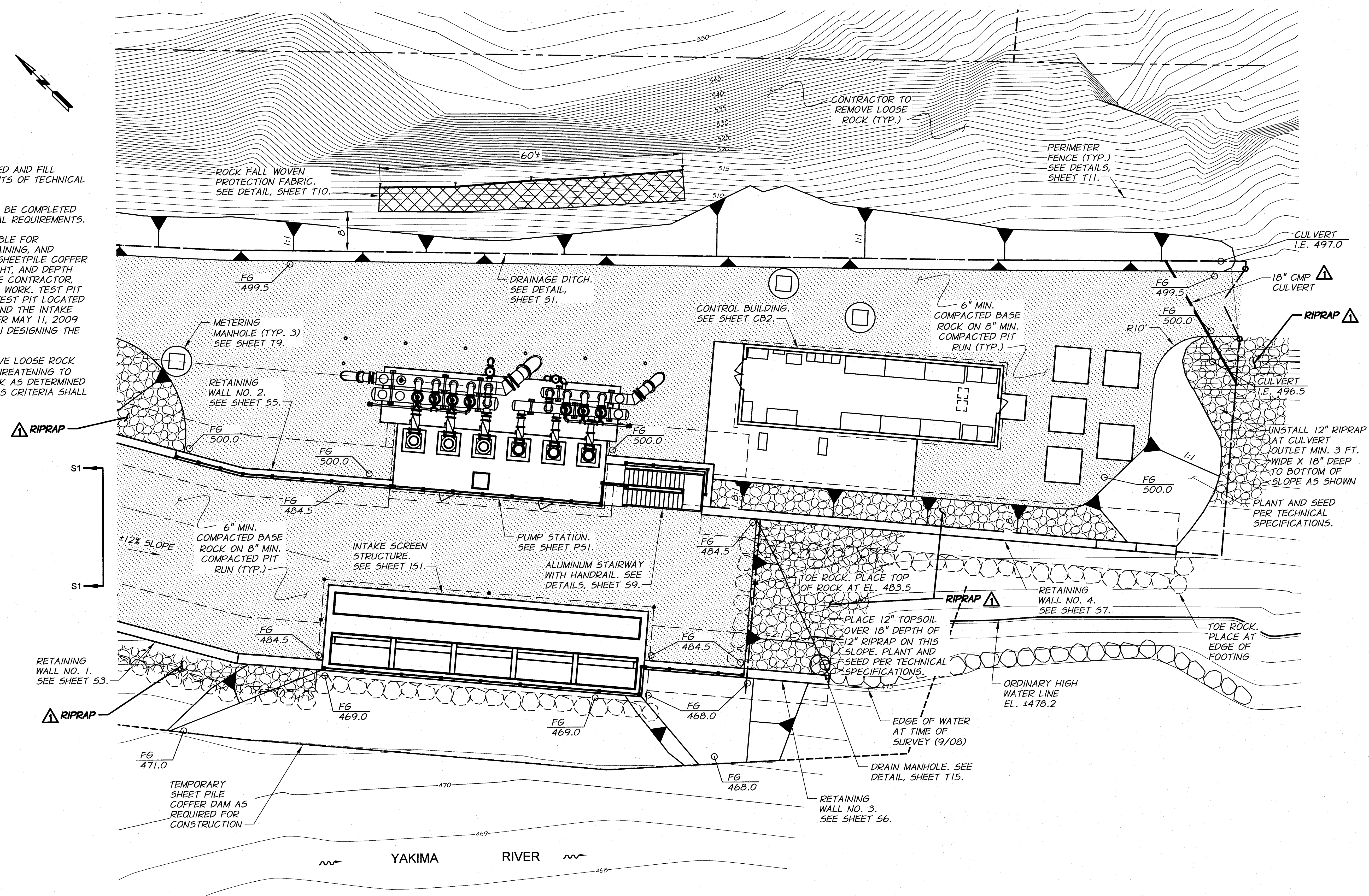
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perry**
& associates, inc.
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GRADING PLAN I

OF 60

NOTES

1. SEED AND PLANT ALL DISTURBED AND FILL SLOPE AREAS PER REQUIREMENTS OF TECHNICAL SPECIFICATIONS.
2. CONSTRUCTION STAKING SHALL BE COMPLETED BY THE ENGINEER. SEE GENERAL REQUIREMENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING, INSTALLING, MAINTAINING, AND REMOVAL OF THE TEMPORARY SHEETPILE COFFER DAM. TYPE OF SHEETPILE, HEIGHT, AND DEPTH ARE TO BE DETERMINED BY THE CONTRACTOR, AS REQUIRED TO PERFORM THE WORK. TEST PIT INFORMATION FROM A SINGLE TEST PIT LOCATED BETWEEN THE PUMP STATION AND THE INTAKE STRUCTURE IS AVAILABLE AFTER MAY 11, 2009 FOR THE CONTRACTOR'S USE IN DESIGNING THE COFFER DAM.
4. THE CONTRACTOR SHALL REMOVE LOOSE ROCK OVER 12" DIAMETER THAT IS THREATENING TO FALL OFF THE SLOPE. ALL ROCK AS DETERMINED BY THE ENGINEER TO MEET THIS CRITERIA SHALL BE REMOVED.



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	SitePlan.dwg
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RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

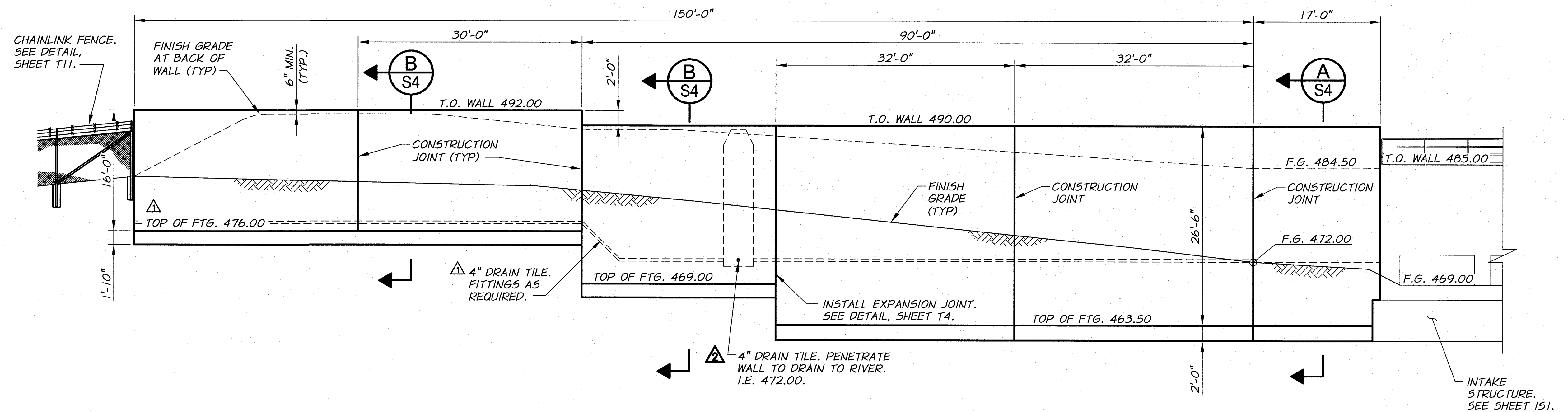
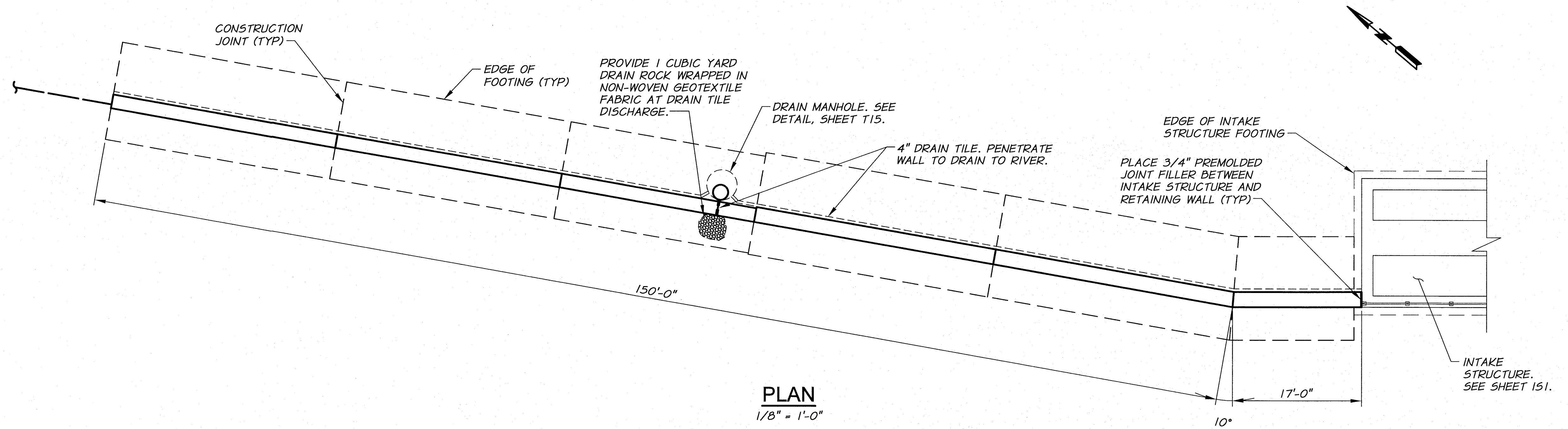
GRADING PLAN II

SHEET

S2

6 OF 60

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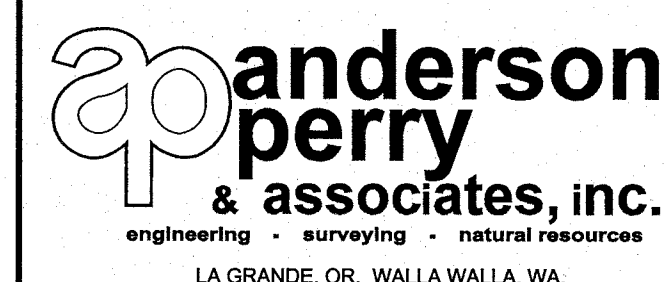
- NOTES:**
- ELEVATION VIEW SHOWN PERPENDICULAR TO WALL. DIMENSION VALUES ARE TRUE.
 - TEST PITS SHOW SOUND ROCK IS CLOSE TO SURFACE OF GROUND. IF SOUND ROCK IS ENCOUNTERED ABOVE DESIGN FOOTING ELEVATION INDICATED OR BELOW THE BOTTOM OF THE FOOTING FOR THE NORTHERN 60 FEET OF WALL, THE FOOTINGS WILL BE RAISED (OR LOWERED) TO PROVIDE ONE FOOT OF FOOTING EMBEDMENT INTO THE ROCK. SHOP DRAWINGS FOR WALL REINFORCING STEEL SHALL NOT BE PREPARED UNTIL FINAL ELEVATIONS ARE SET. THESE MODIFICATIONS WILL BE MADE THROUGH AN APPROVED CHANGE ORDER.



RECORD DRAWINGS		H.P.	11/10
FOOTING FOUNDATION CHANGE		DM	5/09
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE	SitePlan.dwg
		DATE	2009
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RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

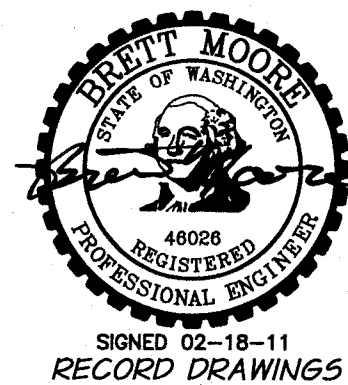
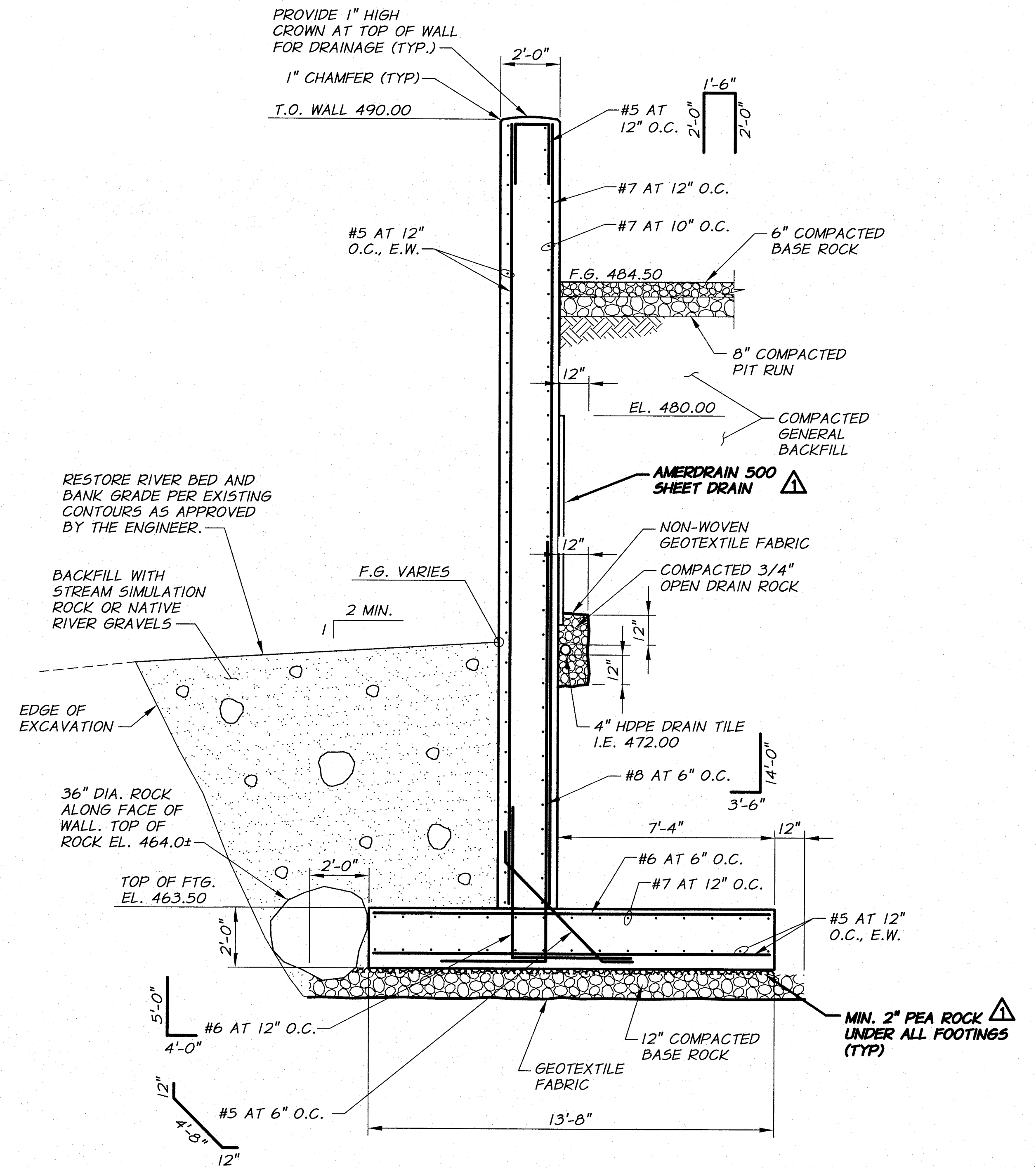
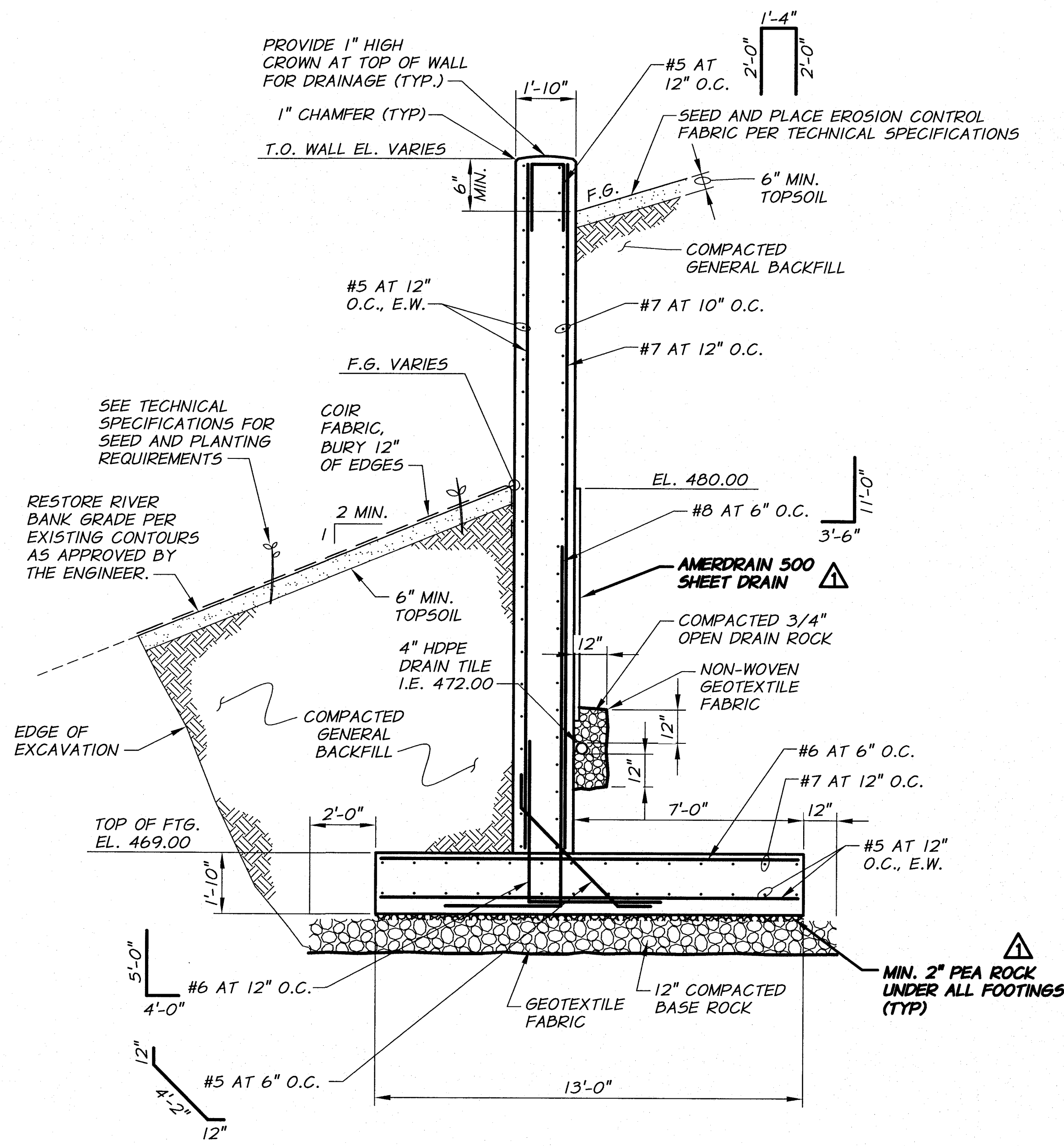
RETAINING WALL NO. 1 PLAN AND ELEVATION

SHEET

S3

7 OF 60

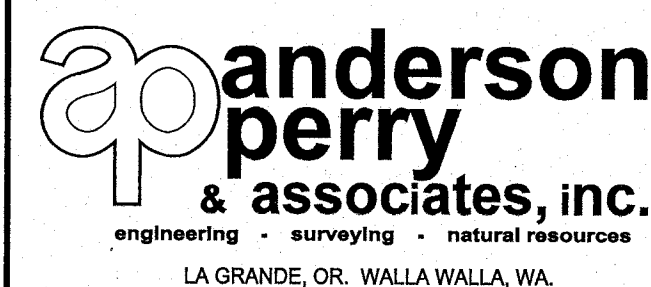
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RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE	SitePlan.dwg
DATE			
2009			
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RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

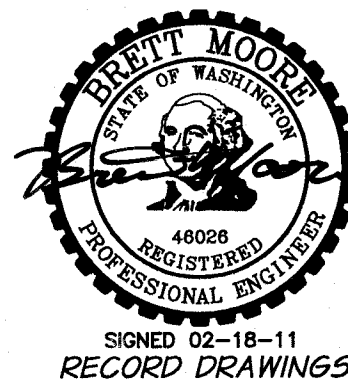
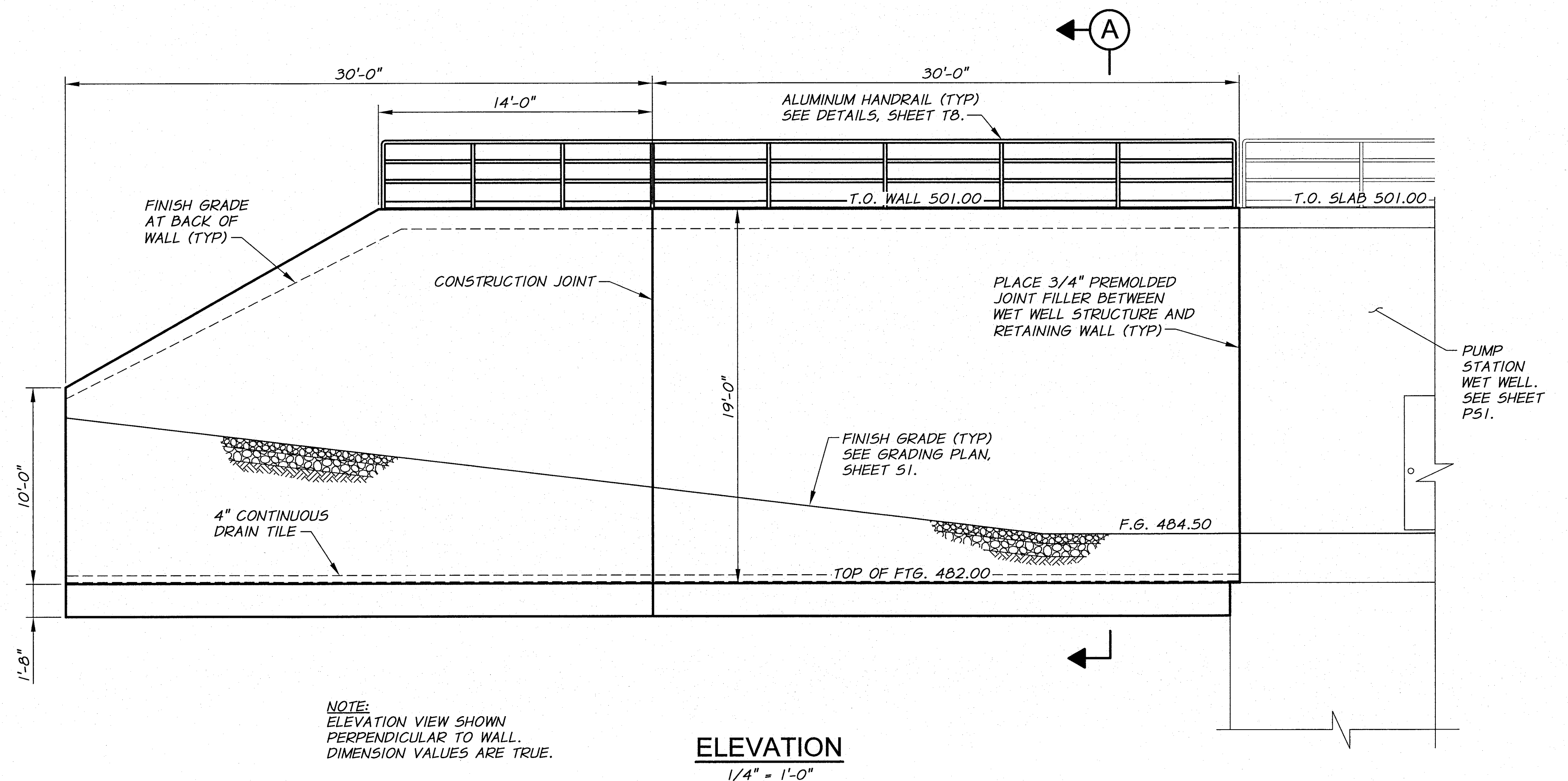
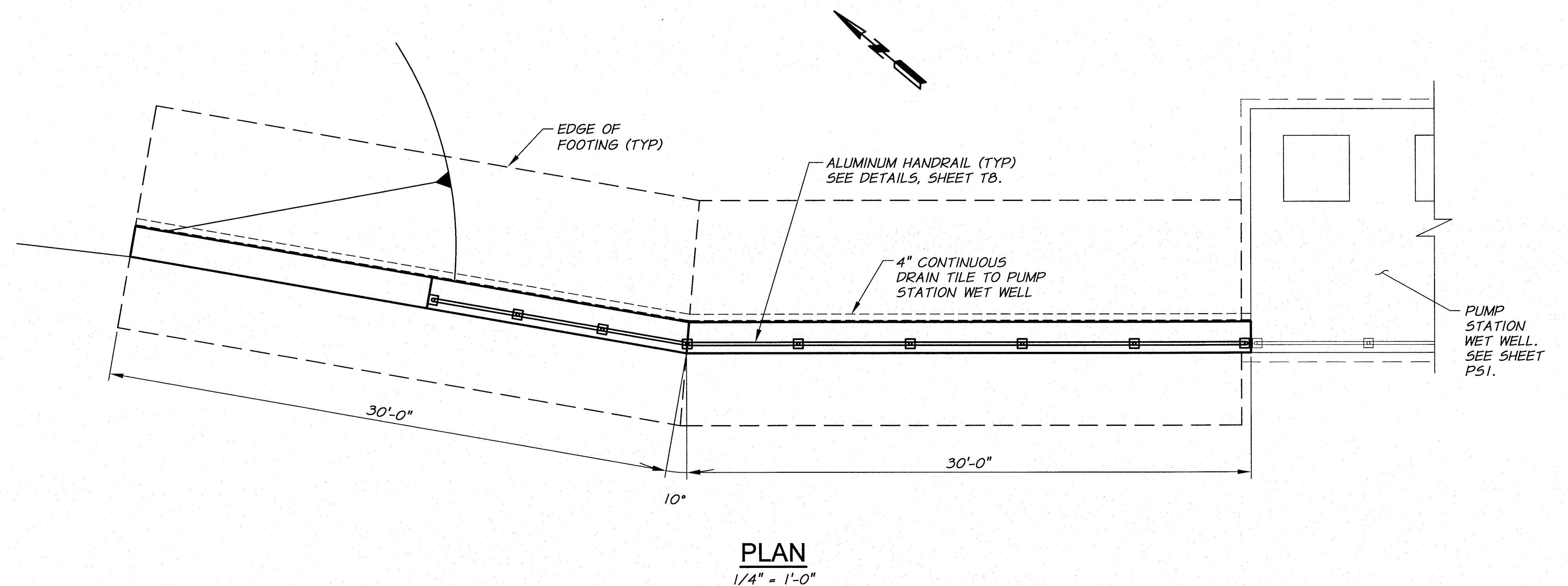
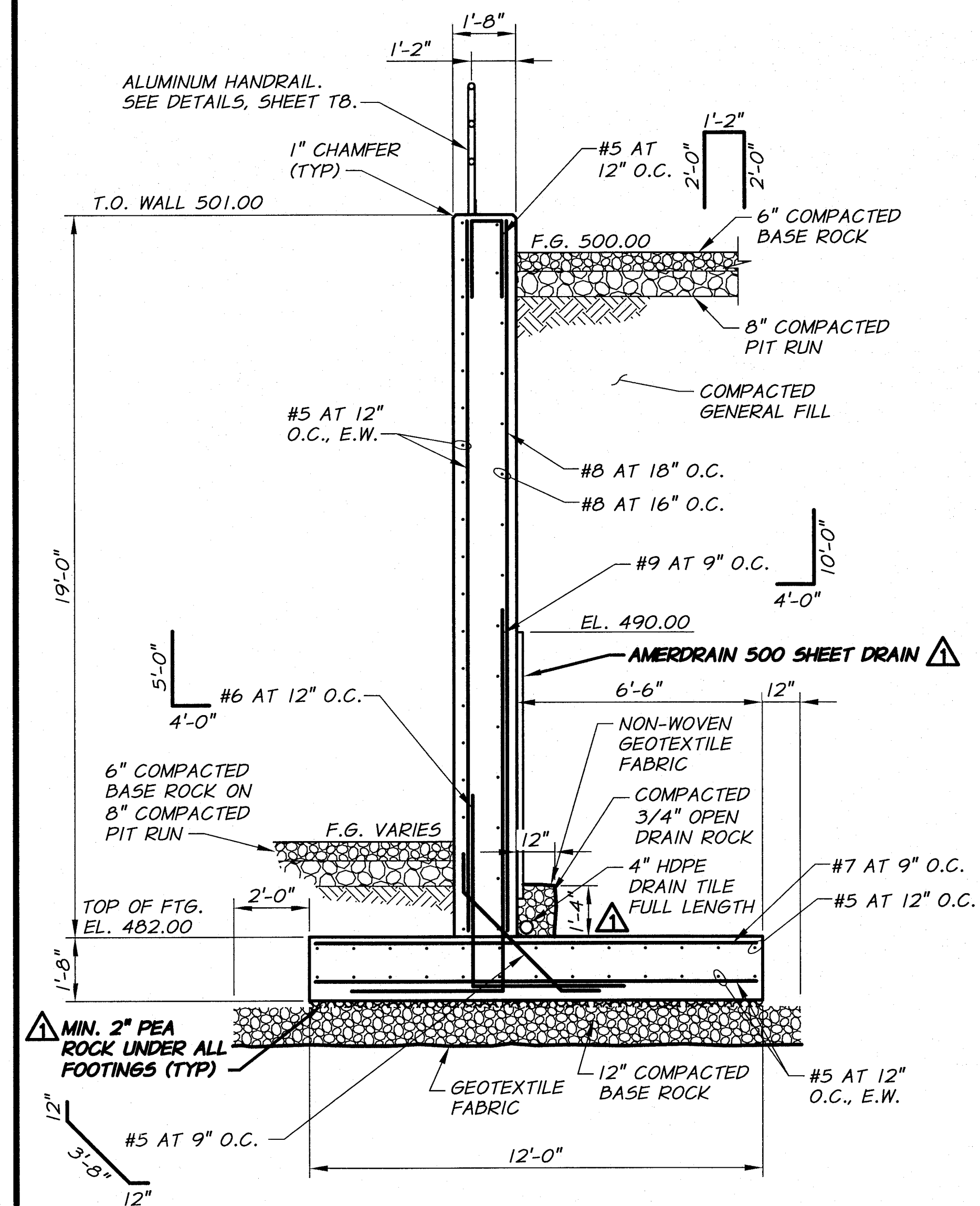
RETAINING WALL NO. 1 SECTIONS

SHEET

S4

8 OF 60

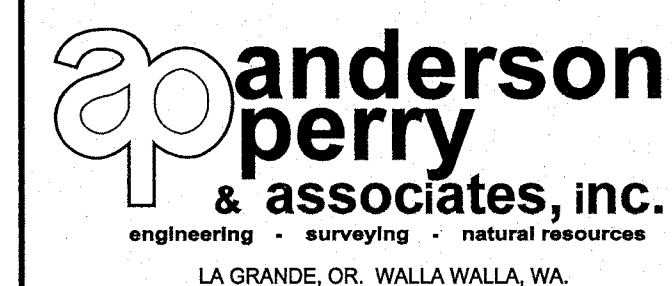
ARCHIVED



△ RECORD DRAWINGS		H.P.		11/10	
REVISION		BY		DATE	
DESIGNED BY B. MOORE		XREFS: TB-PumpSta.dwg		JOB NUMBER 1199-336	
DRAWN BY D. CHRISTMAN				ACAD FILE: SitePlan.dwg	
REVIEWED BY H. PERRY				DATE 2009	
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RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT

IRRIGATION SYSTEM IMPROVEMENTS

RIVER PUMP STATION

RETAINING WALL NO. 2 PLAN AND DETAILS

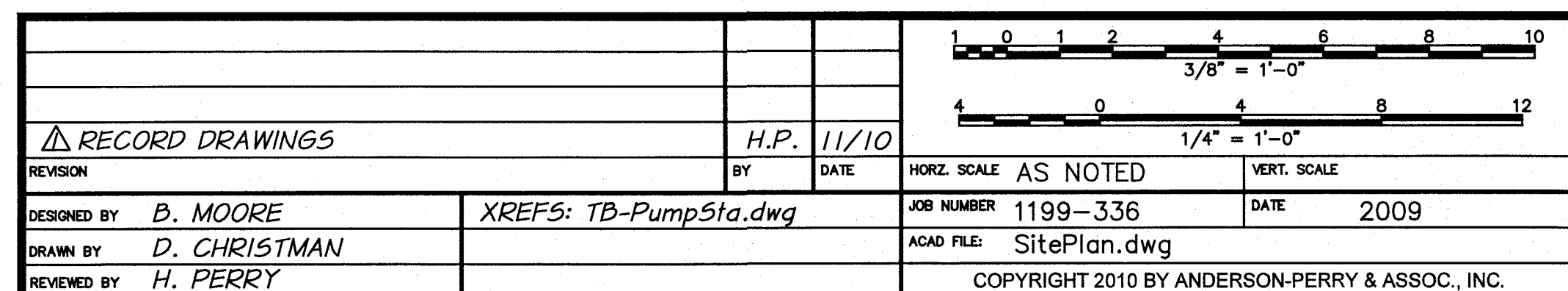
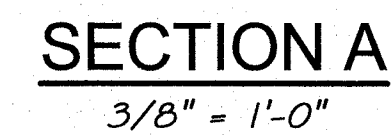
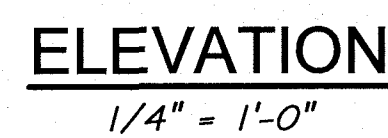
RETAINING WALL NO. 2 PLAN AND DE

SHEET

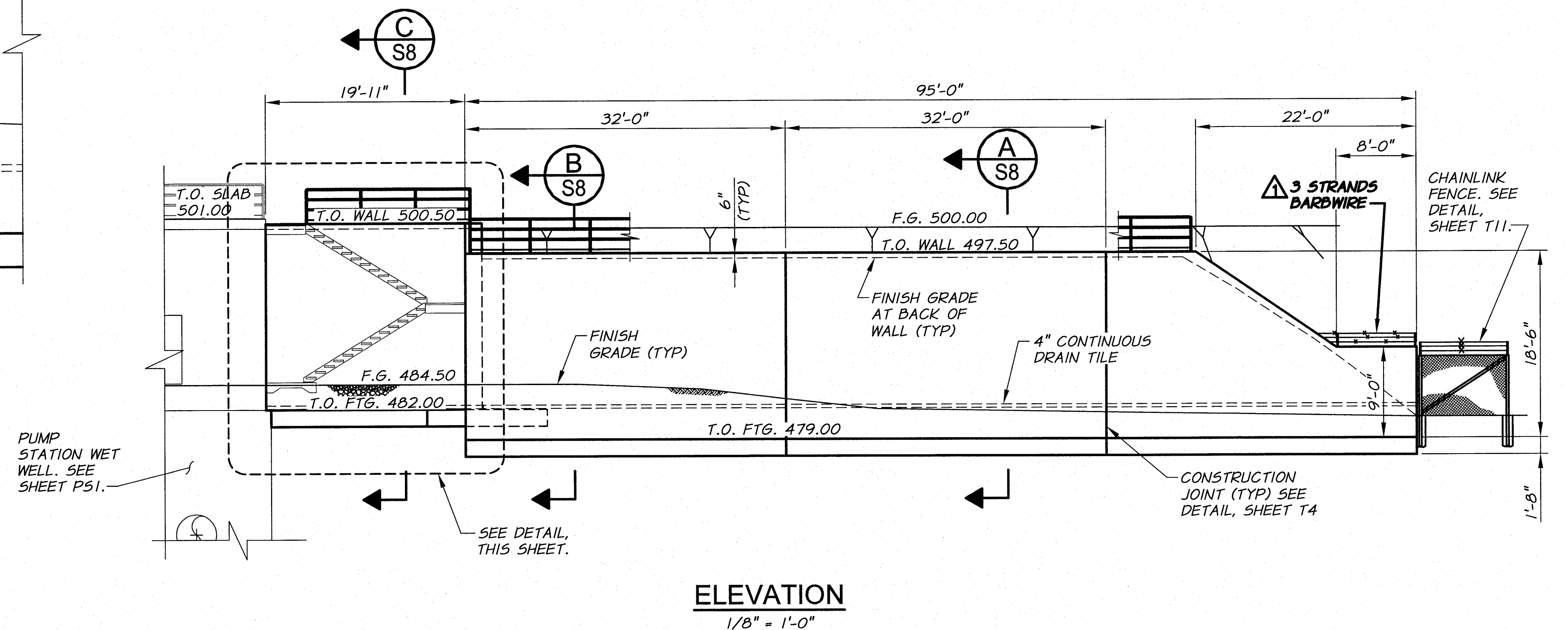
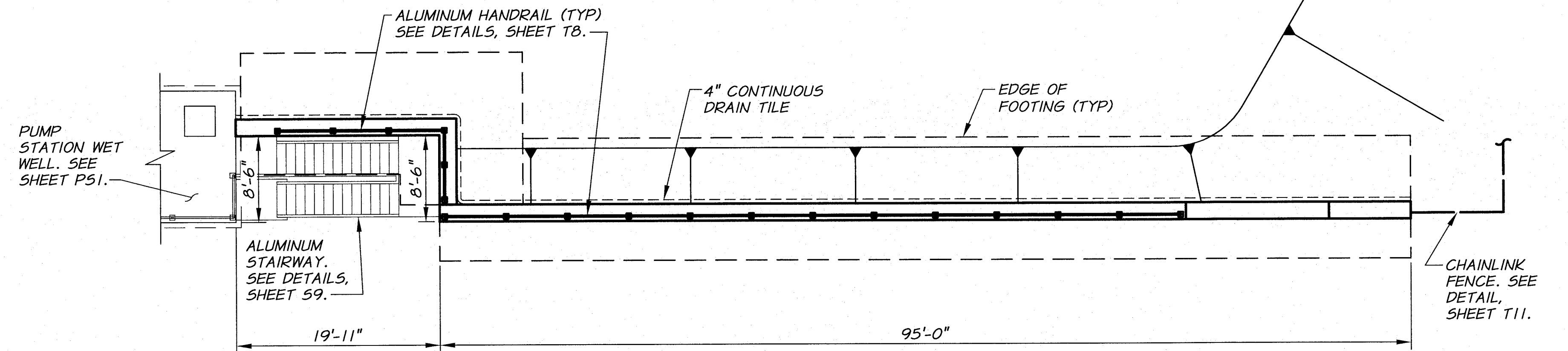
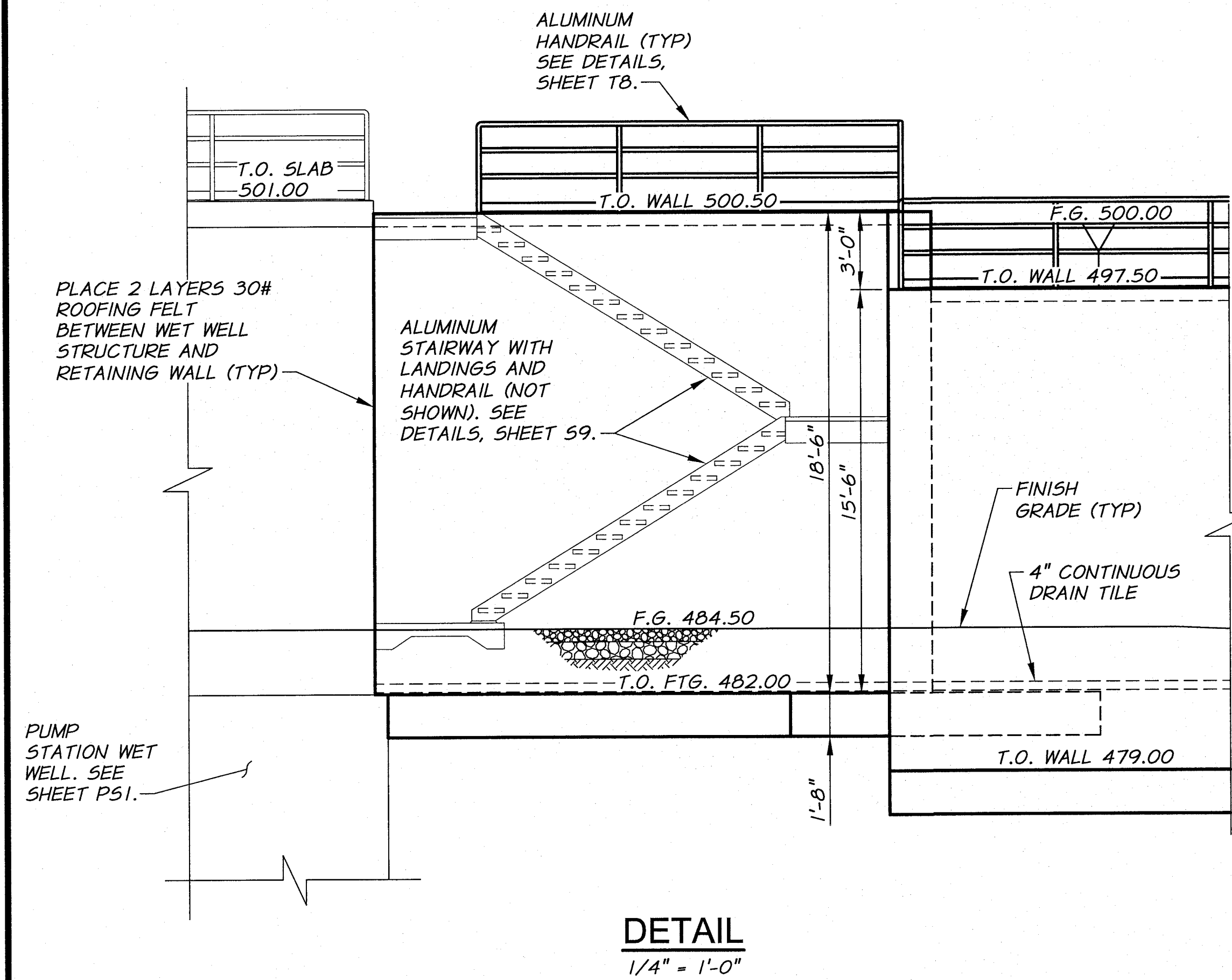
S5

OF 60

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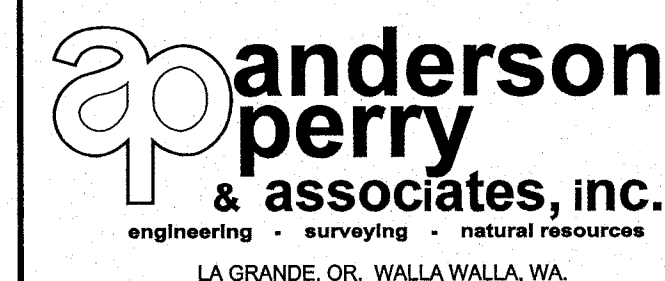
0 OF 60



RECORD DRAWINGS		BY	H.P.	DATE	11/10
DESIGNED BY	B. MOORE	XREFS:	TD-PumpSta.dwg	JOB NUMBER	1199-336
DRAWN BY	D. CHRISTMAN	ACAD FILE:	SitePlan.dwg	DATE	2009
REVIEWED BY	H. PERRY	COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.			

RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

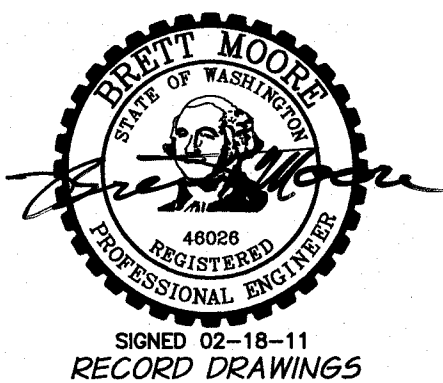
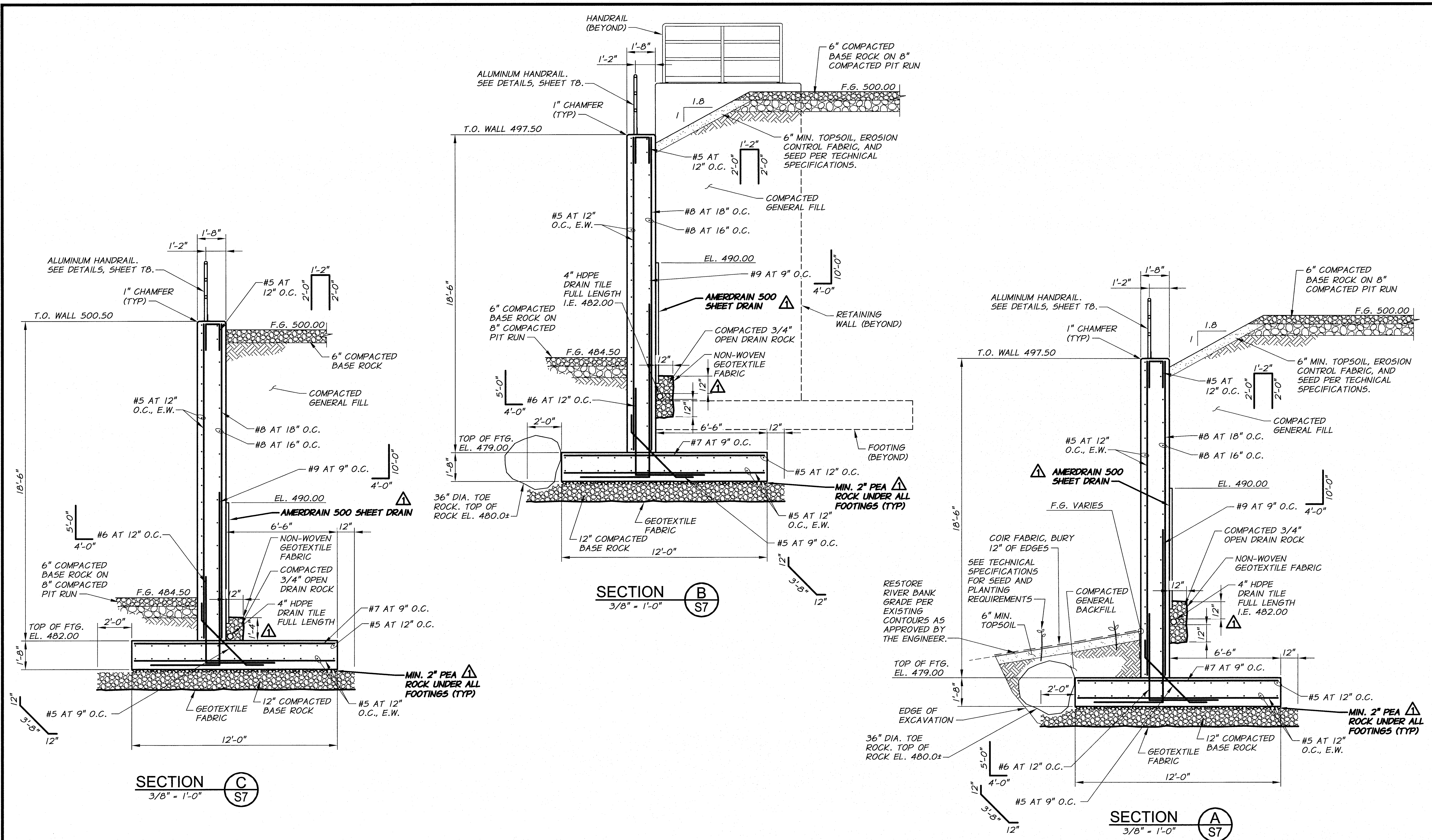
RETAINING WALL NO. 4 PLAN AND ELEVATION

SHEET

S7

11 OF 60

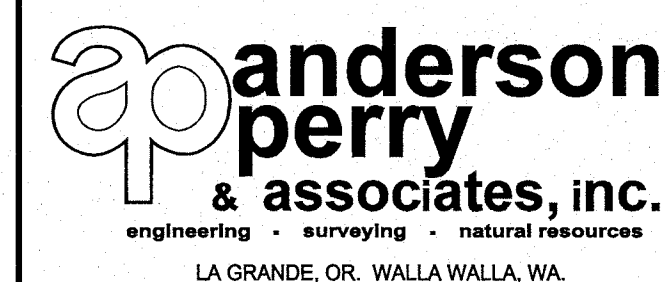
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RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	SitePlan.dwg
		DATE	2009
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

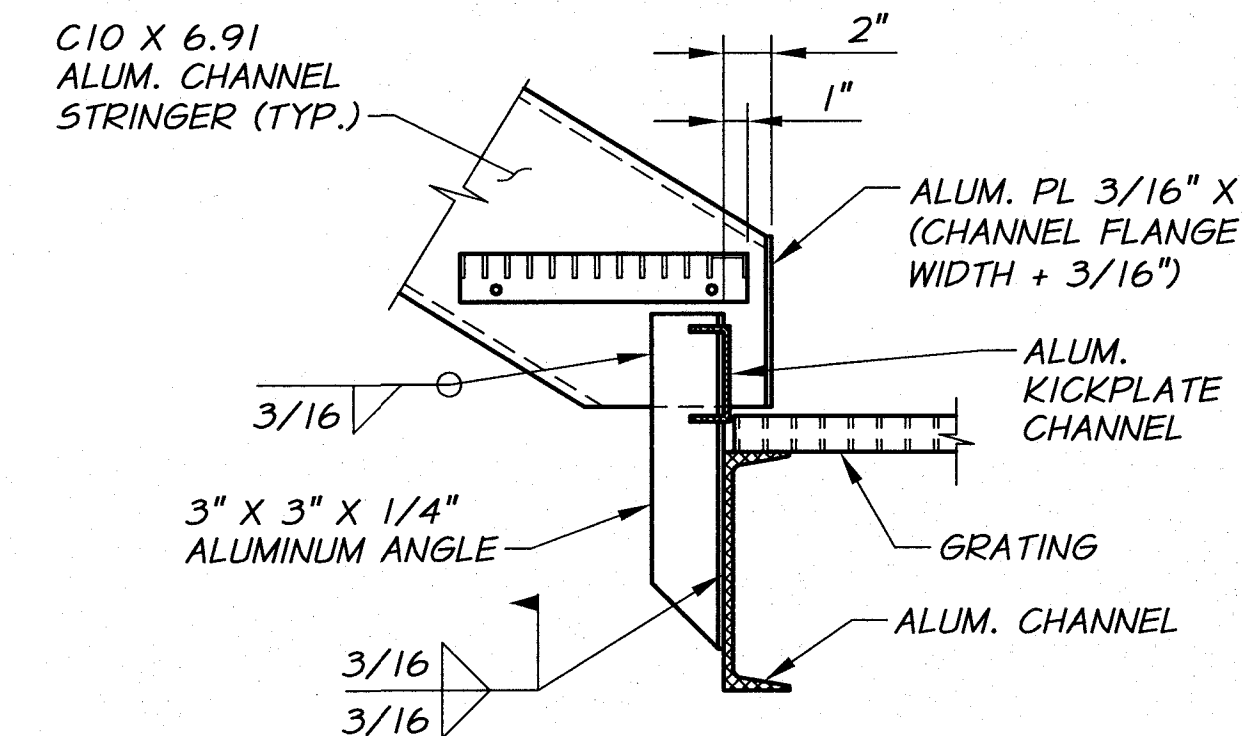
RETAINING WALL NO. 4 SECTIONS

SHEET

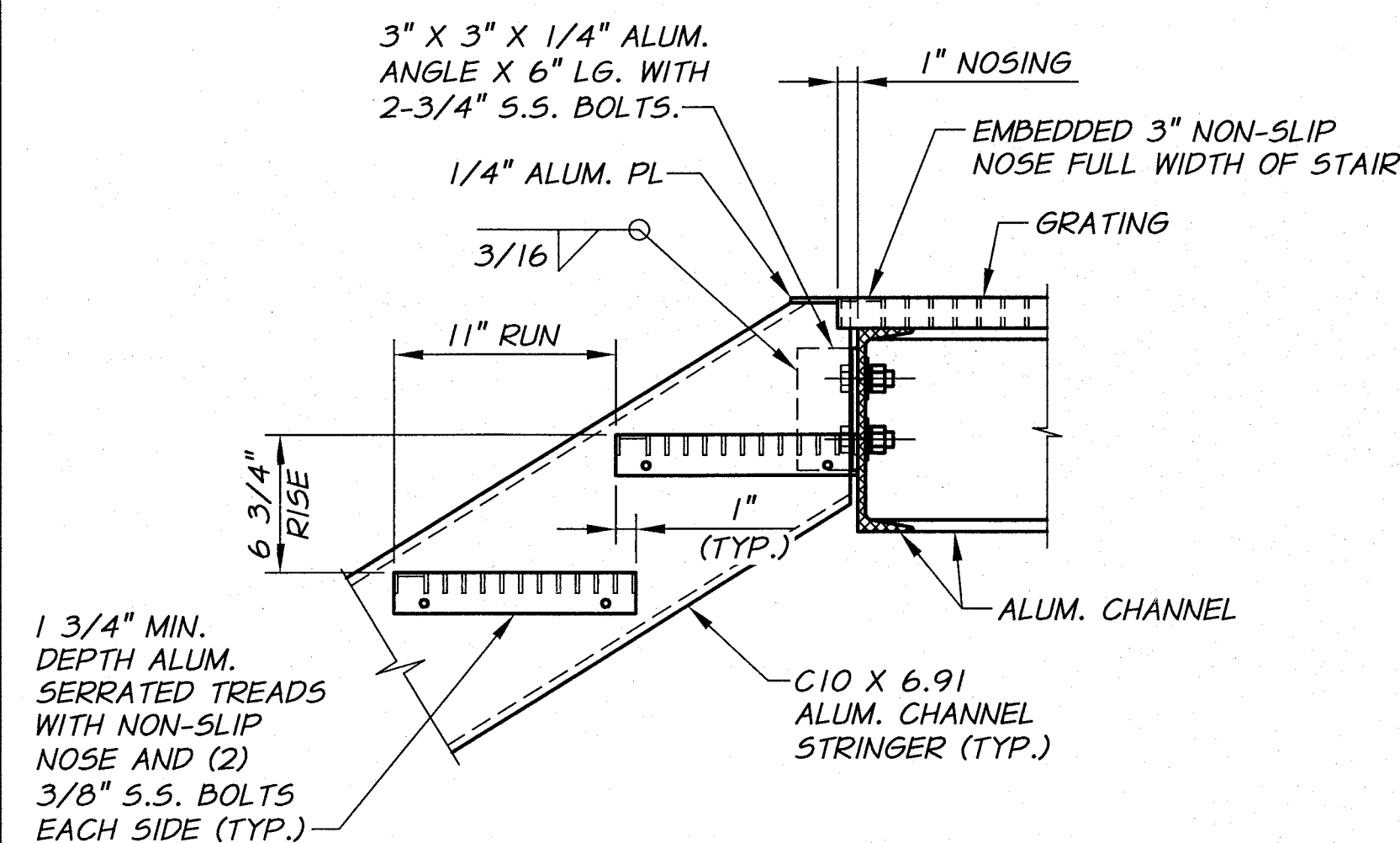
S8

12 OF 60

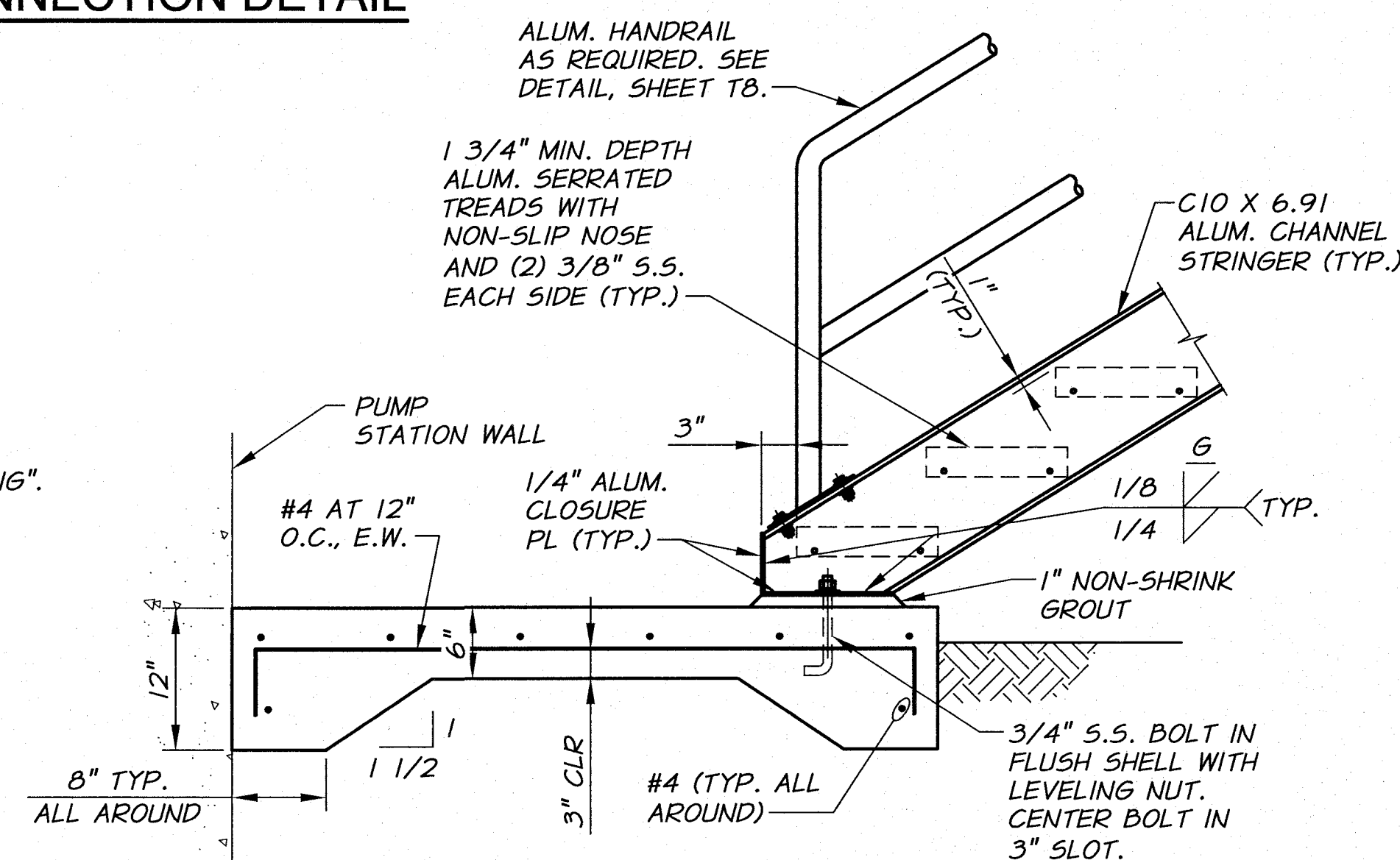
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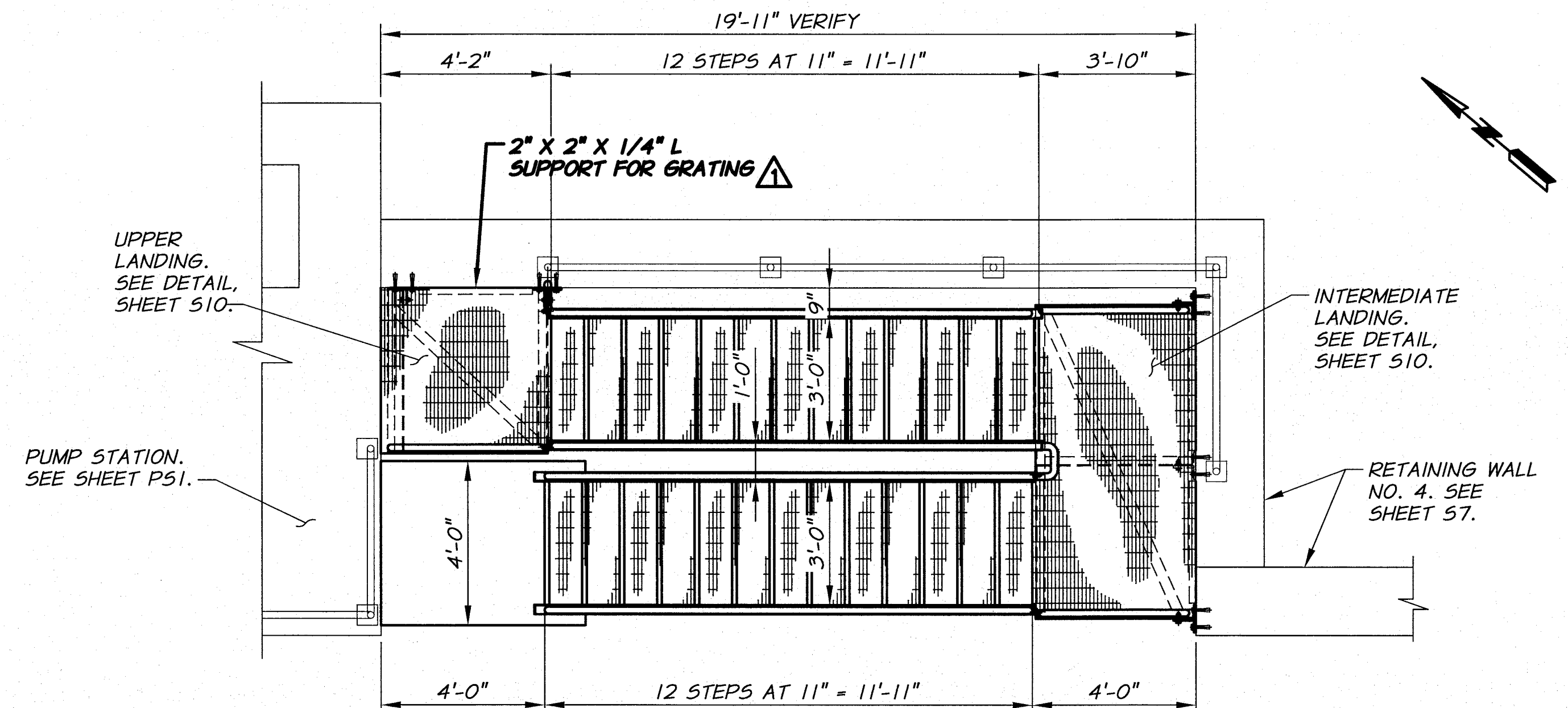
UPPER STAIR/LANDING CONNECTION DETAIL
N.T.S.



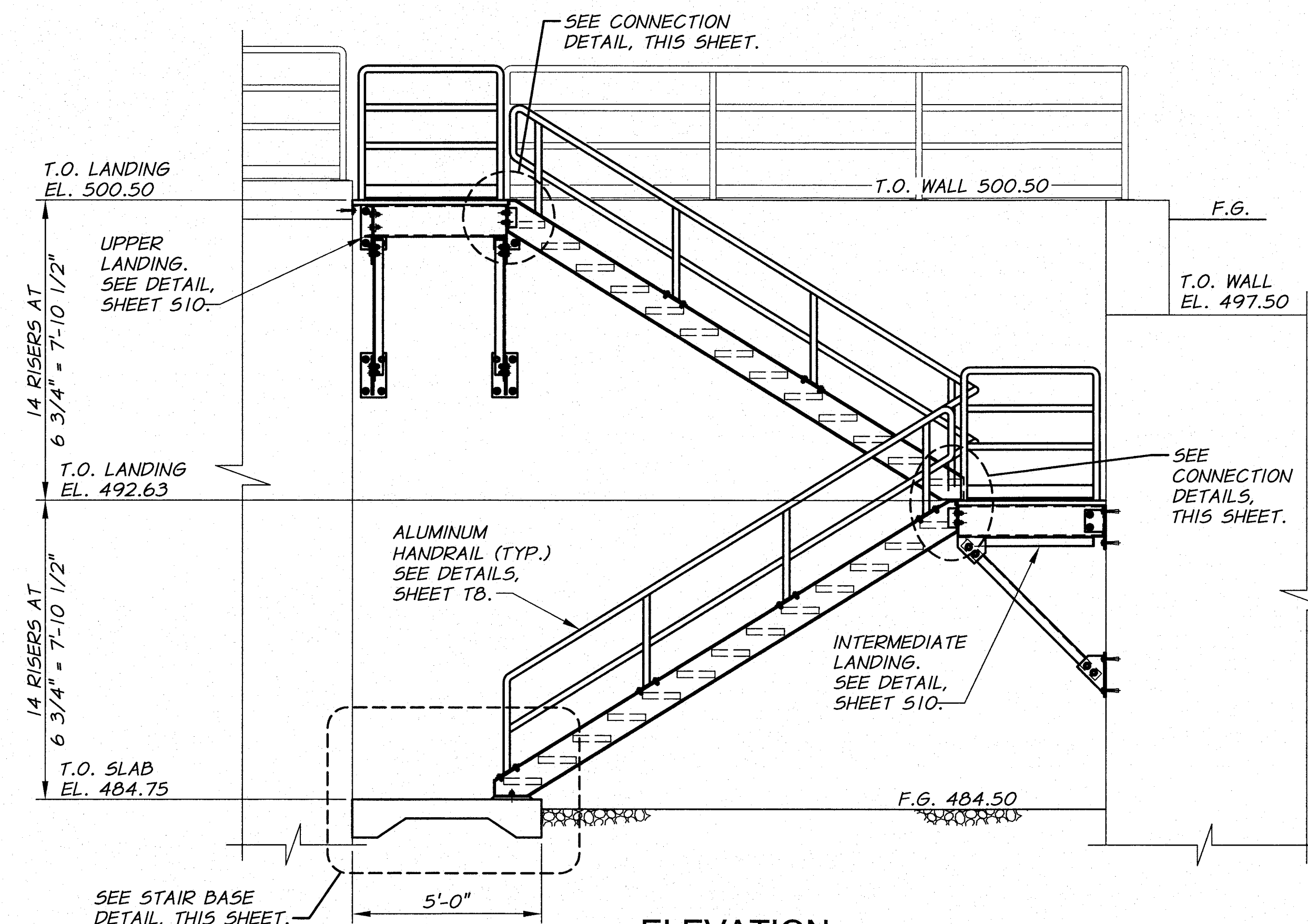
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N.T.S.



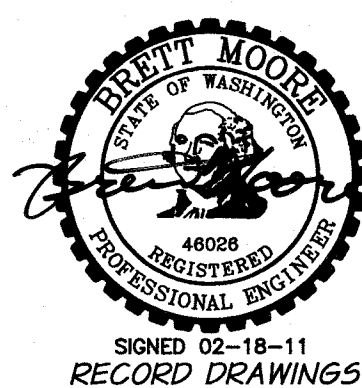
STAIR BASE DETAIL
N.T.S.



PLAN
3/8\"/>



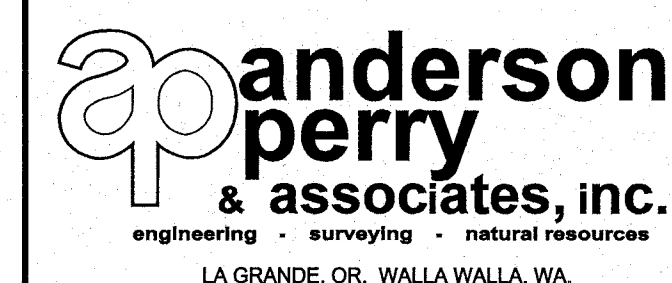
ELEVATION
3/8\"/>



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	DATE	11/10
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	DATE	2009
XREFS: TB-PumpSta.dwg		ACAD FILE	Stairs.dwg
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

STAIRWAY PLAN AND ELEVATION

SHEET

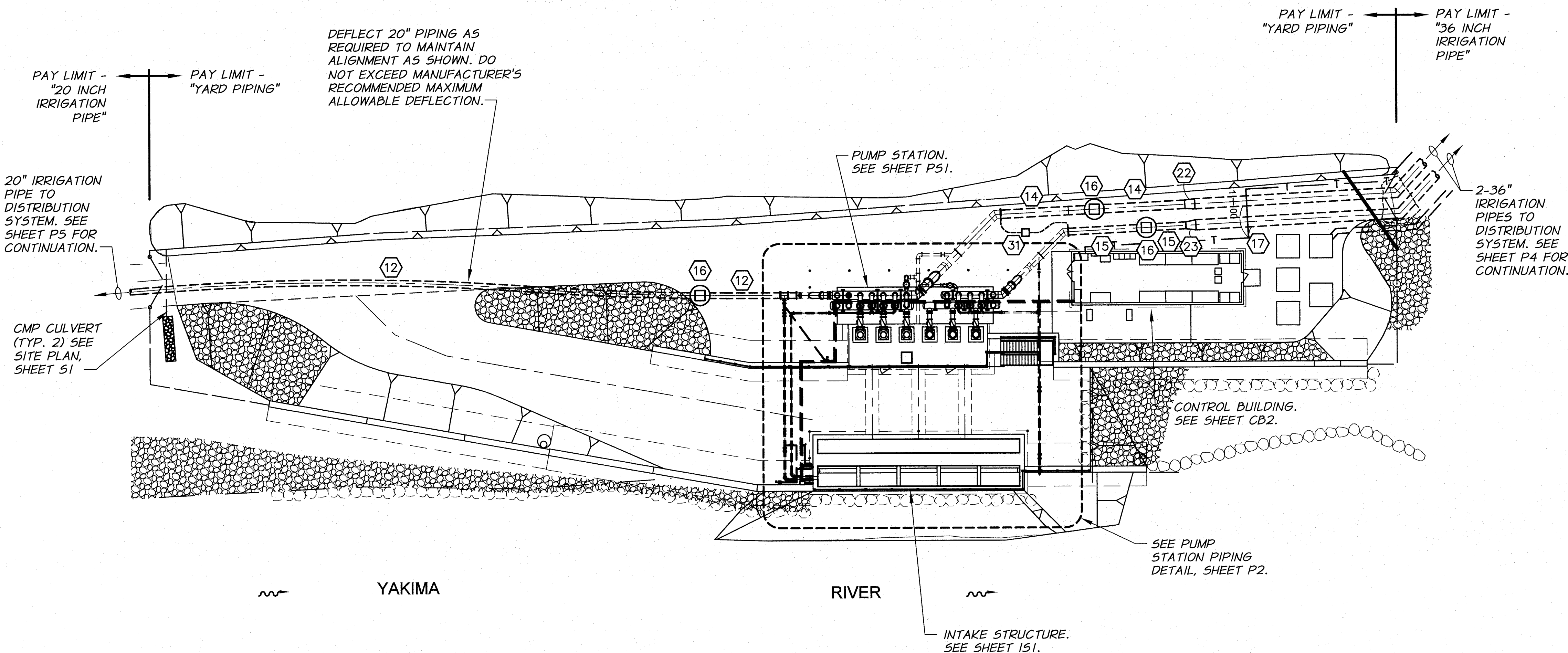
S9

13 OF 60

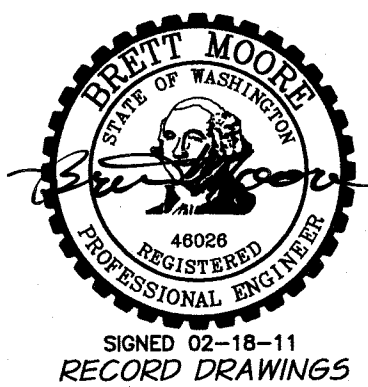
ARCHIVED

PIPING AND EQUIPMENT SCHEDULE

- 1 2" SCH. 80 PVC FISH SCREEN CLEANING WATER SUPPLY LINE. PROVIDE FITTINGS AS REQUIRED.
- 2 1" S.S. HYDRAULIC PIPE, OIL PRESSURE SUPPLY LINE. **SCHEDULE 80 WELDED JOINTS.** SEE TECHNICAL SPECIFICATIONS. **⚠**
- 3 1" S.S. HYDRAULIC PIPE, OIL RETURN LINE. **SCHEDULE 80 WELDED JOINTS.** SEE TECHNICAL SPECIFICATIONS. **⚠**
- 4 4" DI RESTRAINED JOINT PIPING.
- 5 HYDRAULIC PUMP AND RESERVOIR ASSEMBLY. SEE TECHNICAL SPECIFICATIONS.
- 6 HYDRAULIC GATE CONTROL VALVES MOUNTED ON CONCRETE WALL. SEE HYDRAULIC SYSTEM SCHEMATIC, SHEET IS13, AND TECHNICAL SPECIFICATIONS.
- 7 6" DI RESTRAINED JOINT PIPING.
- 8 1" S.S. PIPE WITH FITTINGS AS REQUIRED.
- 9 FROST FREE YARD HYDRANT. SEE DETAIL, SHEET T5.
- 10 6" X 2" SERVICE SADDLE.
- 11 3/4" HYDRAULIC LINE ISOLATION BALL VALVE, 6000 PSI MIN. PRESSURE RATING. MOUNT ON CONCRETE WALL.
- 12 20" RESTRAINED JOINT IRRIGATION PIPING
- 13 20" X 20" X 6" MJ X MJ X FLG DI TEE WITH RESTRAINED JOINTS
- 14 30" RESTRAINED JOINT IRRIGATION PIPING
- 15 24" RESTRAINED JOINT IRRIGATION PIPING
- 16 6 FT. DIAMETER METER VAULT. SEE DETAIL, SHEET T9.
- 17 36" IRRIGATION PIPE
- 18 6" MJ DI 22.5° ELBOW WITH RESTRAINED JOINTS
- 19 PIPE PENETRATION THROUGH RETAINING WALL. SEE DETAIL, SHEET T4.
- 20 4" GATE VALVE WITH VALVE BOX. SEE DETAIL, SHEET T5.
- 21 6" FLG X MJ RESTRAINED JOINT BUTTERFLY VALVE WITH VALVE BOX. SEE DETAIL, SHEET T5.
- 22 36" X 30" **CONCENTRIC REDUCER** WITH RESTRAINED JOINTS **⚠**
- 23 36" X 24" **ECCENTRIC REDUCER** WITH RESTRAINED JOINTS
- 24 6" MJ DI 90° ELBOW WITH RESTRAINED JOINTS
- 25 6" X 6" X 6" MJ DI TEE WITH RESTRAINED JOINTS **⚠**
- 26 4" MJ DI 90° ELBOW WITH RESTRAINED JOINTS
- 27 6" MJ DI 45° ELBOW WITH RESTRAINED JOINTS
- 28 20" RESTRAINED FLANGE ADAPTER
- 29 3/4" SCH. 80 PVC WATER LINE. PROVIDE FITTINGS AS REQUIRED.
- 30 4" FLG X PE DI PIPE, LENGTH AS REQUIRED.
- 31 10# SACRIFICIAL ZINC ANODE. CONNECT TO BOTH PIPE SYSTEMS. PROVIDE JUMPERS AT ALL FLANGES.
- 32 6" FLG FLAP VALVE. BOLT TO FLG ON END OF PIPE.



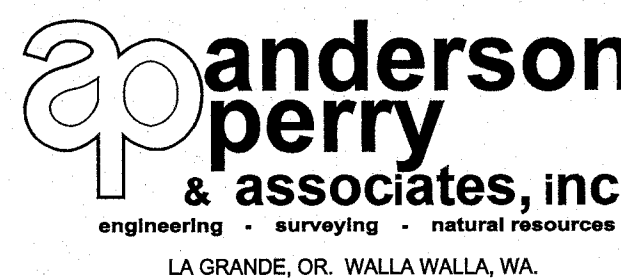
NOTE:
PROVIDE THRUST BLOCKS AT
ALL RESTRAINED FITTINGS.
THRUST BLOCK SIZE SHALL BE
RATED AT 50% CAPACITY
BASED ON DETAILS, SHEET T14.



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	D. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	SitePiping.dwg
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RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

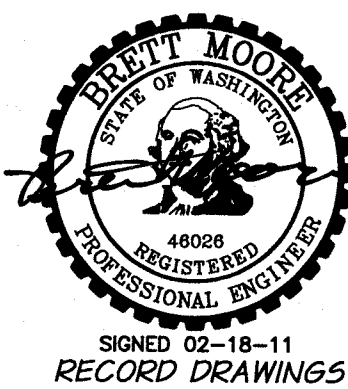
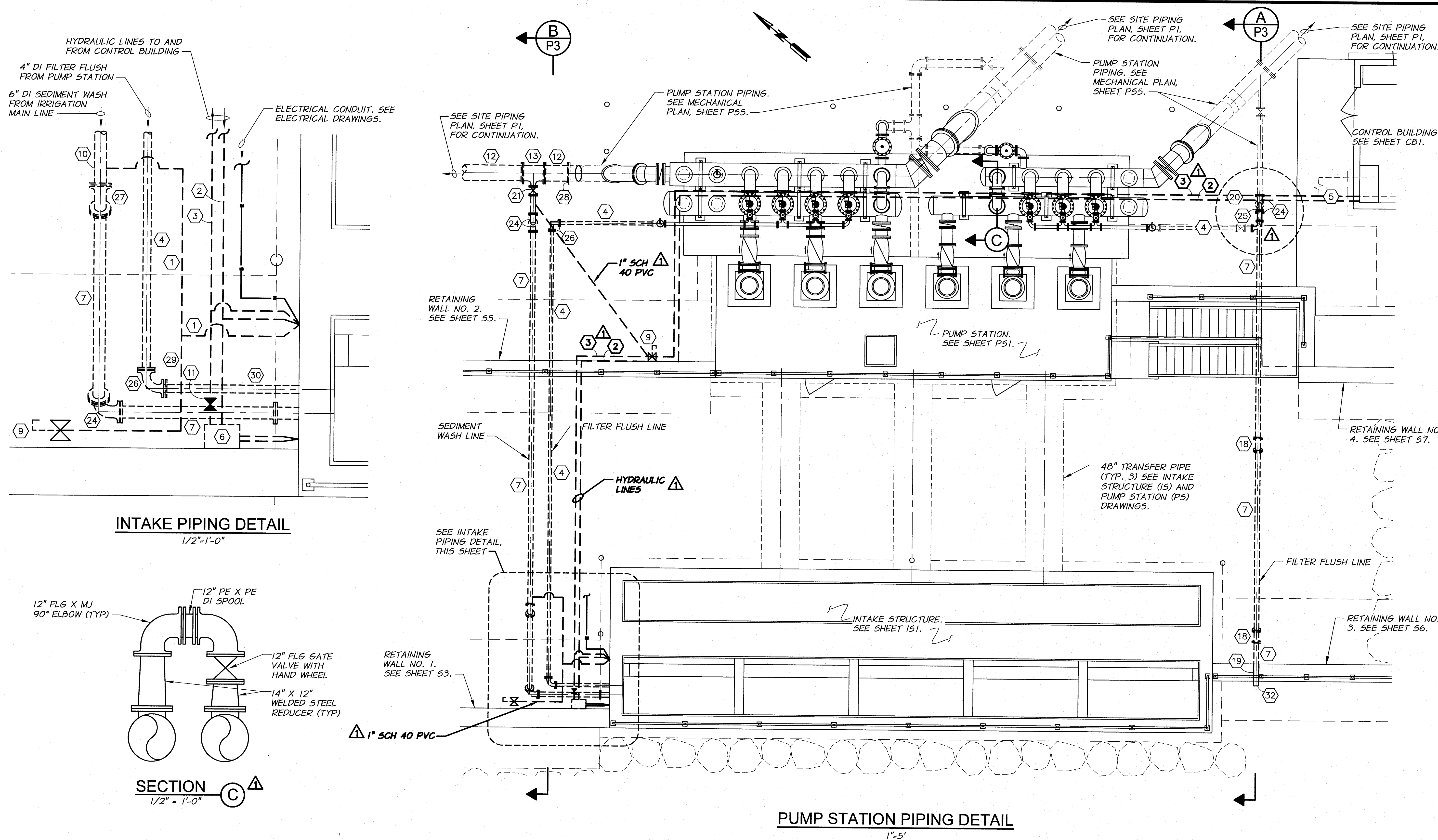
PIPING
SITE PIPING PLAN

SHEET

P1

15 OF 60

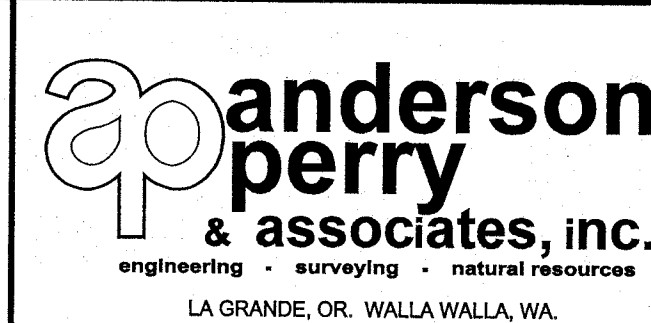
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				H.P.		11/10	
REVISION				BY		DATE	
RECORD DRAWINGS						HORIZ. SCALE AS NOTED	
DESIGNED BY B. MOORE		XREFS: TB-PumpSta.dwg		JOB NUMBER 1199-336		DATE 2009	
DRAWN BY D. CHRISTMAN				ACAD FILE: SitePiping - test.dwg			
REVIEWED BY H. PERRY				COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.			

RECORD DRAWINGS

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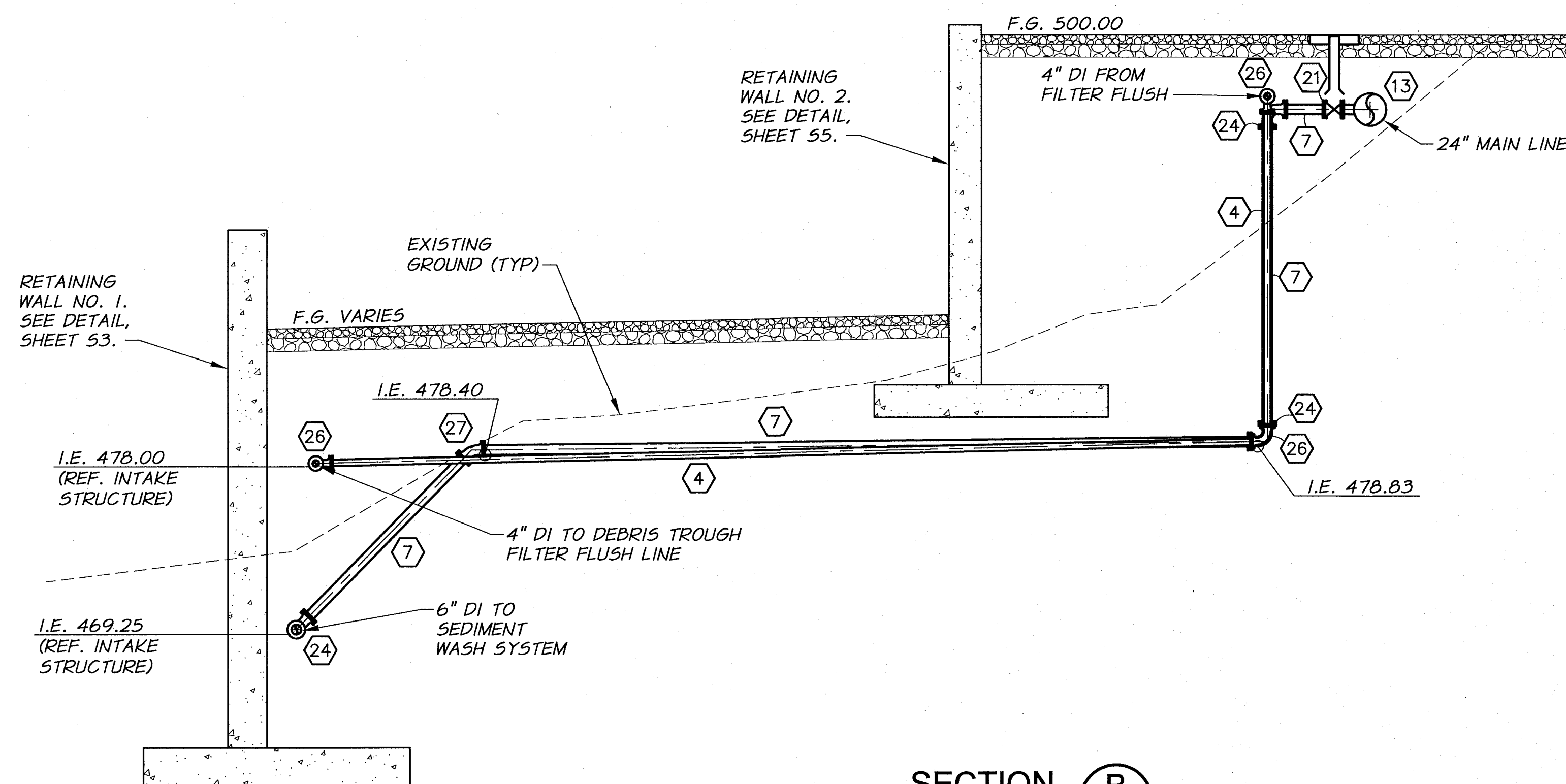


BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

PIPING
PUMP STATION PIPING DETAIL

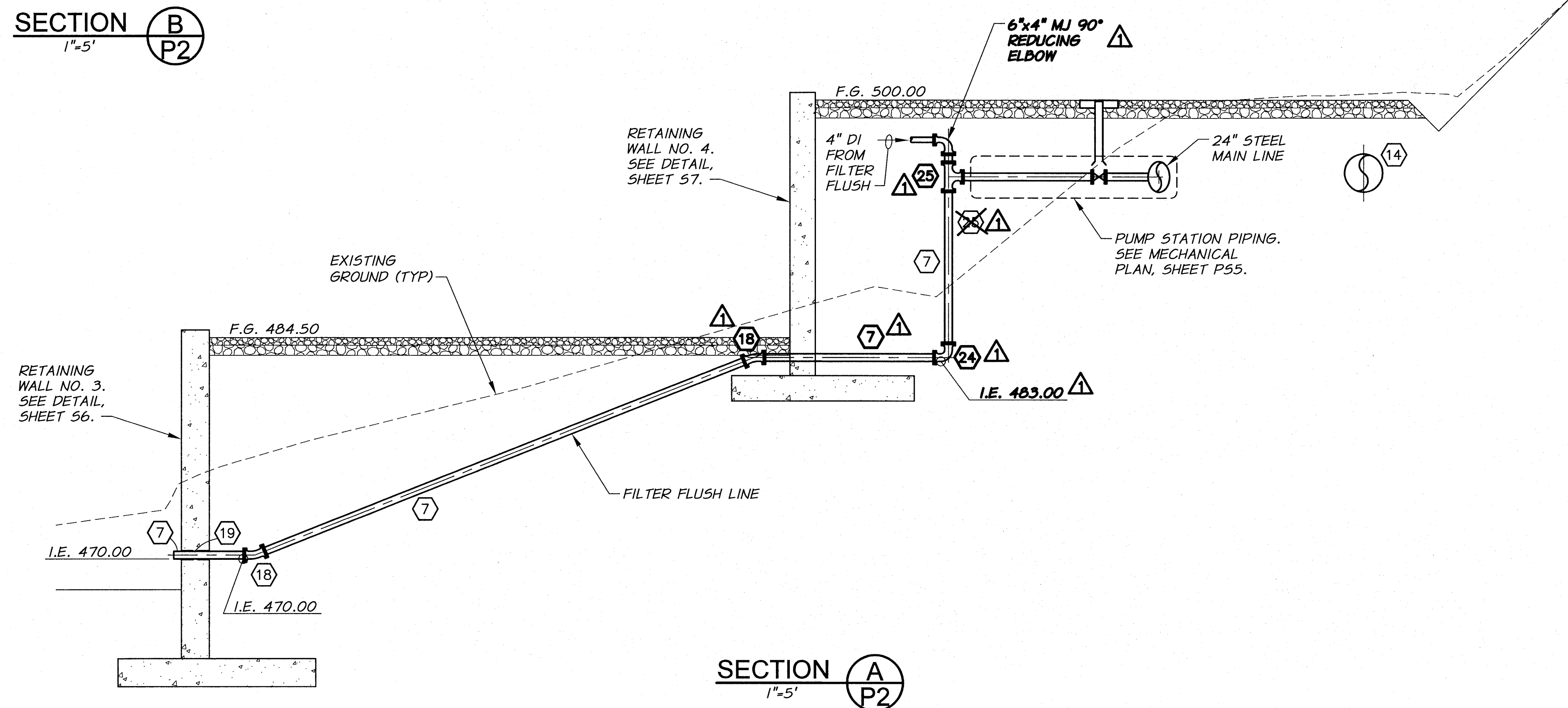
SHEET
P2
16 OF 60

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SECTION B
1"=5' (P2)

NOTE:
SEE SHEET P1 FOR PIPING
AND EQUIPMENT SCHEDULE.



SECTION A
1"=5' (P2)

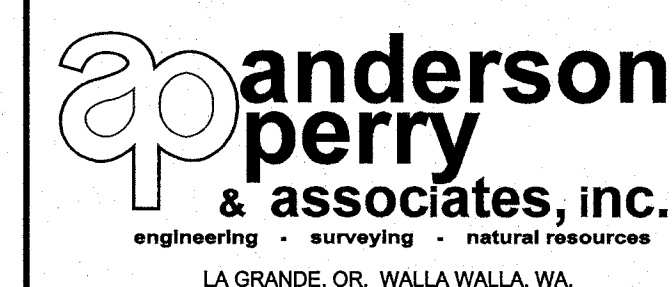


RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	SitePiping.dwg
		DATE	2009
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SCALE IN FEET
0 5 10 15

RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

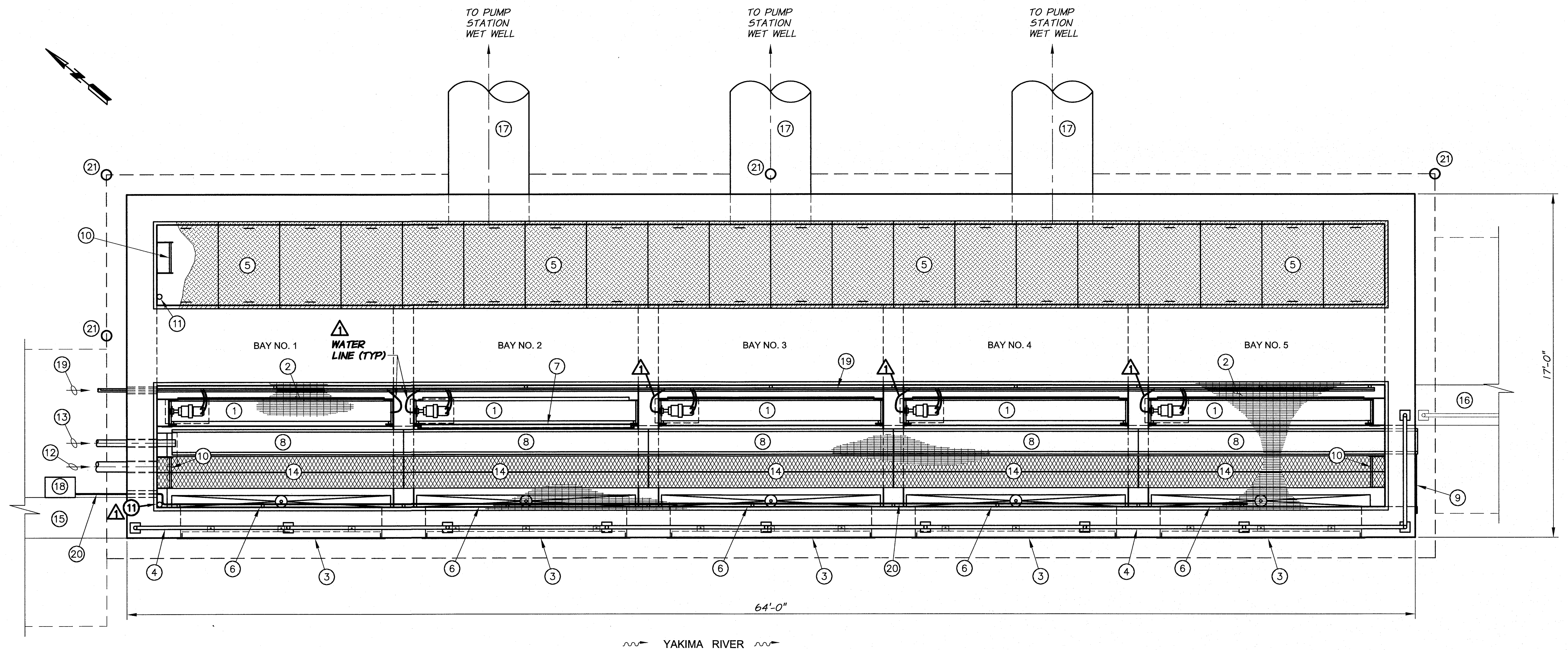
PIPING
SECTIONS I

SHEET

P3

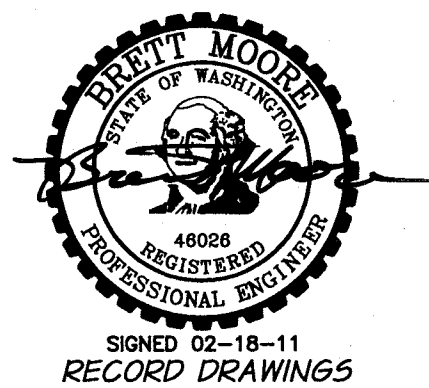
17 OF 60

ARCHIVED



EQUIPMENT SCHEDULE

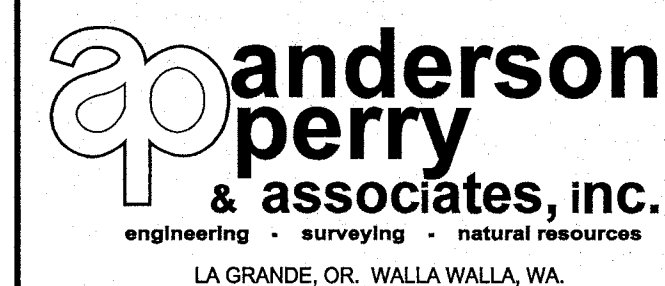
- ① TRAVEL BELT INTAKE SCREEN UNIT (TYP. 5) 10 FT. X 12 FT. VERTICAL TRAVELING SCREEN. SEE TECHNICAL SPECIFICATIONS.
- ② ALUMINUM GRATING. SEE DETAIL, SHEET T7.
- ③ TRASH RACK (TYP 5) SEE DETAIL, SHEET IS11.
- ④ ALUMINUM 3-RAIL HANDRAIL WITH KICK PLATE. SEE DETAIL, SHEET T8.
- ⑤ ALUMINUM DIAMOND PLATE ACCESS PANELS (TYP) SEE DETAILS, SHEET T7.
- ⑥ 10 FT. WIDE X 4 FT. HIGH FACE MOUNTED ALUMINUM SLIDE GATE WITH HYDRAULIC CYLINDER LIFT (TYP 5). SEE TECHNICAL SPECIFICATIONS.
- ⑦ INTAKE SCREEN ISOLATION GATE. SEE DETAIL, SHEET IS13.
- ⑧ DEBRIS TROUGH. SEE DETAIL, SHEET IS12.
- ⑨ 3 FT. WIDE X 6 FT. HIGH FACE MOUNTED ALUMINUM STOP GATE WITH PERIMETER SEAL. SEE TECHNICAL SPECIFICATIONS.
- ⑩ ALUMINUM ACCESS LADDER. SEE DETAIL, SHEET T7.
- ⑪ WATER LEVEL SENSOR. SEE DETAIL, SHEET T9.
- ⑫ 6" SEDIMENT FLUSH SUPPLY PIPE. SEE YARD PIPING PLAN, SHEET PI, FOR CONTINUATION.
- ⑬ 4" FILTER FLUSH/DEBRIS TROUGH FLUSH SUPPLY PIPE. SEE YARD PIPING PLAN, SHEET PI, FOR CONTINUATION.
- ⑭ CATWALK, "H" SERIES 9 GA. STEEL 2-DIAMOND PLANK, 4" DEEP CHANNEL. SEE TECHNICAL SPECIFICATIONS.
- ⑮ RETAINING WALL NO. 1. SEE DETAIL, SHEET S3.
- ⑯ RETAINING WALL NO. 3. SEE DETAIL, SHEET S6.
- ⑰ 48" PVC PIPE TO PUMP STATION WET WELL. SEE YARD PIPING PLAN, SHEET PI, FOR CONTINUATION.
- ⑱ GATE CONTROL PANEL.
- ⑲ HYDRAULIC LINES, ELECTRICAL CONDUIT, SCREEN CLEANING WATER LINE, AND WATER LEVEL SENSOR CONDUIT. SEE PIPING PLAN, SHEET PI, AND ELECTRICAL DRAWINGS.
- ⑳ HYDRAULIC GATE CONTROL LINES.
- ㉑ BOLLARD. SEE DETAIL, SHEET T10.



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	DATE	2009
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE	ScreenStruct.dwg
XREFS: TB-PumpSta.dwg		COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

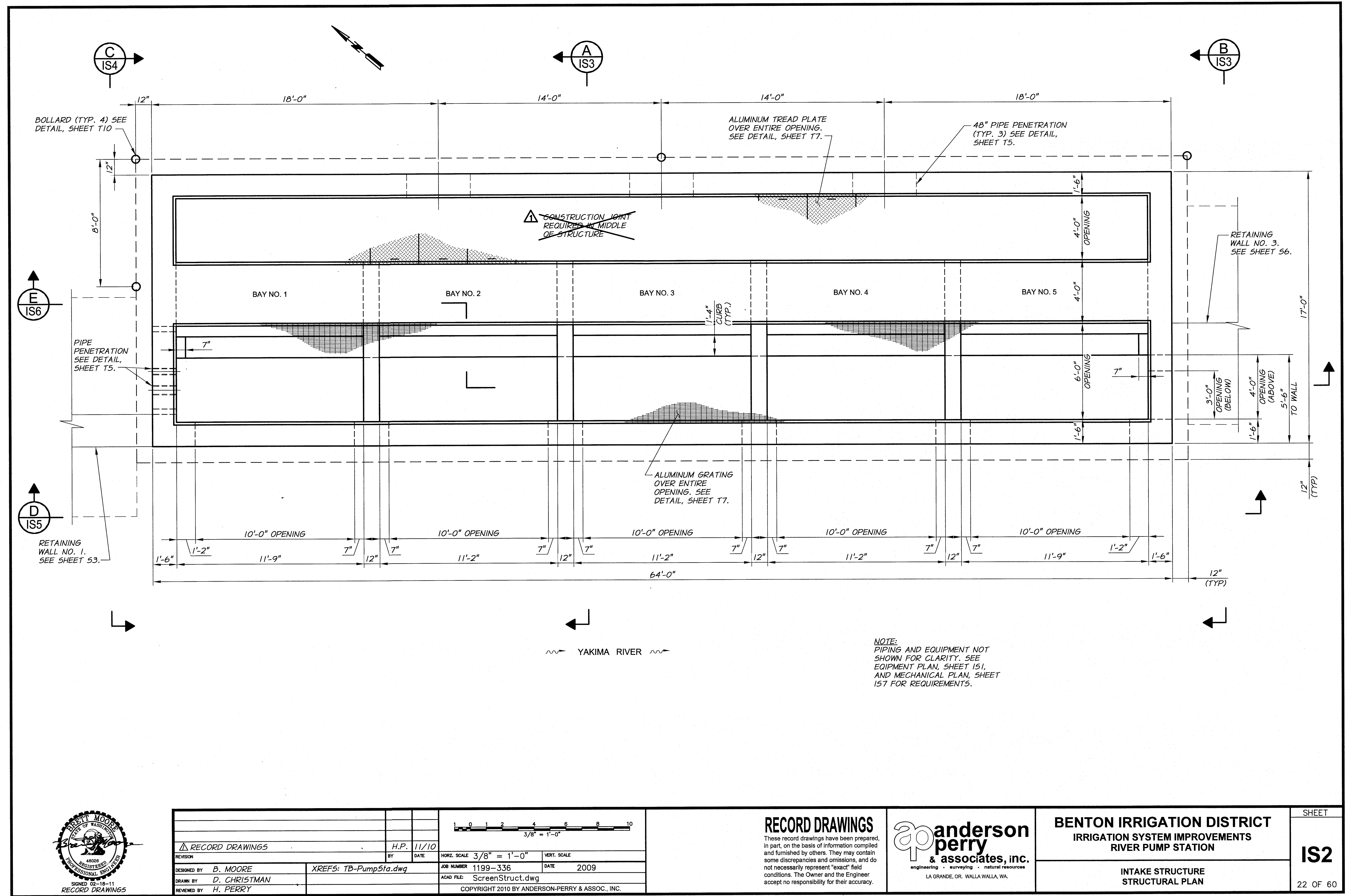
INTAKE STRUCTURE GENERAL PLAN

SHEET

IS1

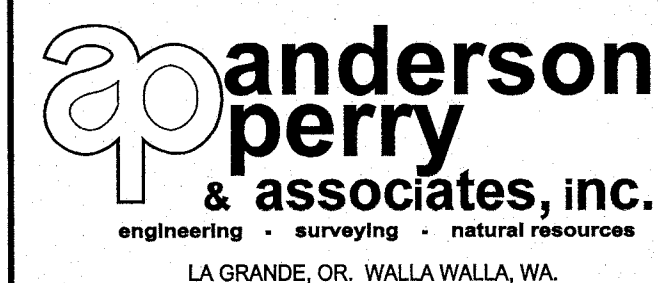
21 OF 60

ARCHIVED



RECORD DRAWINGS		H.P.	11/10	3/8" = 1'-0"	
DESIGNED BY	B. MOORE	DATE	11/10	HORIZ. SCALE	3/8" = 1'-0"
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336	VERT. SCALE	
REVIEWED BY	H. PERRY	ACAD FILE	ScreenStruct.dwg	DATE	2009
XREFS: TB-PumpSta.dwg					
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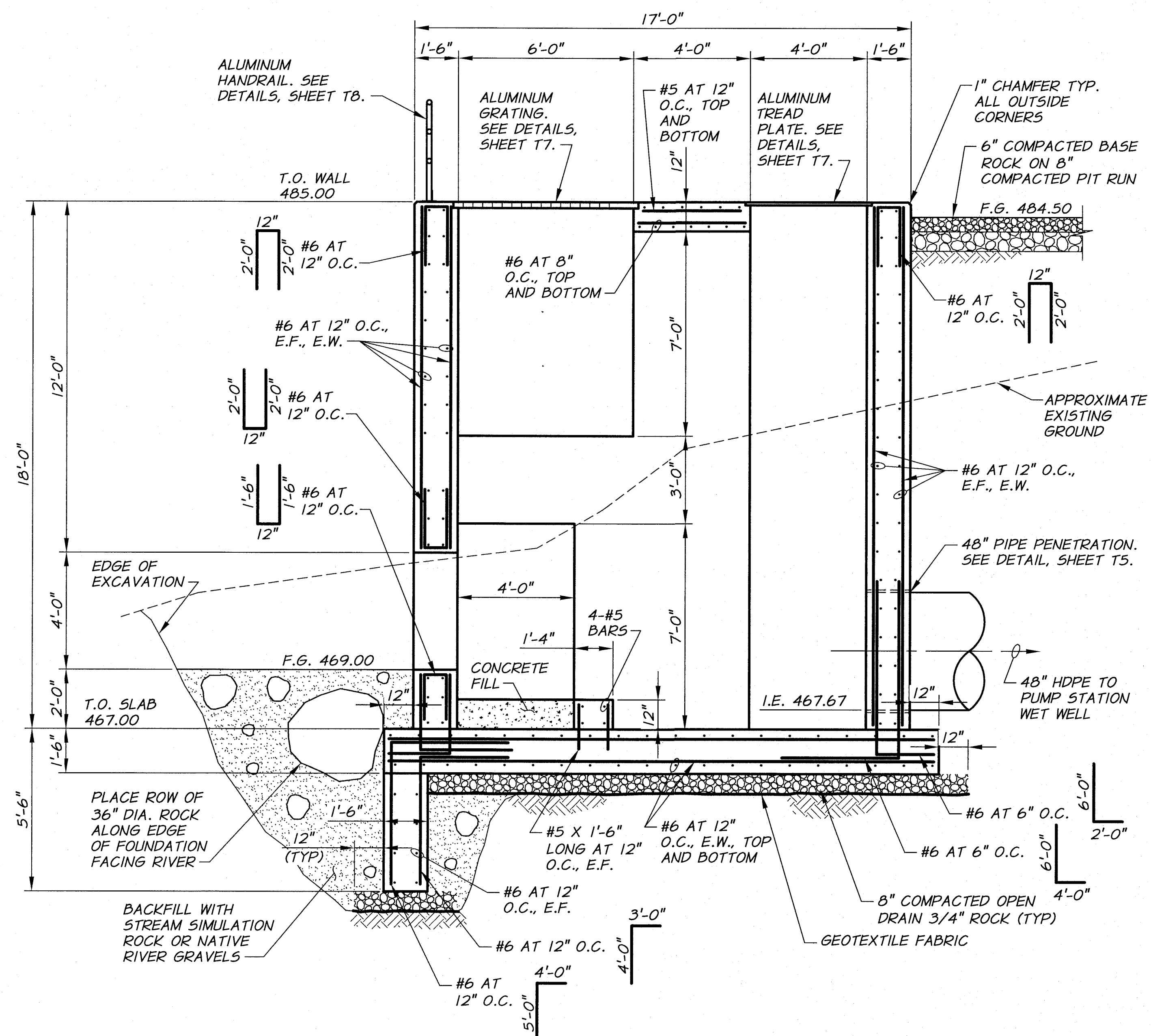


BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

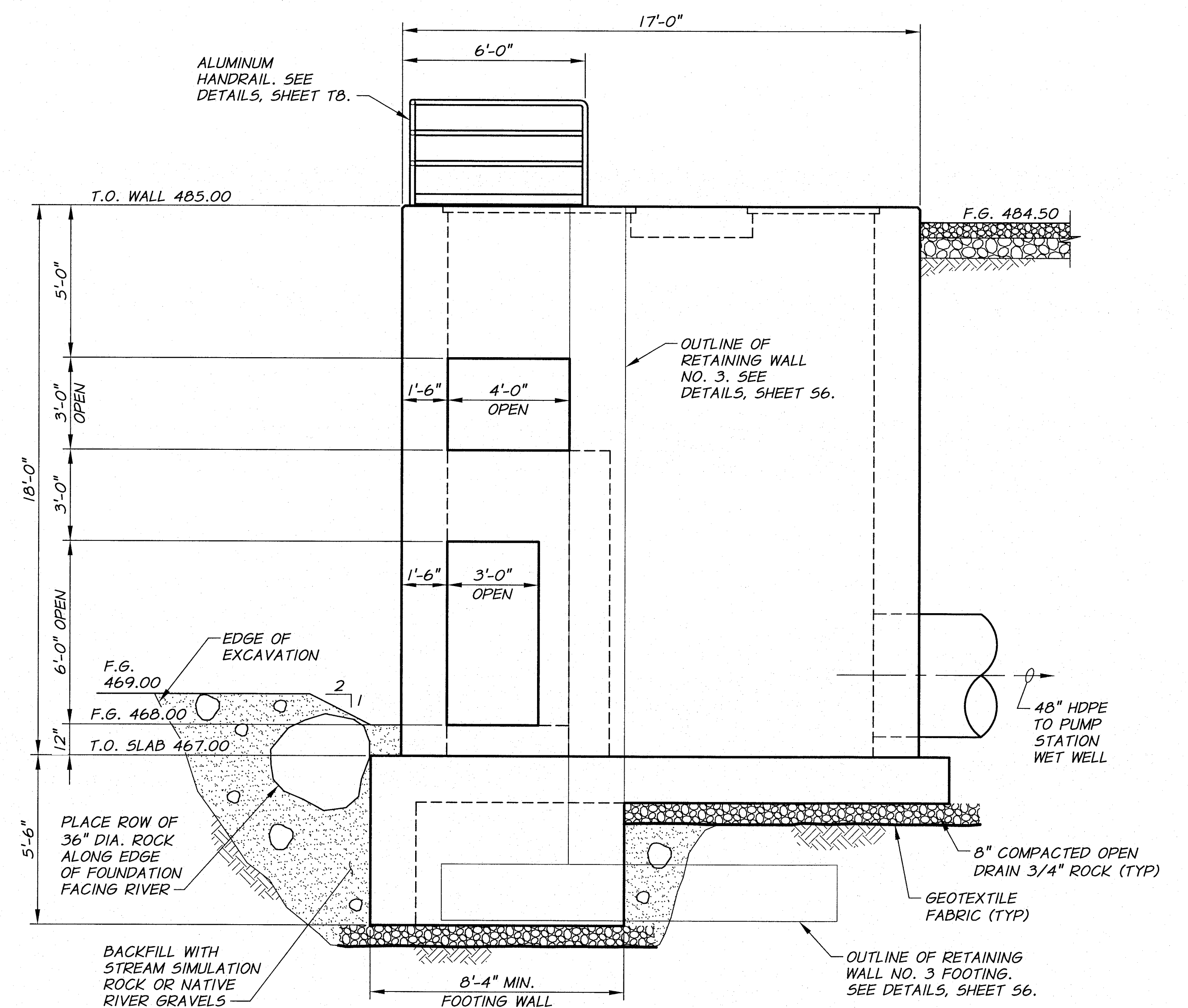
INTAKE STRUCTURE
STRUCTURAL PLAN

SHEET
IS2
22 OF 60

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



SECTION B
3/8"=1'-0"

NOTES:

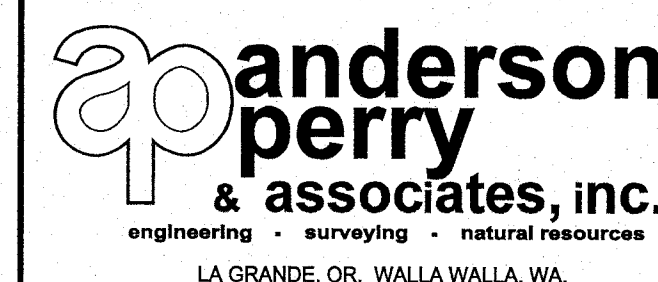
1. EXTEND FOOTING WALL TO BACKSIDE OF RETAINING WALL ON EACH END OF STRUCTURE.
2. FOR ADDITIONAL REINFORCING REQUIREMENTS SEE TYPICAL DETAILS.
3. FOR CORNER REINFORCING SEE DETAIL, SHEET T4.



DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg	JOB NUMBER	1199-336	DATE	2009
DRAWN BY	D. CHRISTMAN		ACAD FILE:	ScreenStruct.dwg		
REVIEWED BY	H. PERRY					
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

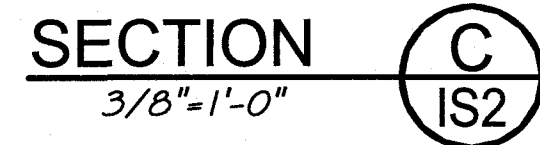
INTAKE STRUCTURE
STRUCTURAL SECTIONS I

SHEET

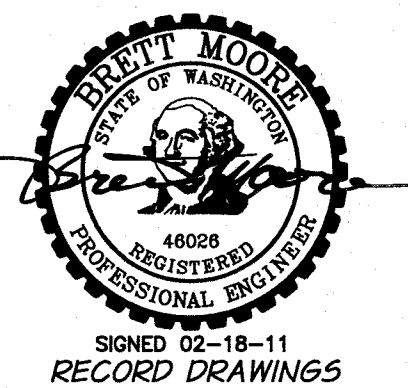
IS3

23 OF 60

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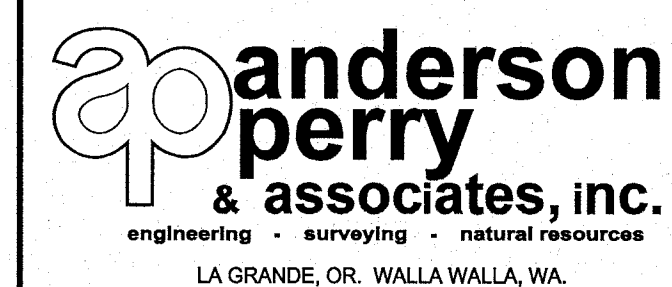
1. *EXTEND FOOTING WALL TO BACKSIDE OF
RETAINING WALL ON EACH END OF STRUCTURE.*
2. *FOR ADDITIONAL REINFORCING REQUIREMENTS SEE
TYPICAL DETAILS.*
3. *FOR CORNER REINFORCING SEE DETAIL, SHEET T4.*



									
REVISION			BY		DATE		HORIZ. SCALE 3/8" = 1'-0"		
DESIGNED BY <i>B. MOORE</i>			XREFS: <i>TB-Pumps1a.dwg</i>			JOB NUMBER 1199-336		DATE 2009	
DRAWN BY <i>D. CHRISTMAN</i>						ACAD FILE: ScreenStruct.dwg			
REVIEWED BY <i>H. PERRY</i>						COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.			

RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT

IRRIGATION SYSTEM IMPROVEMENTS

RIVER PUMP STATION

INTAKE STRUCTURE STRUCTURAL SECTIONS II

SHEET

IS4

4 OF 60

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RETAINING WALL
NO. 1. SEE
DETAILS, SHEET 53.

T.O. WALL
EL. 490.00

ALUMINUM HANDRAIL
(TYP) SEE DETAILS,
SHEET T8.

DO NOT CONNECT
STRUCTURE HANDRAIL
TO WALL HANDRAIL

RETAINING WALL
NO. 3. SEE
DETAILS, SHEET 56.

T.O. WALL
EL. 485.00

BAY NO. 1

BAY NO. 2

BAY NO. 3

BAY NO. 4

BAY NO. 5

2'-8" TO
OPENING (TYP)

F.G. 471±

F.G.
468.00 AT
OUTLET.
GRADE TO
RIVER LOW
SPOT.

12"
(TYP)

12"
(TYP)

18'-0"

5'-6"

8" COMPACTED OPEN
DRAIN 3/4" ROCK (TYP)

GEOTEXTILE
FABRIC (TYP)

TRASH RACK (TYP 5)
SEE DETAILS, SHEET 1511.

SECTION
3/8"=1'-0"

D
IS2

NOTES:

1. SEE SECTION E, SHEET 156 FOR TYPICAL REINFORCING.
2. FOR CORNER REINFORCING SEE DETAIL, SHEET T4.



REVISION	BY	DATE	HORIZ. SCALE 3/8" = 1'-0"	VERT. SCALE
DESIGNED BY B. MOORE			JOB NUMBER 1199-336	DATE 2009
DRAWN BY D. CHRISTMAN			ACAD FILE: ScreenStruct.dwg	
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1 0 1 2 4 6 8 10
3/8" = 1'-0"

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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

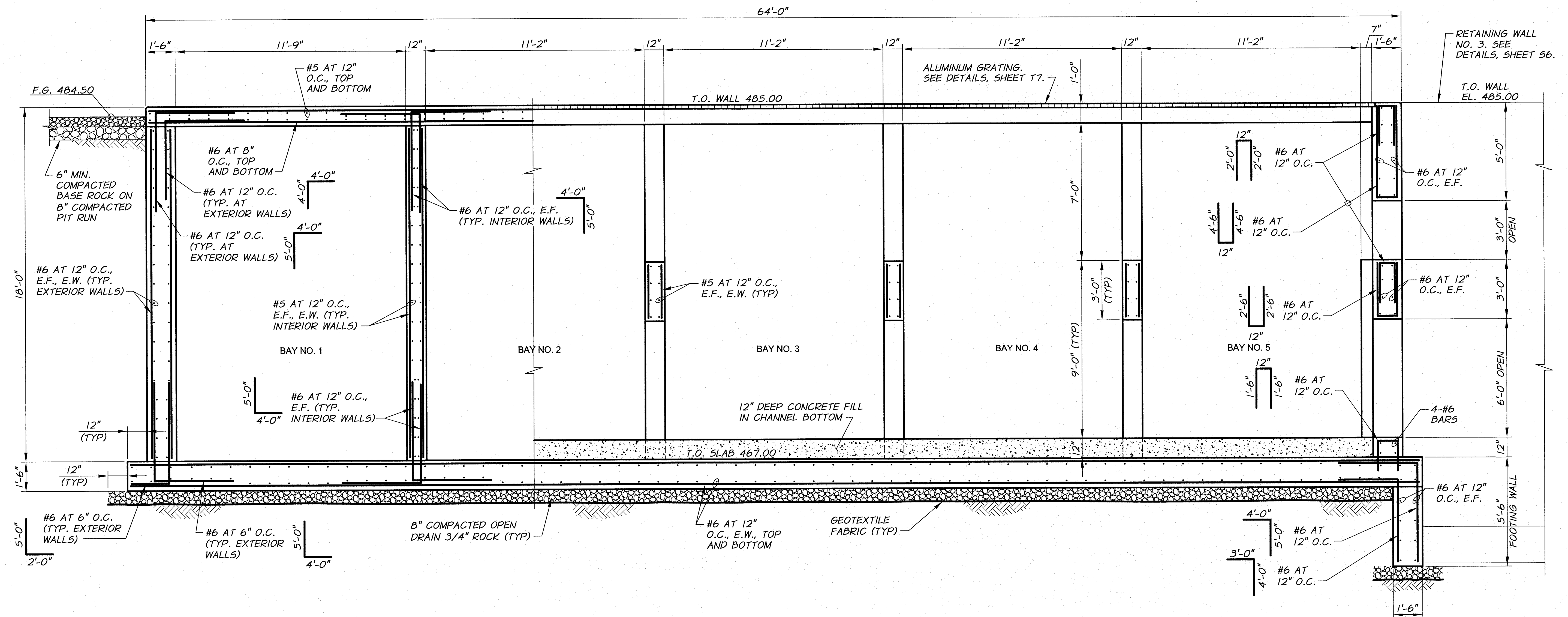
INTAKE STRUCTURE
STRUCTURAL SECTIONS III

SHEET

IS5

25 OF 60

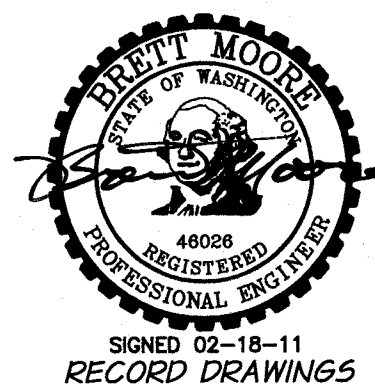
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SECTION E
3/8" = 1'-0"

NOTES:

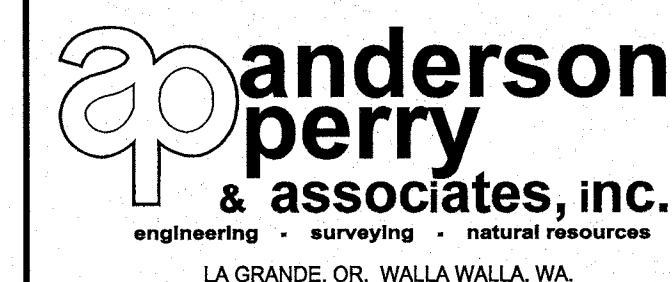
1. FOR CORNER REINFORCING SEE DETAIL, SHEET T4.
2. FOR ADDITIONAL REINFORCING REQUIREMENTS SEE TYPICAL DETAILS.



REVISION	BY	DATE	HORIZ. SCALE 3/8" = 1'-0"	VERT. SCALE
DESIGNED BY B. MOORE			JOB NUMBER 1199-336	DATE 2009
DRAWN BY D. CHRISTMAN			ACAD FILE: ScreenStruct.dwg	
REVIEWED BY H. PERRY			COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	

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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

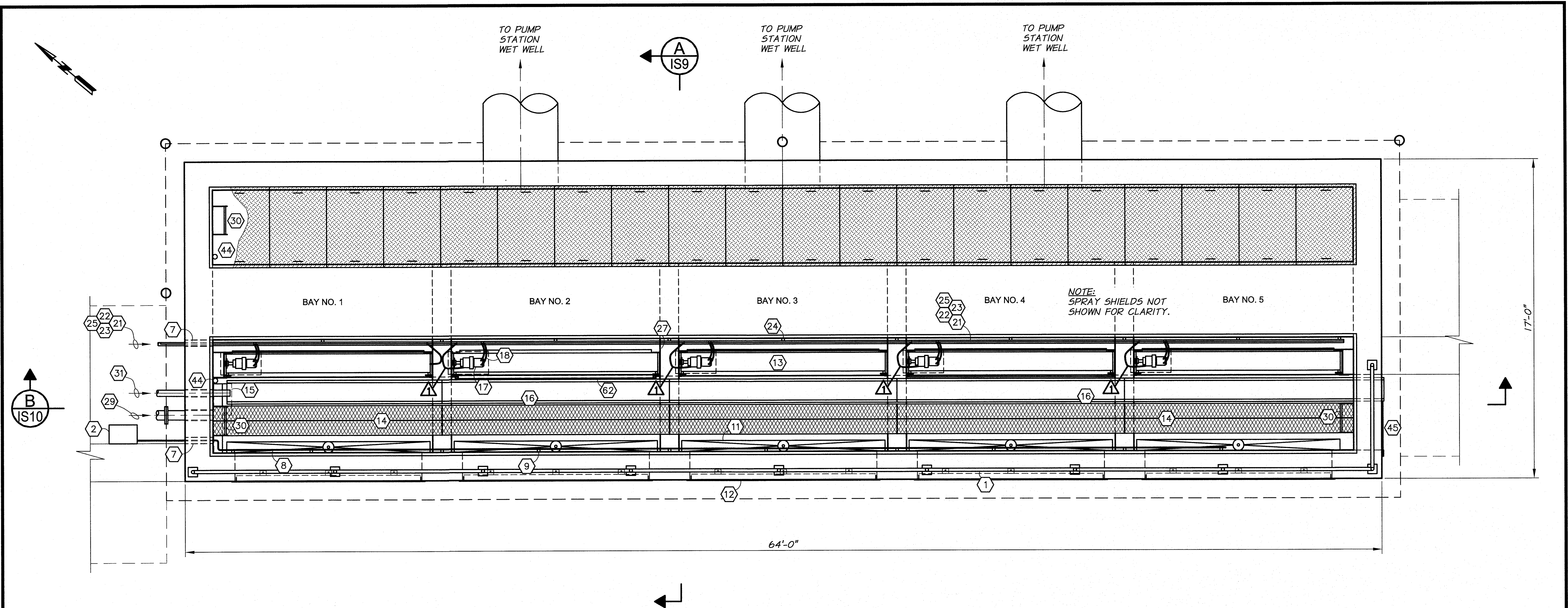
INTAKE STRUCTURE
STRUCTURAL SECTIONS IV

SHEET

IS6

26 OF 60

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EQUIPMENT AND PIPING SCHEDULE

- | | | | |
|---|---|--|--|
| <p>1 ALUMINUM HANDRAIL. SEE DETAIL SHEET T8.</p> <p>2 HAND OPERATED INLET GATE CONTROL VALVE. SINGLE UNIT WITH 5 SPOOLS, 1 FOR EACH GATE.</p> <p>3 GATE CONTROL MOUNTING PANEL OF 1/4" ALUMINUM PLATE. SIZE AS REQUIRED. MOUNT TO RETAINING WALL WITH 3/8" X 4" S.S. CONCRETE ANCHOR BOLTS.</p> <p>4 1/2" SCH. 80 S.S. PIPE. FITTINGS AS REQUIRED TO CONNECT TO 1/2" HYDRAULIC HOSE TO CONTROL VALVES. TYP. 10 LINES FOR SUPPLY AND RETURN TO THE GATE HYDRAULIC CYLINDERS.</p> <p>5 UNISTRUT BRACKET WITH PIPE CLAMPS AS REQUIRED. UNISTRUT P3300 1 5/8" X 7/8" OR EQUAL.</p> <p>6 1/2" HYDRAULIC HOSE (TYP. 10) TO CONNECT TO 1/2" S.S. PIPING TO INTAKE GATE CYLINDERS.</p> <p>7 WALL BLOCK-OUT. FILL WITH NON SHRINK GROUT AFTER PIPE INSTALLATION IS COMPLETE. SEE STRUCTURAL SHEET IS4 FOR DETAILS.</p> | <p>8 1/2" SCH. 80 S.S. PIPE AND FITTINGS AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.</p> <p>9 1 5/8" X 7/8" P3300 UNISTRUT OR EQUAL WITH PIPE BRACKETS AS REQUIRED FOR HYDRAULIC PIPE. SEE DETAIL SHEET T6. CLEARANCE FOR TUBE MOUNTING TO BE VERIFIED BY CONTRACTOR.</p> <p>10 HYDRAULIC INTAKE GATE CYLINDER. SUPPLIED BY GATE MANUFACTURER.</p> <p>11 INTAKE CONTROL GATE FOR 4' X 10' OPENING (TYP. 5) VERIFY ALL COMPONENTS WILL MOUNT WITH CONCRETE WALL EXTENDING FULL HEIGHT OF THE GATE FRAME AND HYDRAULIC CYLINDER.</p> <p>12 FABRICATED TRASH RACK (TYP. 5) SEE DETAIL SHEET IS11.</p> <p>13 INTAKE SCREEN (TYP. 5) SEE TECHNICAL SPECIFICATIONS.</p> <p>14 2-HEAVY DUTY "GRIP STRUT" 9" WIDE WALKWAY AS MANUFACTURED BY GRATING PACIFIC LLC OR EQUAL. SEE TECHNICAL SPECIFICATIONS.</p> | <p>15 FABRICATED END MOUNTING BRACKET. SEE DETAIL SHEET IS11.</p> <p>16 S.S. DEBRIS TROUGH. SEE DETAIL SHEET IS12.</p> <p>17 INTAKE SCREEN HYDRAULIC MOTOR AS SUPPLIED BY INTAKE SCREEN MANUFACTURER (TYP. 5) INSTALL 1/2" HYDRAULIC QUICK COUPLING BODY TO INLET PORT AND 1/2" HYDRAULIC QUICK COUPLING NIPPLE ON THE MOTOR DISCHARGE. FITTINGS AS REQUIRED.</p> <p>18 1/2" HYDRAULIC HOSE. THE HOSE WILL BE CONNECTED TO THE HYDRAULIC SOLENOID VALVE AND TO THE INTAKE SCREEN HYDRAULIC MOTOR. THE PRESSURE SUPPLY HOSE SHALL HAVE A 1/2" HYDRAULIC QUICK COUPLING NIPPLE INSTALLED ON IT AND THE RETURN HOSE SHALL HAVE A HYDRAULIC QUICK COUPLING BODY INSTALLED ON THE END CONNECTED TO THE HYDRAULIC MOTOR. SEE TECHNICAL SPECIFICATIONS FOR HYDRAULIC HOSE, FITTINGS, AND QUICK COUPLING SPECIFICATIONS. LENGTH AS REQUIRED.</p> <p>19 SOLENOID OPERATED HYDRAULIC VALVE. 4-WAY, 2-POSITION, DIRECT ACTING, SPOOL TYPE (4/2). 1/2"-14 NPTF PORTS. 24 VDC COIL. COMMAND CONTROLS CORP. EMDV-12-4D OR EQUAL.</p> | <p>20 1/2" HYDRAULIC HOSE. CONNECT HYDRAULIC SUPPLY AND RETURN TO THE HYDRAULIC SOLENOID VALVE. LENGTH AND FITTINGS AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.</p> <p>21 ELECTRICAL CONDUIT.</p> <p>22 1" SCH. 80 S.S. PIPE FOR OIL RETURN LINE. LENGTHS AND FITTINGS AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.</p> <p>23 3/4" SCH. 80 S.S. PIPE FOR OIL PRESSURE SUPPLY LINE. LENGTHS AND FITTINGS AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.</p> <p>24 1 5/8" X 7/8" UNISTRUT SUPPORT BRACKET. SUPPLY PIPE BRACKETS AS REQUIRED. SEE PIPE SUPPORT DETAILS, SHEET T6. MAXIMUM PIPE SUPPORT SPACING IS 7 FEET.</p> <p>25 2" SCH. 40 GIP WATER SUPPLY PIPE. CONNECT TO PVC. PROVIDE FITTINGS AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.</p> <p>26 2" SOLENOID VALVE. CONNECT TO 2" S.S. WATER SUPPLY LINE WITH FITTINGS AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.</p> |
|---|---|--|--|

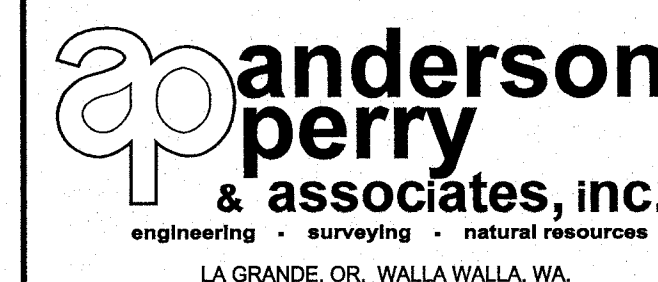
(SCHEDULE CONTINUES ON SHEET IS8)



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	DATE	2009
		ACAD FILE:	ScreenStruct.dwg
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

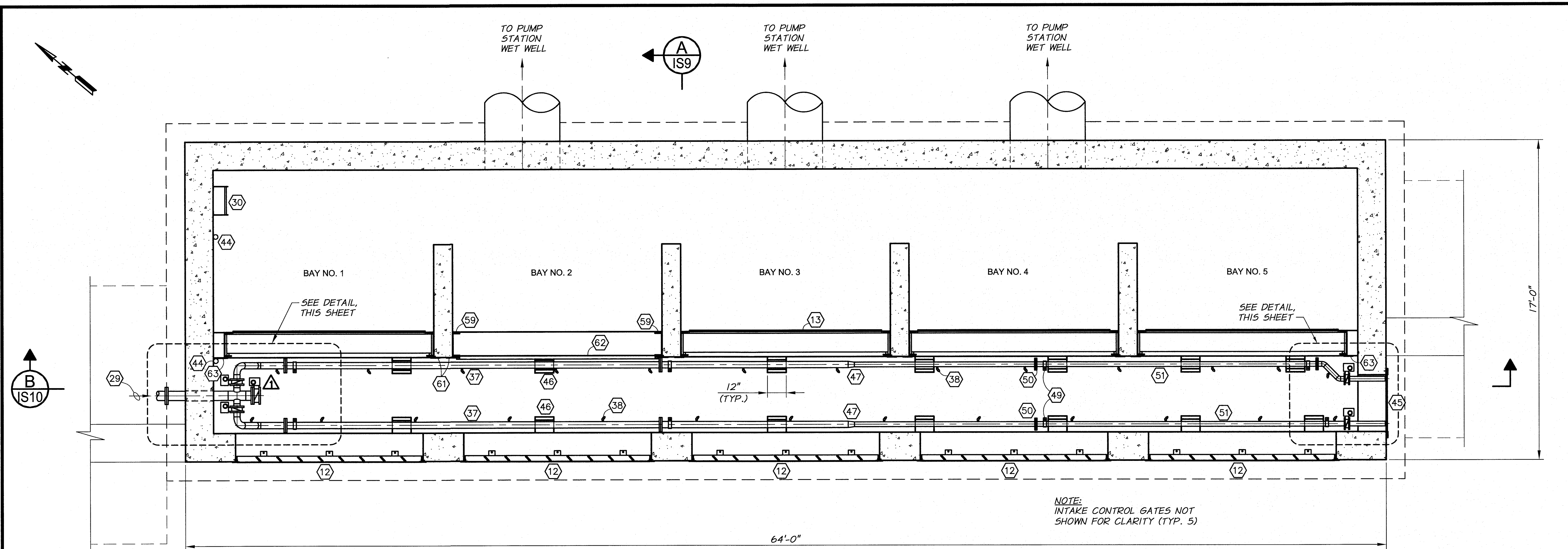
INTAKE STRUCTURE MECHANICAL PLAN - UPPER

SHEET

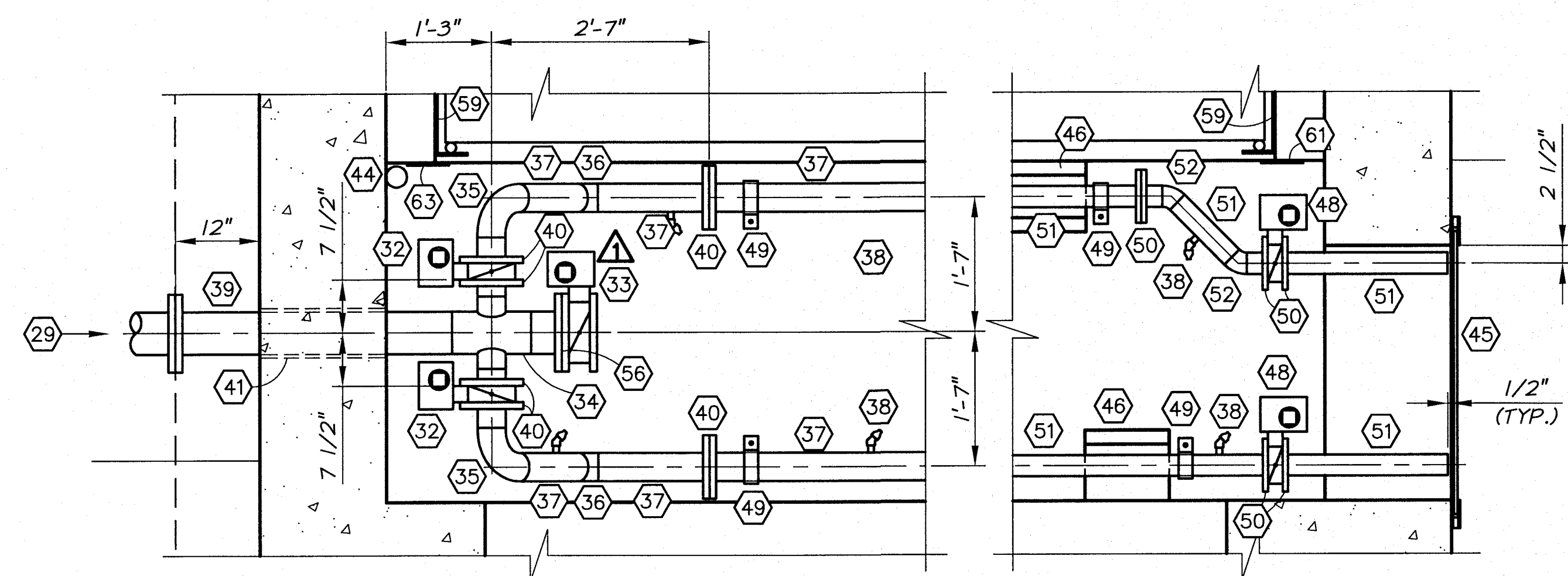
IS7

27 OF 60

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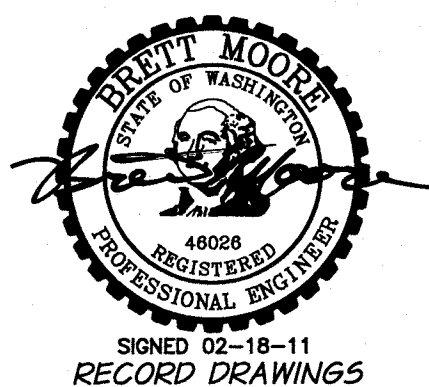
MECHANICAL PLAN - LOWER
3/8"=1'-0"



SEDIMENT WASH PIPING DETAIL
3/4"=1'-0"

EQUIPMENT AND PIPING SCHEDULE
(CONTINUED FROM SHEET IS7)

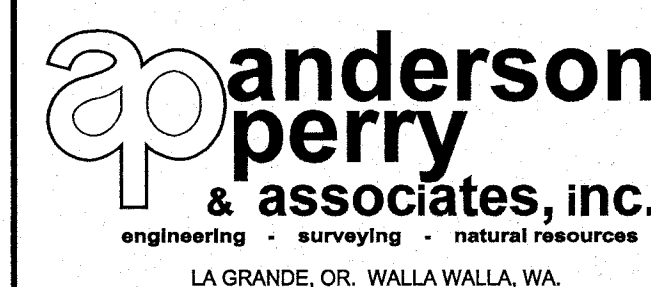
- (27) 2" WATER SUPPLY HOSE CONNECTING 2" SOLENOID VALVE AND INTAKE SCREEN CLEANING SPRAY PIPE. PROVIDE FITTINGS AS REQUIRED INCLUDING A 2" UNION FOR DISCONNECTING HOSE FROM INTAKE SCREEN.
 - (28) INTAKE SCREEN INTERNAL SPRAY HEADER INLET. TYPICAL FLANGE PROVIDED IS SCH 80 PVC, 2" DIA. CONFIRM WITH SCREEN MANUFACTURER.
 - (29) SEDIMENT WASH SUPPLY FROM IRRIGATION MAIN LINE. SEE PIPING PLAN, SHEET P2 FOR CONTINUATION.
 - (30) ALUMINUM ACCESS LADDER. SEE DETAIL, SHEET T7.
 - (31) 4" DI FROM FILTER FLUSH I.E. 478.00. SEE PIPING PLAN, SHEET P2, FOR CONTINUATION.
 - (32) 4" GEAR OPERATED WAFER BUTTERFLY VALVE WITH 2" SQUARE OPERATING NUT. PROVIDE OPERATOR EXTENSION WITH WALL MOUNTED GUIDE. SEE SECTION A, SHEET IS9.
 - (33) 6" GEAR OPERATED FLANGED BUTTERFLY VALVE WITH 2" SQUARE OPERATING NUT. PROVIDE OPERATOR EXTENSION WITH WALL MOUNTED GUIDE. SEE SECTION A, SHEET IS9.
 - (34) 6" X 6" X 4" X 4" SCH. 40, S.S., WELD-ON CROSS
 - (35) 4" SCH. 40, S.S., WELD-ON, 90° ELBOW
 - (36) 4" SCH. 40, S.S., WELD-ON, 45° ELBOW
 - (37) 4" SCH. 40, S.S., PIPE, LENGTH AS REQUIRED.
 - (38) S.S. SPRAY NOZZLE ASSEMBLY. SEE DETAIL, SHEET IS11.
 - (39) 6" SCH. 40, S.S. PIPE, FLG X WELD
 - (40) 4" 150 LB. WELD-ON FLANGE
 - (41) PIPE PENETRATION. SEE DETAIL, SHEET T5.
 - (42) RESERVED
 - (43) RESERVED
 - (44) WATER LEVEL SENSOR. SEE DETAIL, SHEET T9.
 - (45) ALUMINUM STOP GATE. SEE SHEET IS1, AND TECHNICAL SPECIFICATIONS.
- (SCHEDULE CONTINUES ON SHEET IS10)



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE	ScreenStruct.dwg
		DATE	2009
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**BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION**

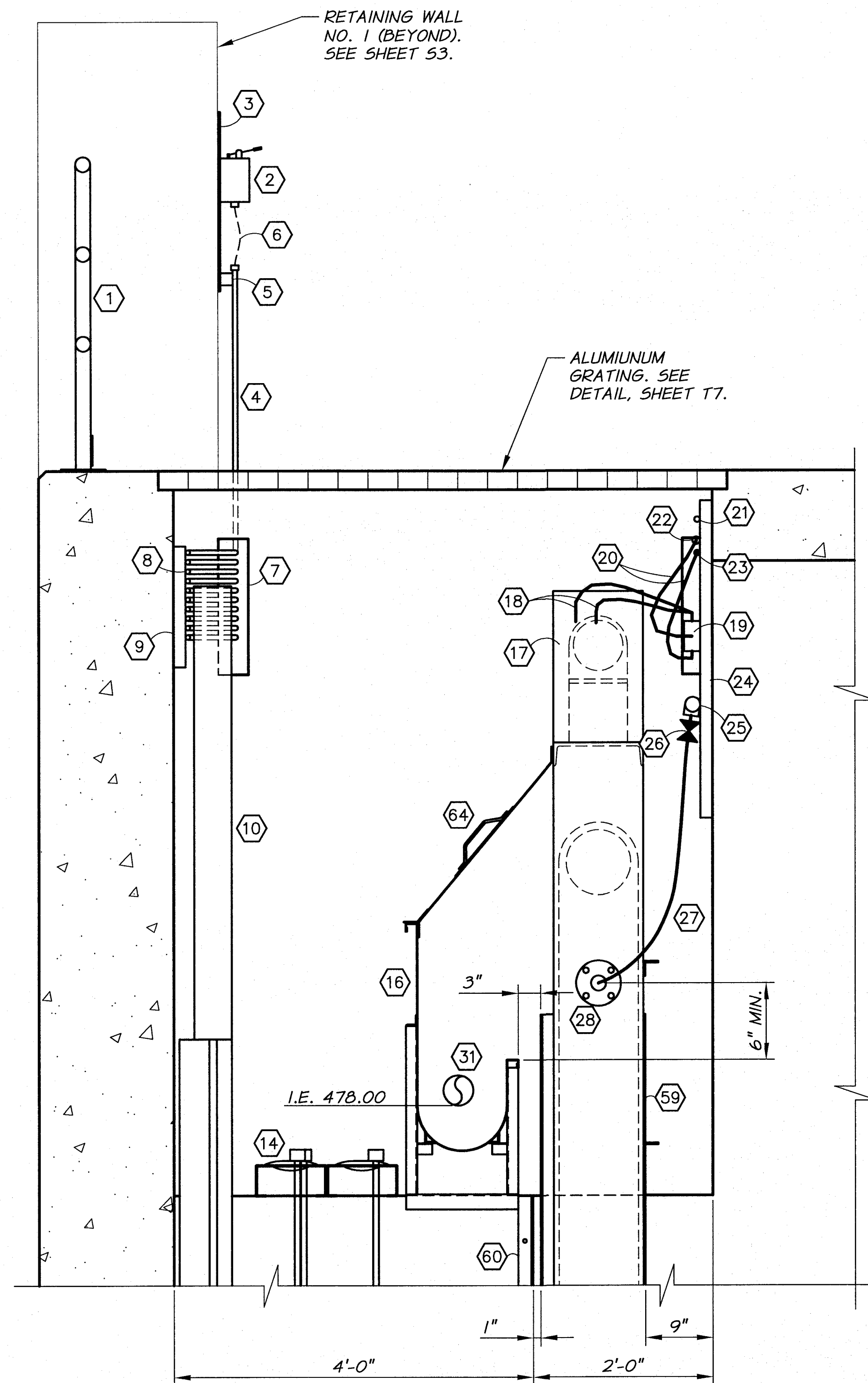
**INTAKE STRUCTURE
MECHANICAL PLAN - LOWER**

SHEET

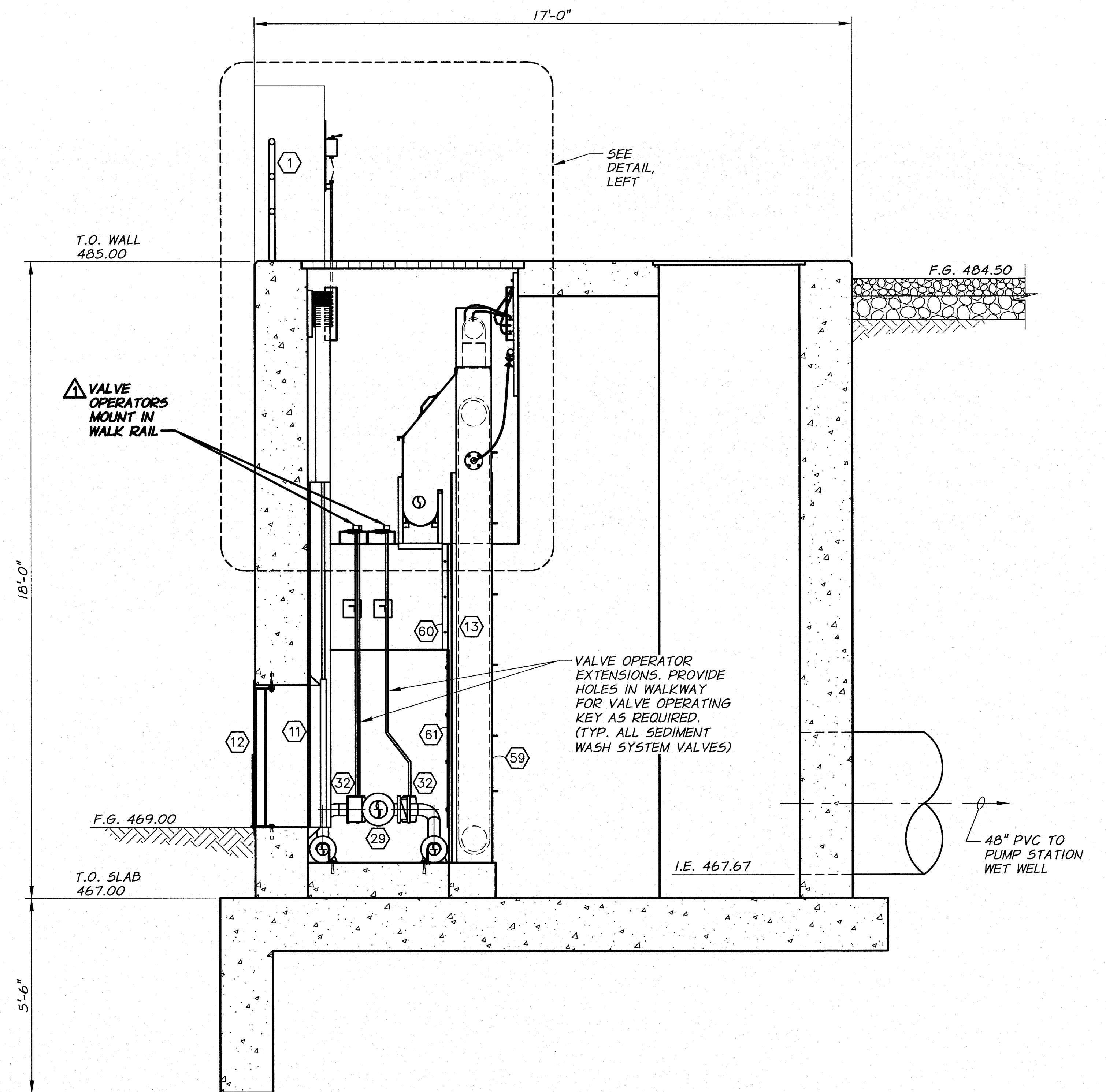
IS8

28 OF 60

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DETAIL
1/2"=1'-0"



SECTION A
1/2"=1'-0"



RECORD DRAWINGS		BY	H.P.	DATE	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg	JOB NUMBER	1199-336
DRAWN BY	D. CHRISTMAN	ACAD FILE:	ScreenStruct.dwg	DATE	2009
REVIEWED BY	H. PERRY	COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.			

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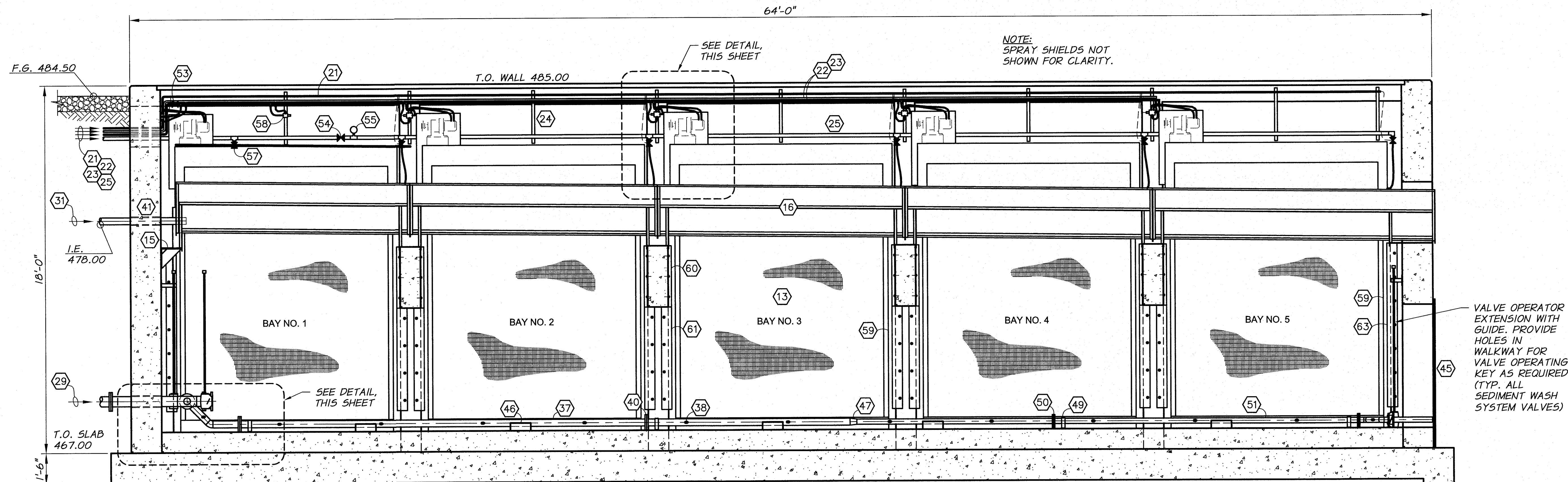
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

INTAKE STRUCTURE
MECHANICAL SECTIONS I

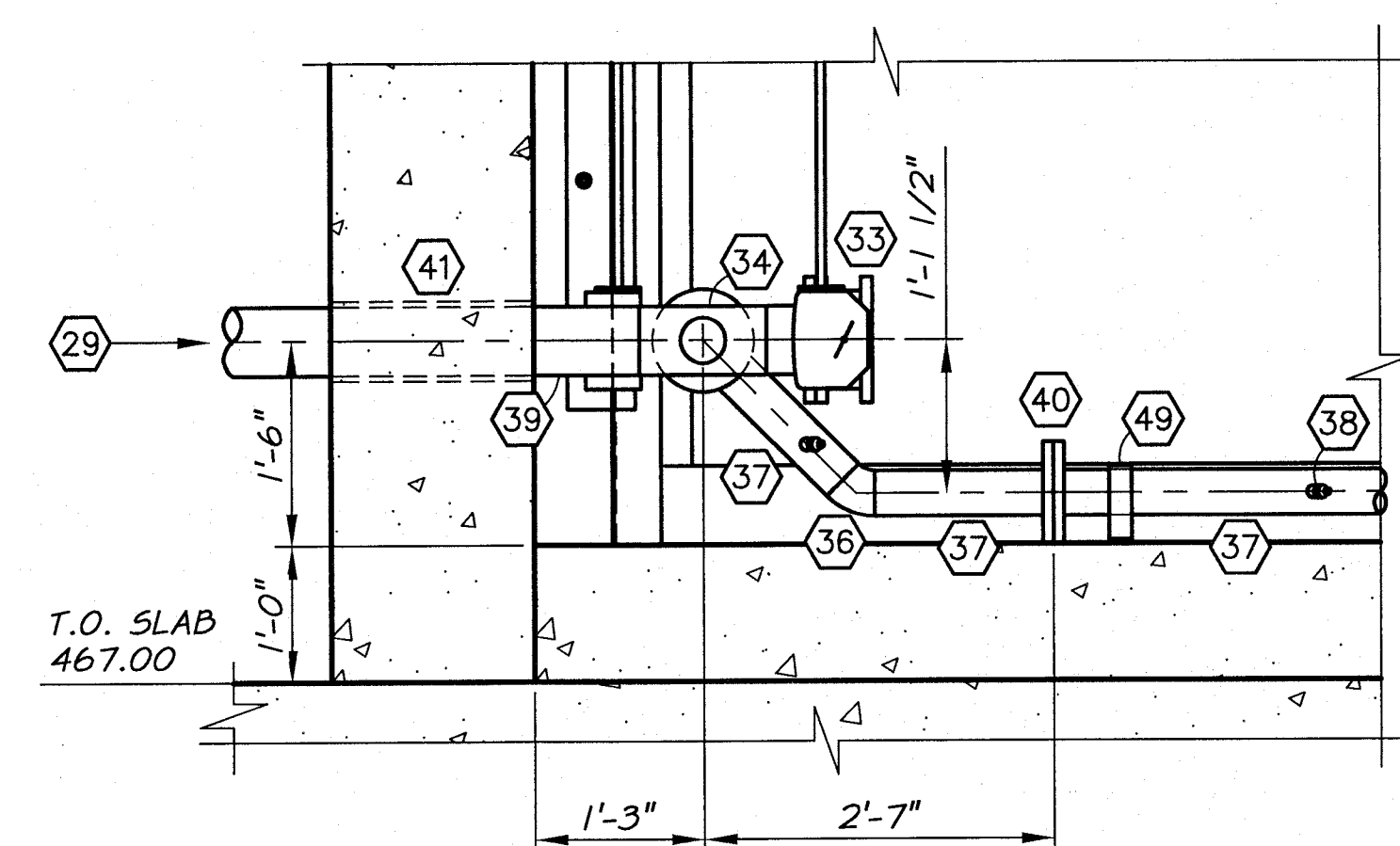
SHEET
IS9
29 OF 60

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SECTION B
3/8"=1'-0"

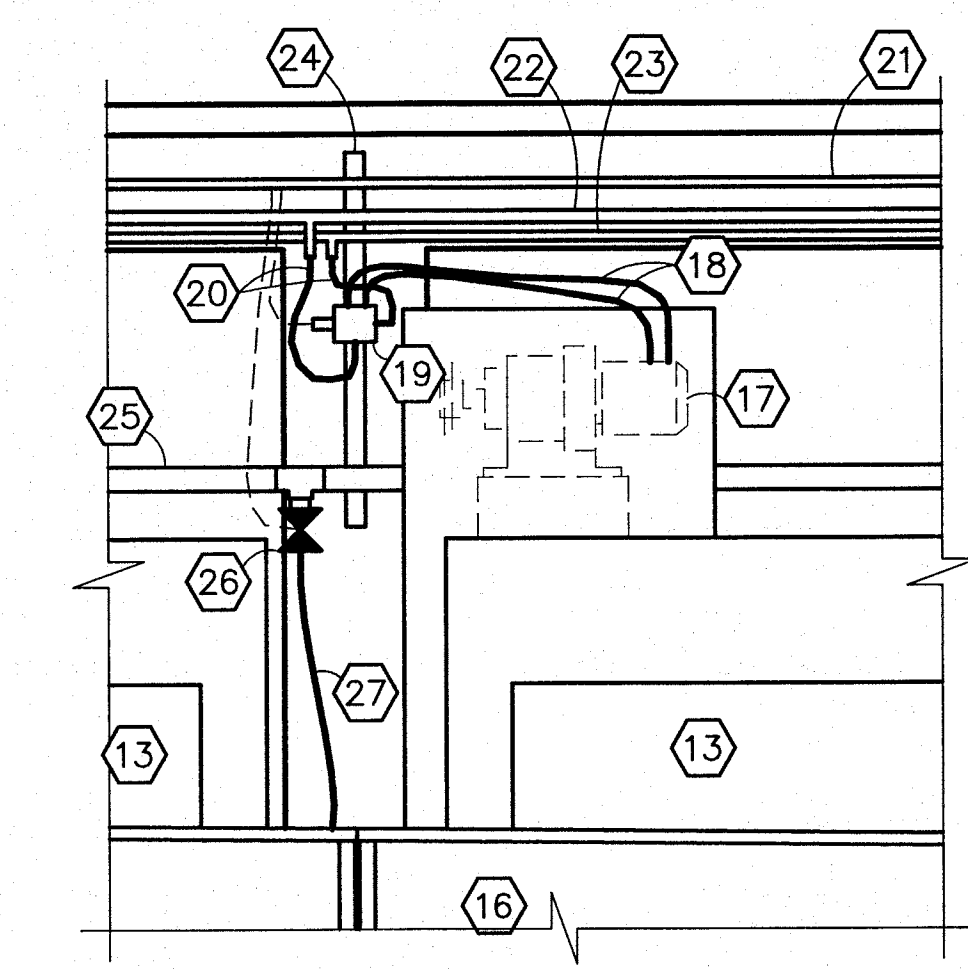
NOTE:
SEE SHEETS 157-159
FOR EQUIPMENT AND
PIPING SCHEDULE.



SEDIMENT WASH PIPING DETAIL
3/4"=1'-0"

EQUIPMENT AND PIPING SCHEDULE
(CONTINUED FROM SHEET 158)

- 46 GROUT PAD SUPPORT UNDER SEDIMENT WASH PIPING. SEE DETAIL, SHEET 1511. 7 FT. MAX. SPACING.
- 47 4" X 3" SCH. 40, S.S., WELD-ON CONCENTRIC REDUCER.
- 48 3" GEAR OPERATED, WAFER BUTTERFLY VALVE WITH 2" SQUARE OPERATING NUT. PROVIDE OPERATOR EXTENSION WITH WALL MOUNTED GUIDE.
- 49 PIPE 'J' BRACKET. SEE DETAIL, SHEET 1511.
- 50 3" 150 LB. WELD-ON FLANGE
- 51 3" SCH. 40, S.S., PIPE, LENGTH AS REQUIRED.
- 52 3" SCH. 40, S.S., WELD-ON, 45° ELBOW
- 53 3/4" HYDRAULIC ISOLATION VALVE ON SUPPLY LINE. MINIMUM 6000 PSI RATING.
- 54 2" ADJUSTABLE PRESSURE REGULATION VALVE. INITIAL SETTING AT 50 PSI.
- 55 PRESSURE GUAGE, 0-200 PSI. SEE TECHNICAL SPECIFICATIONS.
- 56 6" 150 LB. WELD-ON FLANGE
- 57 2" BALL VALVE DRAIN WITH FITTINGS AS REQUIRED.
- 58 PRESSURE RELIEF VALVE SET TO 1800 PSI WITH FITTINGS AND HOSES AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.
- 59 INTAKE SCREEN MOUNTING CHANNEL. SEE DETAIL, SHEET 1514.
- 60 UPPER ISOLATION GATE BRACKET. SEE DETAIL, SHEET 1514.
- 61 LOWER ISOLATION GATE BRACKET. SEE DETAIL, SHEET 1514.
- 62 ISOLATION GATE FOR INTAKE SCREEN REMOVAL (1 REQ'D) SEE DETAIL, SHEET 1513.
- 63 END WALL ISOLATION GATE BRACKET. SEE DETAIL, SHEET 1514.
- 64 SPRAY SHIELD. SEE DETAILS, SHEET 1513.

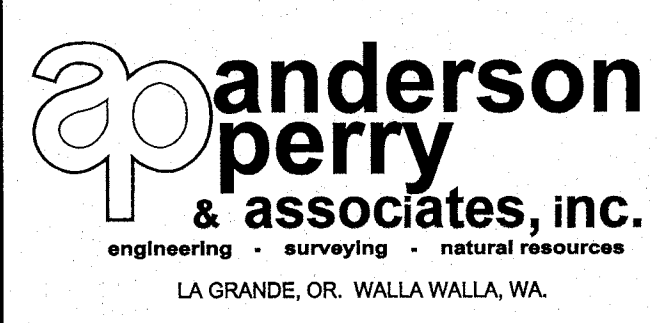


SCREEN UNIT CONNECTION DETAIL
3/4"=1'-0"



REVISION	BY	DATE	HORZ. SCALE	AS NOTED	VERT. SCALE
DESIGNED BY	B. MOORE		JOB NUMBER	1199-336	DATE
DRAWN BY	D. CHRISTMAN		ACAD FILE	ScreenStruct.dwg	2009
REVIEWED BY	H. PERRY		COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.		

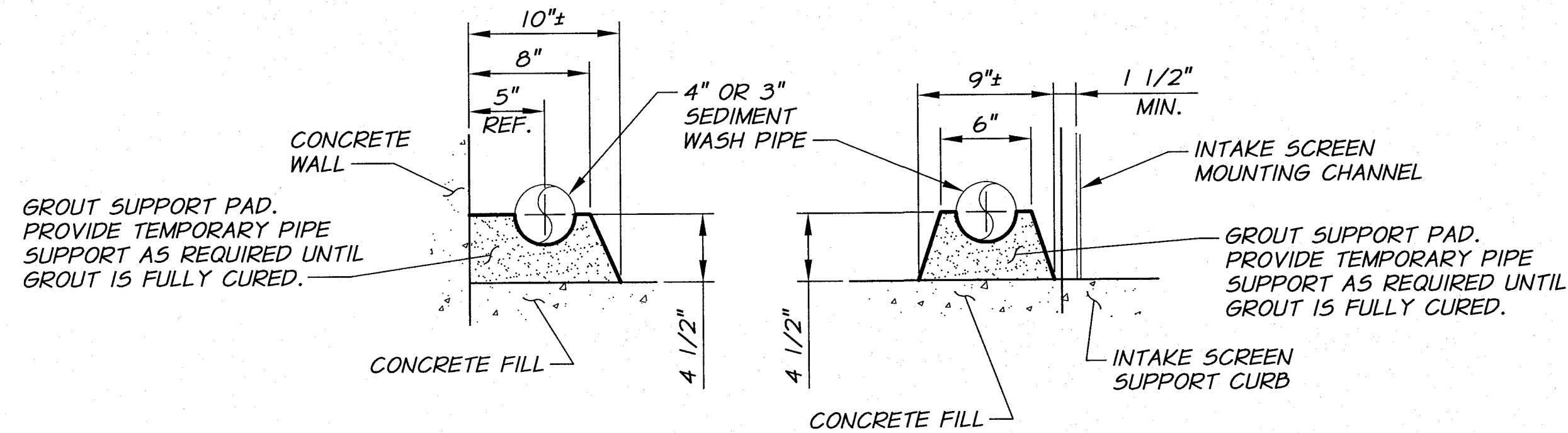
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

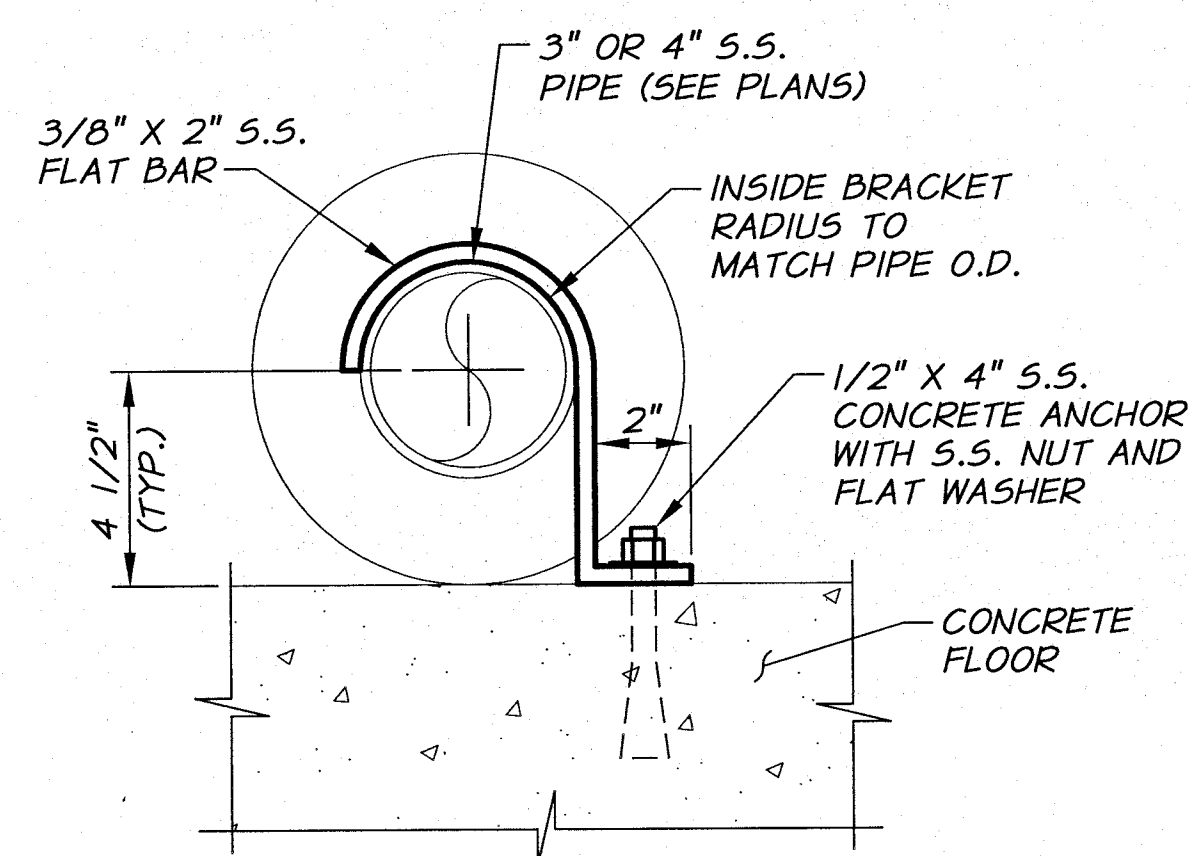
INTAKE STRUCTURE
MECHANICAL SECTIONS II

SHEET
IS10
30 OF 60



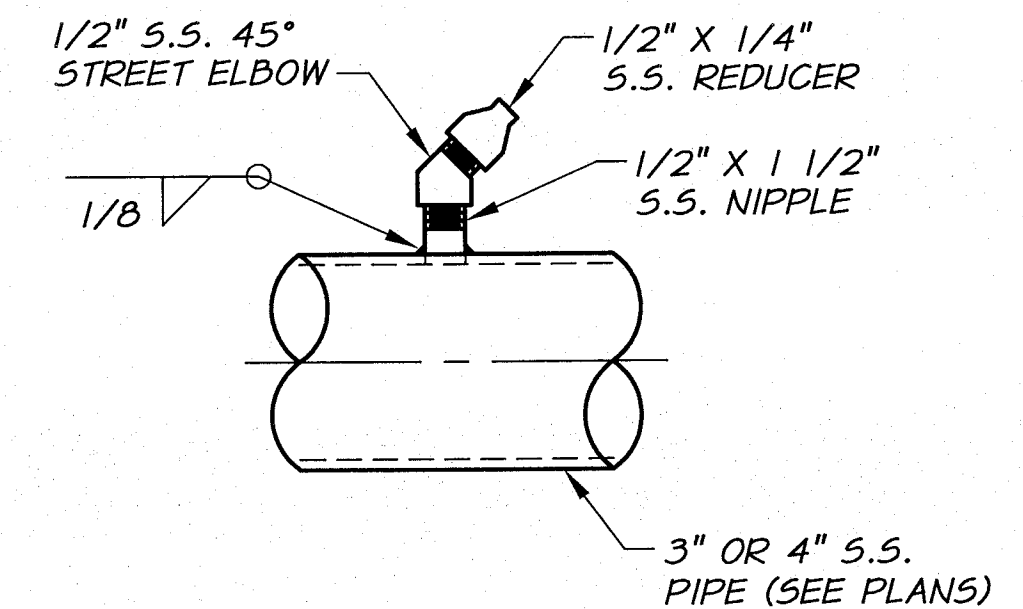
GROUT PAD SUPPORT DETAIL

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



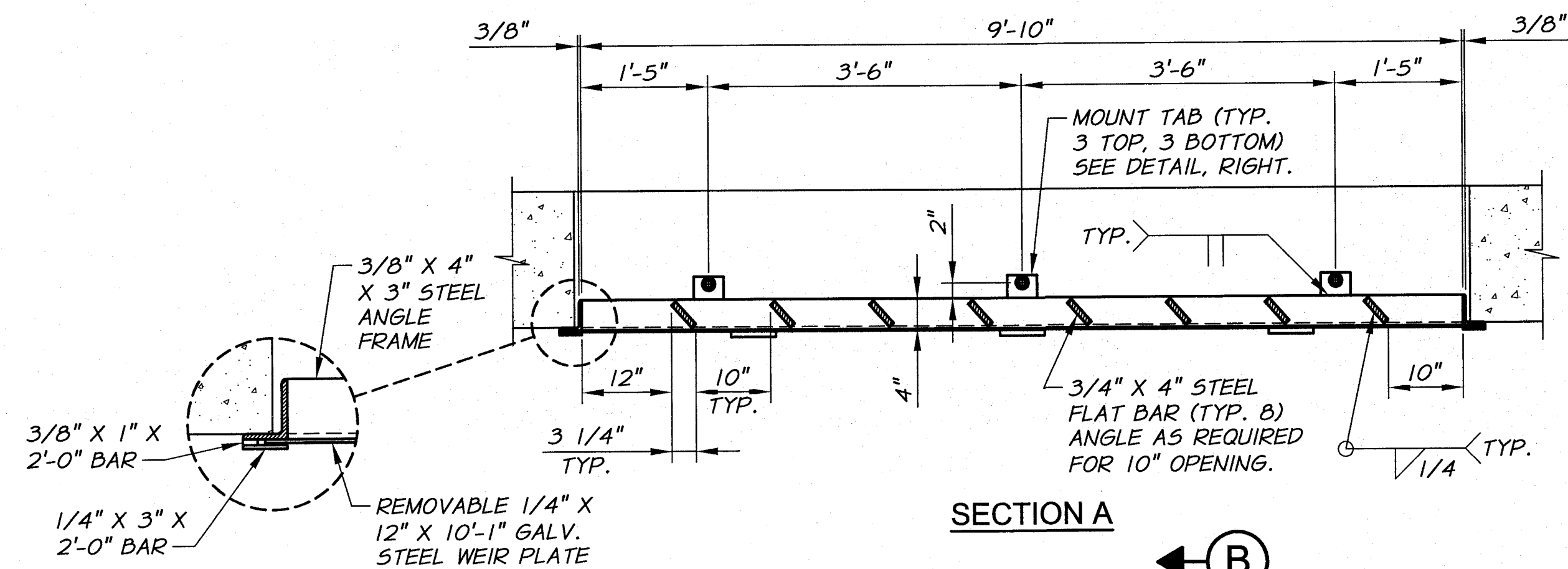
PIPE 'J' BRACKET DETAIL

3\"=1'-0"

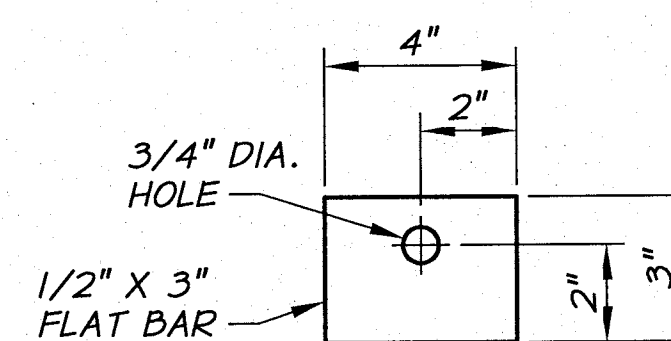


SPRAY NOZZLE DETAIL

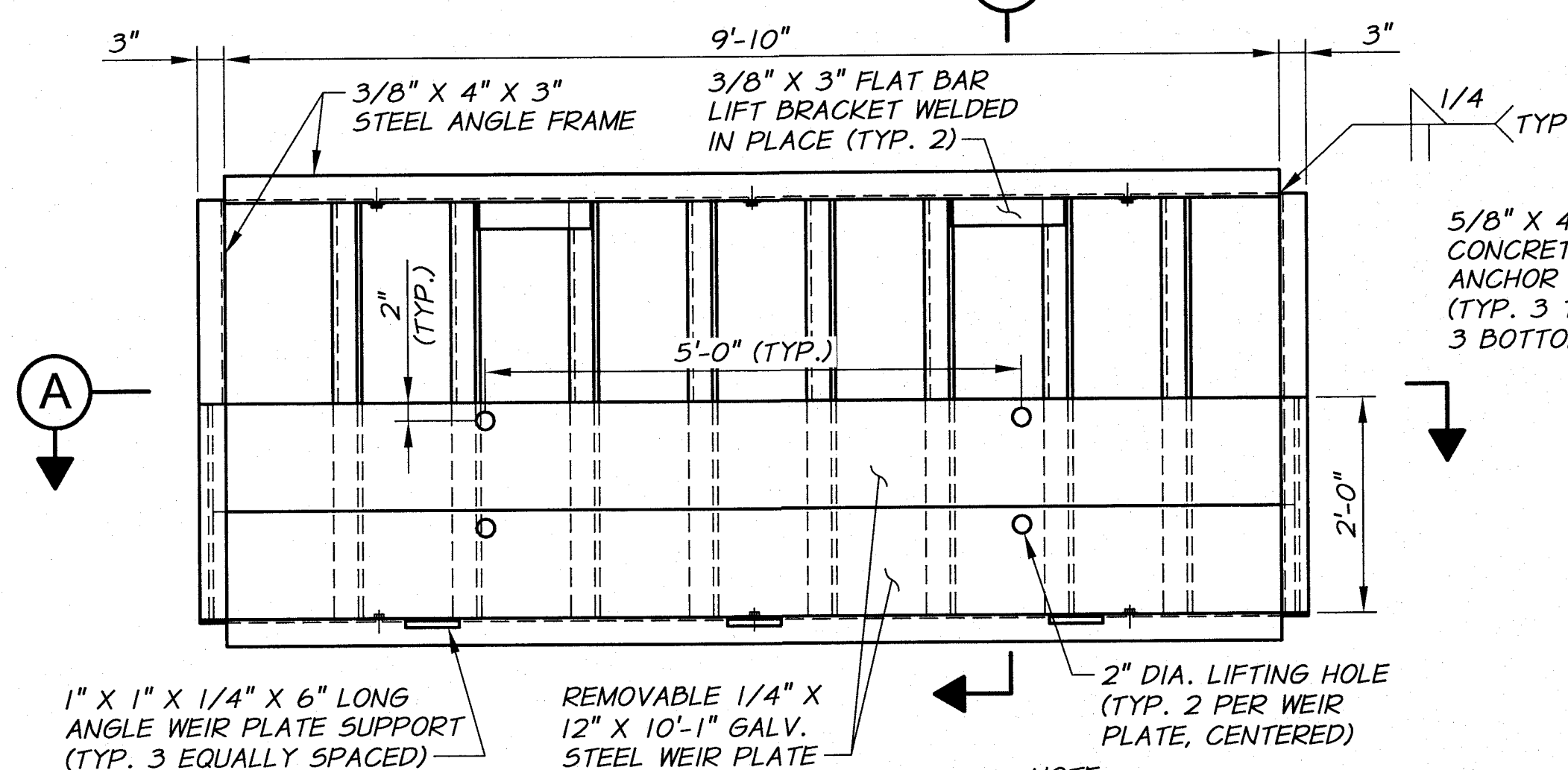
3\"=1'-0"



SECTION A



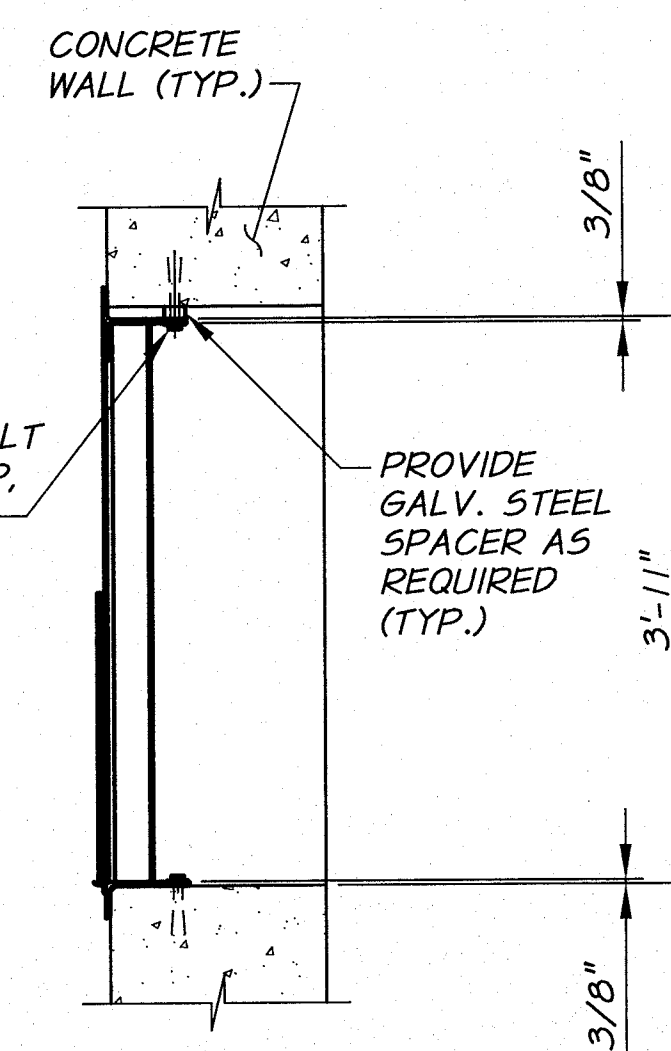
MOUNT TAB DETAIL



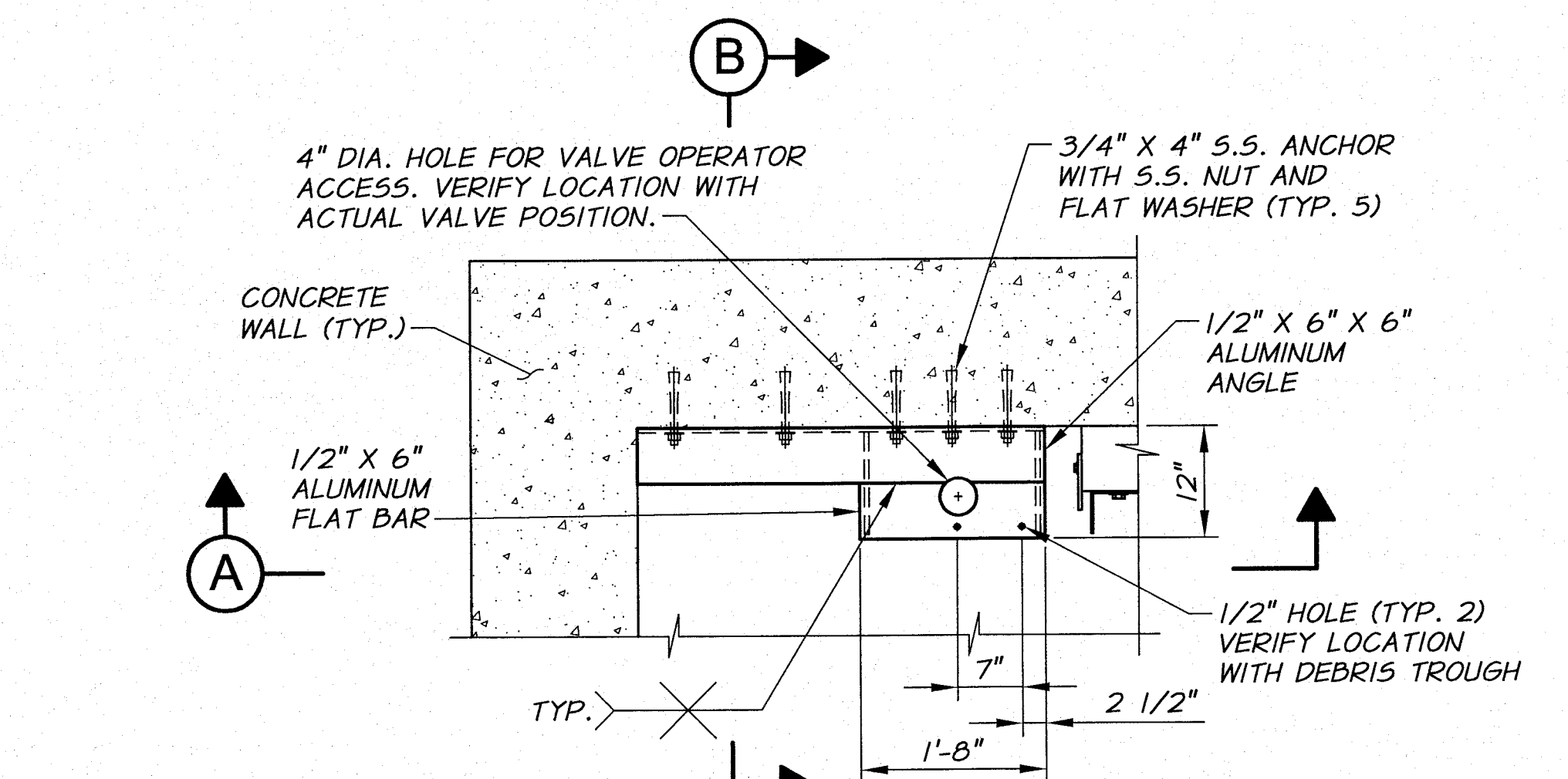
ELEVATION

TRASH RACK DETAIL

3/4\"=1'-0"

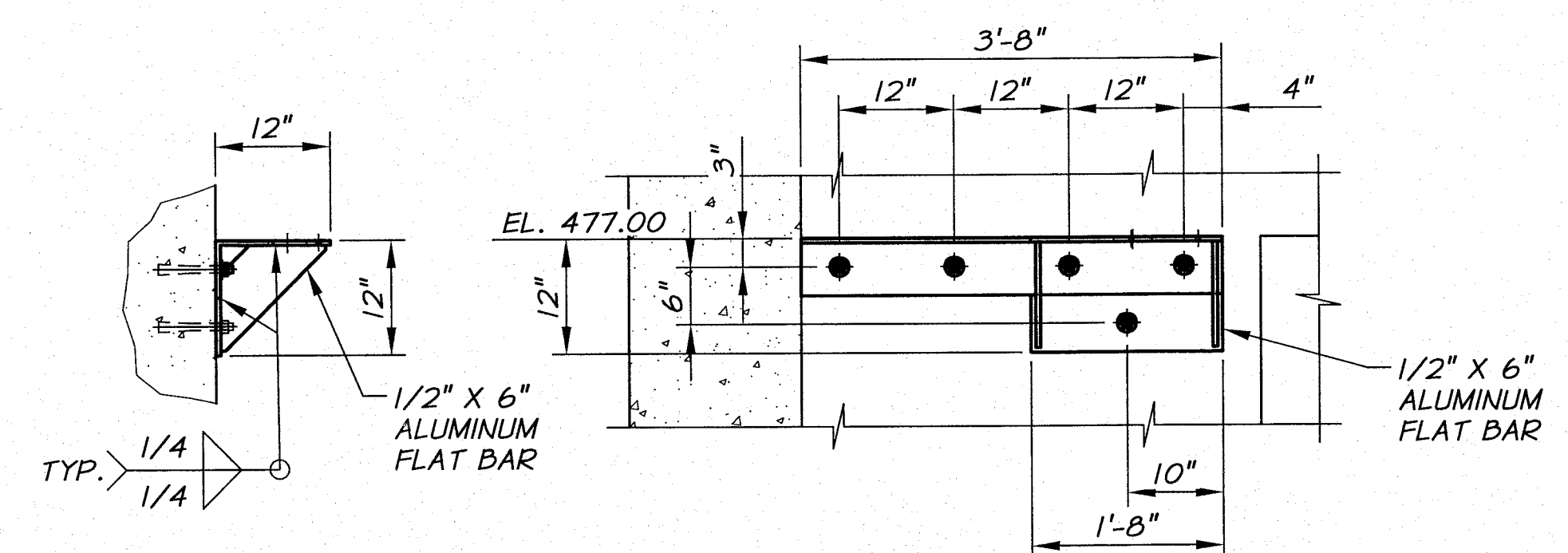


SECTION B



PLAN

NOTE: COAT ALL ALUMINUM IN CONTACT WITH CONCRETE.



SECTION B

SECTION A

END SUPPORT BRACKET DETAIL

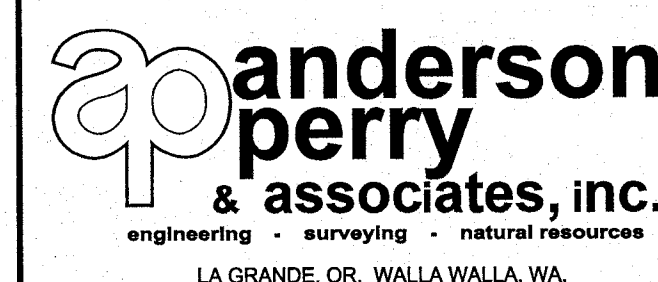
3/4\"=1'-0"



								
REVISION			BY	DATE	HORIZ. SCALE AS NOTED		VERT. SCALE	
DESIGNED BY <i>B. MOORE</i>			<i>XREFS: TB-PumpSta.dwg</i>			JOB NUMBER 1199-336		DATE 2009
DRAWN BY <i>D. CHRISTMAN</i>						ACAD FILE: ScreenStruct.dwg		
REVIEWED BY <i>H. PERRY</i>						COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.		

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**BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION**

**INTAKE STRUCTURE
MECHANICAL DETAILS I**

SHEET

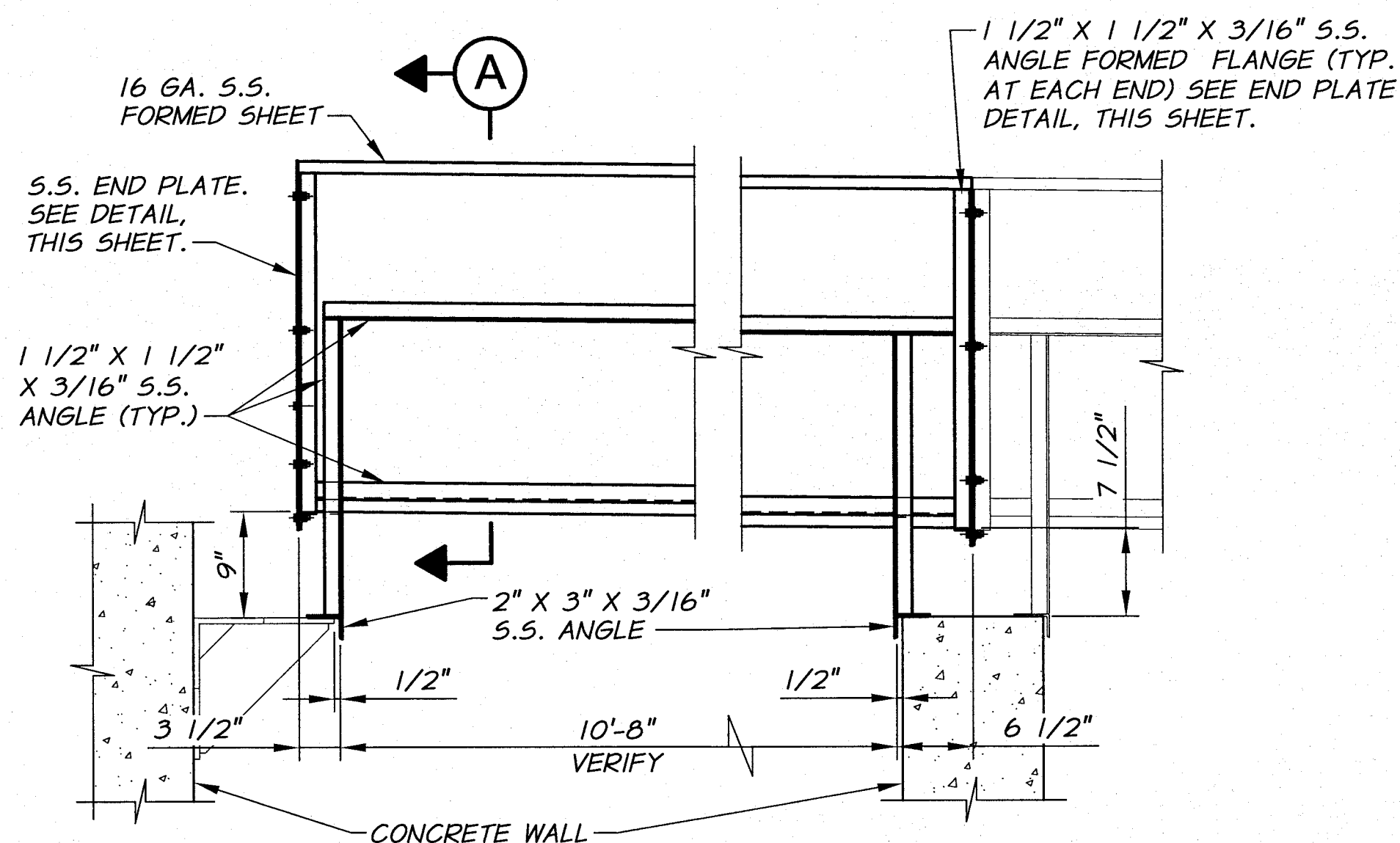
IS11

31 OF 60

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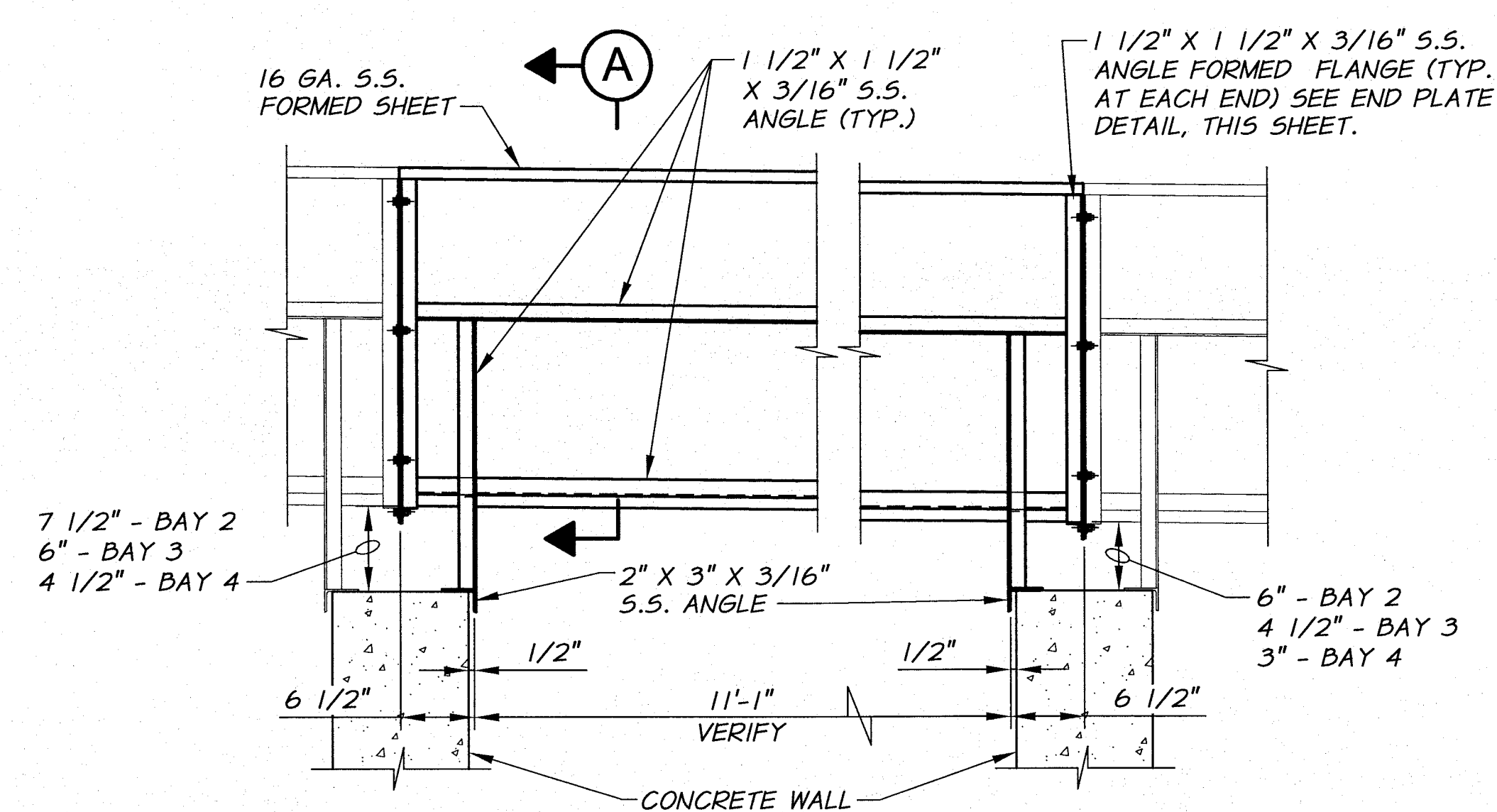
NOTES

1. BREAK ALL SHARP EDGES.
2. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO TROUGH FABRICATION.
3. PERMANENTLY MARK EACH TROUGH SECTION WITH CORRESPONDING BAY NO.



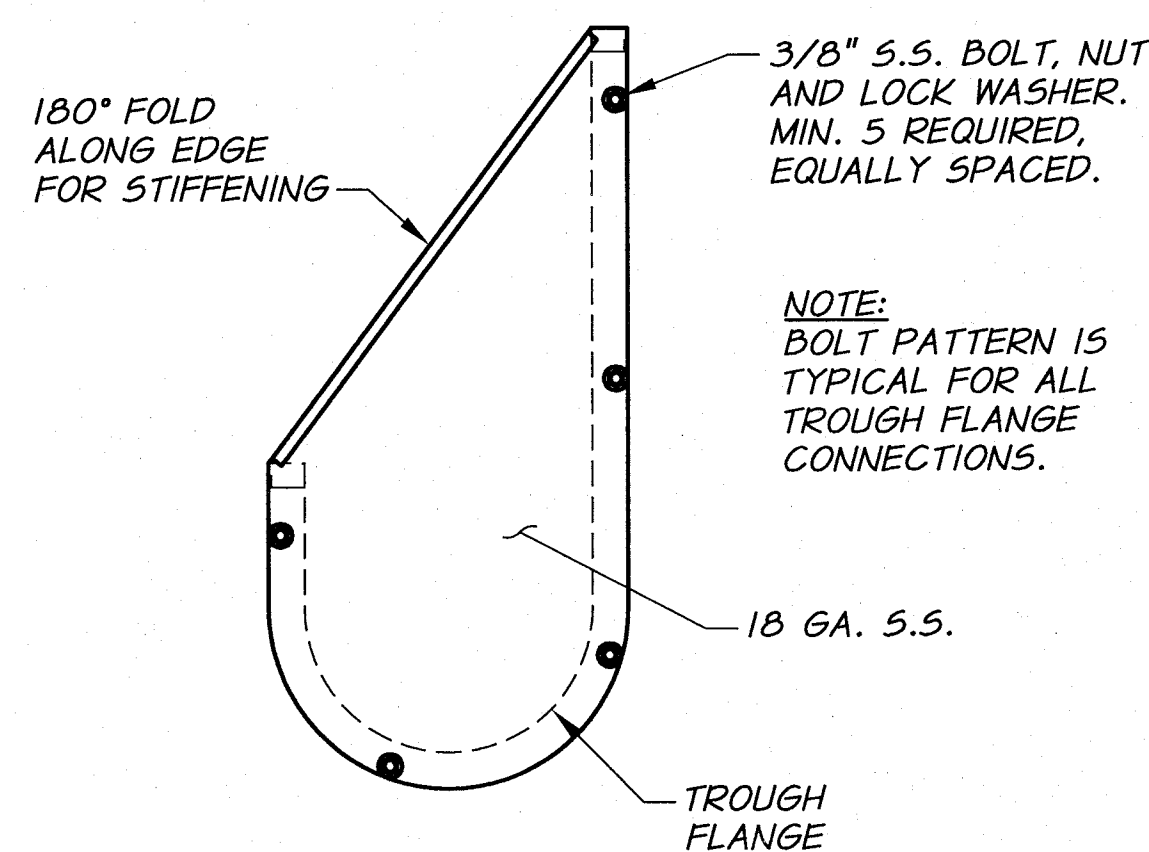
DEBRIS TROUGH - BAY NO. 1

1"=1'-0"



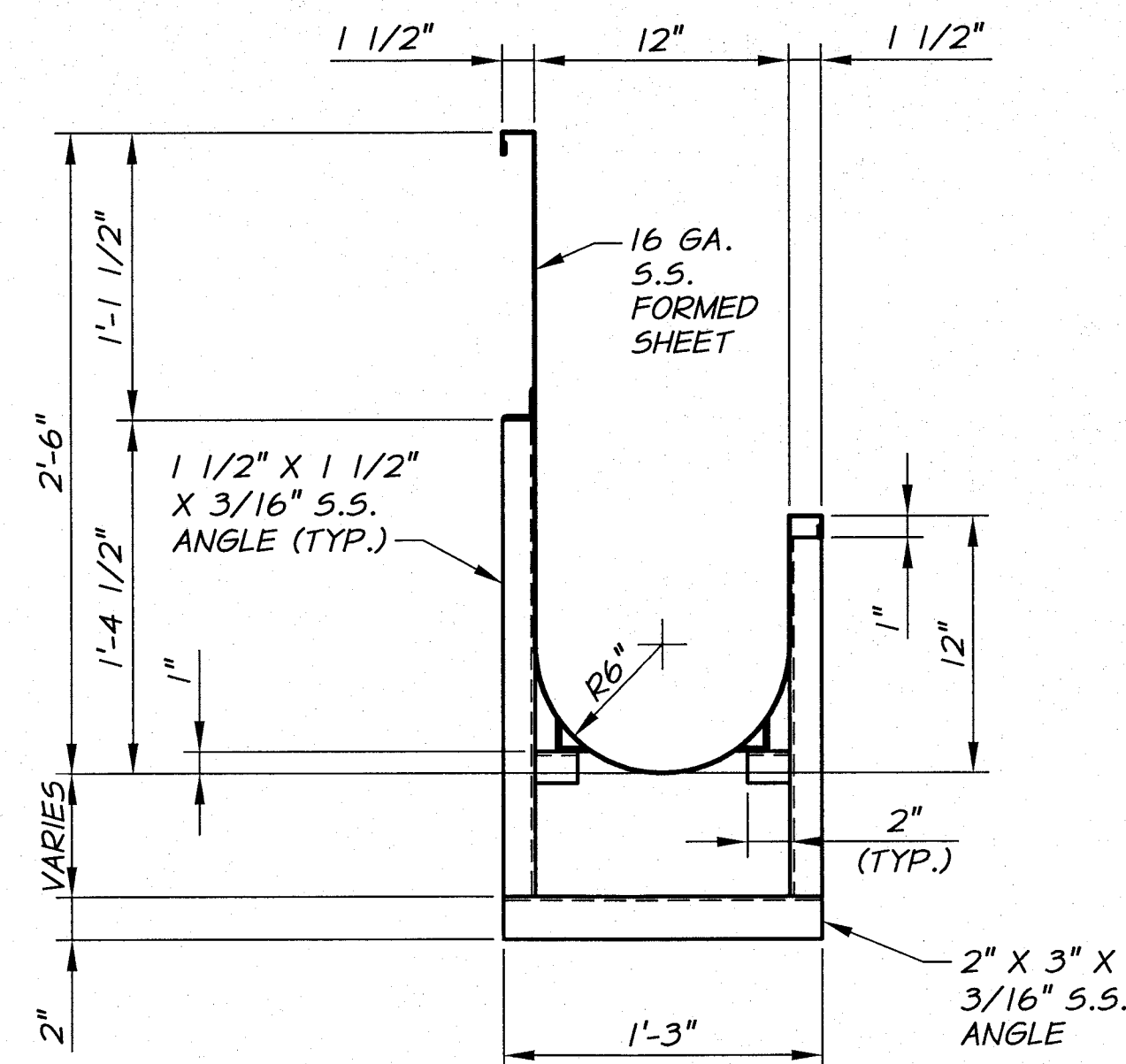
DEBRIS TROUGH - BAY NO. 2, 3, AND 4

1"=1'-0"



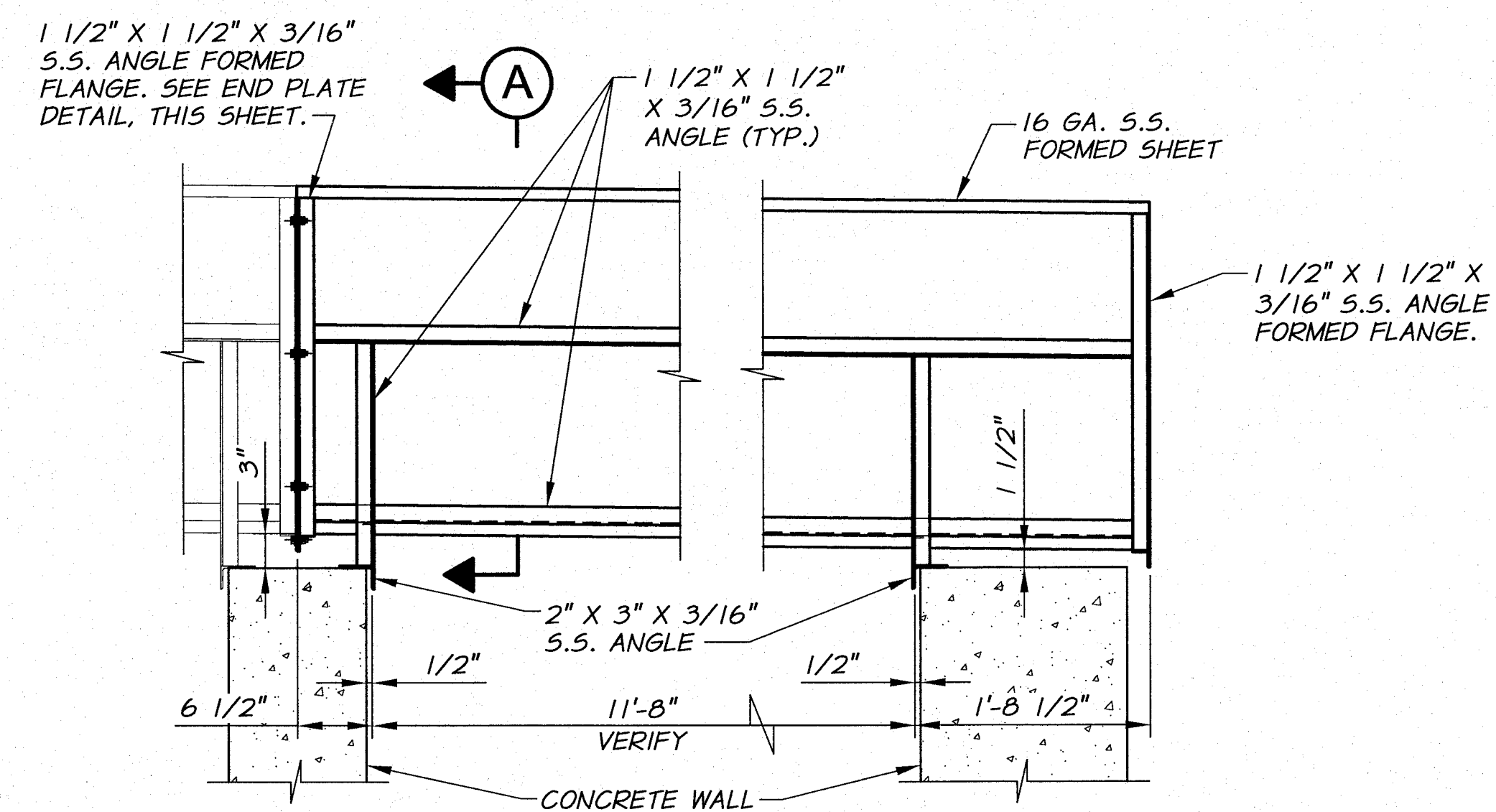
TROUGH END PLATE DETAIL

1 1/2"=1'-0"



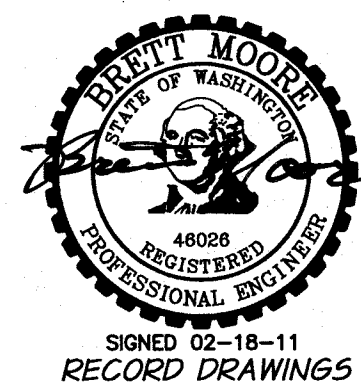
SECTION A
TYPICAL TROUGH SECTION

1 1/2"=1'-0"



DEBRIS TROUGH - BAY NO. 5

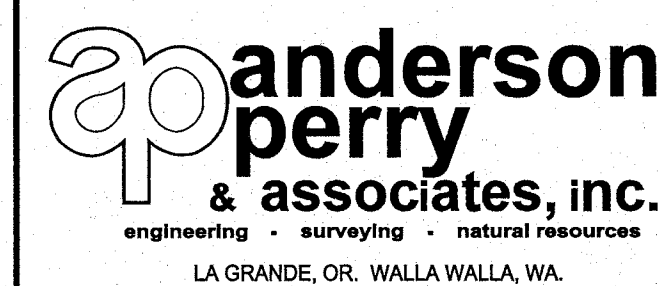
1"=1'-0"



DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg	BY	DATE	HORIZ. SCALE	AS NOTED	VERT. SCALE	1 1/2" = 1'-0"
DRAWN BY	D. CHRISTMAN				JOB NUMBER	1199-336	DATE	2009
REVIEWED BY	H. PERRY				ACAD FILE	ScreenStruct.dwg		
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RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

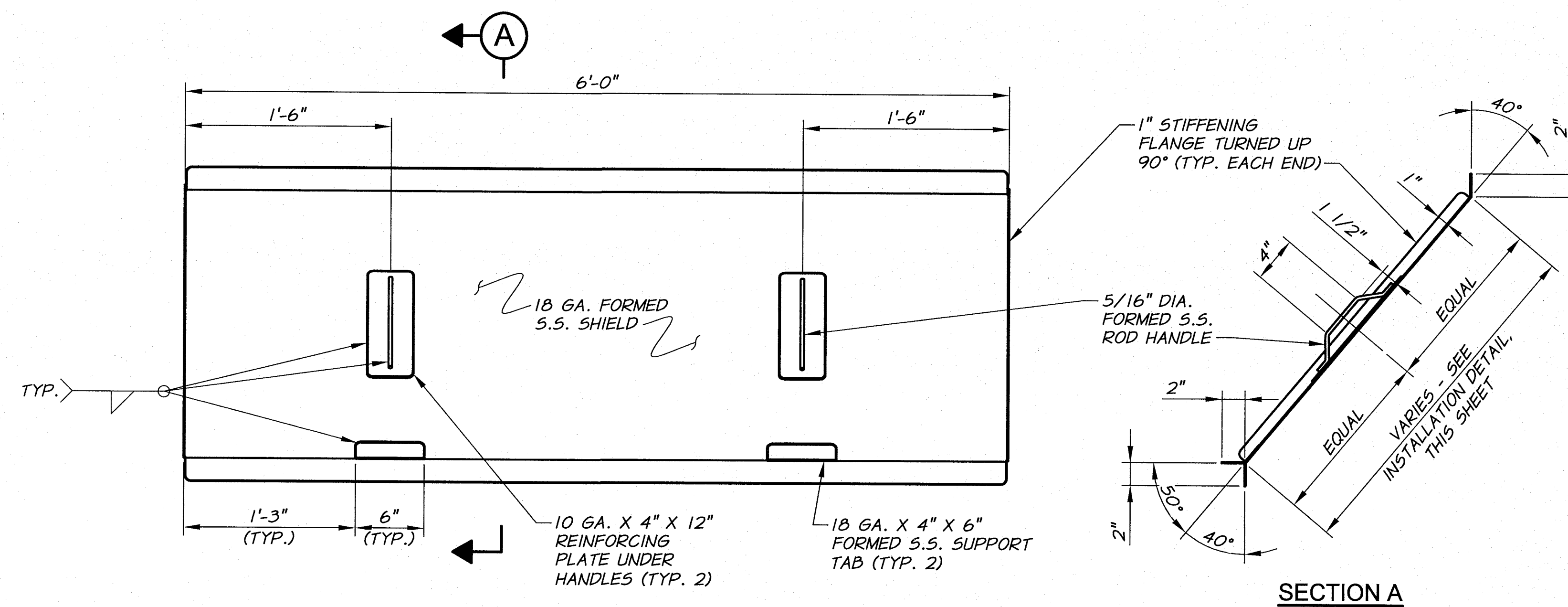
INTAKE STRUCTURE MECHANICAL DETAILS II

SHEET

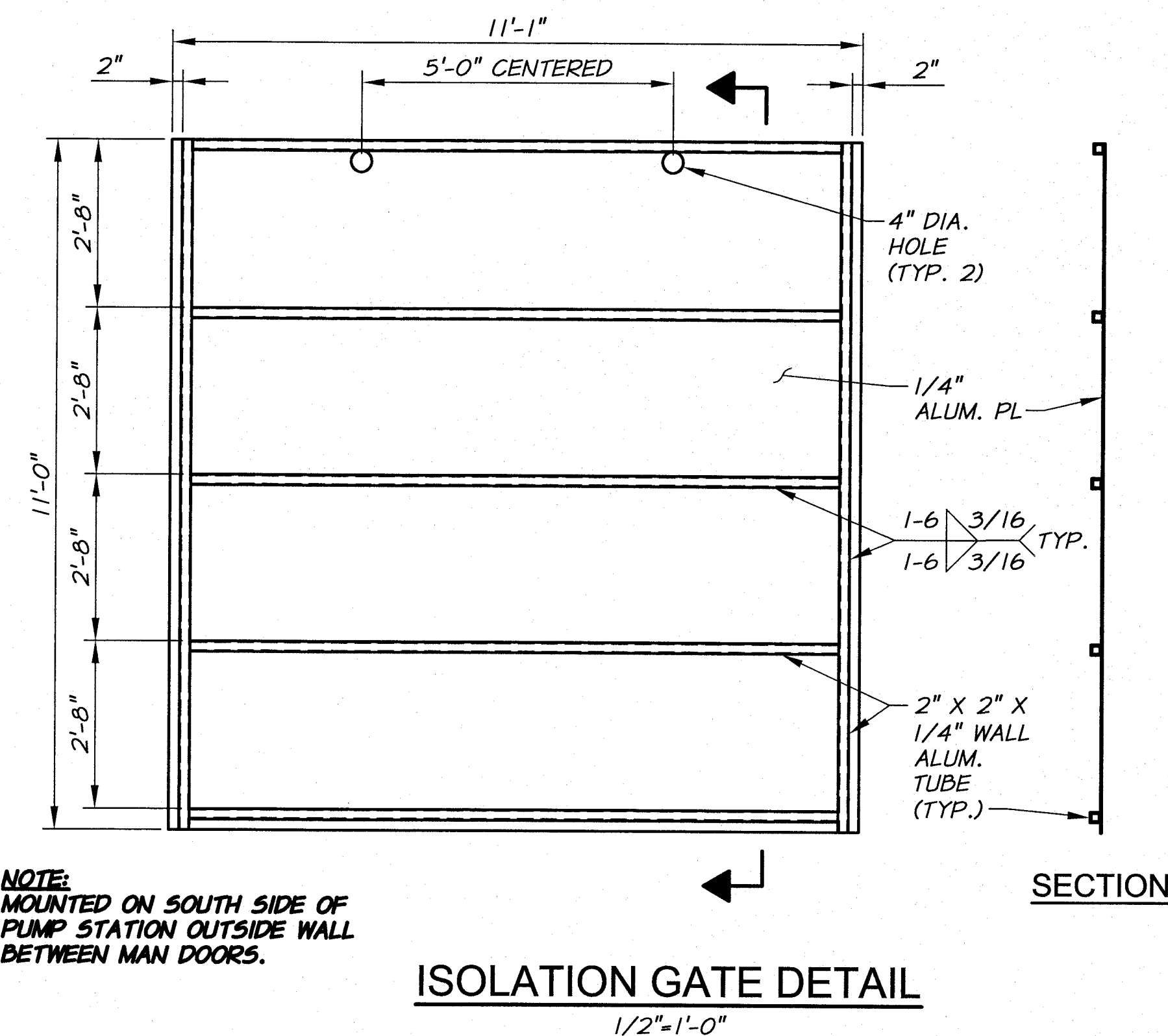
IS12

32 OF 60

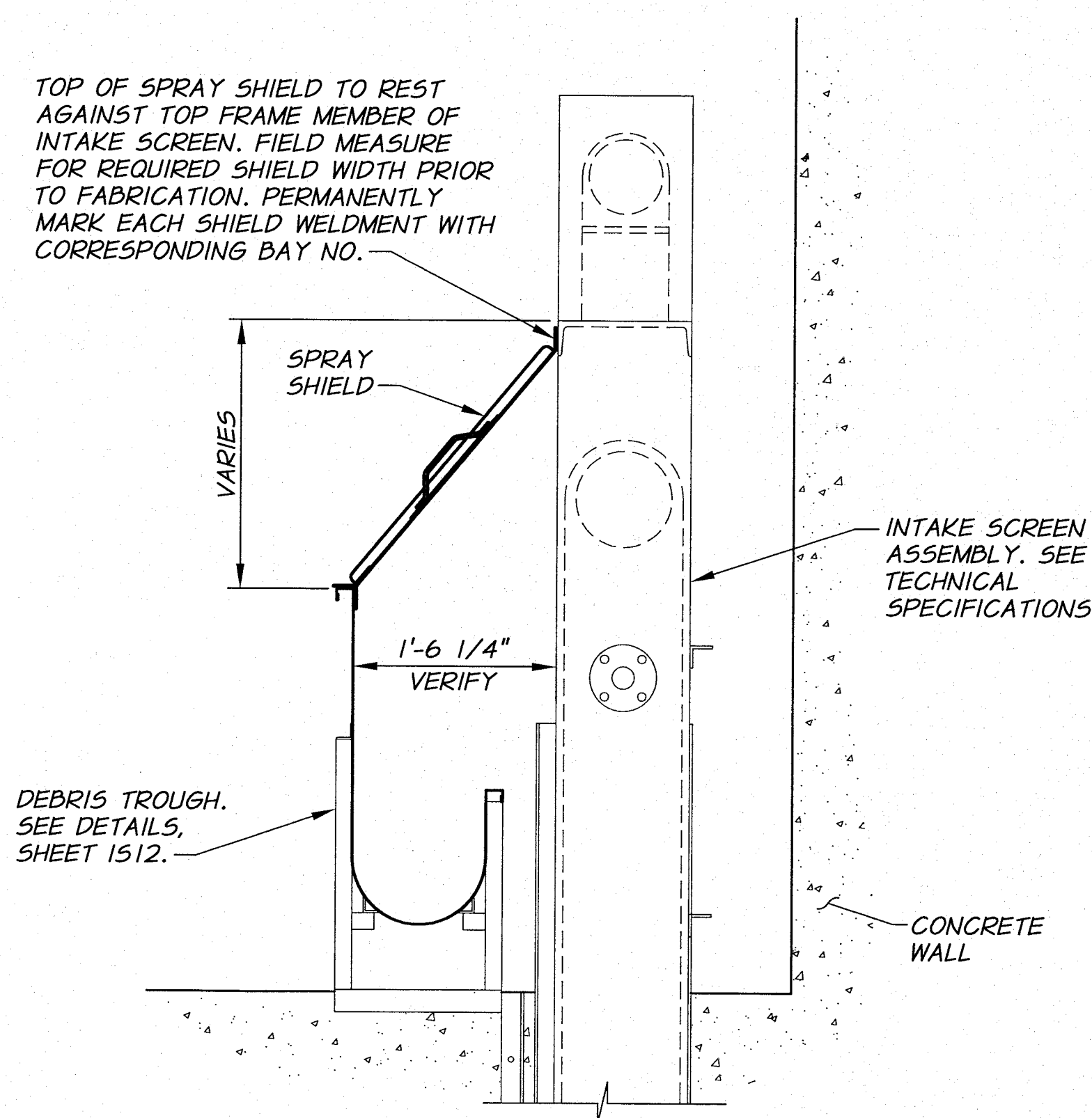
ARCHIVED



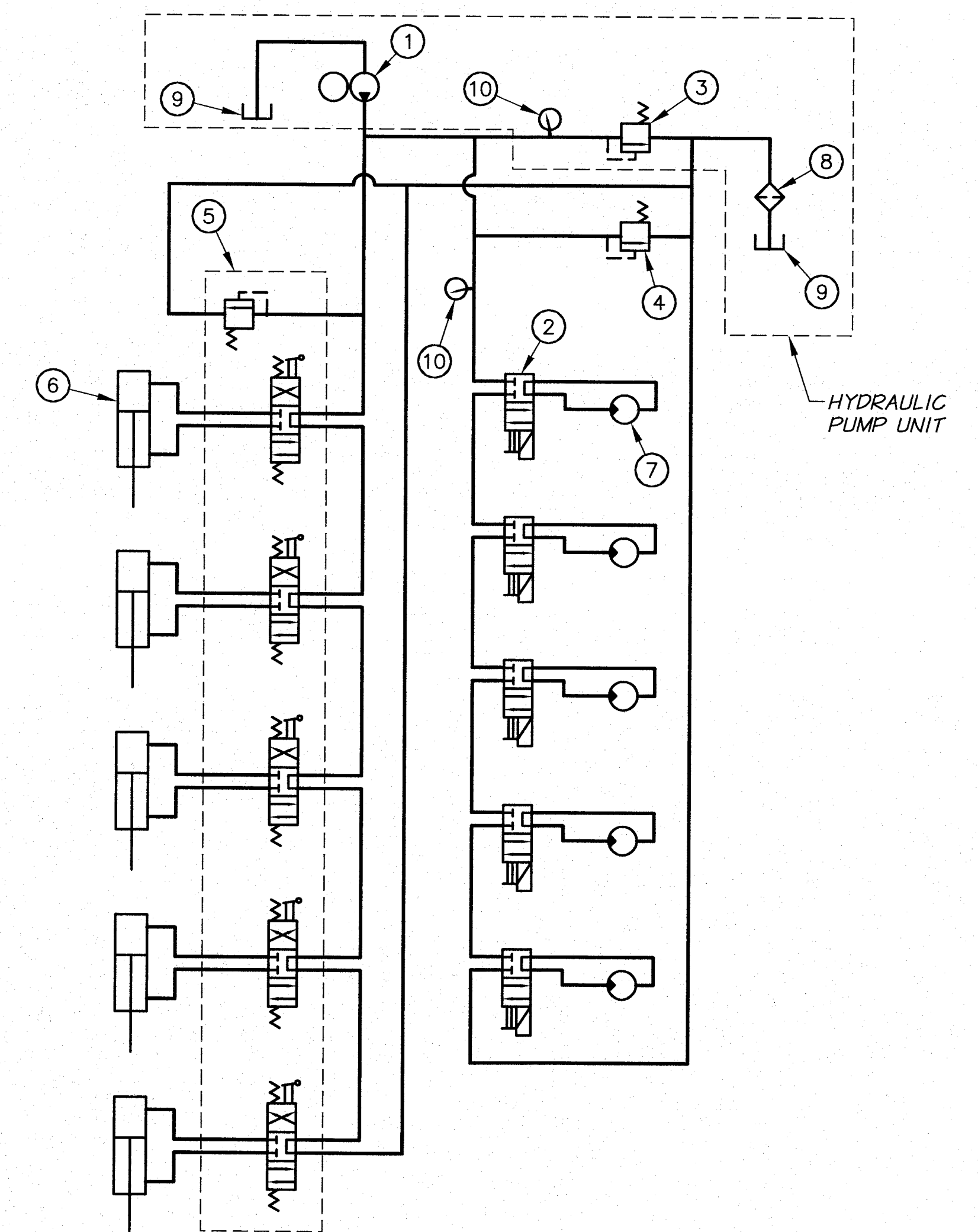
SPRAY SHIELD DETAIL
1 1/2"=1'-0"



ISOLATION GATE DETAIL
1/2"=1'-0"



SPRAY SHIELD INSTALLATION DETAIL
1"=1'-0"



COMPONENT SCHEDULE

- ① ELECTRIC MOTOR DRIVEN HYDRAULIC PUMP, 5 GPM AT 2000 PSI, HP AS REQUIRED. SEE TECHNICAL SPECIFICATIONS.
- ② SOLENOID VALVE, 4-WAY, 2 POSITION, DIRECT ACTING, SPOOL TYPE (4.2). COMMAND CORP. EMDV-12-4D OR EQUAL.
- ③ PRESSURE RELIEF VALVE SET AT 2000 PSI
- ④ PRESSURE RELIEF VALVE SET AT 1800 PSI
- ⑤ GATE CONTROL VALVE UNIT. OPEN CENTER DIRECTIONAL CONTROL VALVE WITH 5 LEVER OPERATED SPOOLS TO CONTROL POSITION OF INLET GATES. INTEGRAL PRESSURE RELIEF VALVES TO BE SET AT 1800 PSI. SEE TECHNICAL SPECIFICATIONS.
- ⑥ HYDRAULIC GATE ACTUATING CYLINDER AS PROVIDED BY THE GATE MANUFACTURER.
- ⑦ INTAKE SCREEN HYDRAULIC MOTOR, REQUIRES 5 GPM AT 1600 PSI. VERIFY WITH SCREEN MANUFACTURER.
- ⑧ HYDRAULIC OIL FILTER AS RECOMMENDED BY PUMP MANUFACTURER.
- ⑨ OIL RESERVOIR, SIZE AS RECOMMENDED BY PUMP MANUFACTURER.
- ⑩ PRESSURE GAUGE. SEE TECHNICAL SPECIFICATIONS.

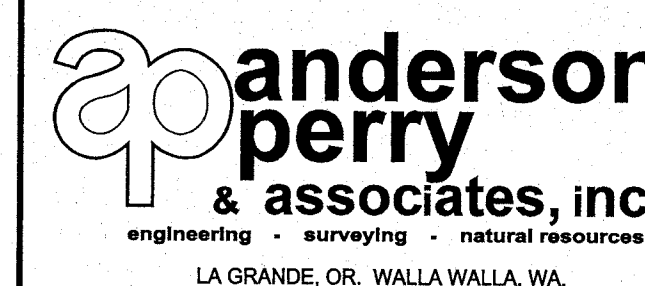
HYDRAULIC SYSTEM SCHEMATIC



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	ScreenStruct.dwg
		DATE	2009
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RECORD DRAWINGS

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**BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION**

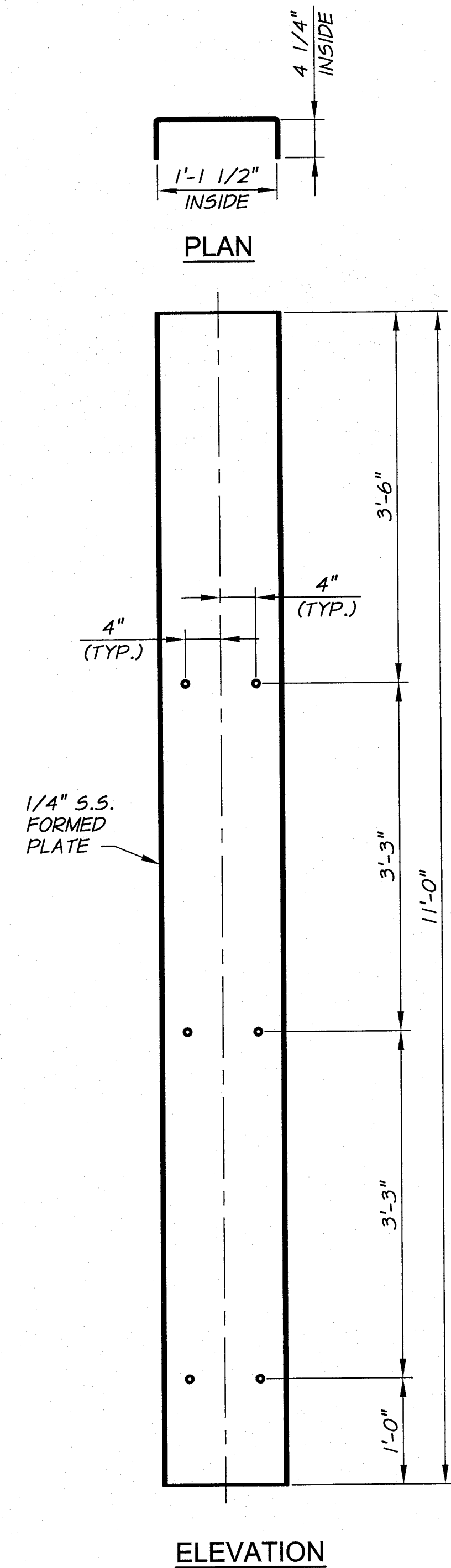
**INTAKE STRUCTURE
MECHANICAL DETAILS III**

SHEET

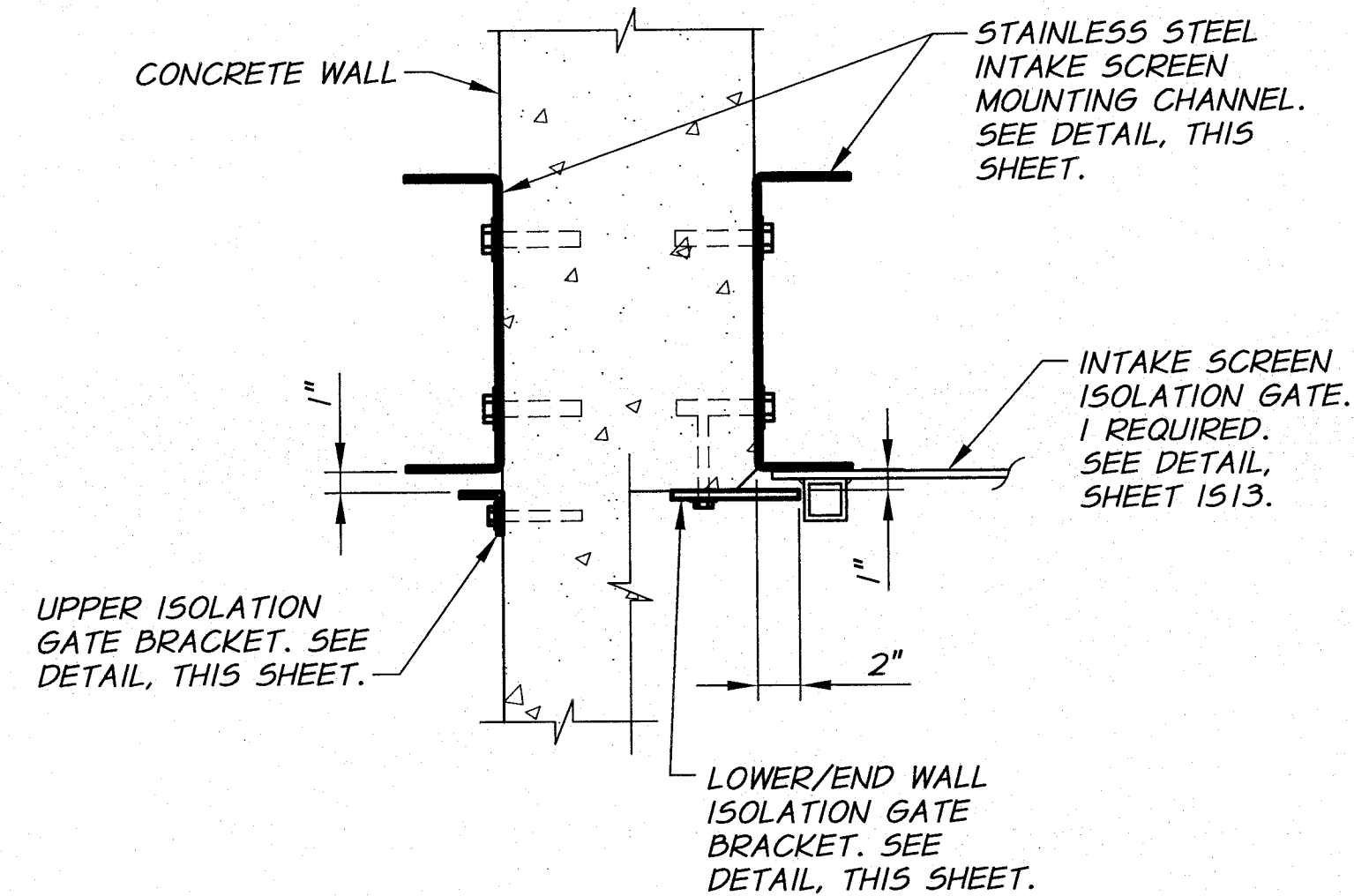
IS13

33 OF 60

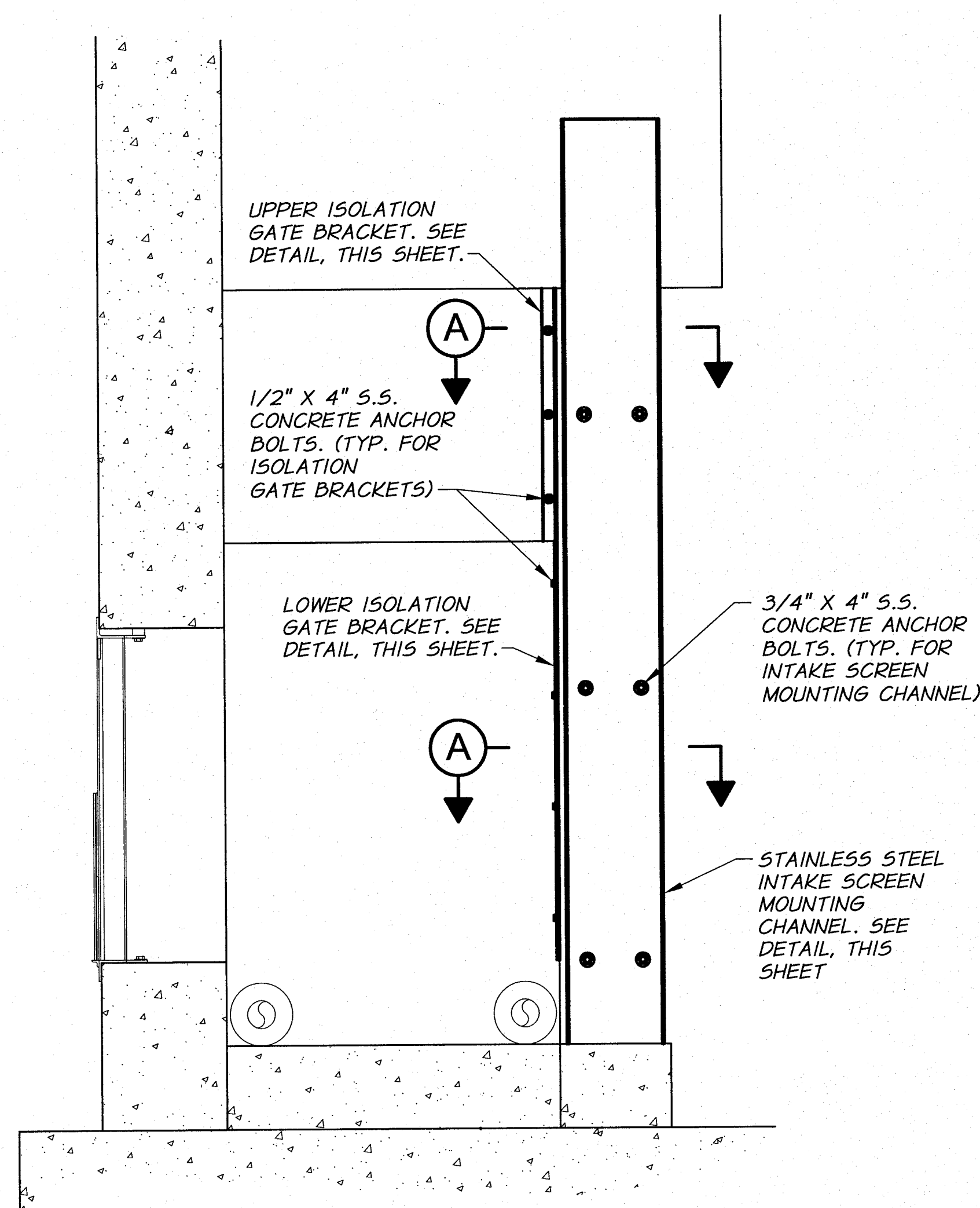
ARCHIVED



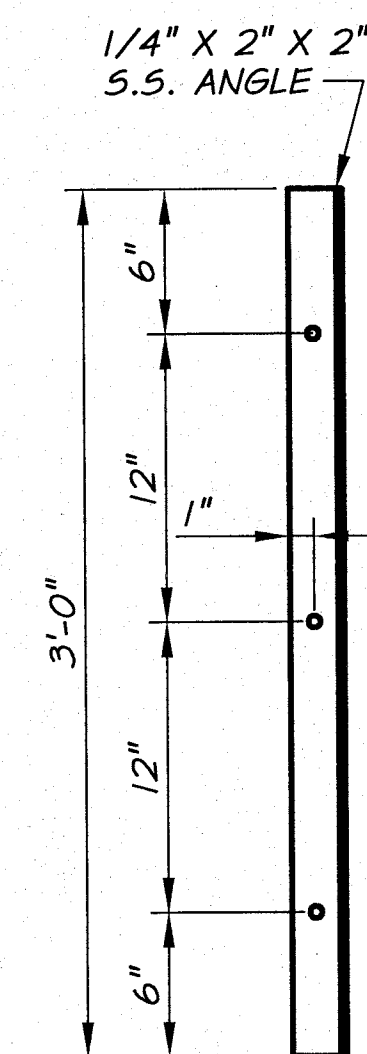
INTAKE SCREEN MOUNTING CHANNEL
1\"/>



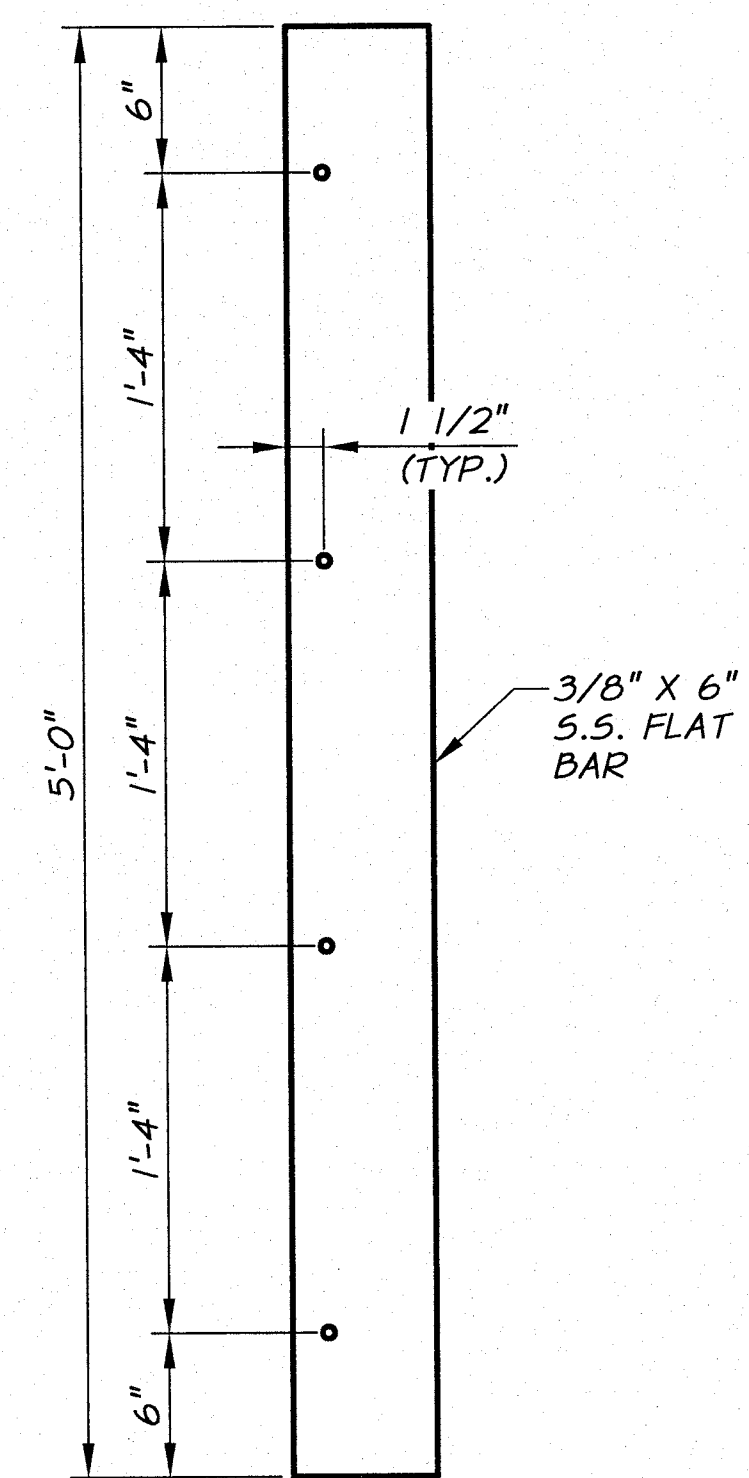
SECTION A
1 1/2\"/>



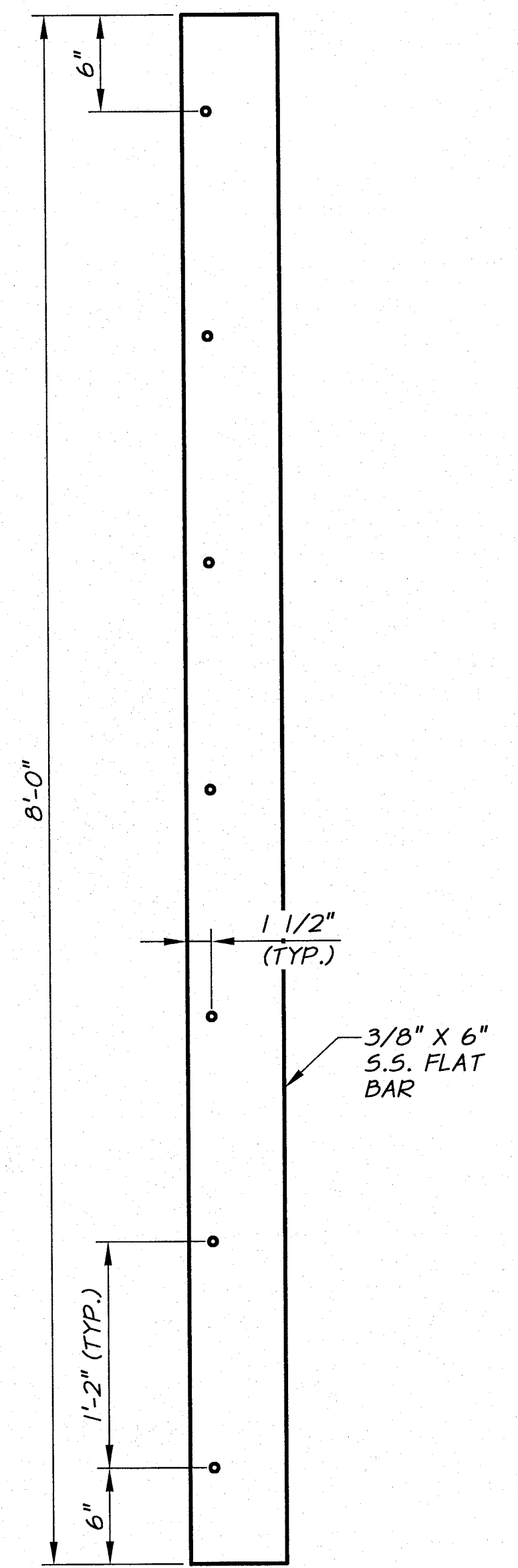
INSTALLATION DETAIL
INTAKE SCREEN AND ISOLATION GATE
3/4\"/>



UPPER BRACKET

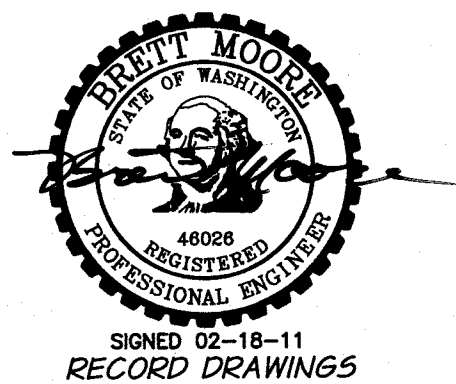


LOWER BRACKET



END WALL BRACKET

INTAKE SCREEN ISOLATION GATE BRACKETS
1 1/2\"/>



REVISION	BY	DATE	HORIZ. SCALE	AS NOTED	VERT. SCALE
DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg	JOB NUMBER	1199-336	DATE
DRAWN BY	D. CHRISTMAN		ACAD FILE	ScreenStruct.dwg	2009
REVIEWED BY	H. PERRY		COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.		

RECORD DRAWINGS
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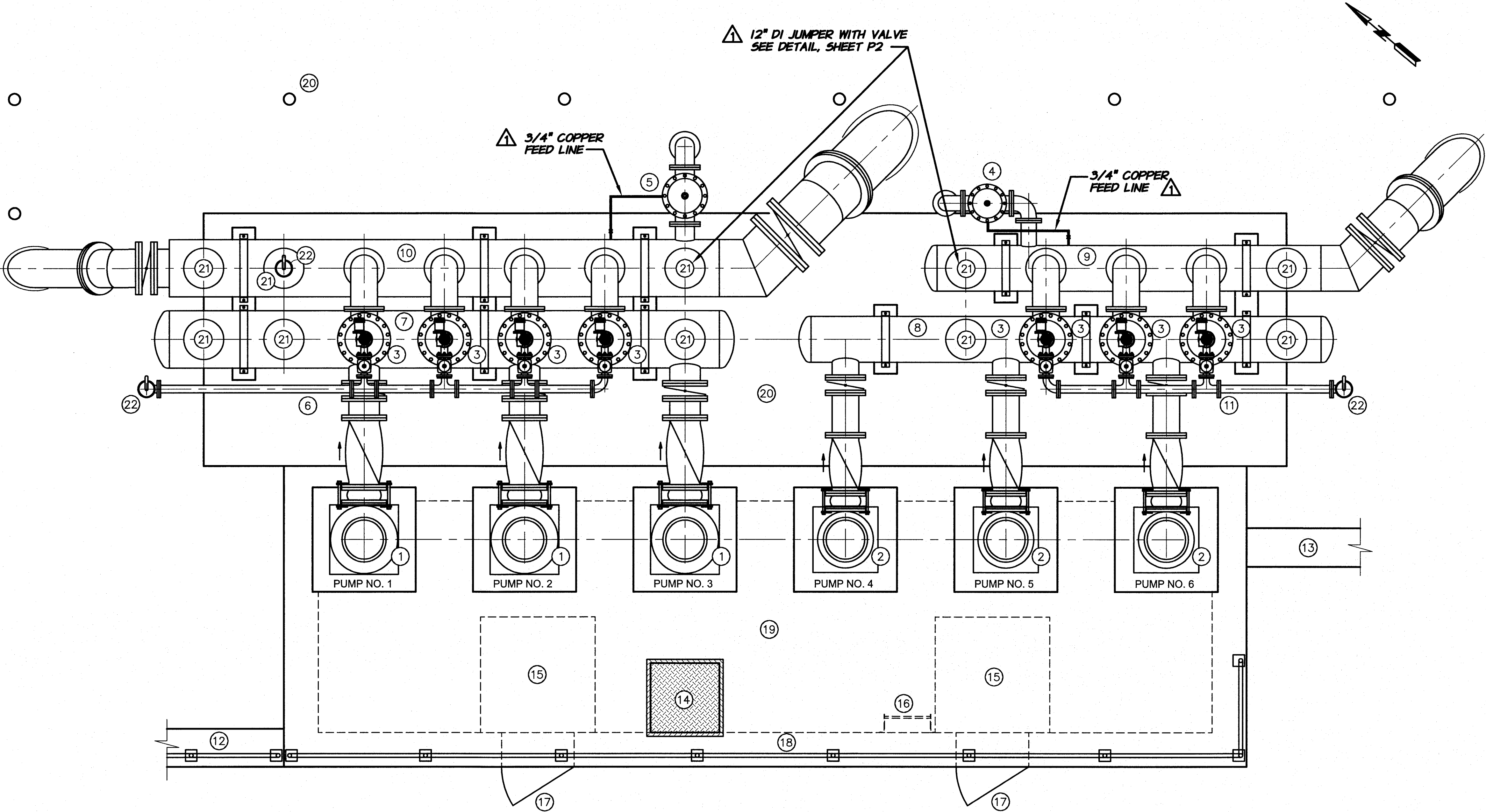
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION
INTAKE STRUCTURE
MECHANICAL DETAILS IV

SHEET
IS14
34 OF 60

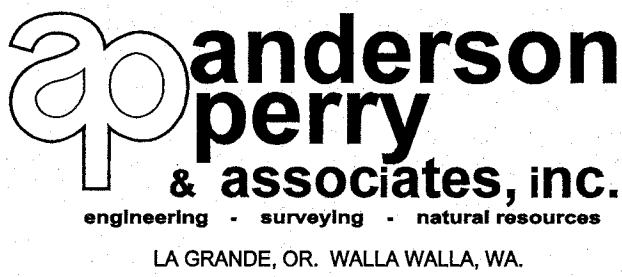
EQUIPMENT SCHEDULE

- 1 800 HP VERTICAL TURBINE PUMP. SEE TECHNICAL SPECIFICATIONS.
- 2 400 HP VERTICAL TURBINE PUMP. SEE TECHNICAL SPECIFICATIONS.
- 3 WATER FILTER ASSEMBLY. SEE TECHNICAL SPECIFICATIONS.
- 4 8" SURGE ANTICIPATOR/PRESSURE RELIEF VALVE
- 5 10" SURGE ANTICIPATOR/PRESSURE RELIEF VALVE
- 6 HIGH ZONE 4" FILTER WASH HEADER
- 7 30" PUMP DISCHARGE/FILTER INTAKE MANIFOLD
- 8 24" PUMP DISCHARGE/FILTER INTAKE MANIFOLD
- 9 24" FILTER DISCHARGE MANIFOLD
- 10 30" FILTER DISCHARGE MANIFOLD
- 11 LOW ZONE 4" FILTER WASH HEADER
- 12 RETAINING WALL NO. 2. SEE SHEET 56.
- 13 RETAINING WALL NO. 4. SEE SHEET 57.
- 14 3' X 3' ALUMINUM ACCESS COVER. SEE DETAIL, SHEET T7.
- 15 5' X 5' ALUMINUM PLATFORM. SEE DETAILS, SHEET S10, SIMILAR.
- 16 ALUMINUM ACCESS LADDER. SEE DETAIL, SHEET T7.
- 17 3'-0" X 6'-8" STEEL ACCESS DOOR
- 18 ALUMINUM HANDRAIL. SEE DETAIL, SHEET T8.
- 19 CONCRETE PUMP WET WELL. SEE SHEETS PS2-PS7.
- 20 BOLLARD (TYP.) SEE DETAIL, SHEET T10.
- 21 CONNECTION FOR FUTURE WATER FILTER ASSEMBLY
- 22 3" COMBINATION AIR/VAC VALVE



RECORD DRAWINGS		H.P.	11/10	1 0 1 2 4 6 8 10 3/8" = 1'-0"	
DESIGNED BY	B. MOORE	DATE	11/10	HORIZ. SCALE	3/8" = 1'-0"
DRAWN BY	D. CHRISTMAN	DATE	2009	VERT. SCALE	
REVIEWED BY	H. PERRY	ACAD FILE	PumpStation.dwg	JOB NUMBER	1199-336
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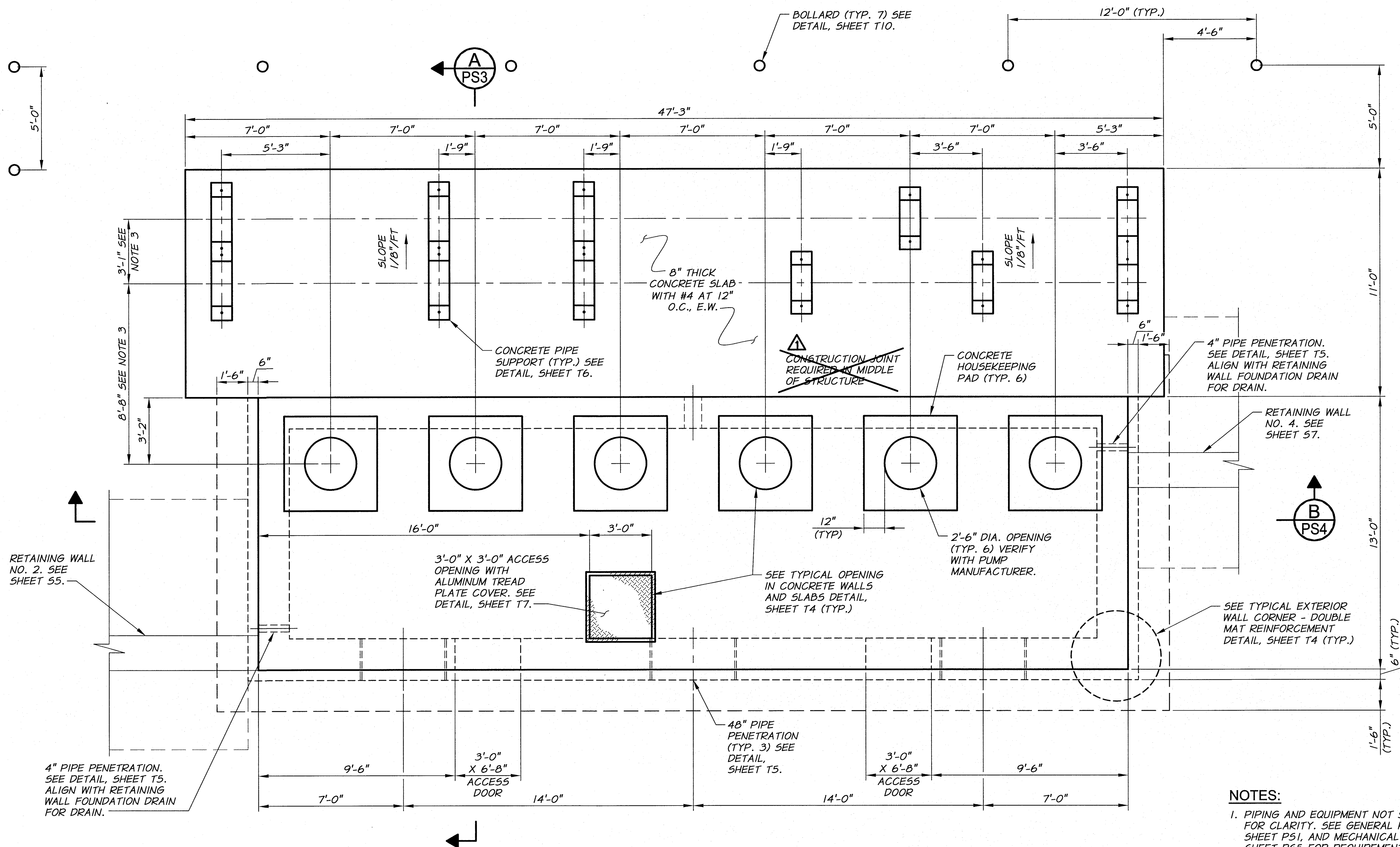
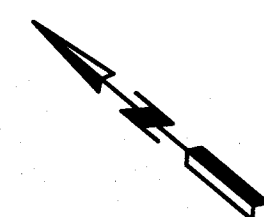
RECORD DRAWINGS
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

PUMP STATION
GENERAL PLAN

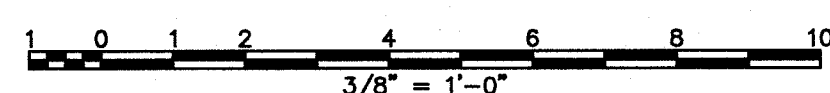
SHEET
PS1
35 OF 60



- NOTES:**
1. PIPING AND EQUIPMENT NOT SHOWN FOR CLARITY. SEE GENERAL PLAN, SHEET PS1, AND MECHANICAL PLAN, SHEET PS5 FOR REQUIREMENTS.
 2. SEE STRUCTURAL DETAILS, SHEET T4, FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
 3. VERIFY DIMENSION WITH EQUIPMENT SUPPLIER. MODIFY AS REQUIRED UPON APPROVAL OF THE ENGINEER.

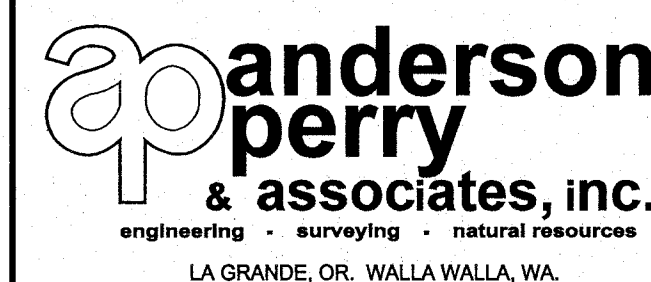


RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	PumpStation.dwg
		DATE	2009
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

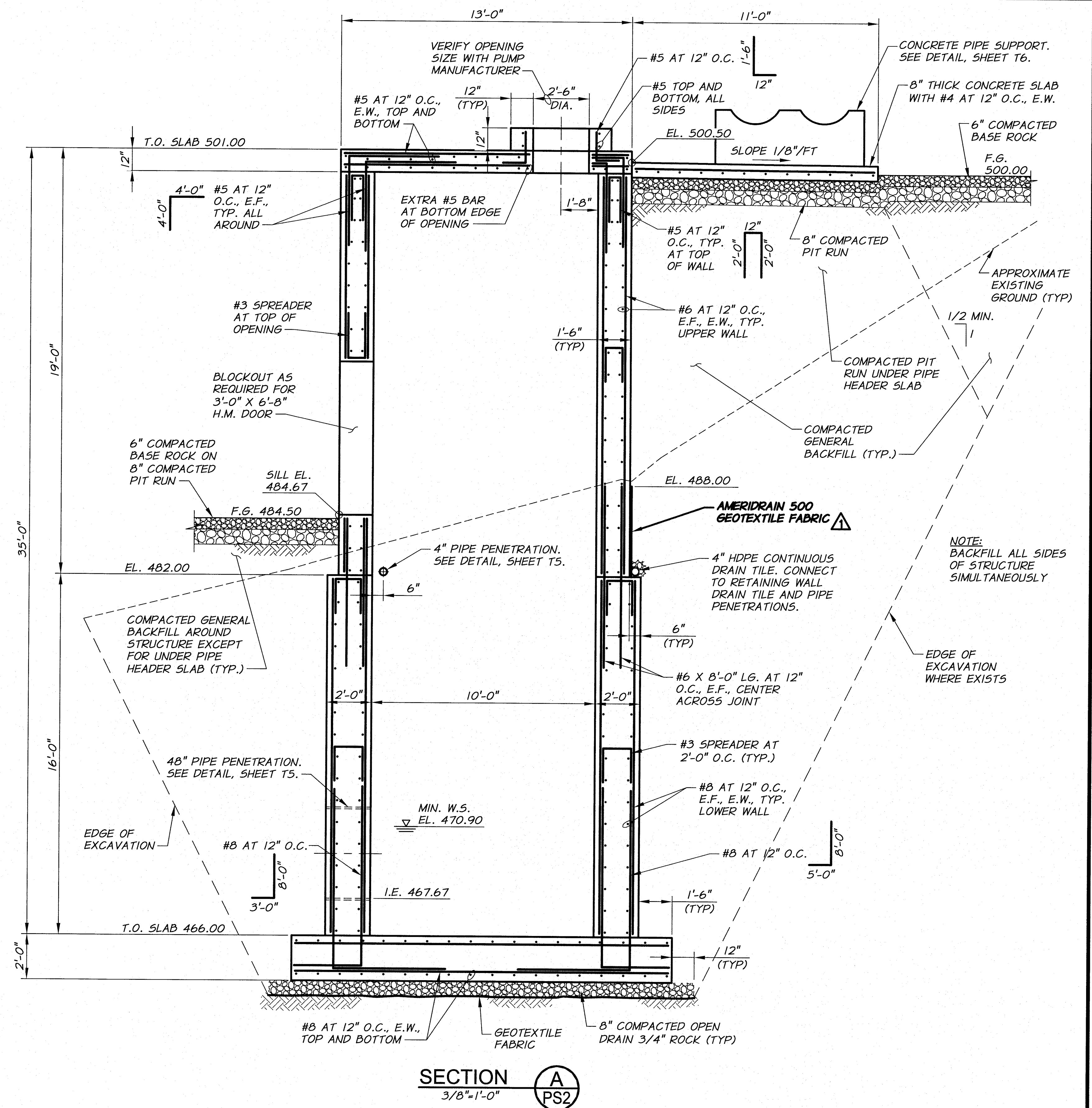
PUMP STATION STRUCTURAL PLAN

SHEET

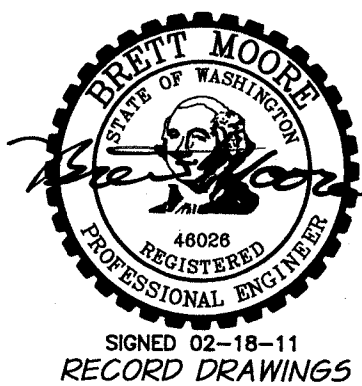
PS2

36 OF 60

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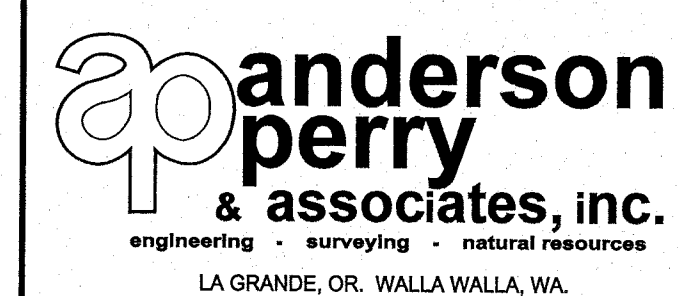
SECTION 3/8"=1'-0" A
PS2



△ RECORD DRAWINGS		H.P.	11/10		
REVISION		BY	DATE	HORIZ. SCALE 3/8" = 1'-0" JOB NUMBER 1199-336 ACAD FILE: PumpStation.dwg COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC. INC.	
DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg		VERT. SCALE DATE 2009	
DRAWN BY	D. CHRISTMAN				
REVIEWED BY	H. PERRY				

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BENTON IRRIGATION DISTRICT

IRRIGATION SYSTEM IMPROVEMENTS

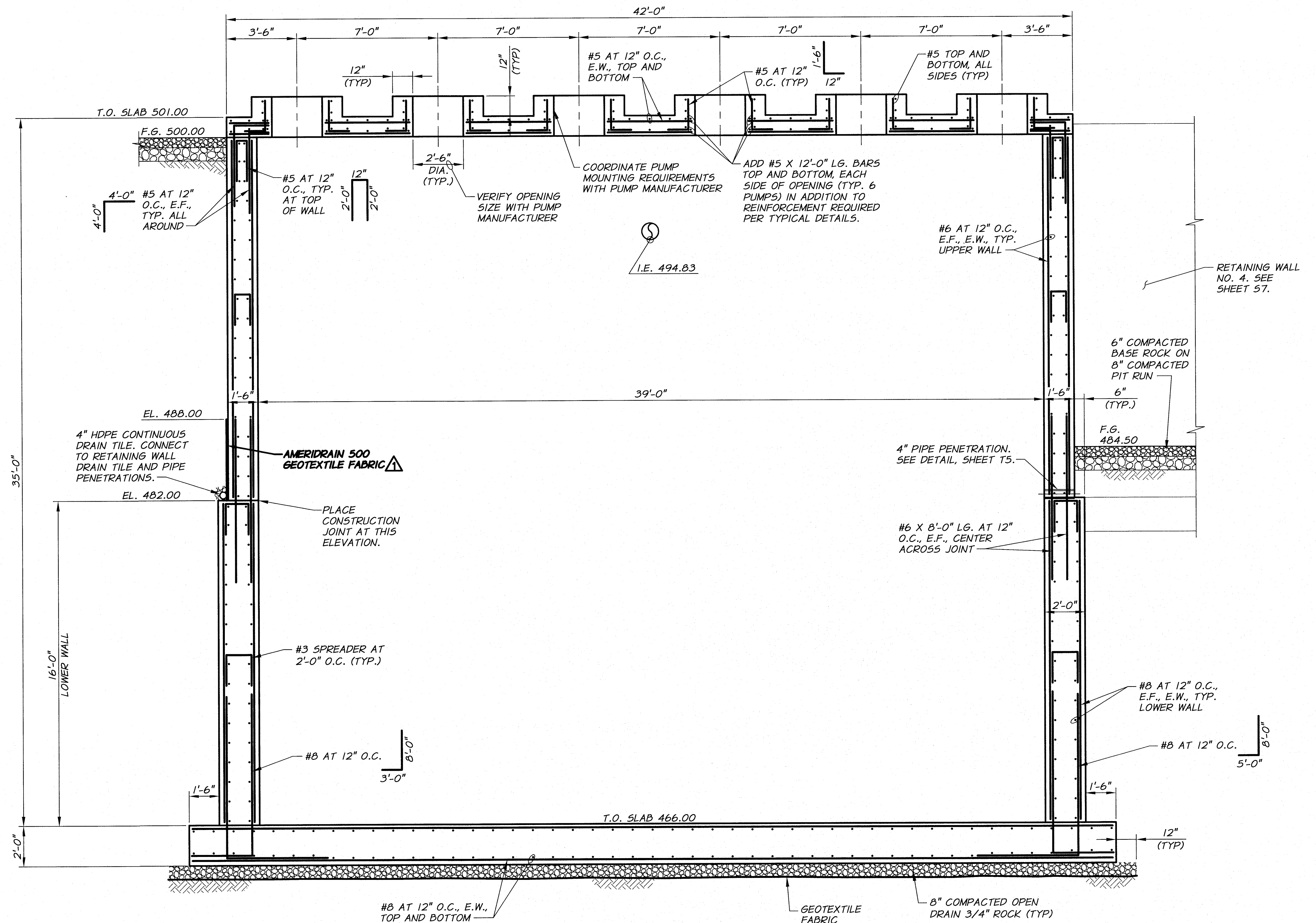
RIVER PUMP STATION

PUMP STATION STRUCTURAL SECTION I

SHEET

PS3

7 OF 60



SECTION B
3/8"=1'-0"



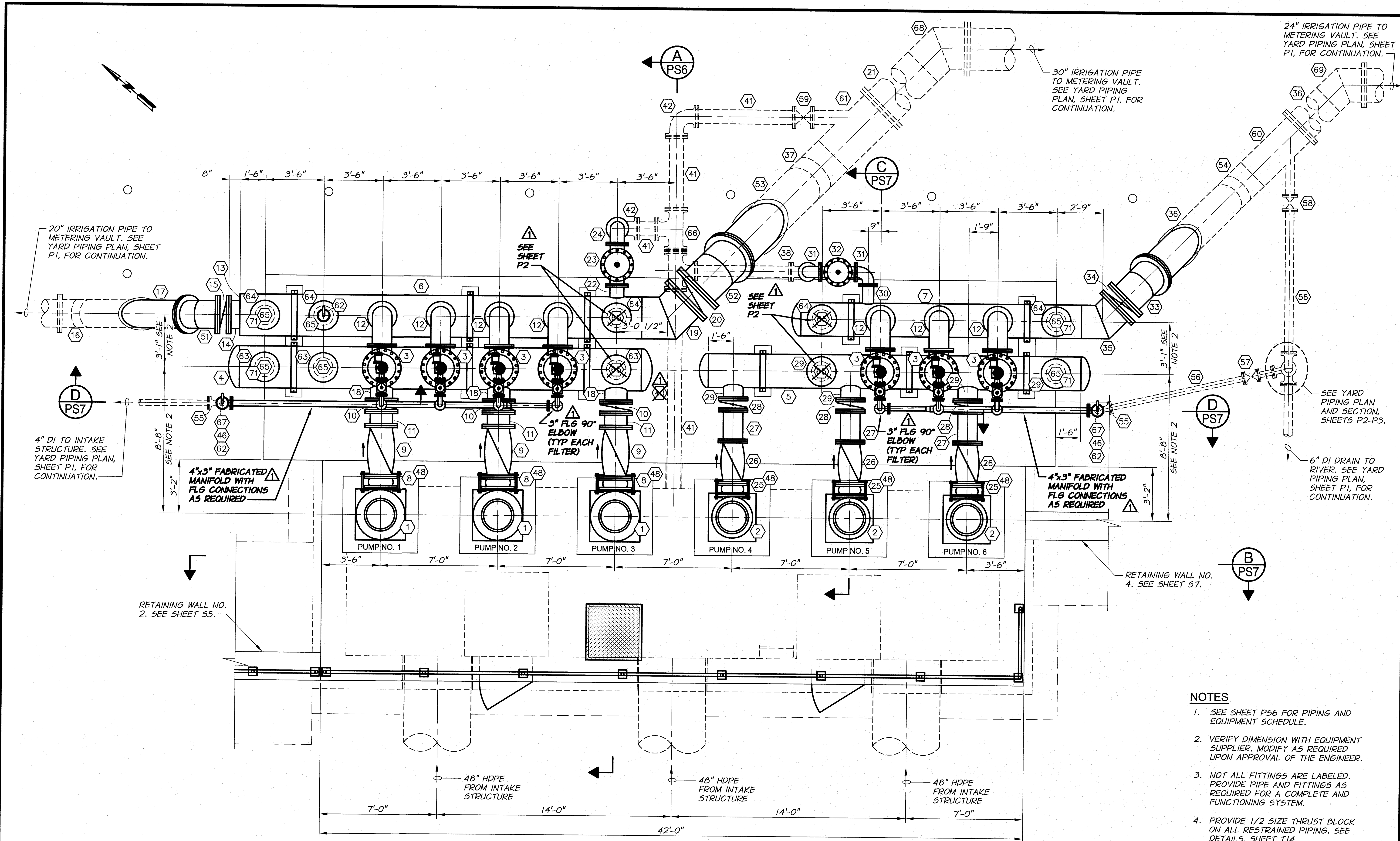
REVISION	BY	DATE	H.P.	11/10
DESIGNED BY	B. MOORE	XREFs: TB-PumpSta.dwg	JOB NUMBER	1199-336
DRAWN BY	D. CHRISTMAN	ACAD FILE: PumpStation.dwg	DATE	2009
REVIEWED BY	H. PERRY		COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	

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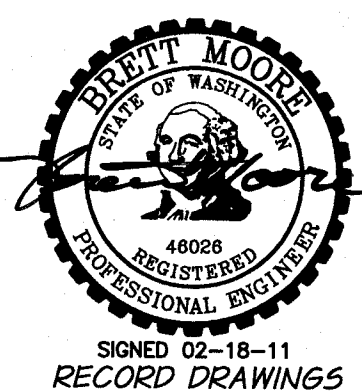
BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION
PUMP STATION
STRUCTURAL SECTION II

SHEET
PS4
38 OF 60



NOTES

- SEE SHEET PS6 FOR PIPING AND EQUIPMENT SCHEDULE.
- VERIFY DIMENSION WITH EQUIPMENT SUPPLIER. MODIFY AS REQUIRED UPON APPROVAL OF THE ENGINEER.
- NOT ALL FITTINGS ARE LABELED. PROVIDE PIPE AND FITTINGS AS REQUIRED FOR A COMPLETE AND FUNCTIONING SYSTEM.
- PROVIDE 1/2 SIZE THRUST BLOCK ON ALL RESTRAINED PIPING. SEE DETAILS, SHEET T14.

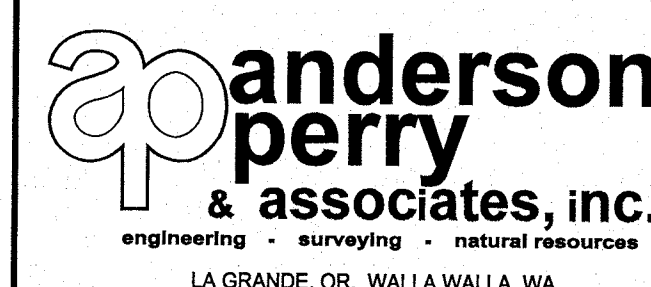


REVISION	BY	DATE
DESIGNED BY B. MOORE	H.P.	11/10
DRAWN BY D. CHRISTMAN		
REVIEWED BY H. PERRY		

XREFS: TB-PumpSta.dwg	JOB NUMBER 1199-336	DATE 2009
ACAD FILE PumpStation.dwg		
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

PUMP STATION
MECHANICAL PLAN

SHEET

PS5

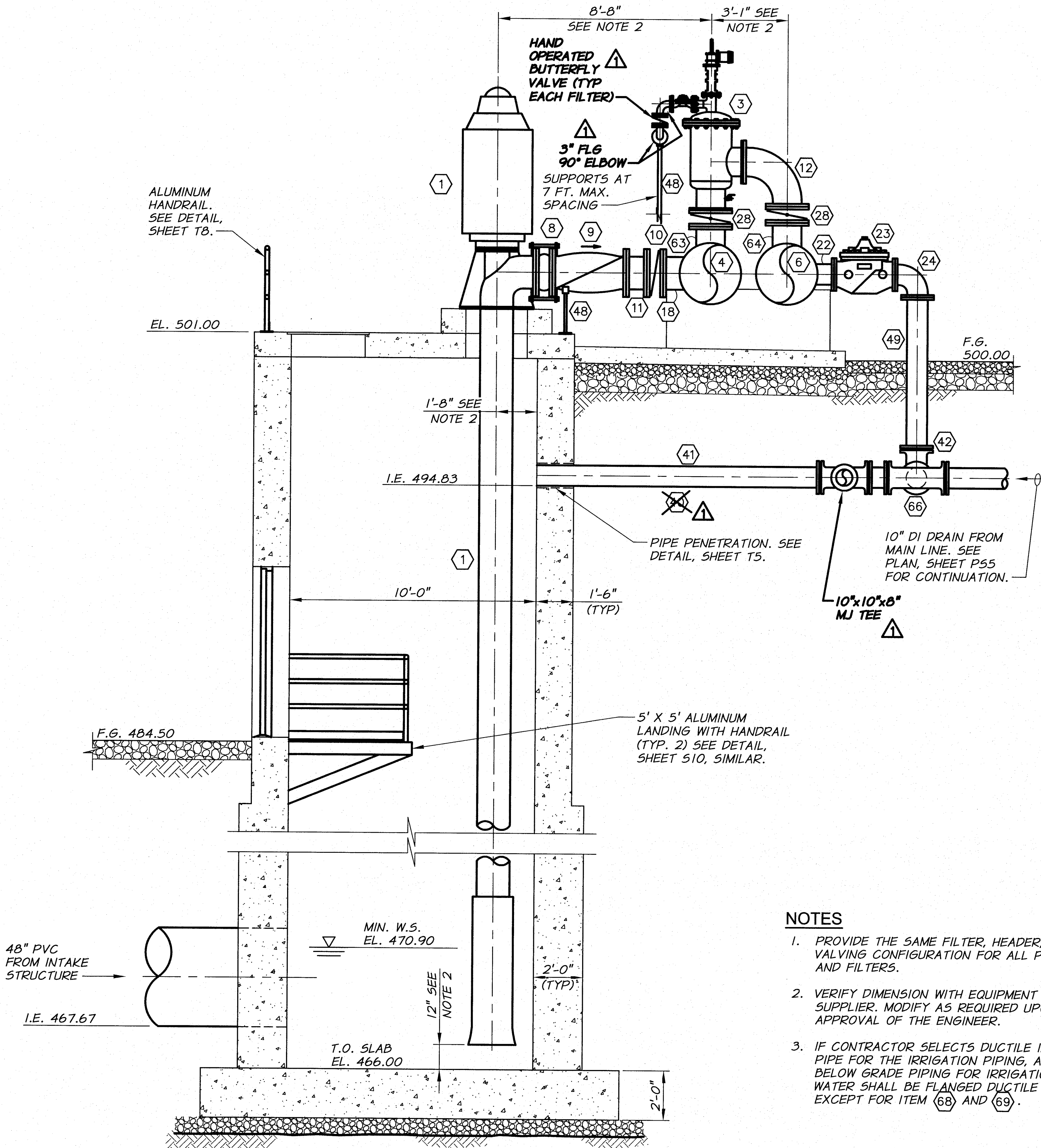
39 OF 60

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PIPING AND EQUIPMENT SCHEDULE

- 1 800 HP PUMP ASSEMBLY. SEE TECHNICAL SPECIFICATIONS.
- 2 400 HP PUMP ASSEMBLY. SEE TECHNICAL SPECIFICATIONS.
- 3 14" FILTER ASSEMBLY. SEE TECHNICAL SPECIFICATIONS.
- 4 30" DIA. STEEL PUMP DISCHARGE MANIFOLD WITH END CAPS
- 5 24" DIA. STEEL PUMP DISCHARGE MANIFOLD WITH END CAPS
- 6 30" DIA. STEEL FILTER DISCHARGE MANIFOLD
- 7 24" DIA. STEEL FILTER DISCHARGE MANIFOLD WITH END CAP
- 8 16" FLG RUBBER EXPANSION JOINT. PROCO SERIES 242 OR EQUAL. RATED AT 225 PSIG WITH TIE RODS
- 9 16" FLG SWING CHECK VALVE WITH LEVER ARM AND DASH POT
- 10 16" FLG BUTTERFLY VALVE WITH HANDWHEEL GEARED OPERATOR
- 11 16" FLG SPOOL, LENGTH AS REQUIRED. VERIFY PUMP DISCHARGE AND CHECK VALVE DIMENSIONS.
- 12 14" FLG STEEL LONG RADIUS 90° ELBOW
- 13 1/2" THICK 30" X 20" REDUCING PLATE
- 14 20" FLG X WELD-END STEEL SPOOL
- 15 20" FLG BUTTERFLY VALVE WITH HANDWHEEL GEARED OPERATOR
- 16 20" FLG X WELD-END 45° ELBOW
- 17 20" FLG X WELD-END STEEL PIPE SPOOL, LENGTH AS REQUIRED
- 18 16" FLG X WELD-END STEEL SPOOL. SET FACE OF FLANGE 23" FROM MANIFOLD CENTERLINE.
- 19 30" FLG X WELD-END STEEL 45° ELBOW
- 20 30" FLG BUTTERFLY VALVE WITH HANDWHEEL GEARED OPERATOR
- 21 30" WELD-END STEEL SPOOL, LENGTH AS REQUIRED
- 22 10" FLG X WELD-END STEEL SPOOL. SET FACE OF FLANGE 23" FROM MANIFOLD CENTERLINE.
- 23 10" FLG PRESSURE RELIEF/SURGE ANTICIPATOR VALVE
- 24 10" FLG DI 90° ELBOW
- 25 14" FLG RUBBER EXPANSION JOINT. PROCO SERIES 242 OR EQUAL. RATED AT 225 PSIG WITH TIE RODS
- 26 14" FLG SWING CHECK VALVE WITH LEVER ARM AND DASH POT
- 27 14" FLG SPOOL, LENGTH AS REQUIRED. VERIFY PUMP DISCHARGE AND CHECK VALVE DIMENSIONS.
- 28 14" FLG BUTTERFLY VALVE WITH HANDWHEEL GEARED OPERATOR
- 29 14" FLG X WELD-END STEEL SPOOL. SET FACE OF FLANGE 20" FROM MANIFOLD CENTERLINE.
- 30 8" FLG X WELD-END STEEL SPOOL. SET FACE OF FLANGE 25" FROM MANIFOLD CENTERLINE.

- 31 8" FLG DI 90° ELBOW
- 32 8" FLG PRESSURE RELIEF/SURGE ANTICIPATOR VALVE
- 33 24" FLG STEEL 45° ELBOW
- 34 24" FLG BUTTERFLY VALVE
- 35 24" FLG X WELD-END STEEL 45° ELBOW
- 36 24" FLG X WELD-END STEEL SPOOL, LENGTH AS REQUIRED
- 37 30" WELD-END STEEL 45° ELBOW
- 38 8" MJ 90° ELBOW WITH THRUST RESTRAINT
- 39 8" DI PIPE, LENGTH AS REQUIRED
- 40 10" X 10" X 8" MJ WYE
- 41 10" DI PIPE, LENGTH AS REQUIRED
- 42 10" MJ 90° ELBOW WITH THRUST RESTRAINT
- 43 4" X 3" FLG 90° REDUCING ELBOW
- 44 4" FLG PIPE SPOOL, LENGTH AS REQUIRED
- 45 4" X 4" X 3" FLG DI TEE
- 46 4" X 3" FLG X FPT ADAPTER
- 47 4" FLG X PE DI SPOOL, LENGTH AS REQUIRED
- 48 PIPE SUPPORT. SEE DETAIL, SHEET T6.
- 49 10" FLG X PE DI SPOOL, LENGTH AS REQUIRED
- 50 8" FLG X PE DI SPOOL, LENGTH AS REQUIRED
- 51 20" FLG STEEL 45° ELBOW
- 52 30" FLG STEEL 45° ELBOW
- 53 30" FLG X WELD-END STEEL SPOOL, LENGTH AS REQUIRED
- 54 24" WELD-END STEEL 45° ELBOW
- 55 4" MJ 90° ELBOW WITH THRUST RESTRAINT
- 56 4" DI PIPE SPOOL, LENGTH AS REQUIRED
- 57 4" MJ GATE VALVE AND VALVE BOX. SEE DETAIL, SHEET T5.
- 58 6" FLG GATE VALVE AND VALVE BOX. SEE DETAIL, SHEET T5.
- 59 10" FLG GATE VALVE AND VALVE BOX. SEE DETAIL, SHEET T5.
- 60 24" X 6" FLG X WELD-END X FLG WYE
- 61 30" X 10" FLG X WELD-END X FLG WYE
- 62 3" COMBINATION AIR/VAC VALVE. PROVIDE VENT PIPE AND FITTINGS AS REQUIRED.
- 63 14" FLG X WELD-ON STEEL SPOOL. SET FACE OF FLANGE 23" FROM MANIFOLD CENTERLINE.
- 64 14" FLG X WELD-ON STEEL SPOOL. LENGTH AS REQUIRED.
- 65 14" DI BLIND FLANGE, TAP AS REQUIRED.
- 66 10" MJ TEE WITH THRUST RESTRAINT
- 67 4" FLG DI TEE
- 68 30" FLG X WELD-END STEEL 42° ELBOW
- 69 24" FLG X WELD-END STEEL 42° ELBOW
- 70 4" FLG GEAR OPERATED BUTTERFLY VALVE
- 71 PRESSURE GAUGE AND TRANSDUCER, SEE DETAIL, SHEET T10. TAP BLIND FLANGE AS REQUIRED.



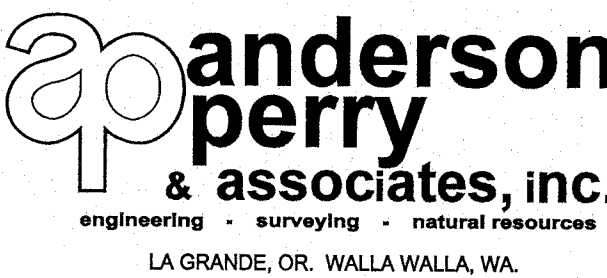
- NOTES
1. PROVIDE THE SAME FILTER, HEADER, AND VALVING CONFIGURATION FOR ALL PUMPS AND FILTERS.
2. VERIFY DIMENSION WITH EQUIPMENT SUPPLIER. MODIFY AS REQUIRED UPON APPROVAL OF THE ENGINEER.
3. IF CONTRACTOR SELECTS DUCTILE IRON PIPE FOR THE IRRIGATION PIPING, ALL BELOW GRADE PIPING FOR IRRIGATION WATER SHALL BE FLANGED DUCTILE IRON EXCEPT FOR ITEM (68) AND (69).



						
					SCALE IN FEET	
<u>△</u> RECORD DRAWINGS			H.P.	11/10		
REVISION		BY	DATE	HORIZ. SCALE 1/4" = 1'-0"		VERT. SCALE
DESIGNED BY B. MOORE		XREFS: TB-PumpSta.dwg			JOB NUMBER 1199-336	DATE 2009
DRAWN BY D. CHRISTMAN					ACAD FILE: PumpStation.dwg	
REVIEWED BY H. PERRY					COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	

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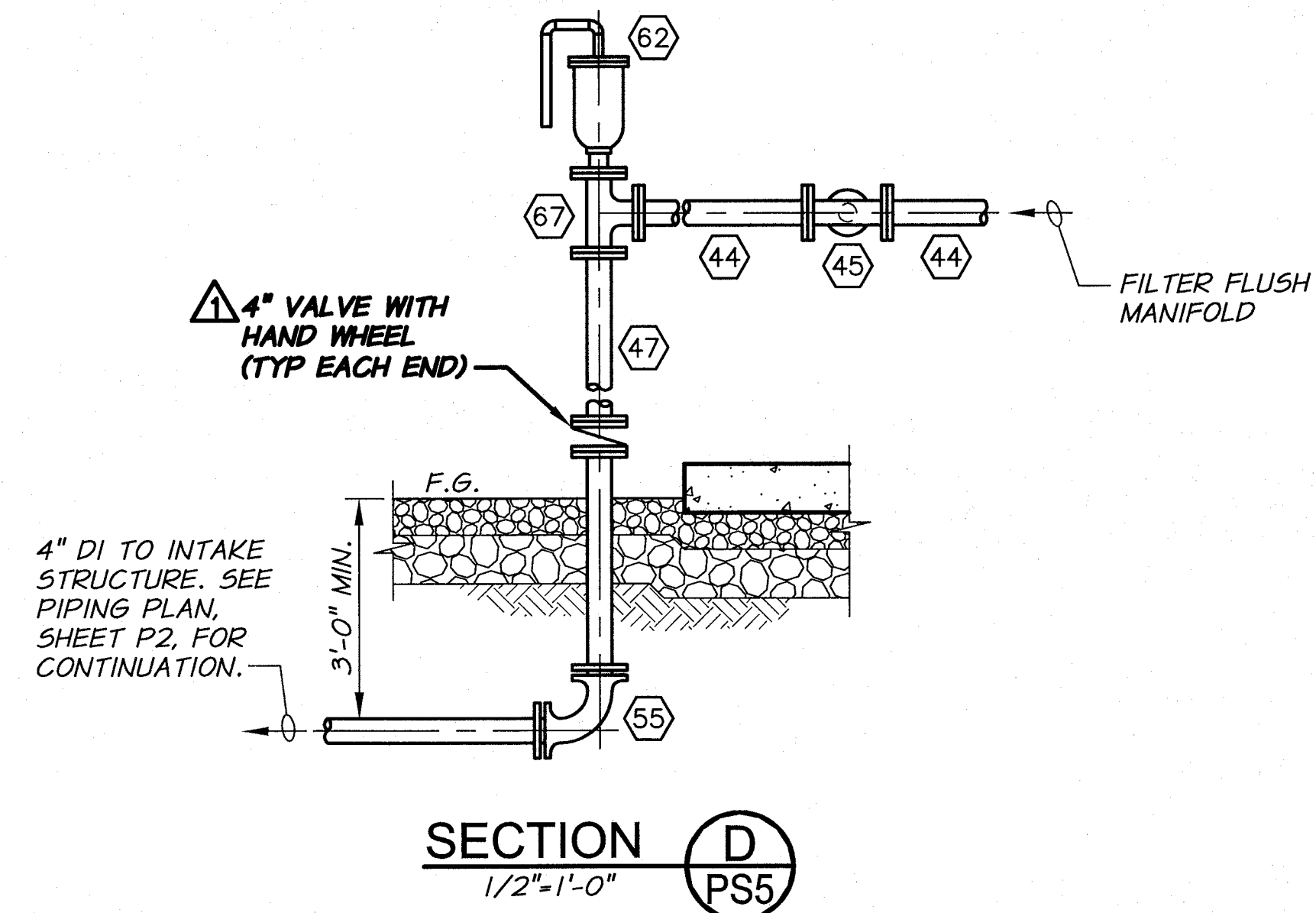
BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

PUMP STATION
MECHANICAL SECTION

SHEET

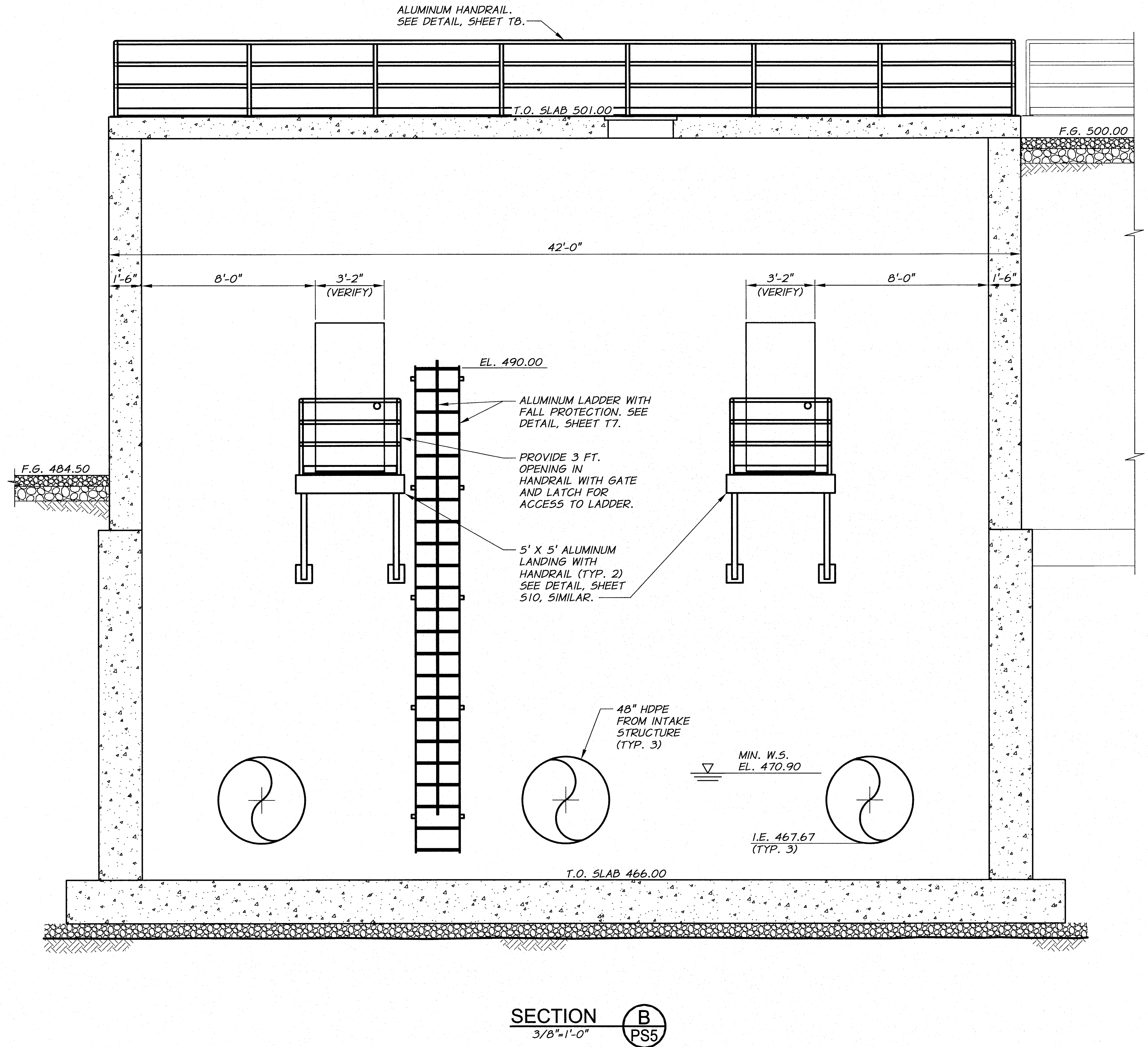
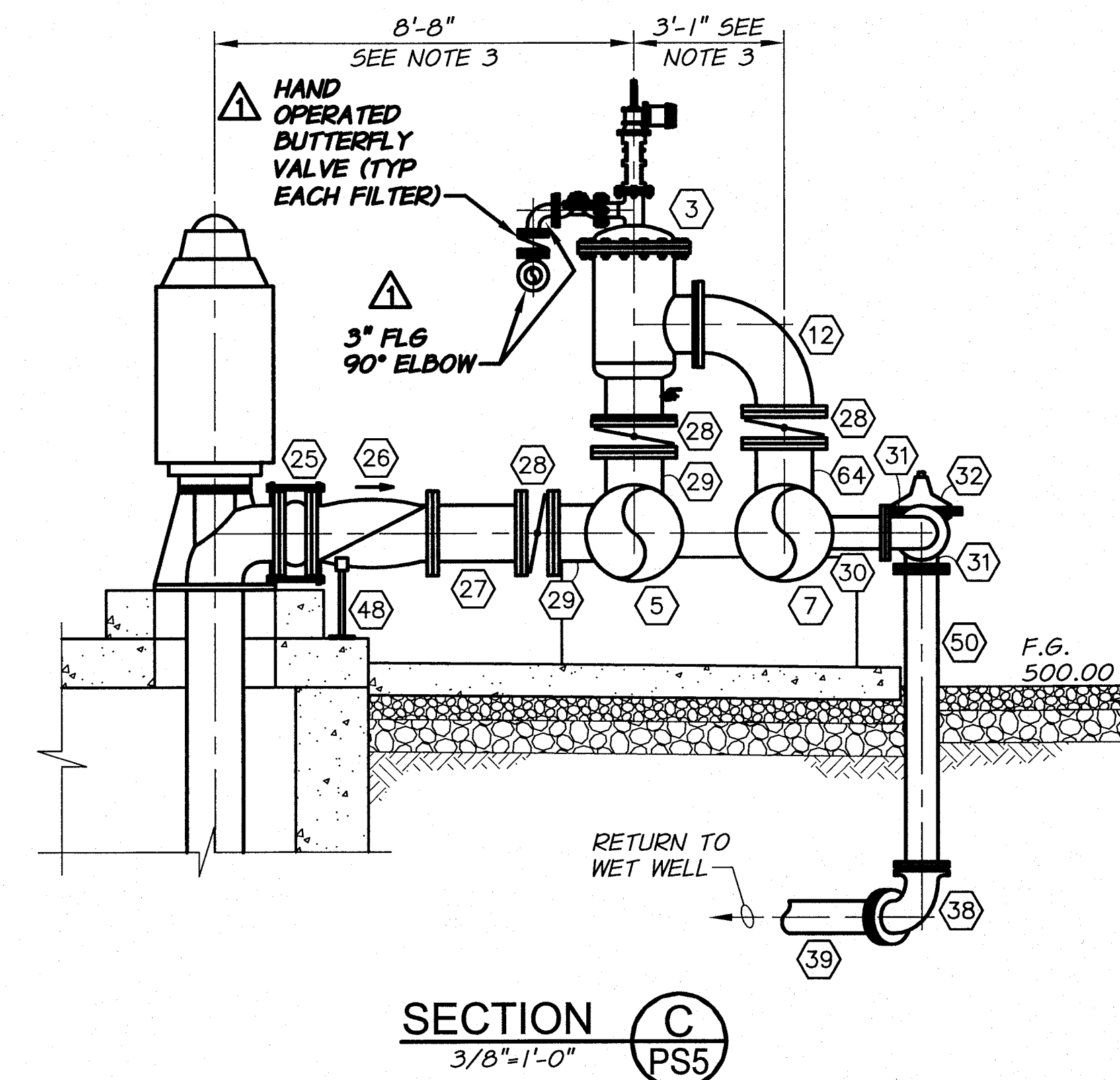
PS6

40 OF 60



NOTES

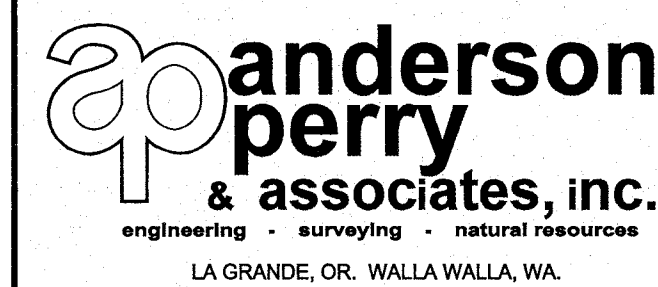
1. SEE SHEET PS6 FOR PIPING AND EQUIPMENT SCHEDULE.
2. PROVIDE THE SAME FILTER, HEADER, AND VALVING CONFIGURATION FOR ALL PUMPS AND FILTERS.
3. VERIFY DIMENSION WITH EQUIPMENT SUPPLIER. MODIFY AS REQUIRED UPON APPROVAL OF THE ENGINEER.



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	PumpStation.dwg
		DATE	2009
		COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

PUMP STATION MECHANICAL SECTION II

SHEET

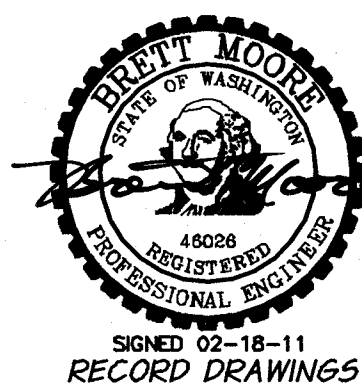
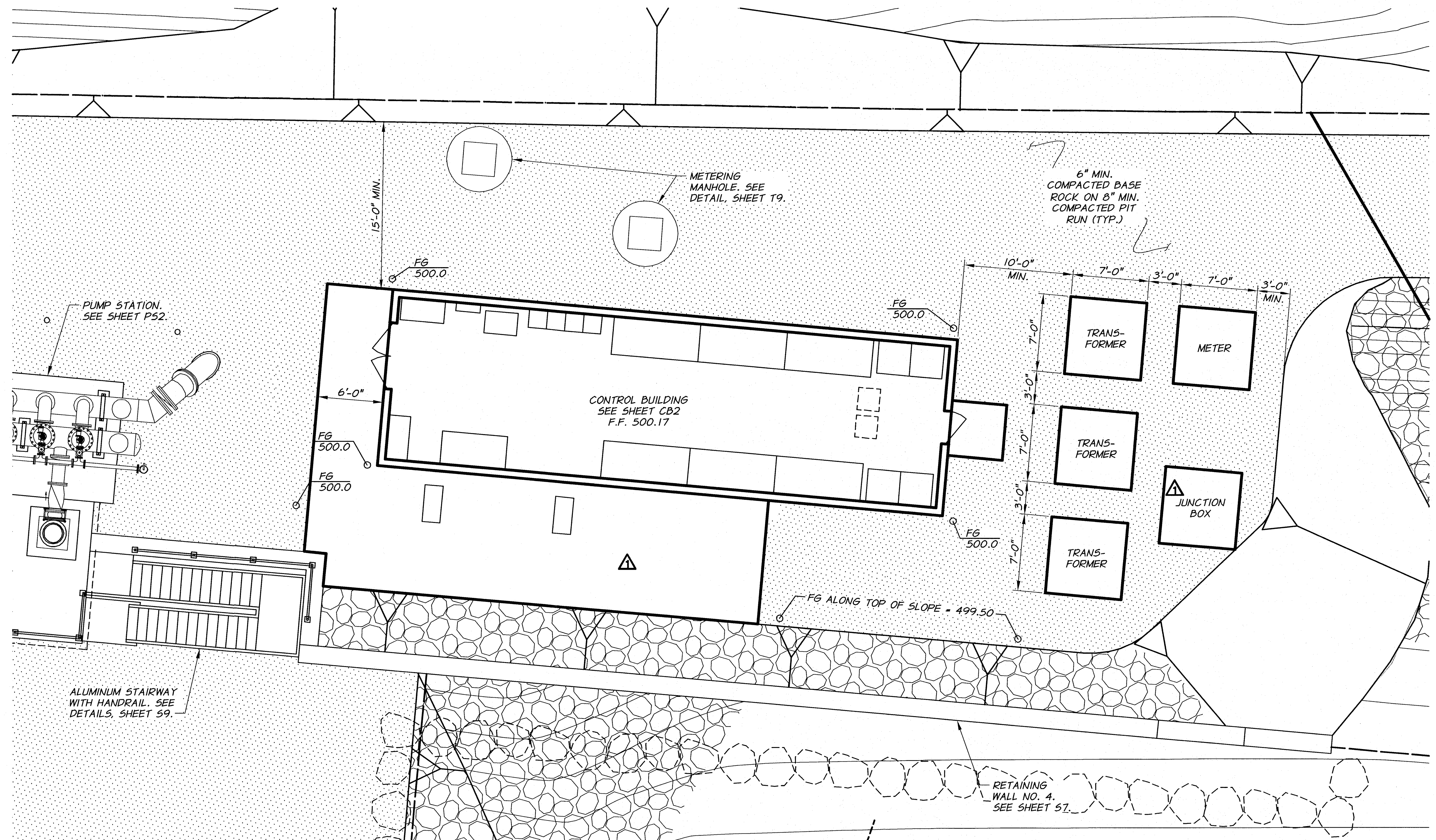
PS7

41 OF 60

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NOTES

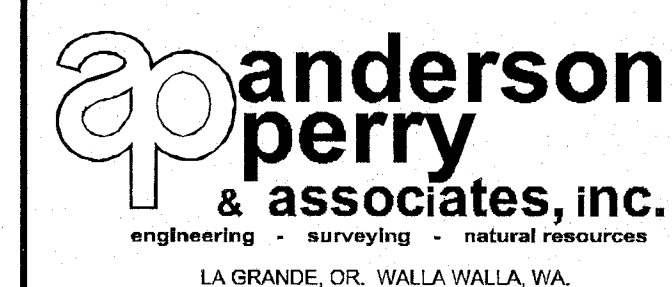
1. SEED AND PLANT ALL DISTURBED AND FILL SLOPE AREAS PER REQUIREMENTS OF TECHNICAL SPECIFICATIONS.
2. CONSTRUCTION STAKING SHALL BE COMPLETED BY THE ENGINEER. SEE GENERAL REQUIREMENTS.
3. CONTRACTOR TO PROVIDE EXCAVATION AND BACKFILL FOR TRANSFORMER VAULTS, METER VAULT, JUNCTION BOX, AND CONDUIT TO UTILITY POLE. VAULTS, CONDUIT, AND WIRE FROM TRANSFORMERS TO UTILITY POLE SHALL BE PROVIDED BY UTILITY.



RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg
DRAWN BY	D. CHRISTMAN	JOB NUMBER	1199-336
REVIEWED BY	H. PERRY	ACAD FILE:	SitePlan.dwg
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

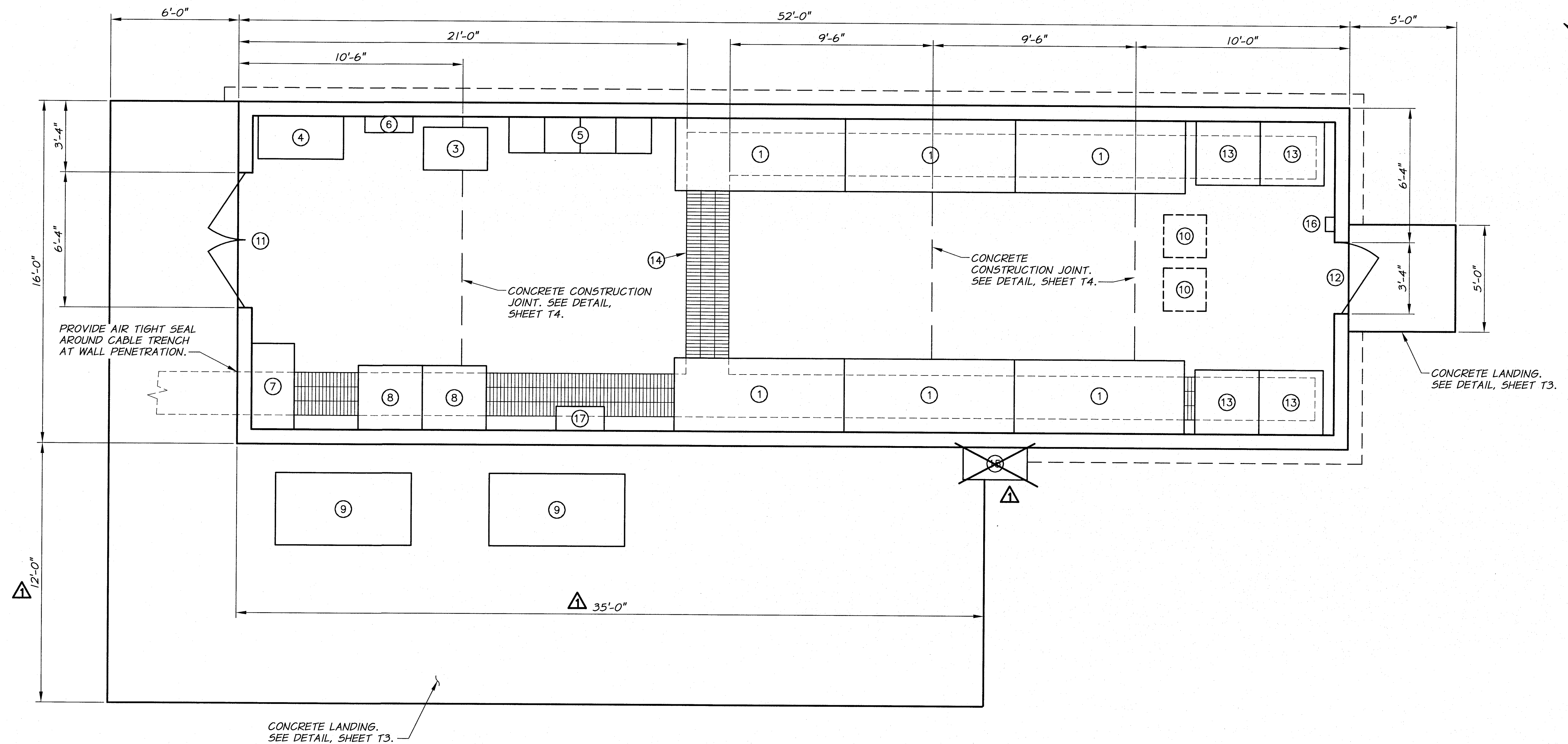
CONTROL BUILDING SITE PLAN

SHEET

CB1

42 OF 60

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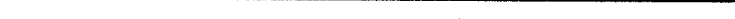
NOTES

- FOR BUILDING STRUCTURAL DETAILS, SEE SHEETS T1-T3.
- PAINT BUILDING INTERIOR AND EXTERIOR IN ACCORDANCE WITH THE REQUIREMENTS OF TECHNICAL SPECIFICATIONS - "PAINTING".

EQUIPMENT SCHEDULE

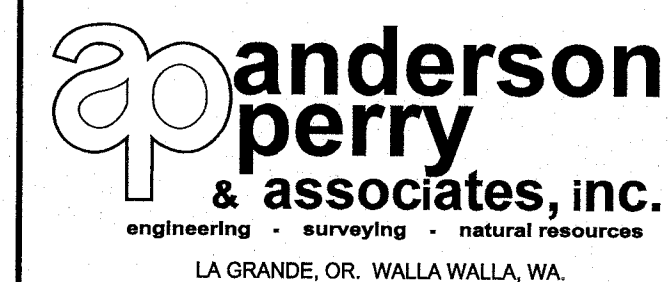
- VFD. SEE ELECTRICAL DRAWINGS AND TECHNICAL SPECIFICATIONS.
- 4160V MAIN SWITCH GEAR. SEE ELECTRICAL DRAWINGS AND TECHNICAL SPECIFICATIONS.
- ELECTRICAL TRANSFORMER. SEE ELECTRICAL DRAWINGS AND TECHNICAL SPECIFICATIONS.
- PLC CONTROL PANEL
- 480V MCC WITH 4" HOUSEKEEPING PAD
- 208V PANEL
- HYDRAULIC PUMP AND RESERVOIR ASSEMBLY
- AIR HANDLING UNIT (8,000 CFM MINIMUM EACH)
- 20 TON AIR CONDITIONING UNIT (2 TOTAL)
- AC DISCHARGE LOUVER. SIZE AS REQUIRED.
- 6'-0" X 6'-8" HOLLOW CORE EXTERIOR INSULATED STEEL DOORS WITH 2'-0" X 6'-0" REMOVEABLE TRANSOM PANEL AND 5" WIDE X 1'-8" HIGH WINDOW IN EACH DOOR. SEE TECHNICAL SPECIFICATIONS - "BUILDING AND STRUCTURES".
- 3'-0" X 6'-8" HOLLOW CORE EXTERIOR INSULATED STEEL DOOR WITH 5" WIDE X 1'-8" HIGH WINDOW. SEE TECHNICAL SPECIFICATIONS - "BUILDING AND STRUCTURES".
- MOTOR CONTACTORS. SEE ELECTRICAL DRAWINGS AND TECHNICAL SPECIFICATIONS.
- 20" WIDE X 16" DEEP CABLE TRENCH SYSTEM, FIBERCRETE TRENCH SYSTEM BY CONCAST, INC. OR EQUAL WITH COVERS EXCEPT FOR UNDERELECTRICAL GEAR. SEE ELECTRICAL DETAILS.
- ~~480V MAIN~~ ⚠
- THERMOSTAT
- 3'-0" X 6'-0" X 16" DEEP STEEL SHELF.



					
△ RECORD DRAWINGS		H.P.	11/10		
REVISION		BY	DATE	HORIZ. SCALE 3/8" = 1'-0"	VERT. SCALE
DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg		JOB NUMBER	1199-336
DRAWN BY	D. CHRISTMAN			ACAD FILE:	ControlBldg.dwg
REVIEWED BY	H. PERRY			COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.	
				DATE	2009

RECORD DRAWINGS

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

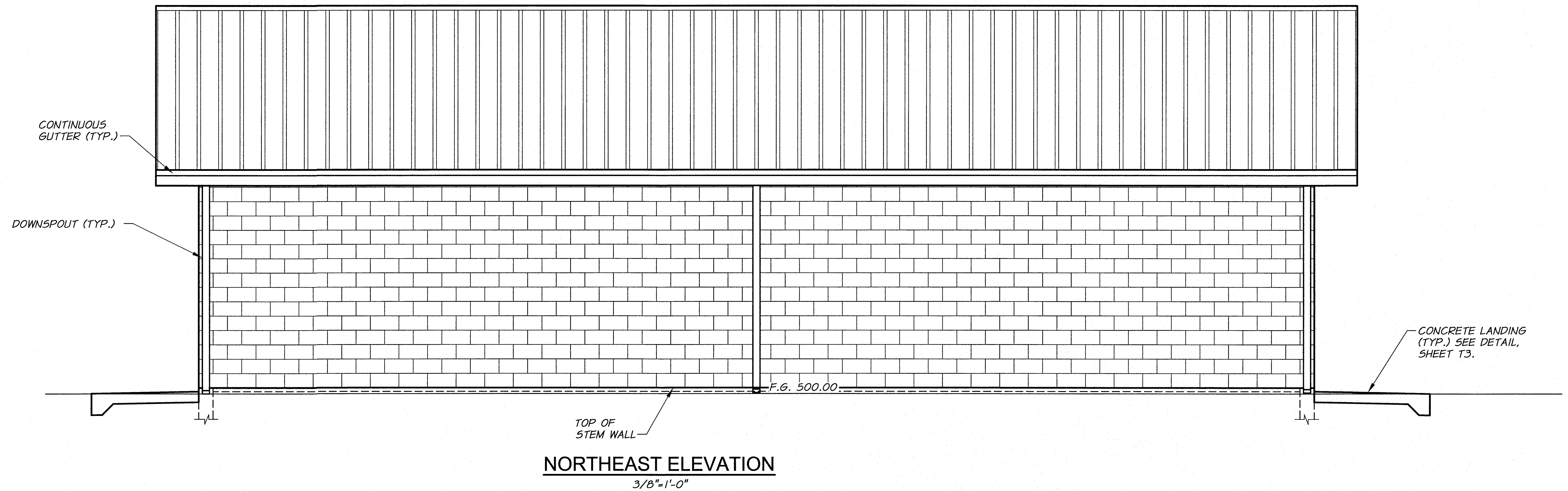
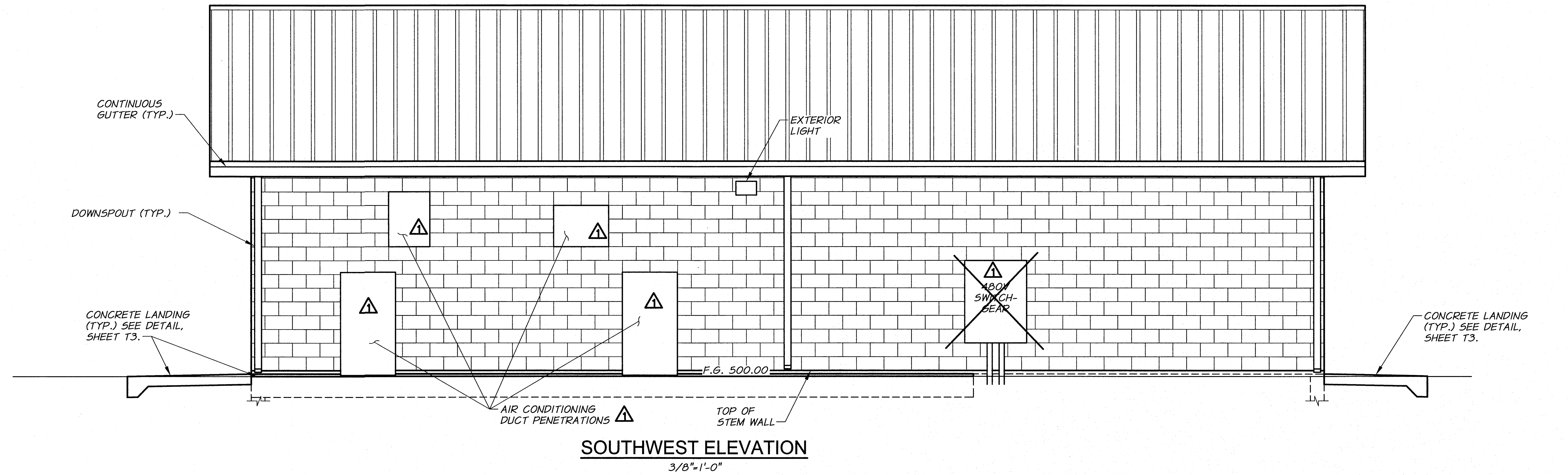
CONTROL BUILDING FLOOR PLAN

SHEET

CB2

43 OF 60

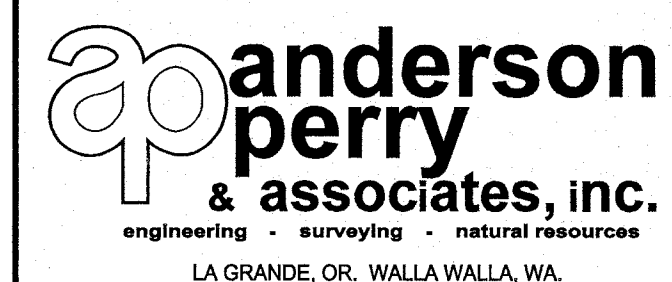
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RECORD DRAWINGS		H.P.	11/10
DESIGNED BY	B. MOORE	BY	DATE
DRAWN BY	D. CHRISTMAN	XREFS:	TB-PumpSta.dwg
REVIEWED BY	H. PERRY	JOB NUMBER	1199-336
		ACAD FILE:	ControlBldg.dwg
		DATE	2009
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

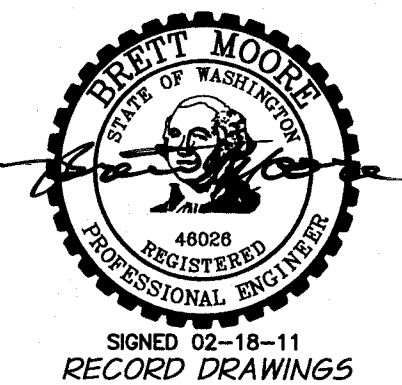
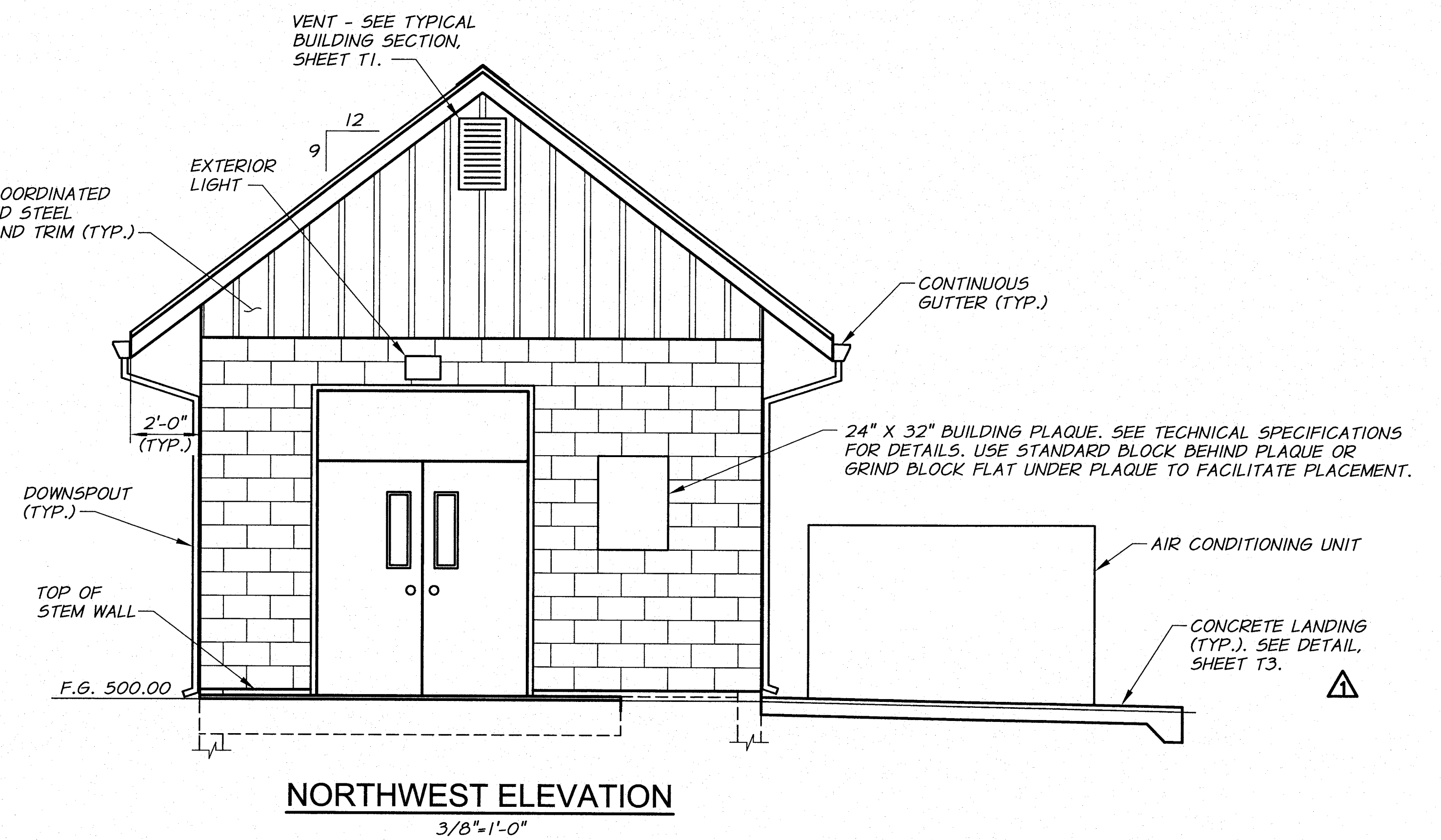
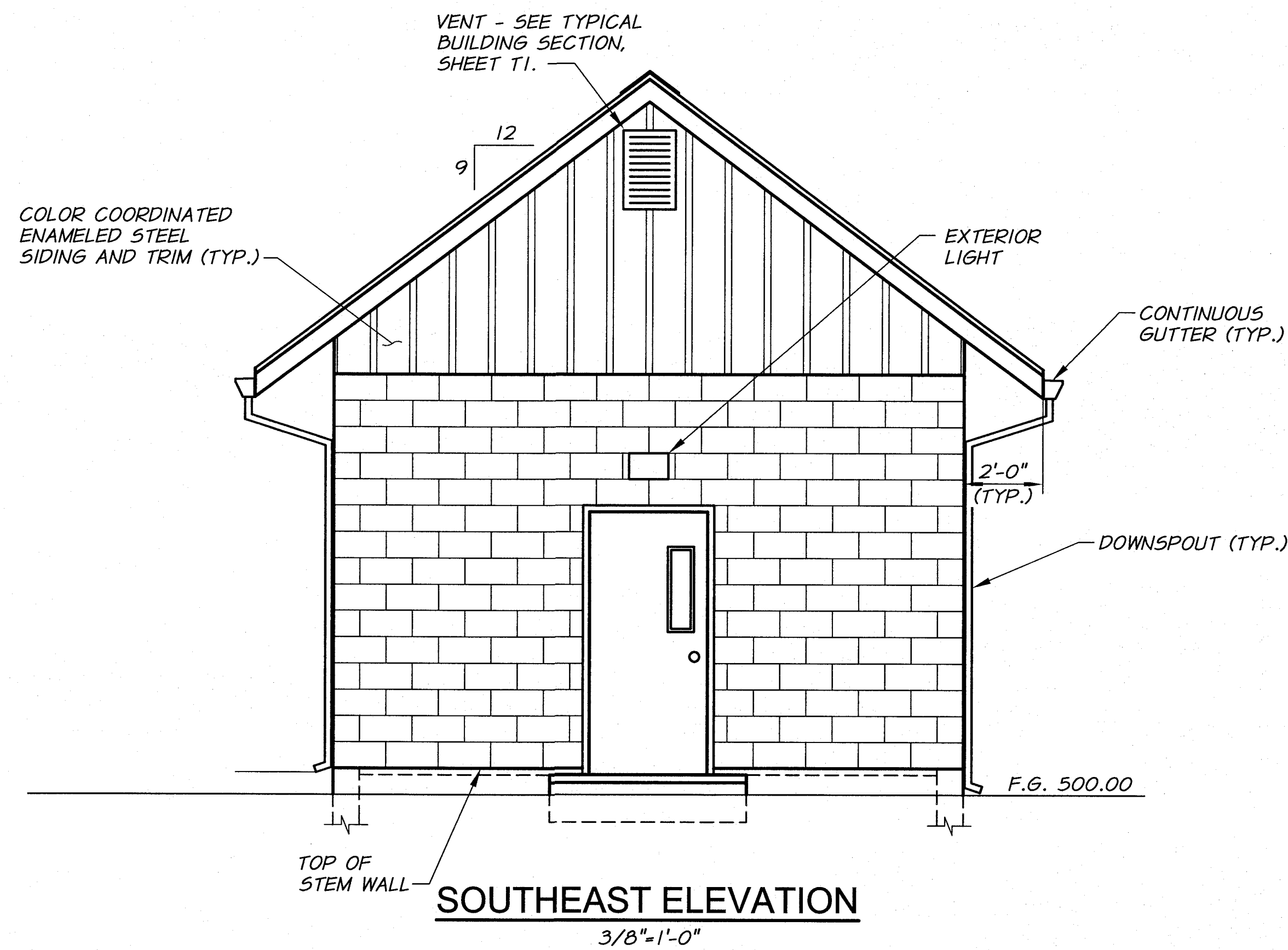
CONTROL BUILDING
ELEVATIONS I

SHEET

CB3

44 OF 60

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△ RECORD DRAWINGS			H.P.	11/10			
REVISION			BY	DATE	HORIZ. SCALE 3/8" = 1'-0"	VERT. SCALE	
DESIGNED BY B. MOORE			XREFS: TB-PumpSta.dwg		JOB NUMBER 1199-336	DATE 2009	
DRAWN BY D. CHRISTMAN					ACAD FILE: ControlBldg.dwg		
REVIEWED BY H. PERRY					COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC. INC.		

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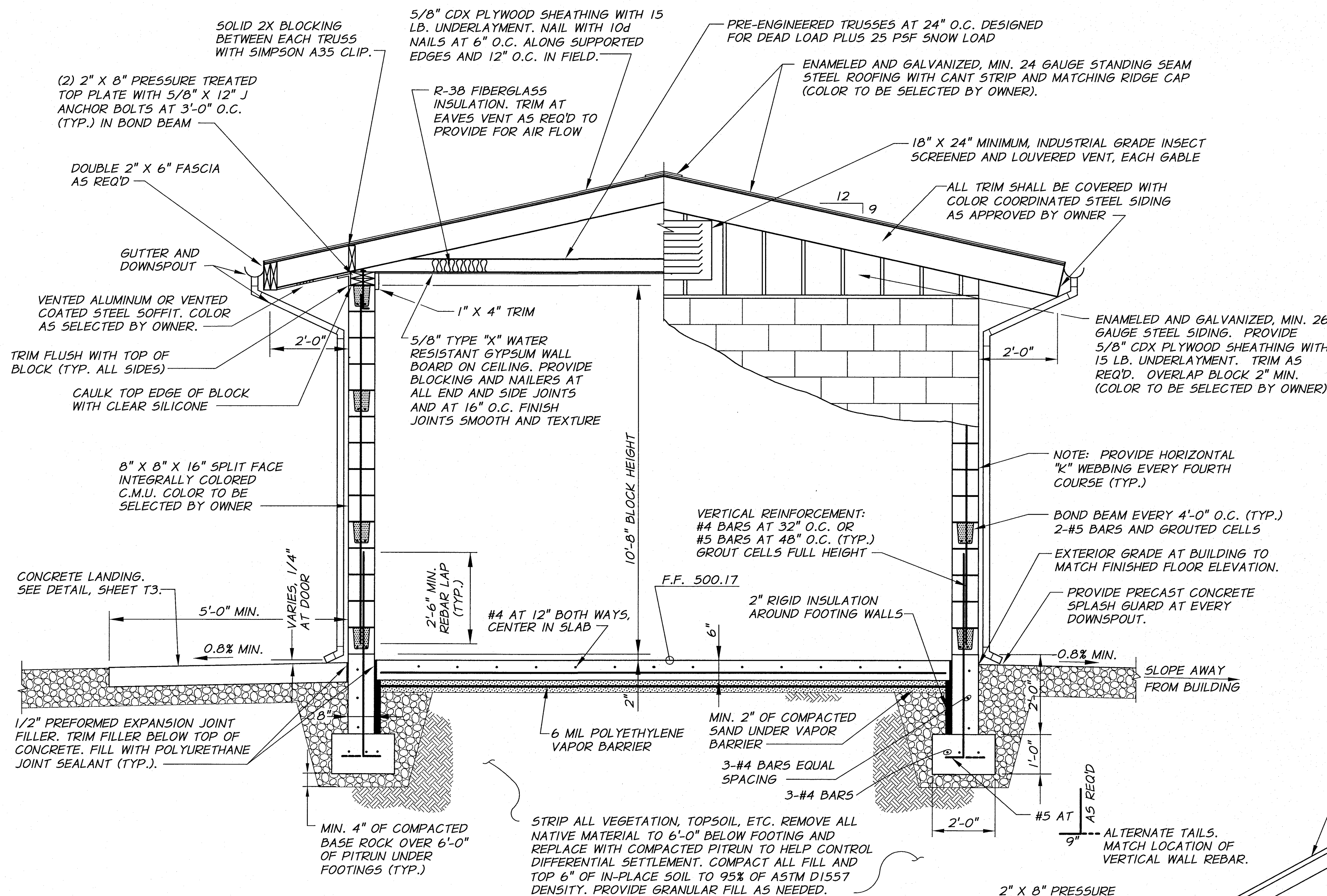
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

CONTROL BUILDING
ELEVATIONS II

SHEET
CB4
45 OF 60

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TYPICAL BUILDING SECTION

N.T.S.

BUILDING DESIGN CRITERIA

- ROOF DEAD LOAD - 25 PSF
- SNOW LOAD - 25 PSF
- WIND SPEED 100 MPH (EXPOSURE 'C').
- SEISMIC ZONE 2B.
- ALLOWABLE SOIL BEARING - 2000 PSF.

TYPICAL DOOR HARDWARE

SEE DRAWINGS AND TECHNICAL SPECIFICATIONS FOR DOOR REQUIREMENTS

HARDWARE - EACH DOOR (EXTERIOR)

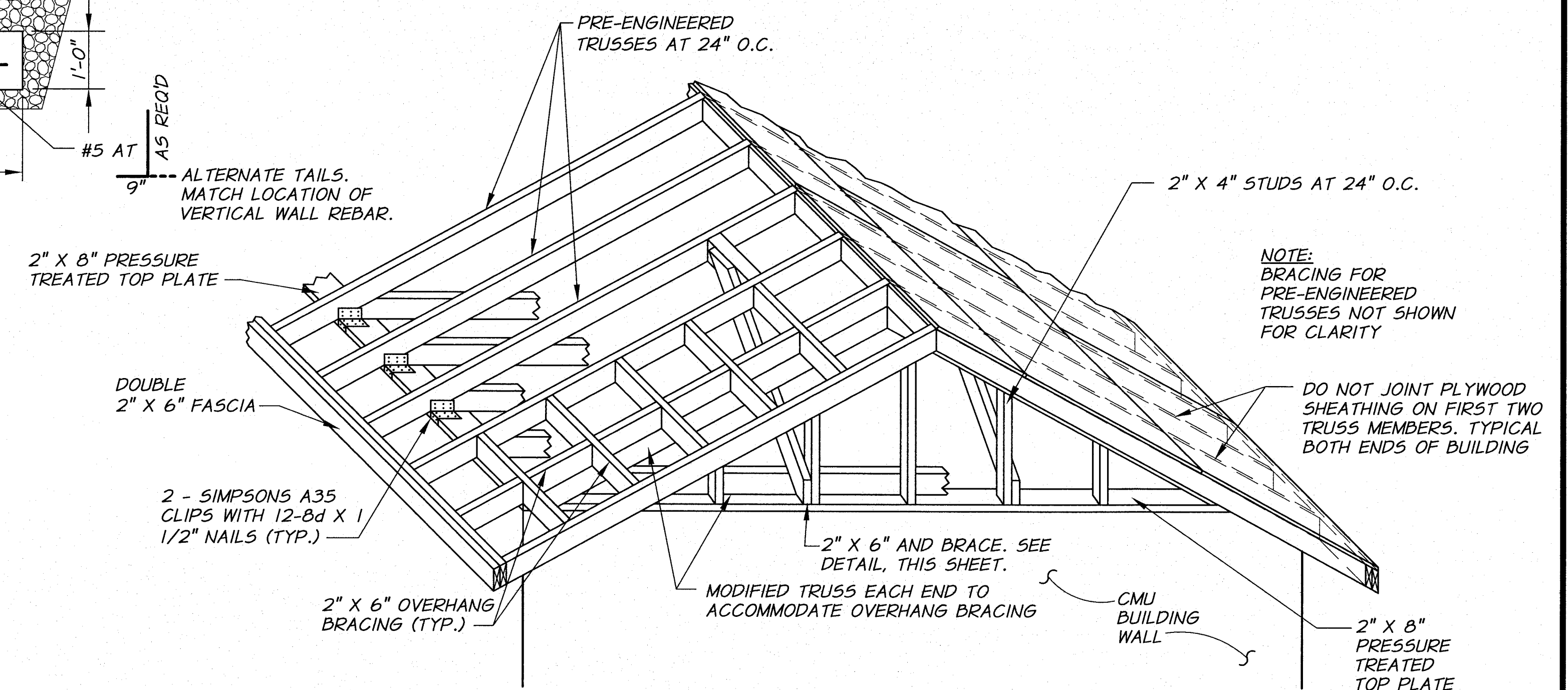
3 EACH	FULL MORTISE S.S. HINGES	FBB 199	SATIN S.S.	STANLEY
1 EACH	HANDSET	CA542-260	SATIN CHROME	YALE
1 EACH	STOP	446	SATIN S.S.	IVES
1 EACH	THRESHOLD	171A	ALUM	PEMCO
1 SET	WEATHERSTRIP	303AV	ALUM	PEMCO
1 EACH	DOOR BOTTOM	3452AV	ALUM	PEMCO
1 EACH	CLOSURE	LCN 4040 WITH HOLD OPEN	ALUM	PEMCO

HARDWARE - EACH PAIR DOORS (EXTERIOR)

6 EACH	FULL MORTISE S.S. HINGES	FBB 199	SATIN S.S.	STANLEY
1 EACH	HANDSET	34HTE4A	SATIN CHROME	YALE
2 EACH	FLUSH BOLTS	458	SATIN CHROME	IVES
2 EACH	STOPS	446	SATIN S.S.	IVES
1 EACH	THRESHOLDS	171A	ALUM	PEMCO
1 SET	WEATHERSTRIP	303AV	ALUM	PEMCO
2 EACH	DOOR BOTTOMS	3452AV	ALUM	PEMCO
1 EACH	ASTRAGAL	BY H.M. SUPPLIER	ALUM	PEMCO
2 EACH	CLOSURES	LCN 4040 WITH HOLD OPEN	ALUM	PEMCO

NOTES:

1. DOOR FRAMES MUST BE ON SITE PRIOR TO CONSTRUCTION OF BLOCK MASONRY.
2. ALL DOORS TO BE KEYED TO MATCH MASTER.



ROOF FRAMING OVERHANG DETAIL

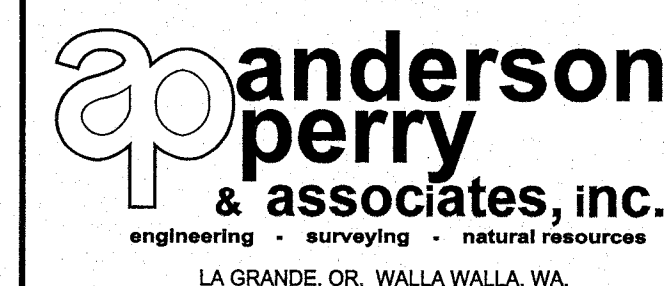
N.T.S.



REVISION	BY	DATE	HORZ. SCALE	VERT. SCALE
DESIGNED BY	B. MOORE		NONE	
DRAWN BY	D. CHRISTMAN		JOB NUMBER	1199-336
REVIEWED BY	H. PERRY		DATE	2009
			ACAD FILE:	ControlBldgDets.dwg
			COPYRIGHT	2010 BY ANDERSON-PERRY & ASSOC., INC.

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**BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION**

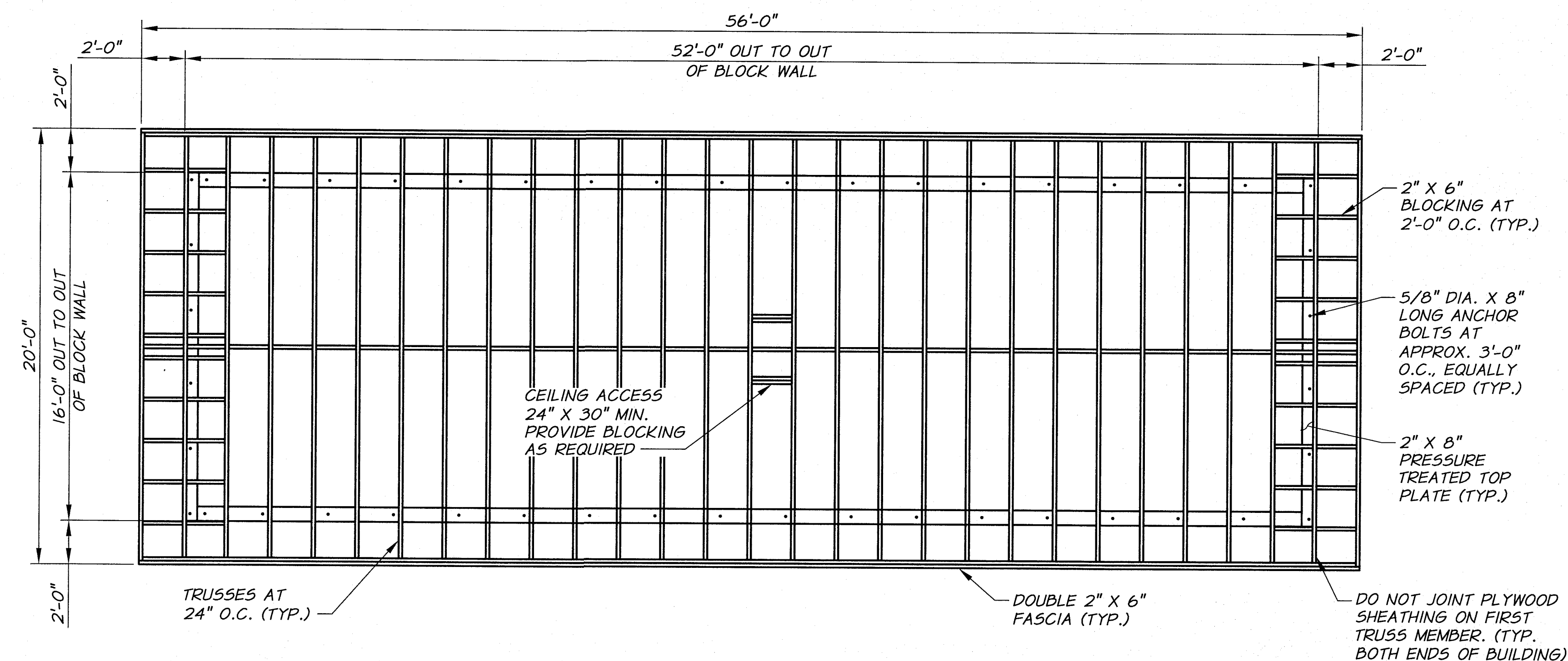
TYPICAL DETAILS
STRUCTURAL DETAILS I

SHEET

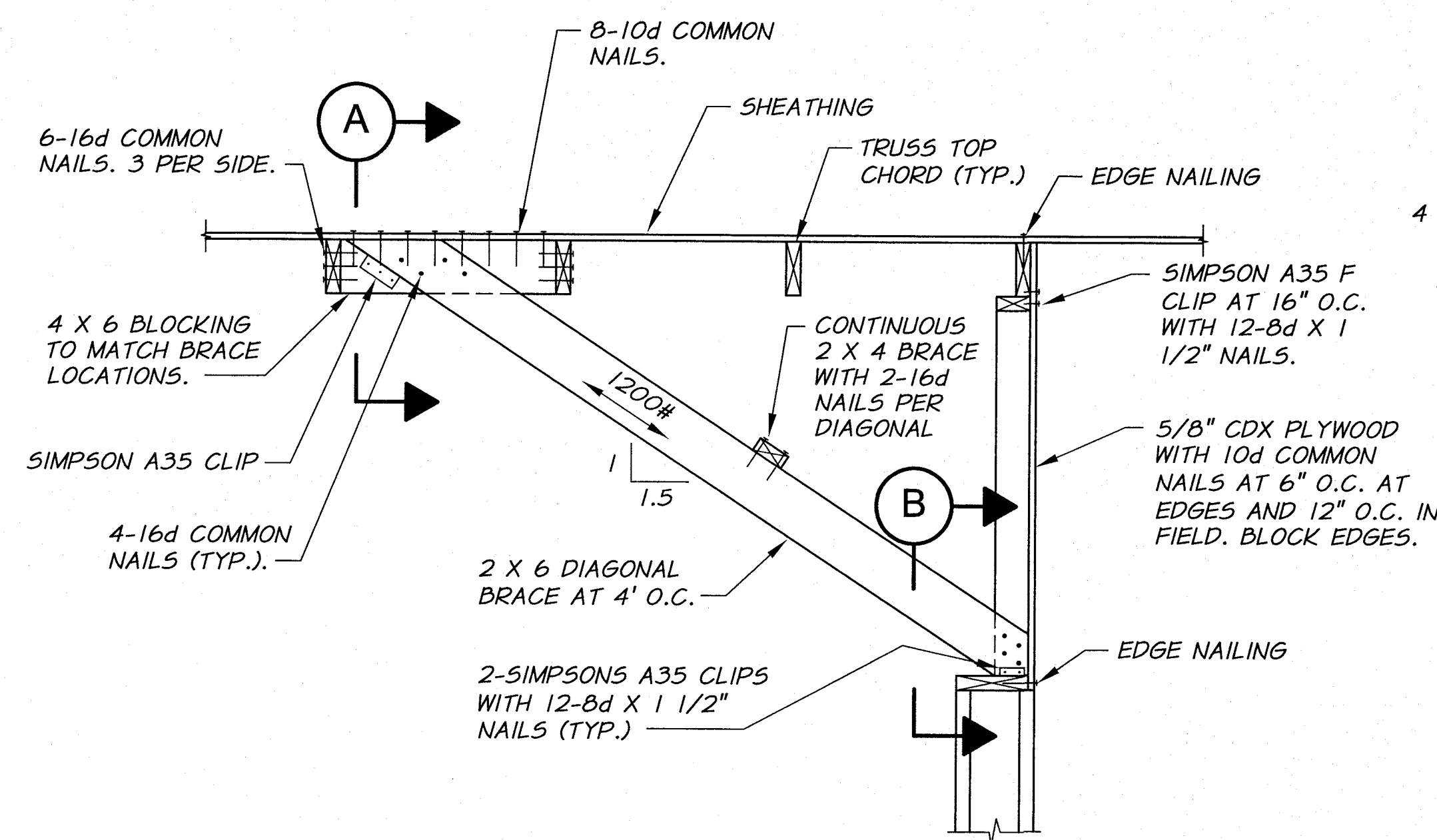
T1

46 OF 60

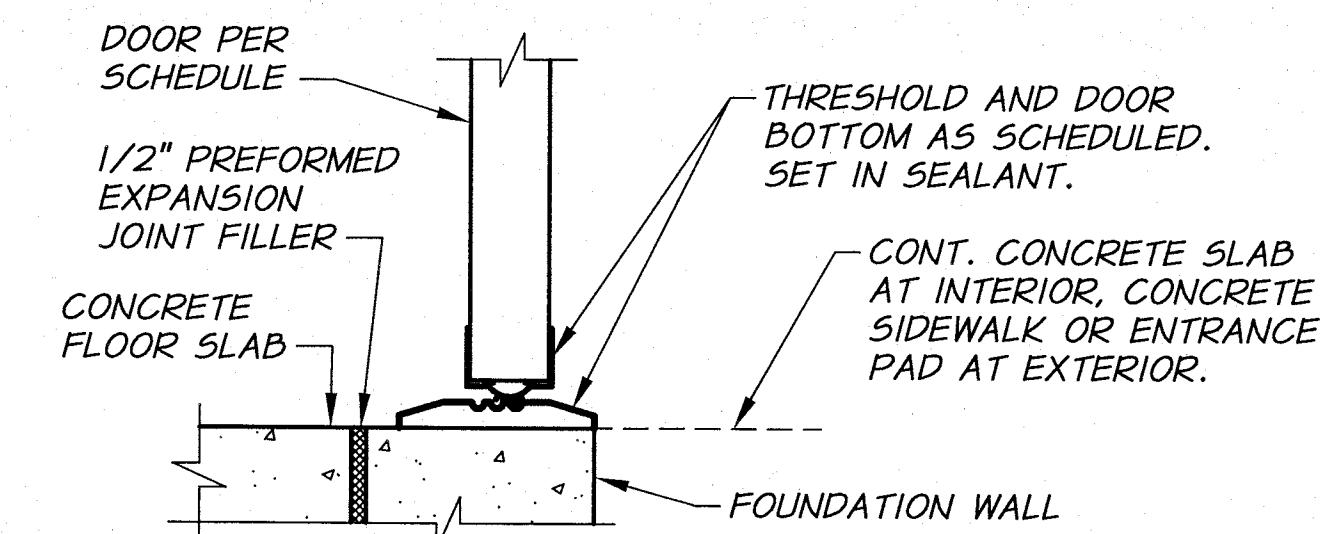
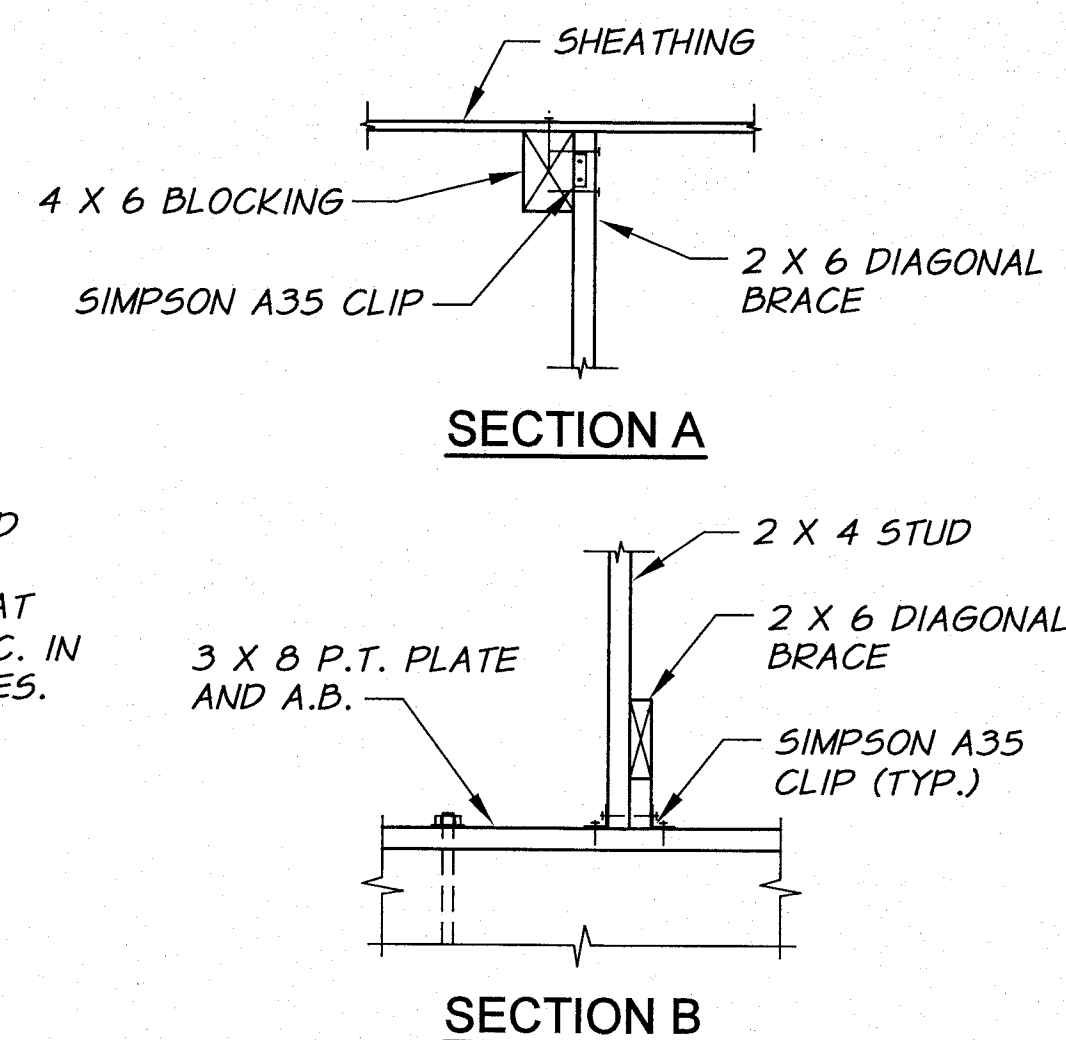
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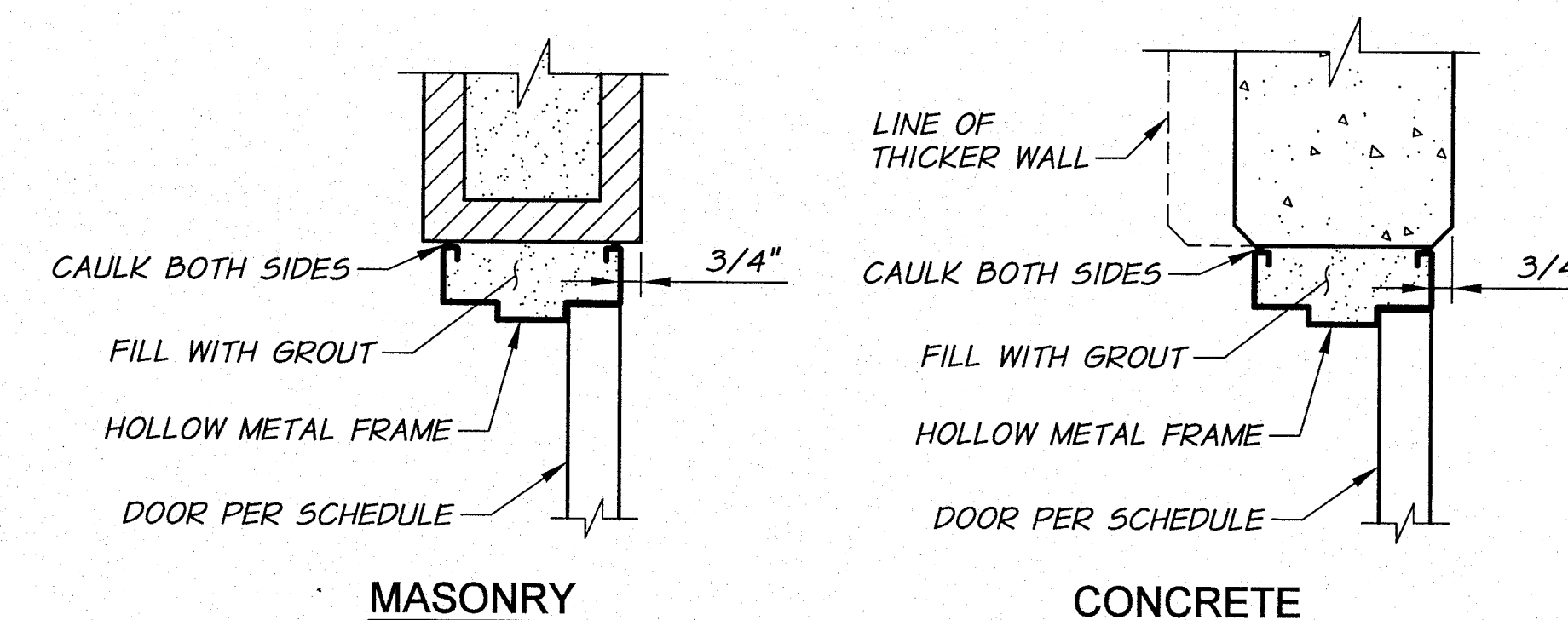
ROOF FRAMING PLAN
1/4"=1'-0"



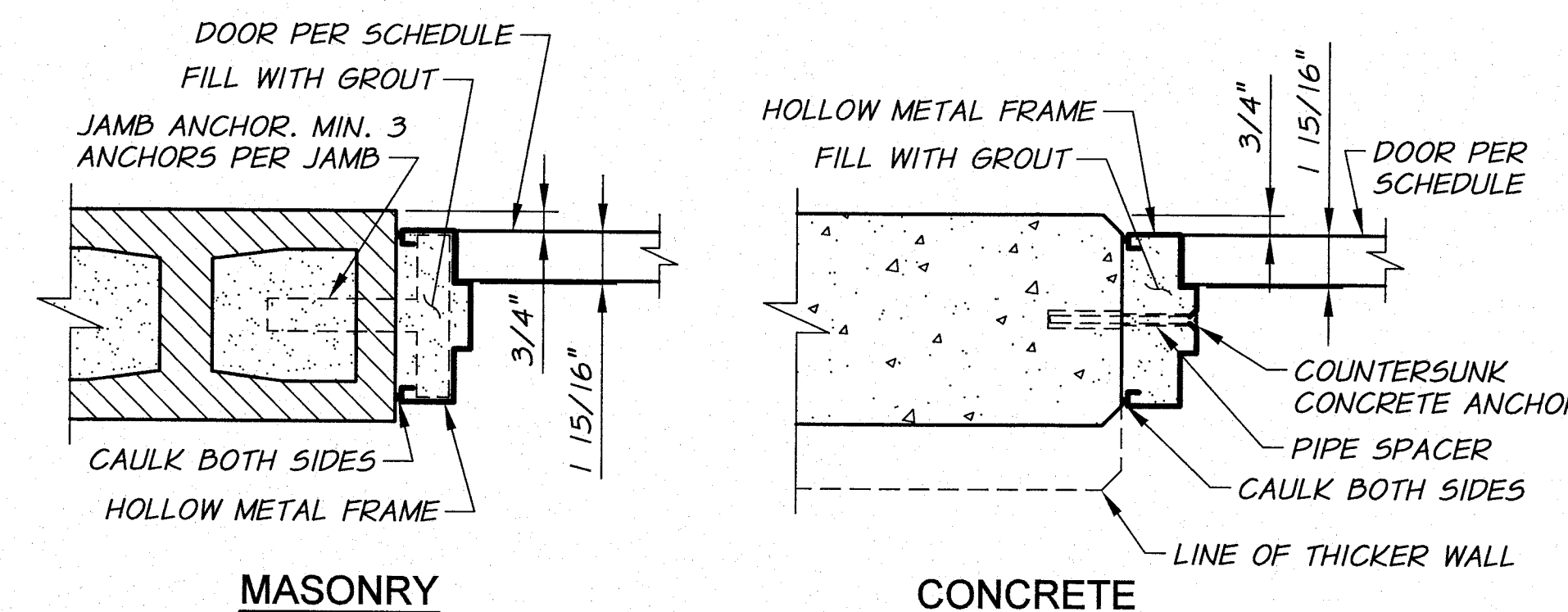
TYPICAL END DETAIL
3/4"=1'-0"



DOOR SILL DETAIL
N.T.S.



DOOR HEAD DETAILS
N.T.S.



DOOR JAMB DETAILS
N.T.S.



REVISION	BY	DATE	HORIZ. SCALE	AS NOTED	VERT. SCALE
DESIGNED BY	B. MOORE		JOB NUMBER	1199-336	DATE
DRAWN BY	D. CHRISTMAN		ACAD FILE	ControlBldgDets.dwg	2009
REVIEWED BY	H. PERRY		COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.		
XREFS: TB-PumpSta.dwg					

RECORD DRAWINGS
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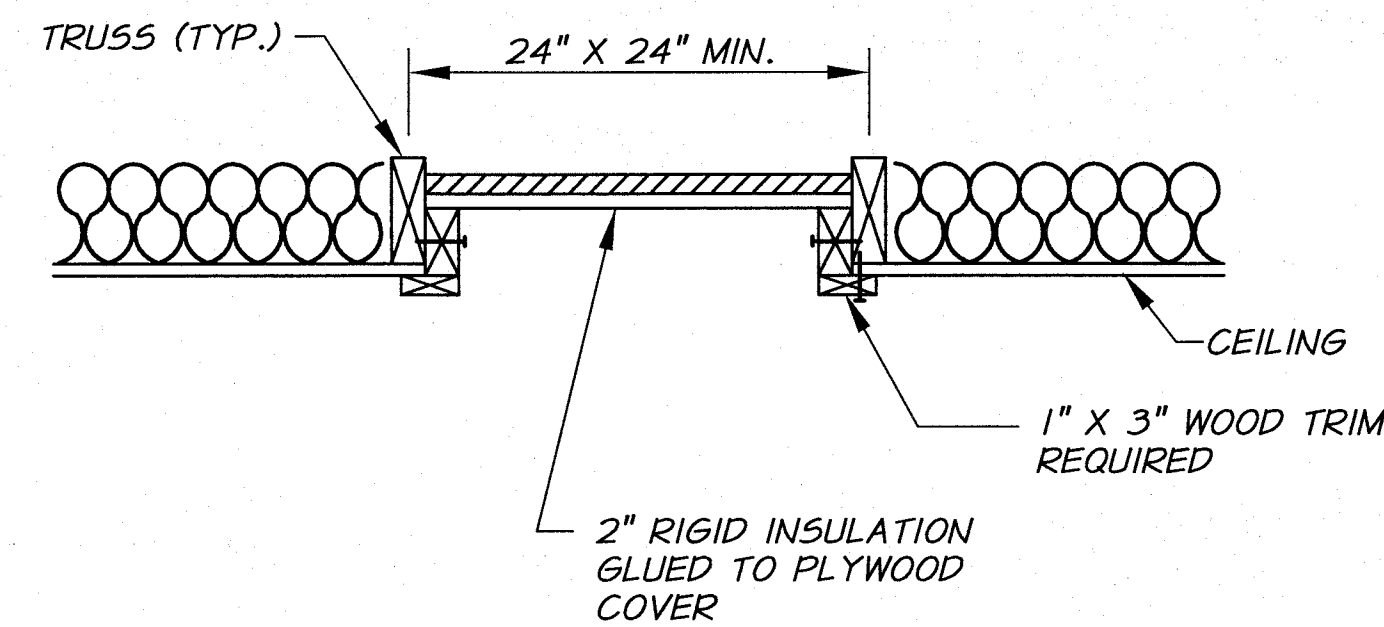
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

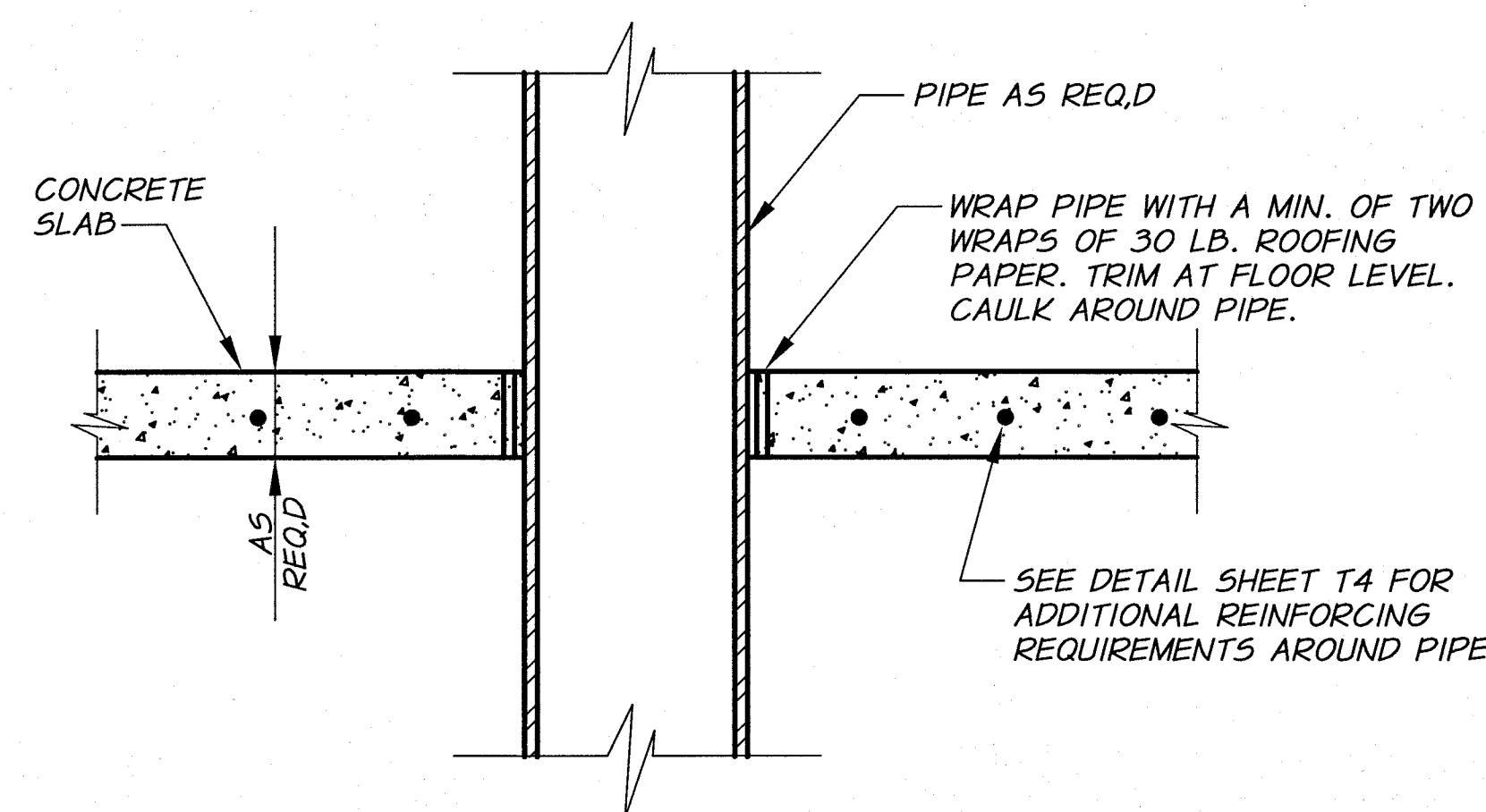
TYPICAL DETAILS
STRUCTURAL DETAILS II

SHEET
T2
47 OF 60

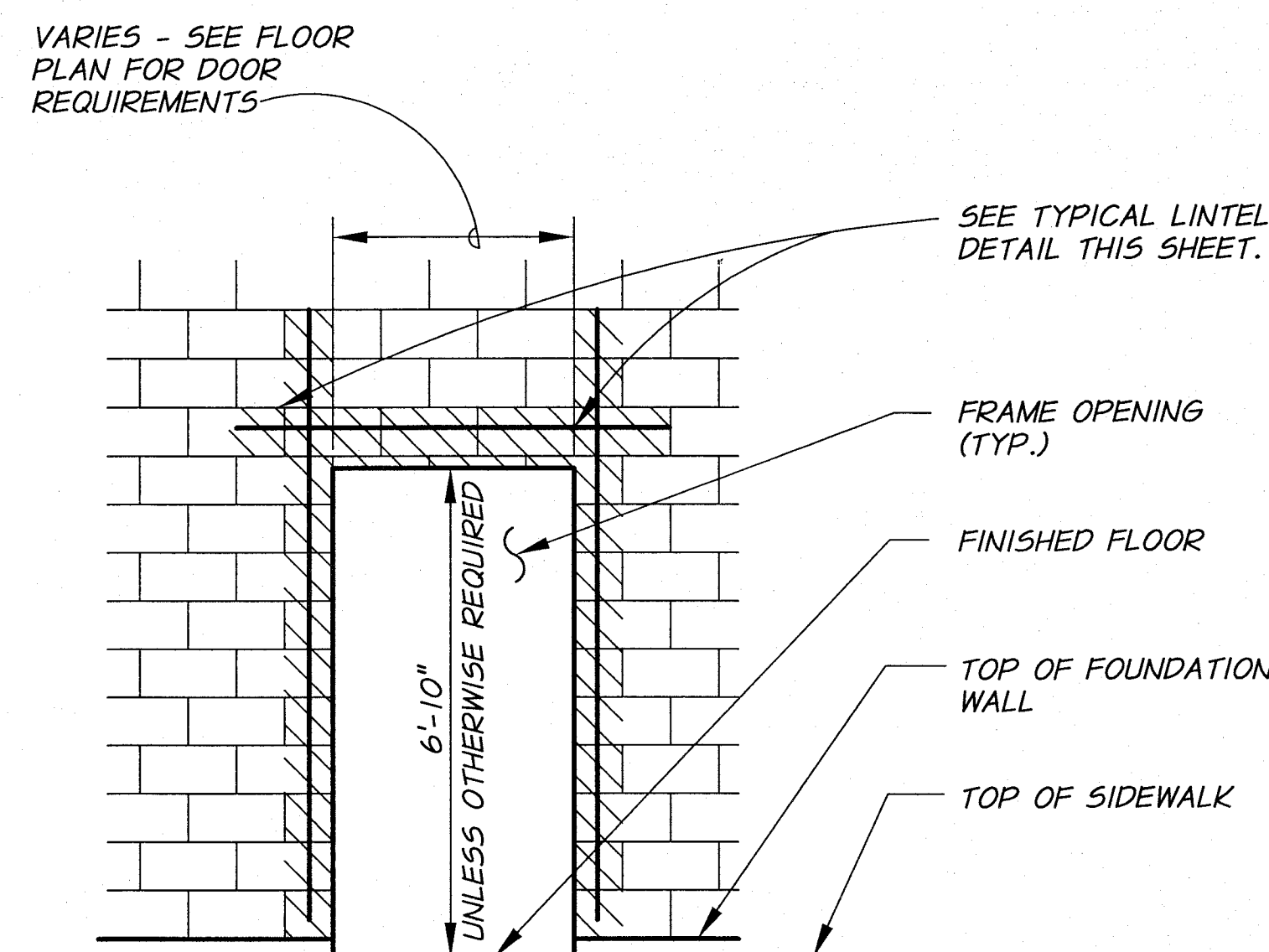
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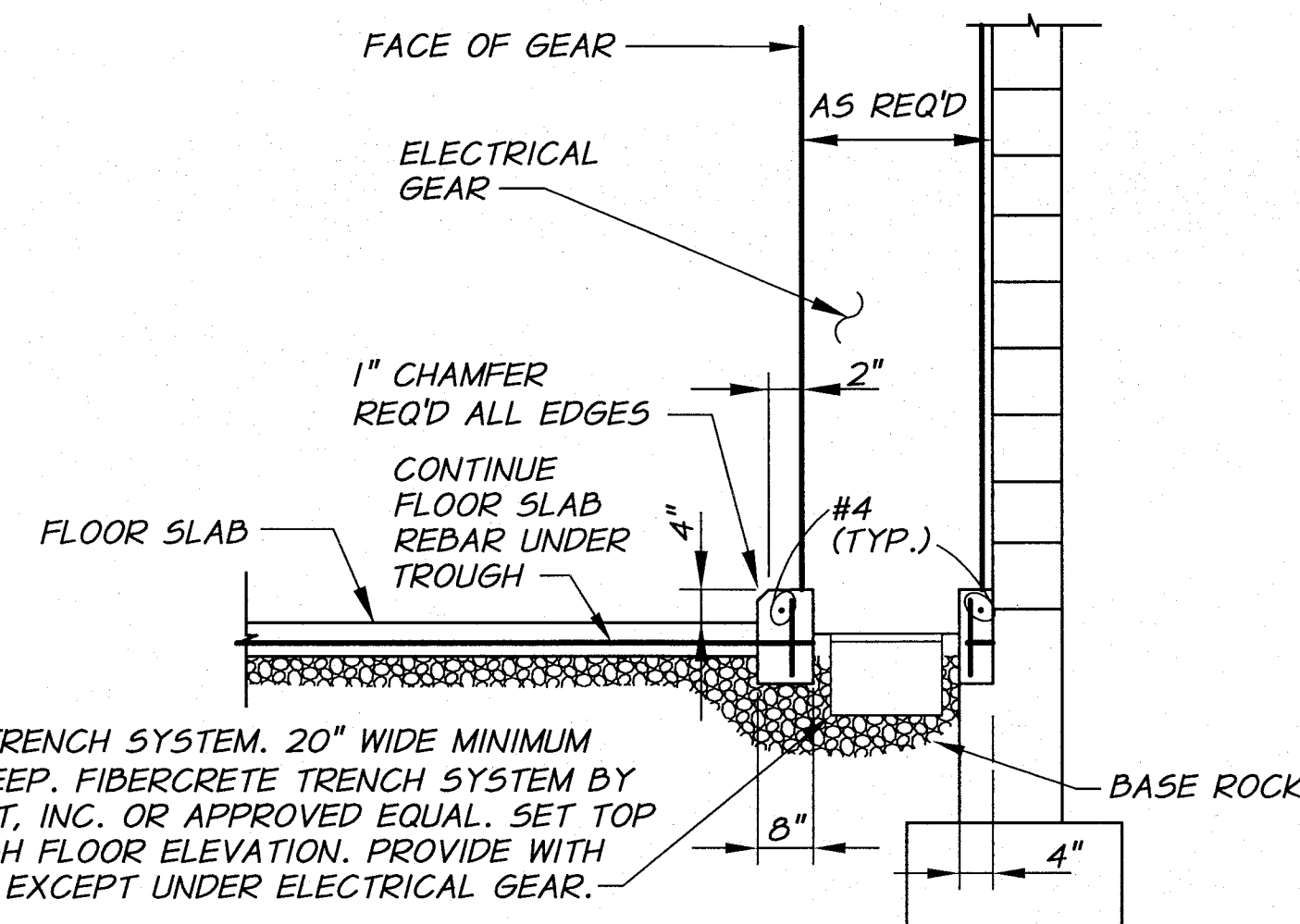
CEILING ACCESS DETAIL
N.T.S.



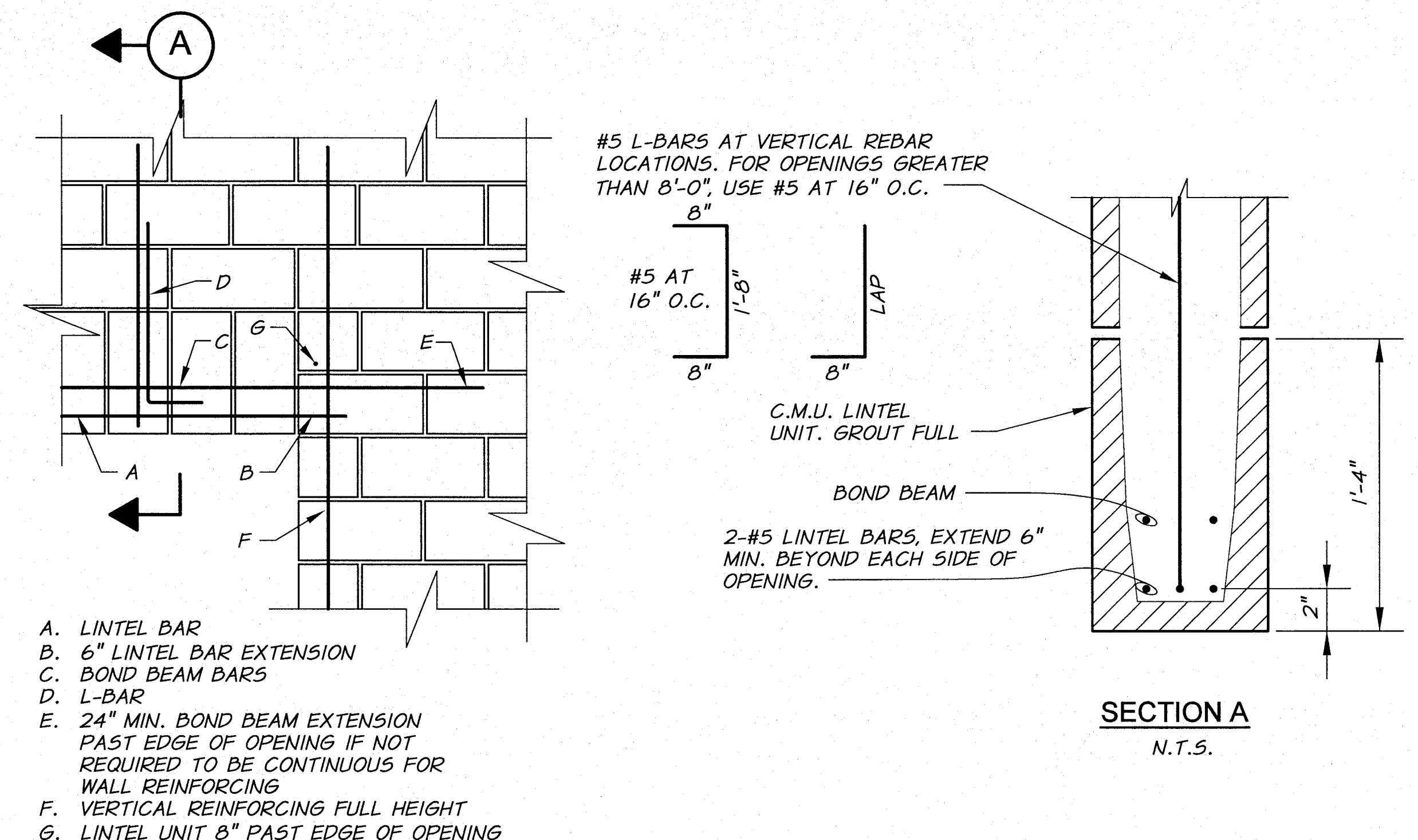
PIPE-SLAB DETAIL
N.T.S.



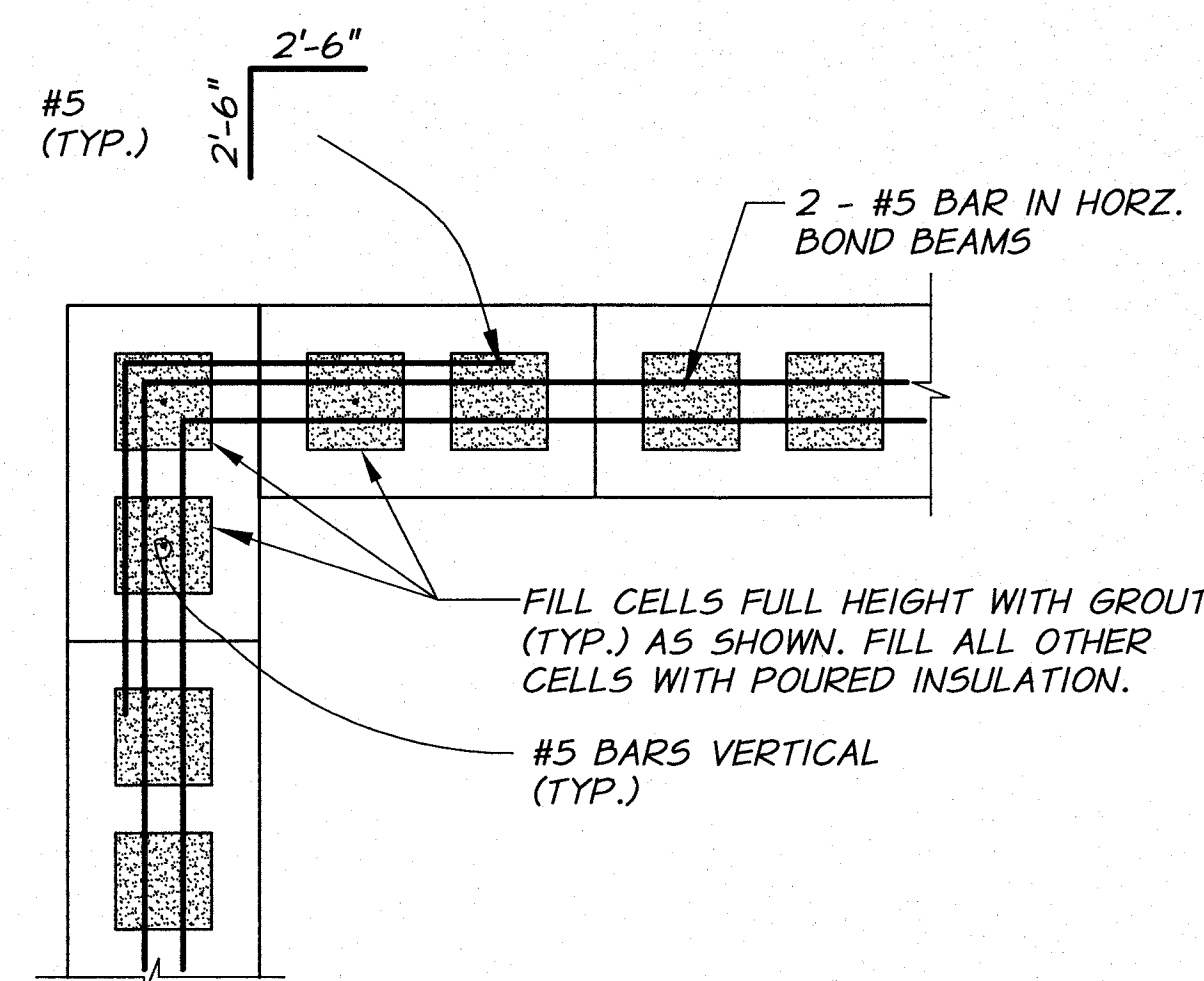
TYPICAL DOOR OPENING
N.T.S.



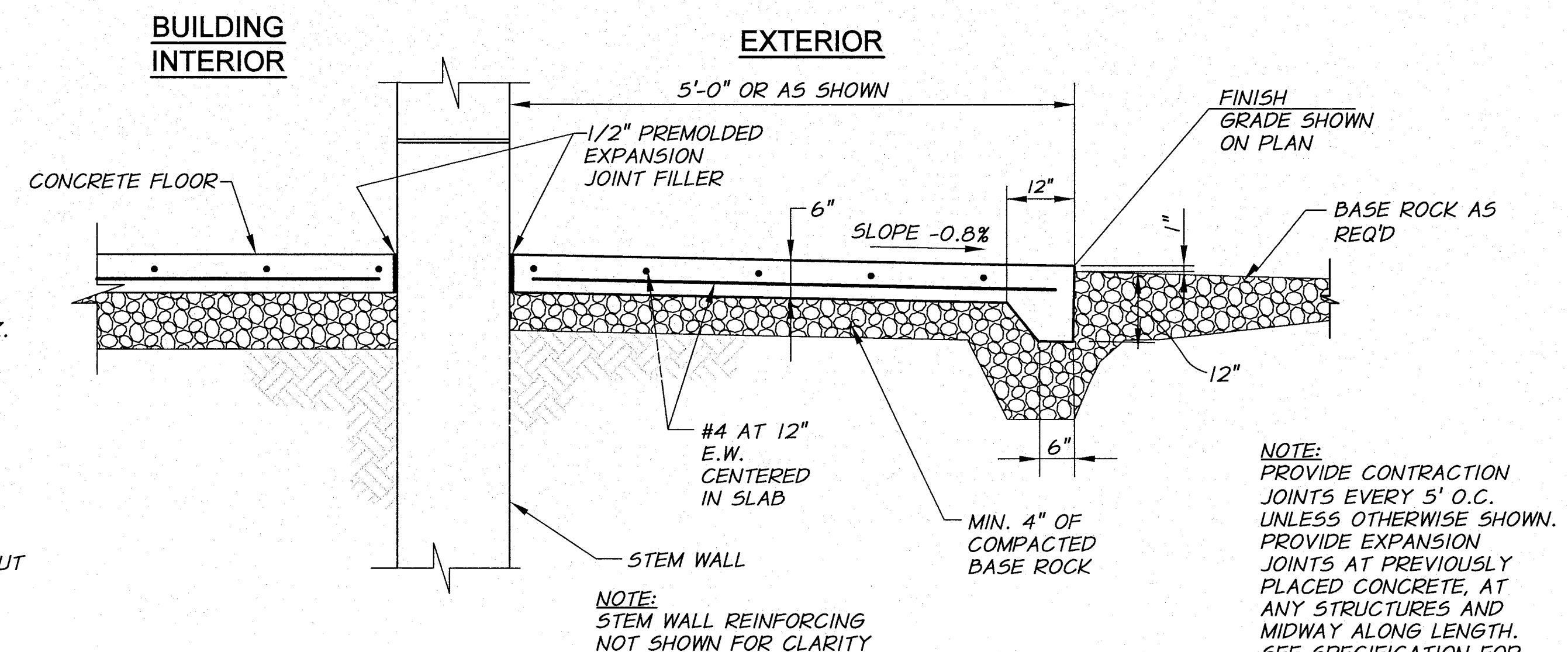
ELECTRICAL GEAR TROUGH
N.T.S.



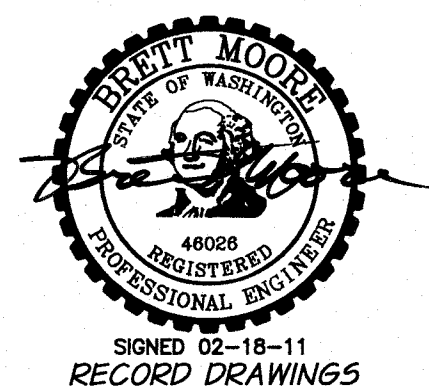
TYPICAL LINTEL DETAIL
N.T.S.



TYPICAL BOND BEAM AT CORNER DETAIL
N.T.S.



CONCRETE SIDEWALK/LANDING DETAIL
N.T.S.



REVISION	BY	DATE	HORIZ. SCALE	VERT. SCALE
DESIGNED BY B. MOORE			NONE	
DRAWN BY D. CHRISTMAN			JOB NUMBER 1199-336	DATE 2009
REVIEWED BY H. PERRY			ACAD FILE: ControlBldgDets.dwg	
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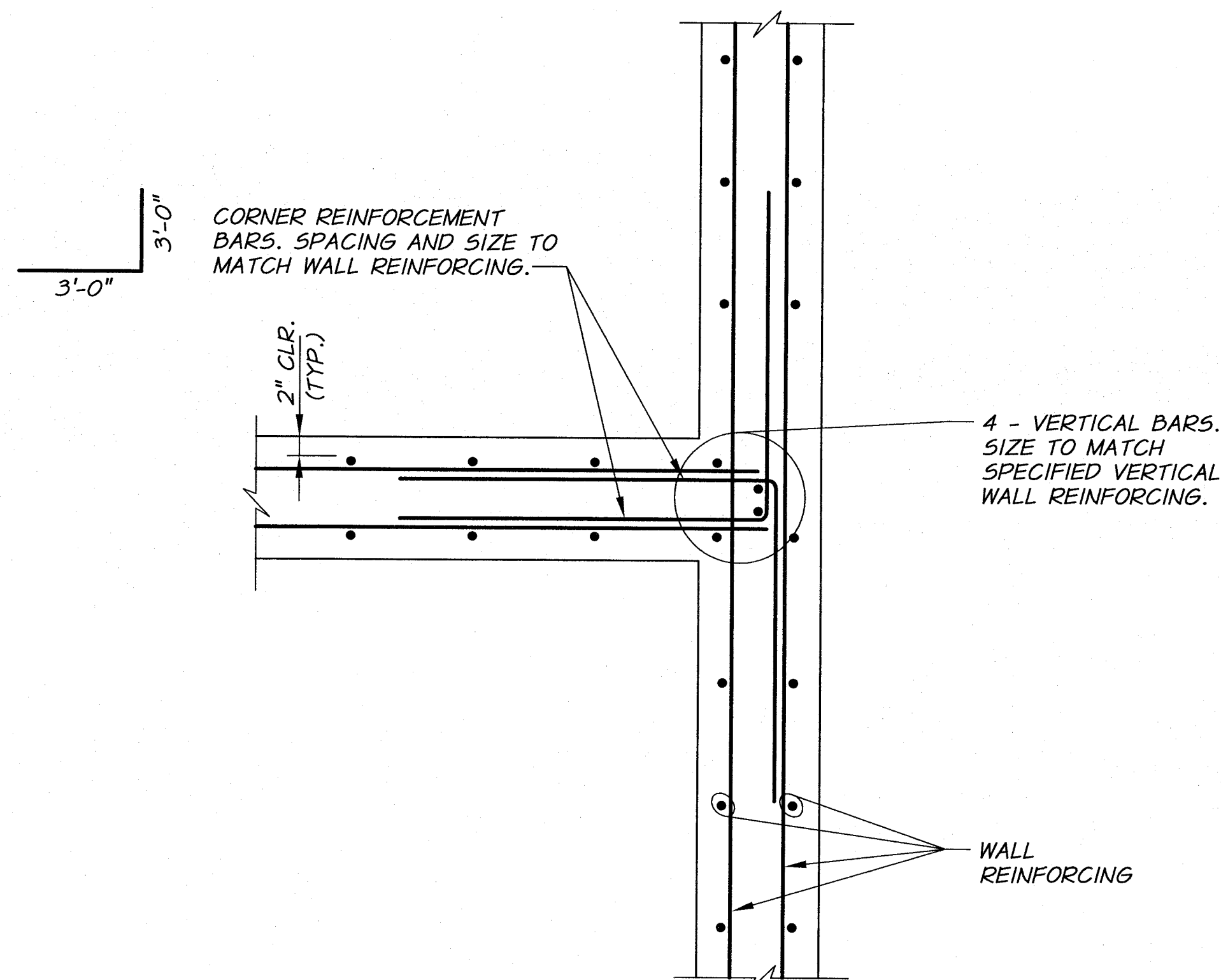
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

TYPICAL DETAILS
STRUCTURAL DETAILS III

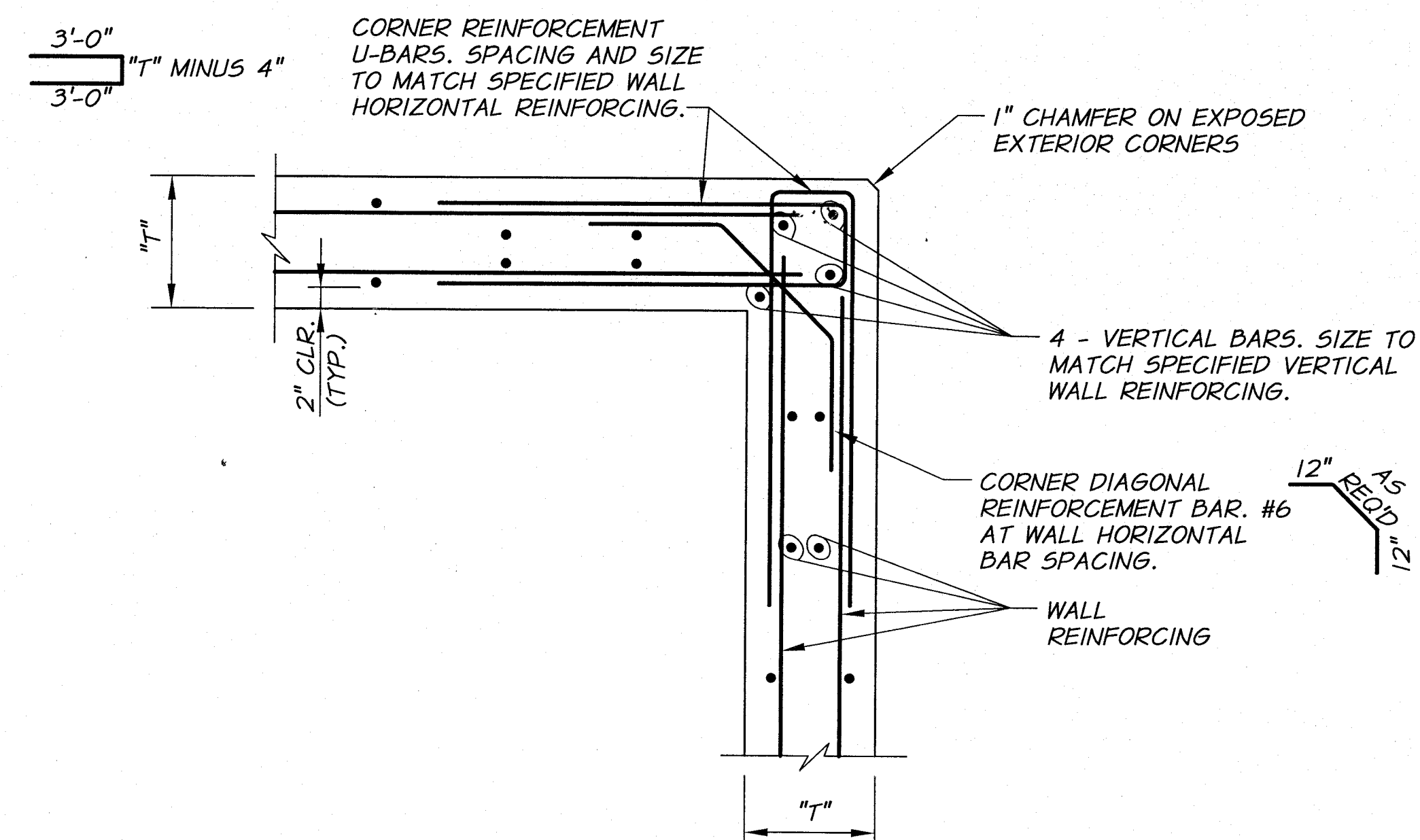
SHEET
T3
48 OF 60



PLAN

TYPICAL INTERIOR WALL CORNER
DOUBLE MAT REINFORCEMENT

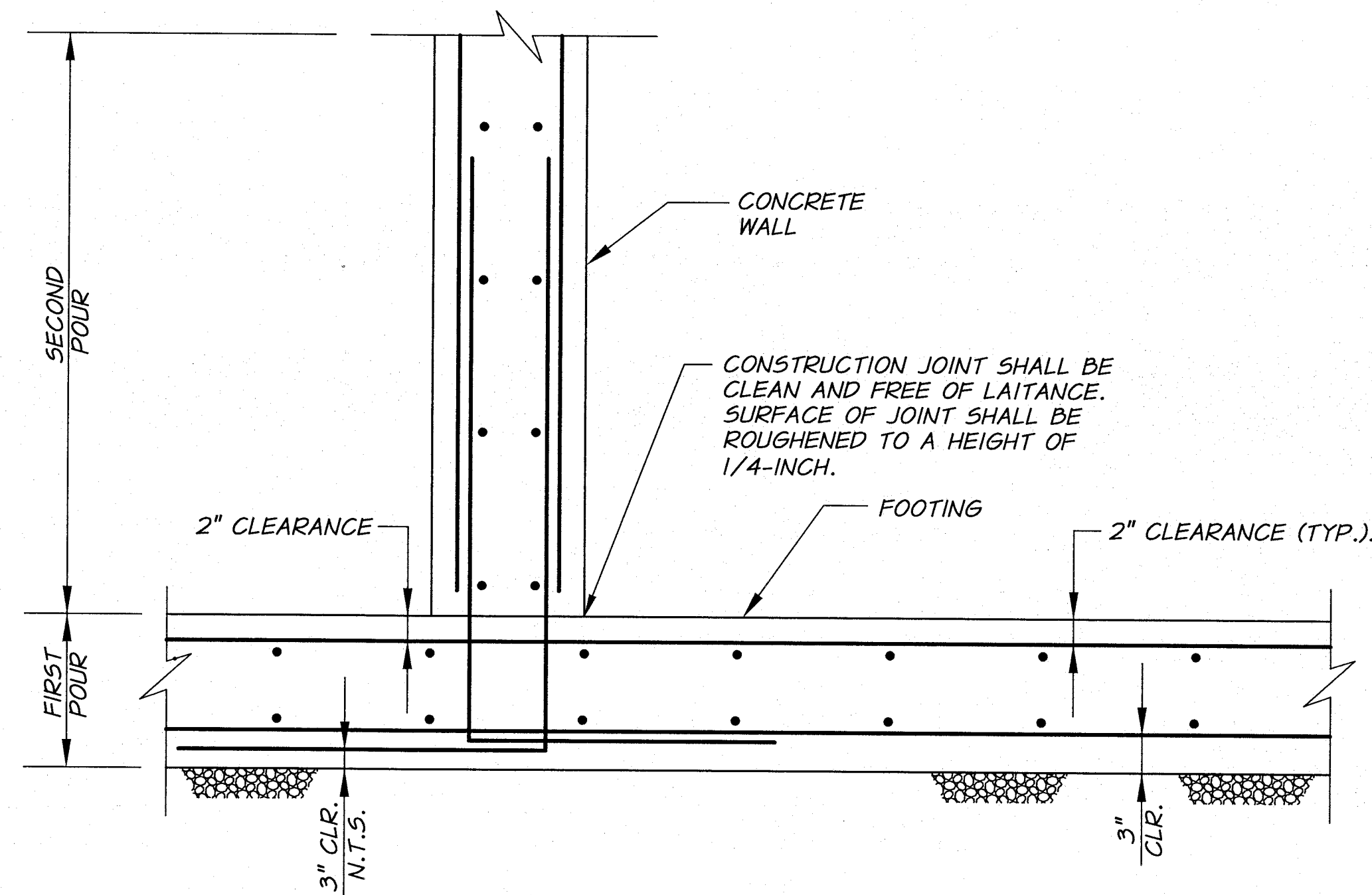
N.T.S.



PLAN

TYPICAL EXTERIOR WALL CORNER
DOUBLE MAT REINFORCEMENT

N.T.S.



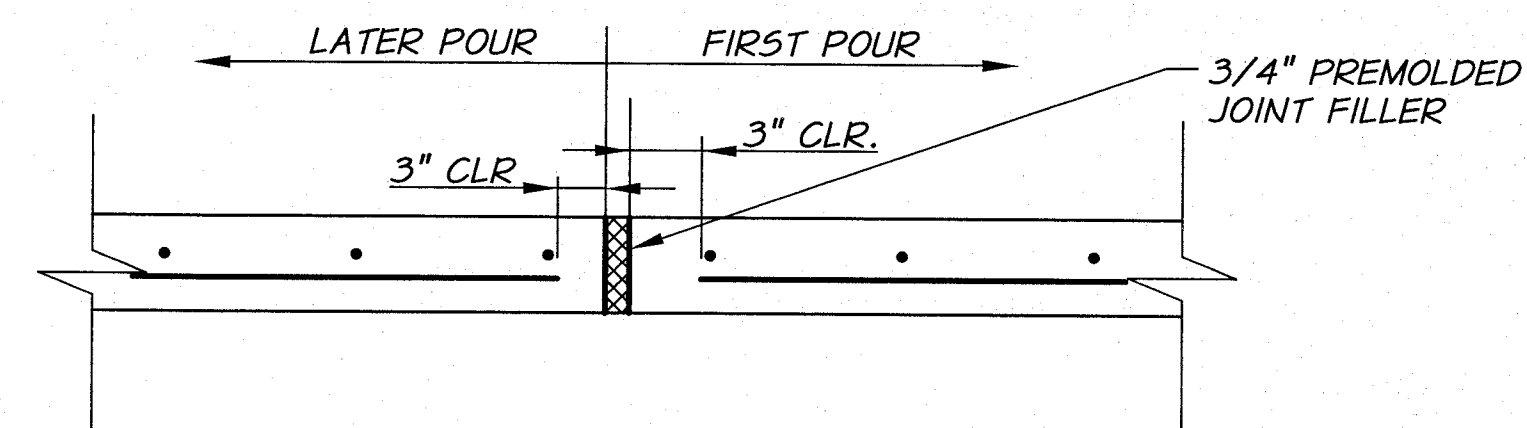
TYPICAL VERTICAL WALL AND FOOTING CONSTRUCTION JOINT

(FOOTING TO WALL JOINT WITH WATERSTOP)

N.T.S.

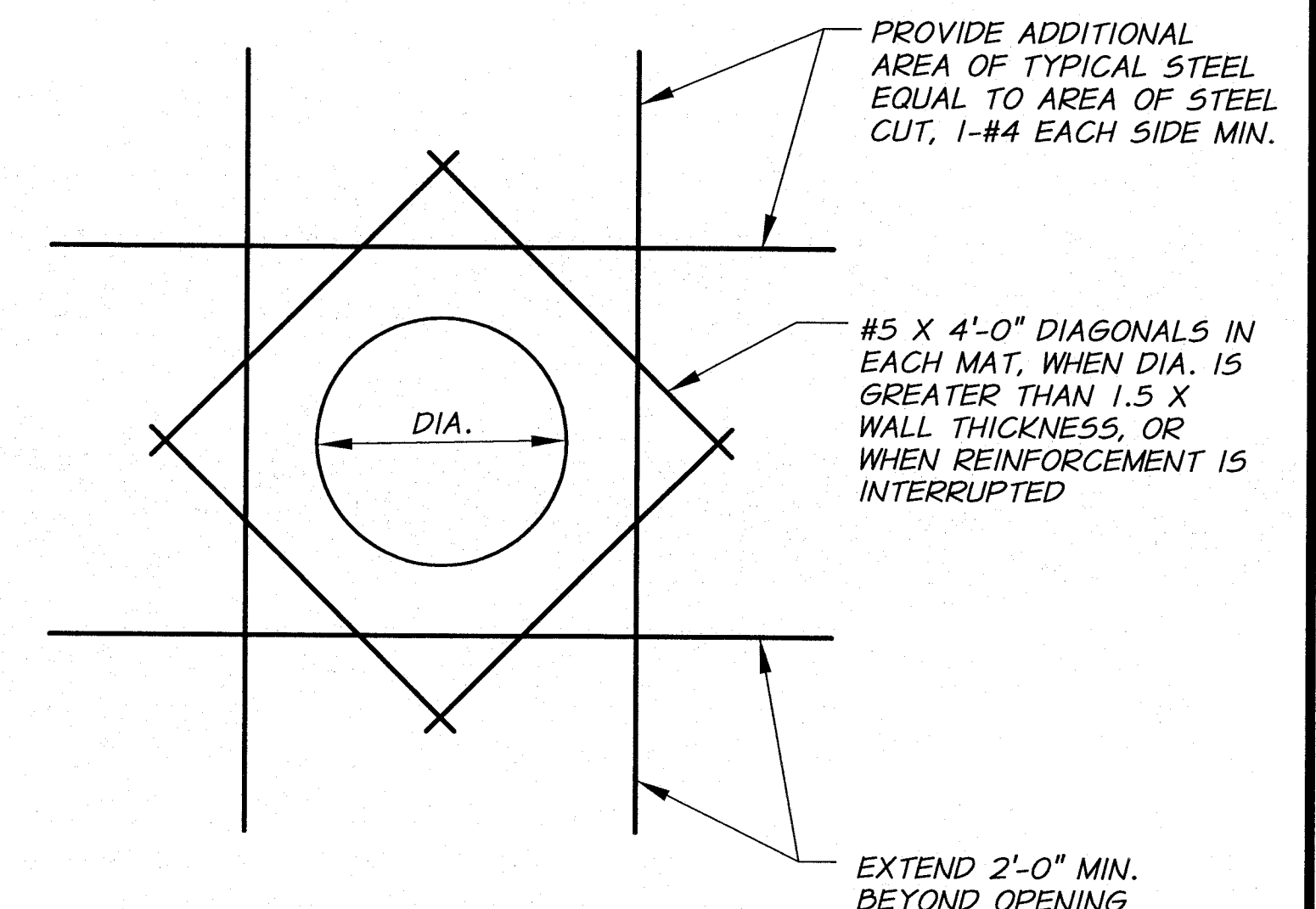
REINFORCED CONCRETE NOTES

1. ALL CONCRETE CONSTRUCTION, INCLUDING BENDING OF BARS, SHALL COMPLY WITH ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318), UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER FROM THE FACE OF CONCRETE TO REINFORCING BARS SHALL BE 2" (3" FOR CONCRETE CAST AGAINST SOIL).
3. KEYWAYS SHALL END 3" BELOW THE TOP OF WALLS, UNLESS THERE IS A SLAB ON TOP OF THE WALL, IN WHICH CASE IT SHALL END AT THE BOTTOM OF THE SLAB.
4. NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL CONCRETE HAS REACHED THE SPECIFIED STRENGTH AND THE CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND HAVE REACHED THE SPECIFIED STRENGTH, UNLESS OTHERWISE APPROVED BY THE ENGINEER.



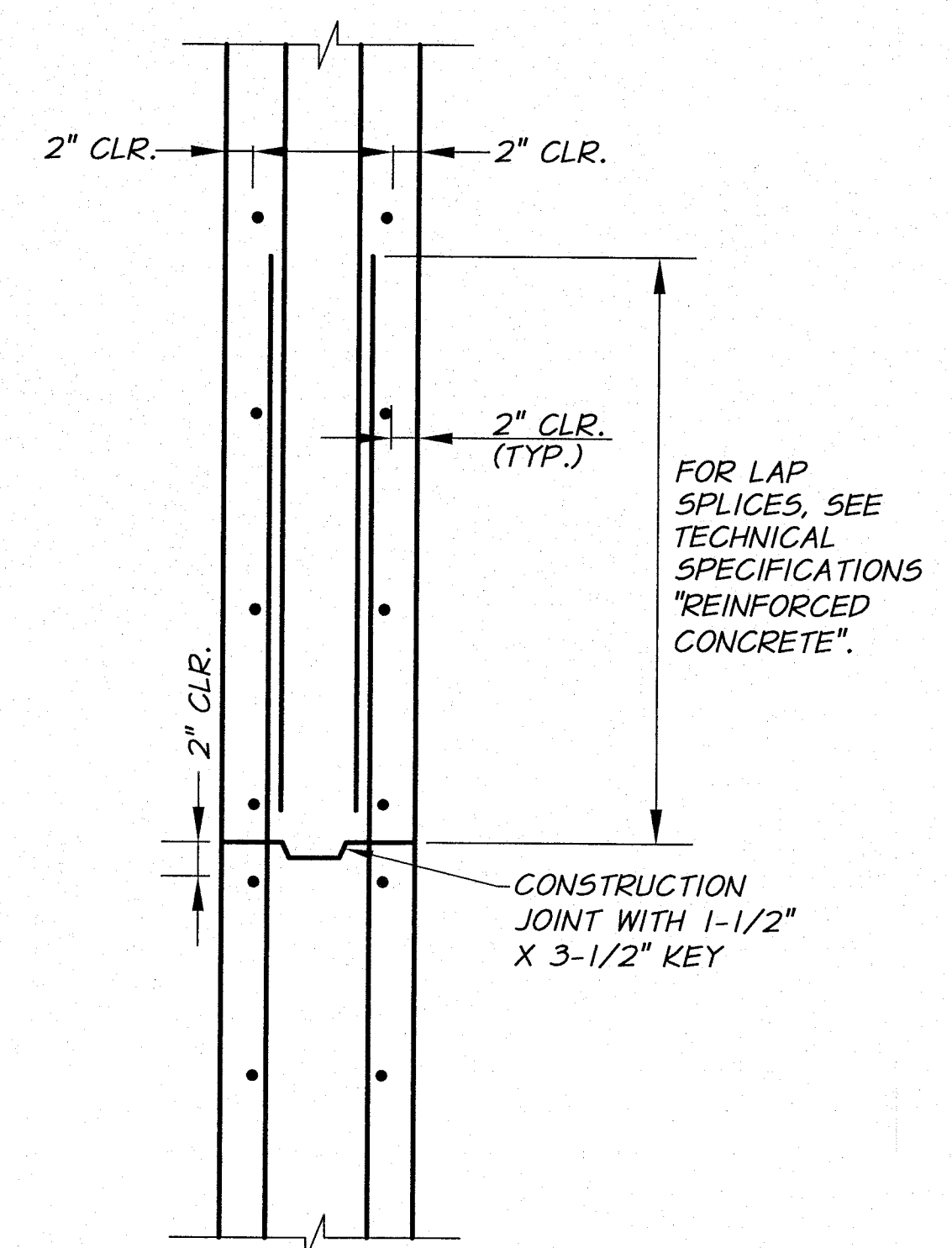
TYPICAL EXPANSION JOINT DETAIL
(FOR NON-WATER CONTAINMENT STRUCTURES)

N.T.S.



TYPICAL OPENING
IN CONCRETE WALLS & SLABS

N.T.S.



FLOOR AND WALL
CONSTRUCTION JOINT DETAIL

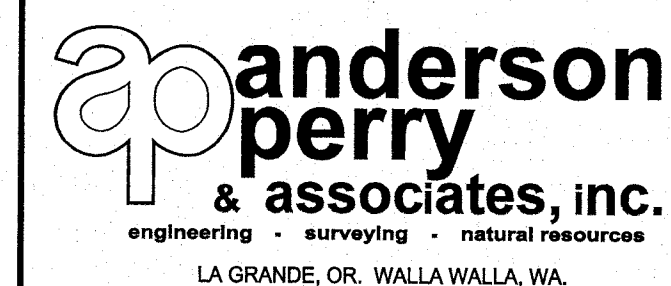
N.T.S.



REVISION		BY	DATE	HORIZ. SCALE		VERT. SCALE
				NONE		
DESIGNED BY		B. MOORE		JOB NUMBER		1199-336
DRAWN BY		P. RICHARDSON		DATE		2009
REVIEWED BY		H. PERRY		ACAD FILE:		DETL.S.dwg
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

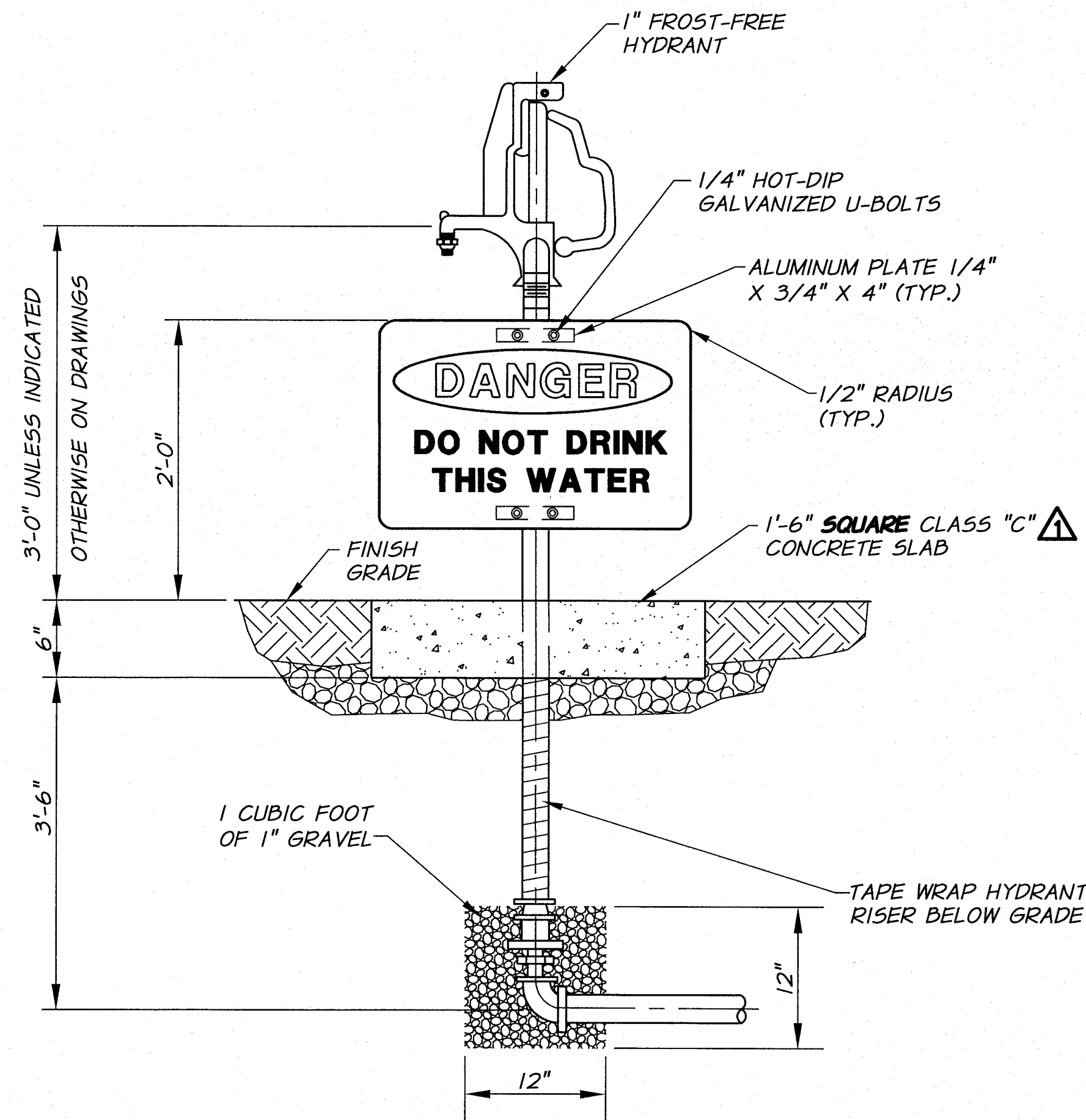
TYPICAL DETAILS
STRUCTURAL DETAILS IV

SHEET

T4

49 OF 60

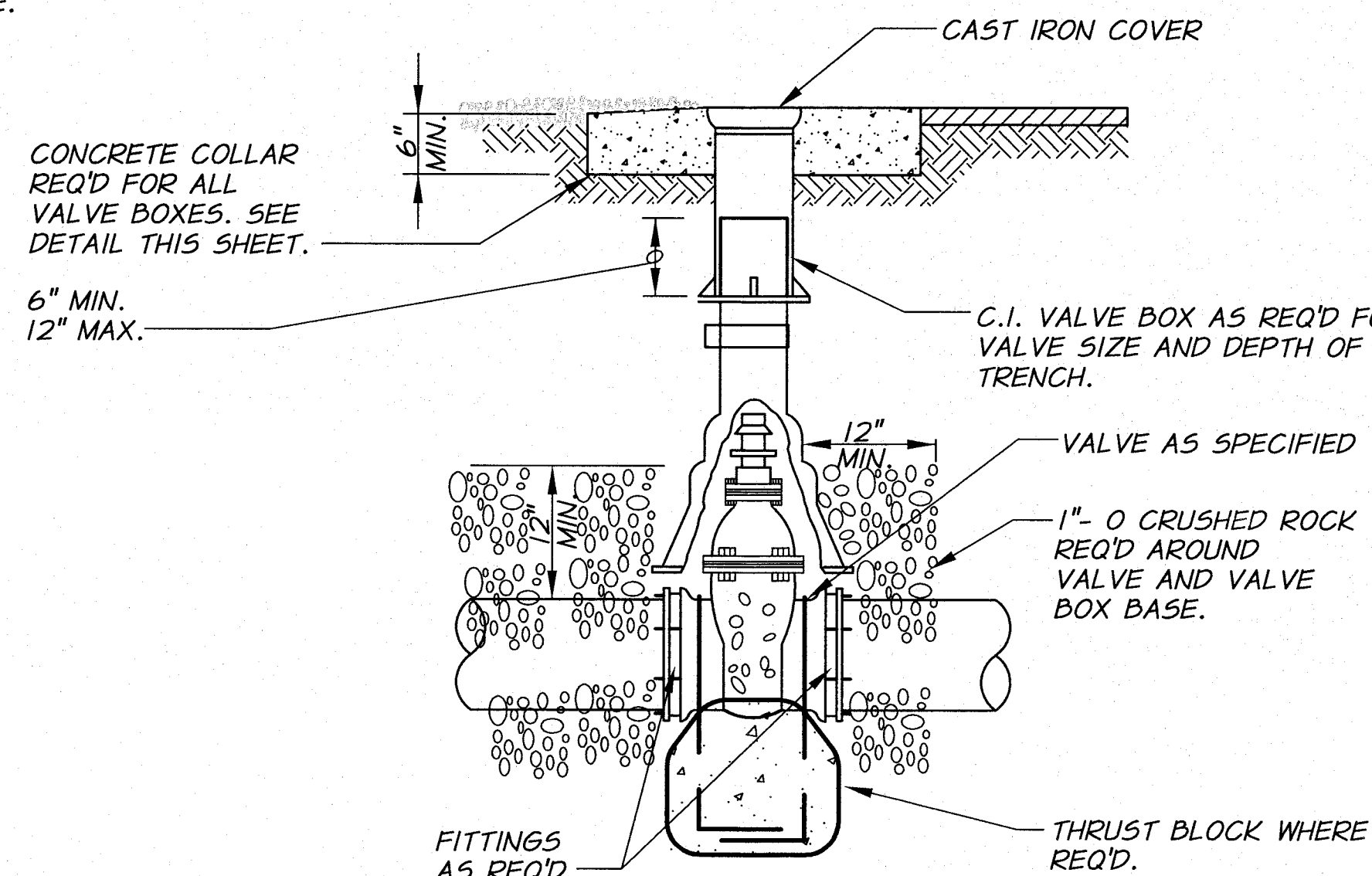
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- NOTES:**
1. SIGN SHALL BE 3/8" THICK PLASTIC RESISTANT TO SUNLIGHT (ULTRAVIOLET) DETERIORATION.
 2. SIGN SHALL BE 7" X 10" AND SHALL CONFORM TO THE SPECIFICATIONS.
 3. SIGN AS SHOWN IS ROTATED 90° OFF TRUE POSITION. SIGN SHALL BE MOUNTED TO PERMIT EASY READING.
 4. INSTALL HOSE RACK, (HOSE RACK DETAIL, SHT. T18), AT EACH HOSE VALVE.
 5. PROVIDE 50' OF **HIGH PRESSURE** HOSE.

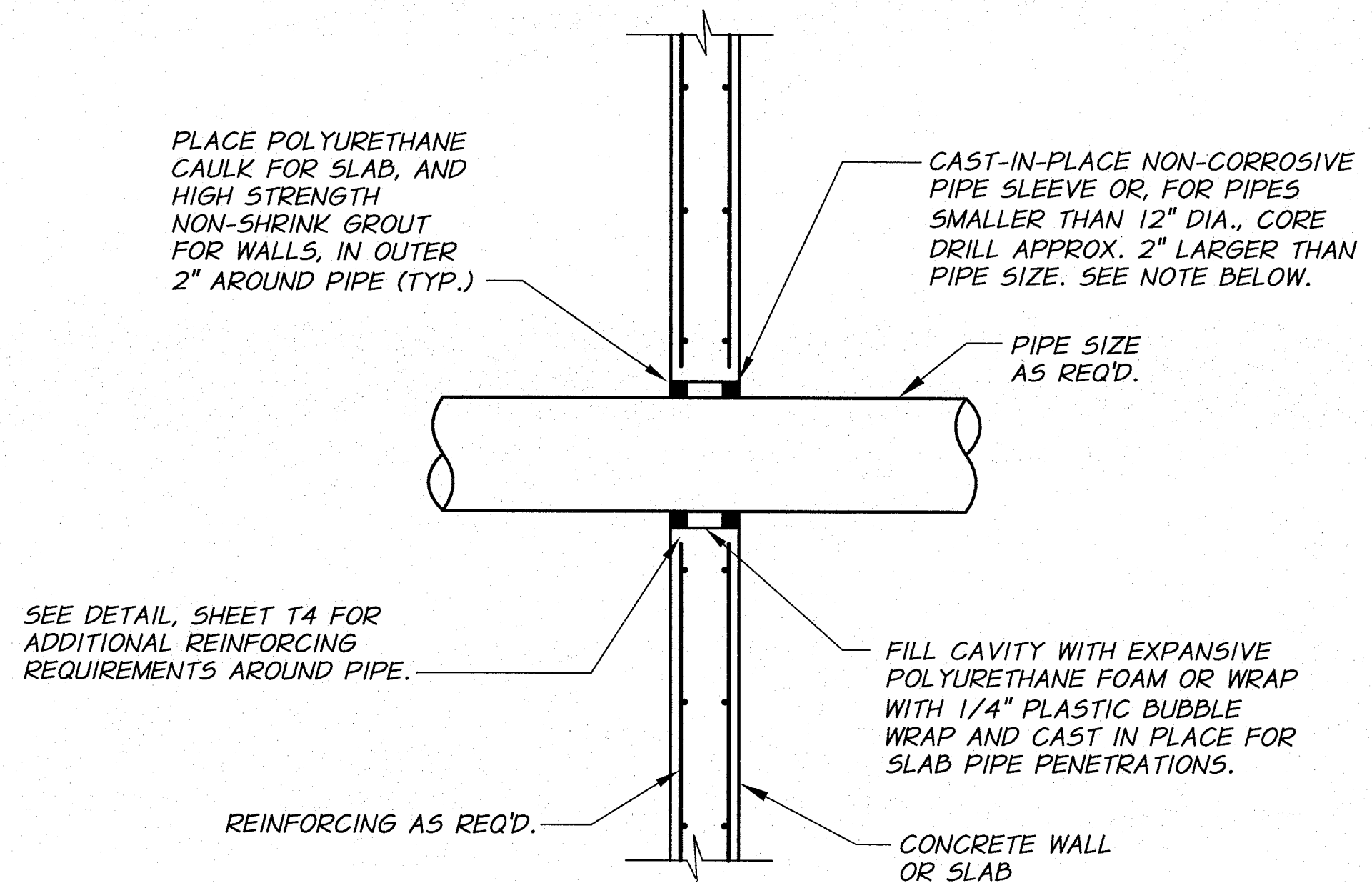
FROST-FREE HYDRANT

N.T.S.



VALVE BOX DETAIL

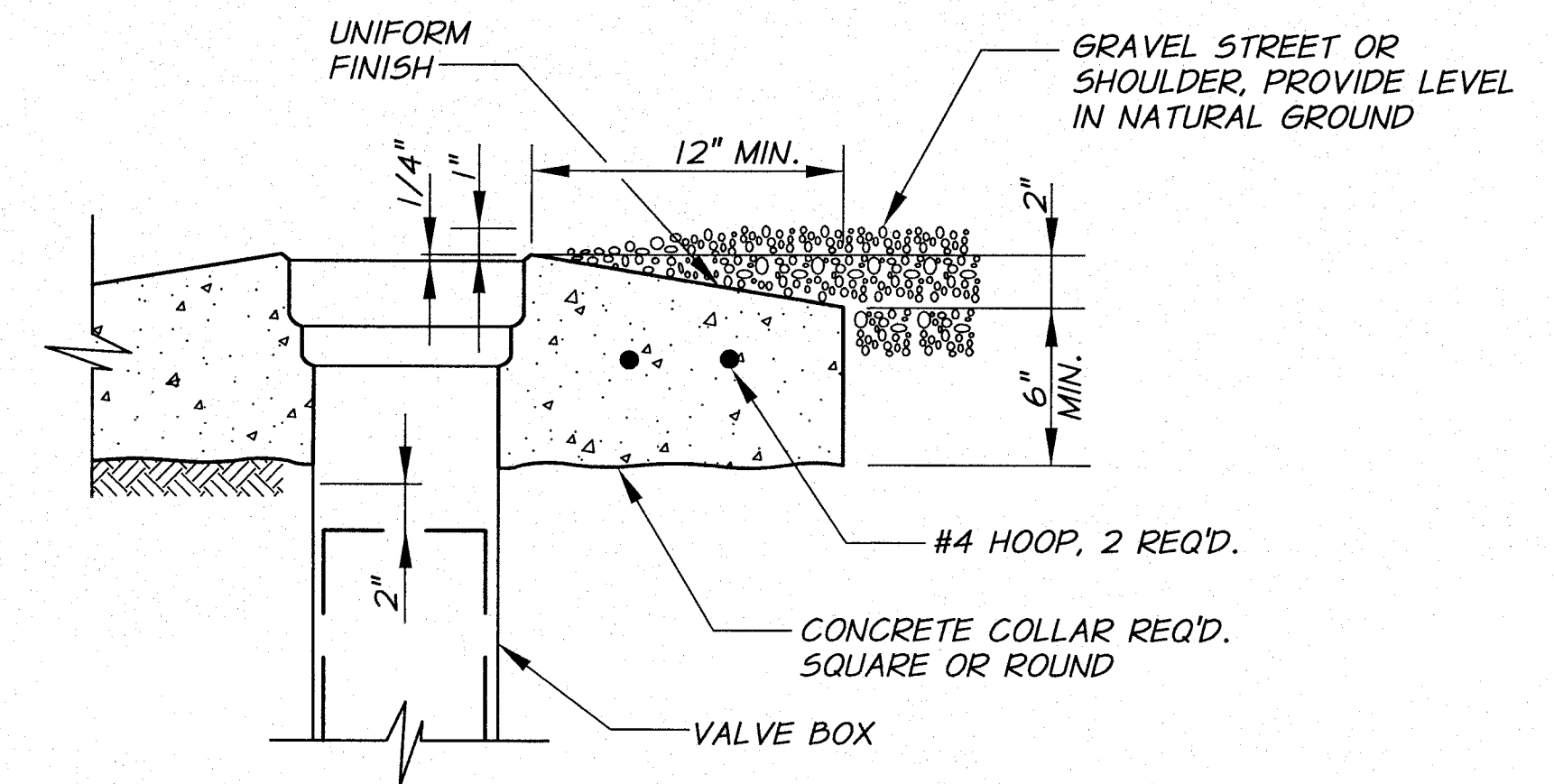
N.T.S.



PIPE PENETRATION DETAIL

ALL PIPE SIZES

N.T.S.



- REQUIREMENTS FOR CONCRETE COLLARS:**
1. CONCRETE : 4000 PSI AS SPECIFIED.
 2. COLLAR TO BE FORMED AND UNIFORMLY ROUND OR SQUARE.
 3. SMOOTH BROOMED FINISH REQUIRED.
 4. APPLY CONCRETE CURING COMPOUND.
 5. PROTECT FROM TRAFFIC FOR 4 DAYS MIN.

CONCRETE COLLAR DETAIL

IN GRAVEL STREETS OR NATURAL GROUND

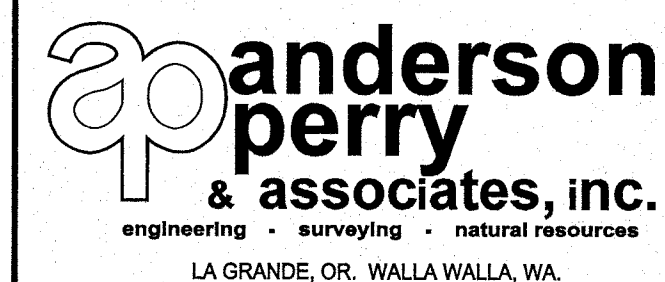
N.T.S.



REVISION		BY	DATE	HORZ. SCALE	VERT. SCALE
1		H.P.	11/10	NONE	
DESIGNED BY	B. MOORE	XREFS:	TB-PumpSta.dwg	JOB NUMBER	1199-336
DRAWN BY	P. RICHARDSON	ACAD FILE:	DETL5.dwg	DATE	2009
REVIEWED BY	H. PERRY	COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.			

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BENTON IRRIGATION DISTRICT

IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

TYPICAL DETAILS

WATER DETAILS

SHEET

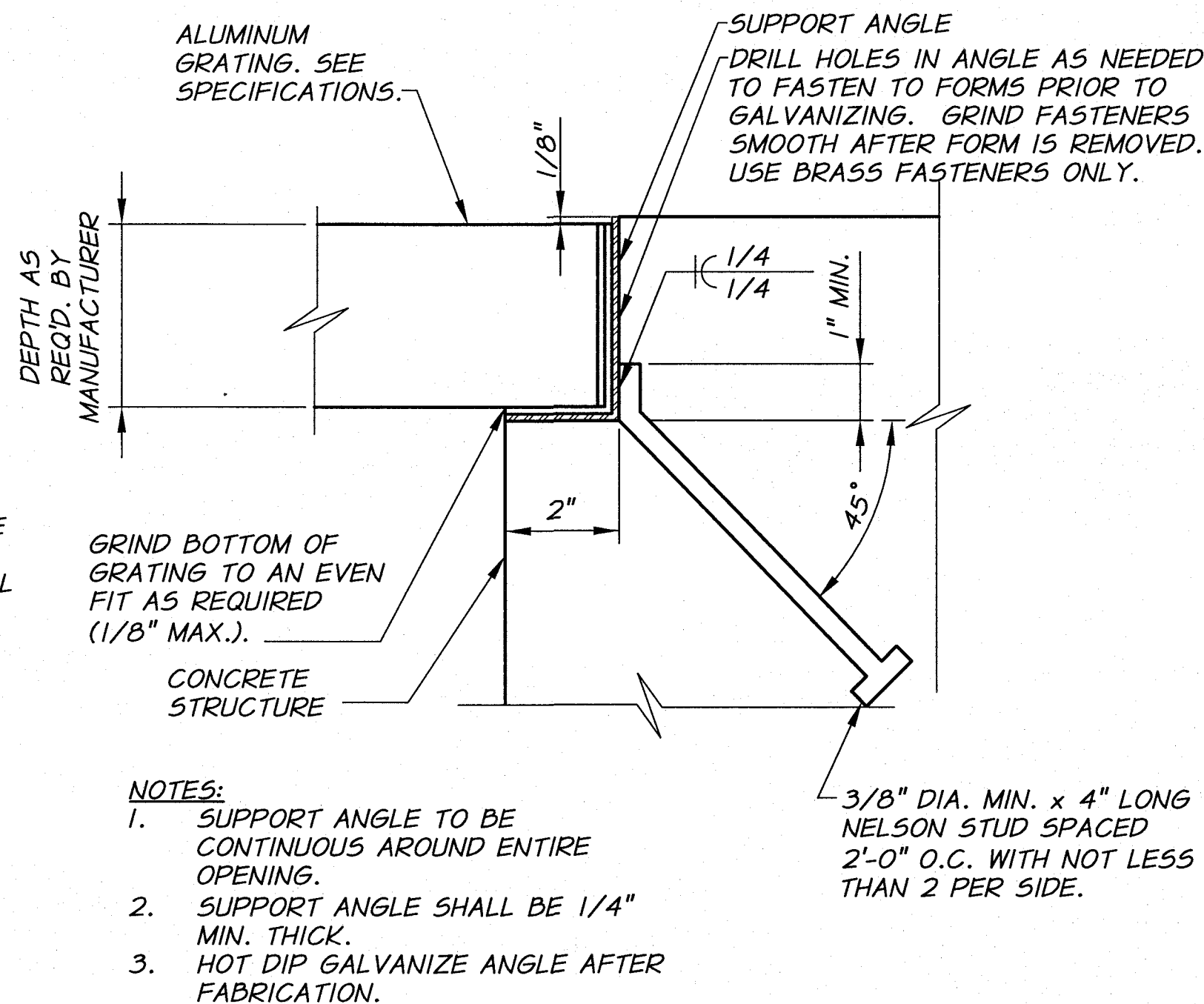
T5

50 OF 60

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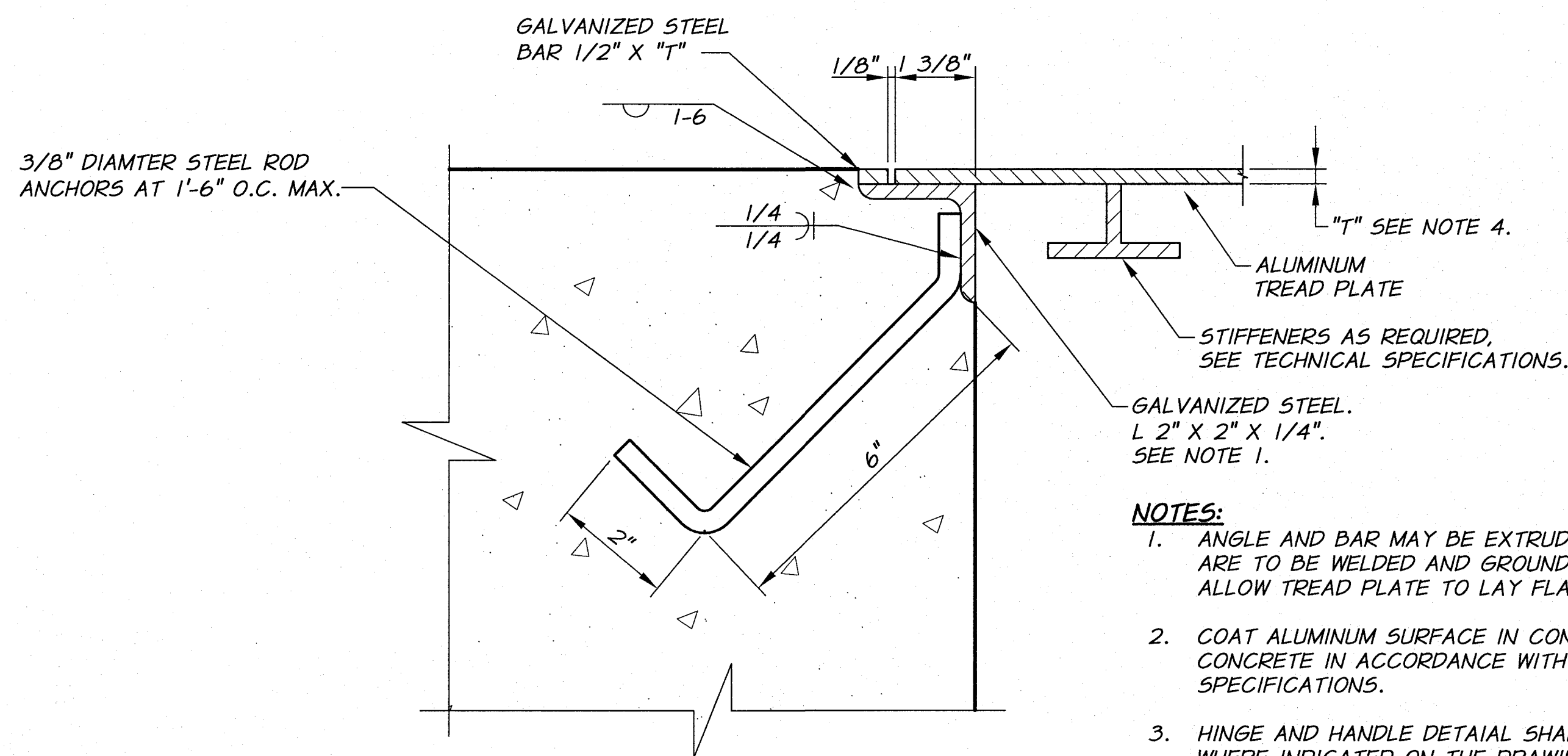
NOTES:

1. ALL GRATING SHALL BE FIELD MEASURED BEFORE FABRICATION.
2. ALL ENDS AND OPENINGS SHALL BE SHOP BANDED.
3. WEIGHT OF GRATING SECTION SHALL NOT EXCEED 50 LBS.
4. GRATING SHALL BE DESIGNED FOR 100 PSF LOAD AND L/480 DEFLECTION.
5. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR MASONRY IN ACCORDANCE WITH TECHNICAL SPECIFICATIONS "PAINTING".



GRATING DETAIL

N.T.S.



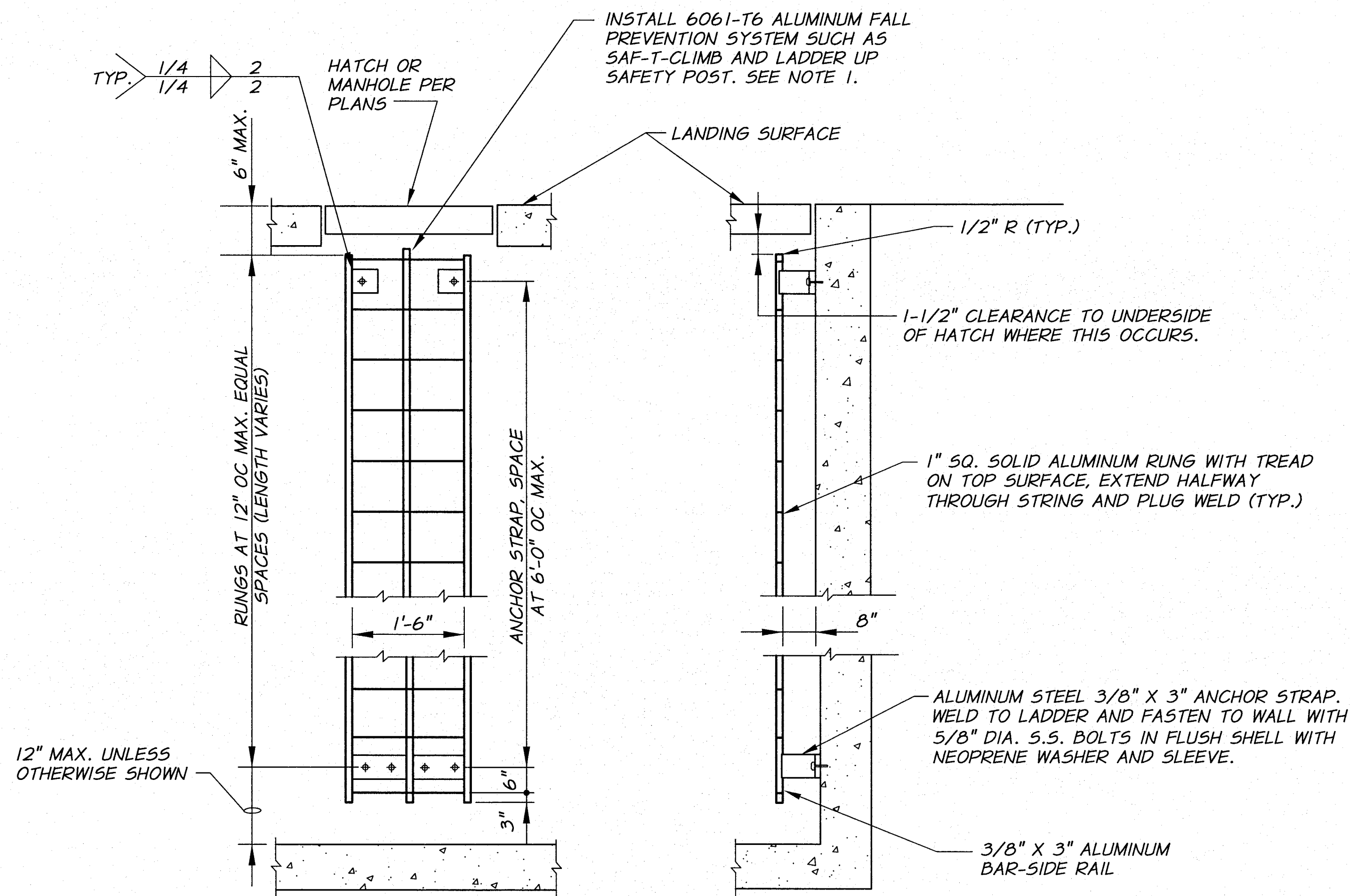
SECTION - REBATE

ALUMINUM TREAD PLATE

N.T.S.

NOTES:

1. ANGLE AND BAR MAY BE EXTRUDED. JOINTS ARE TO BE WELDED AND GROUND SMOOTH TO ALLOW TREAD PLATE TO LAY FLAT.
2. COAT ALUMINUM SURFACE IN CONTACT WITH CONCRETE IN ACCORDANCE WITH THE SPECIFICATIONS.
3. HINGE AND HANDLE DETAILS SHALL APPLY WHERE INDICATED ON THE DRAWINGS.
4. TREAD PLATE SHALL BE DESIGNED FOR 100 POUNDS PER SQUARE FOOT LOAD. THICKNESS "T" AS REQUIRED BY MANUFACTURER.
5. TREAD PLATE SHALL BE FABRICATED IN UNITS THAT DO NOT WEIGH MORE THAN 50 POUNDS..



ELEVATION

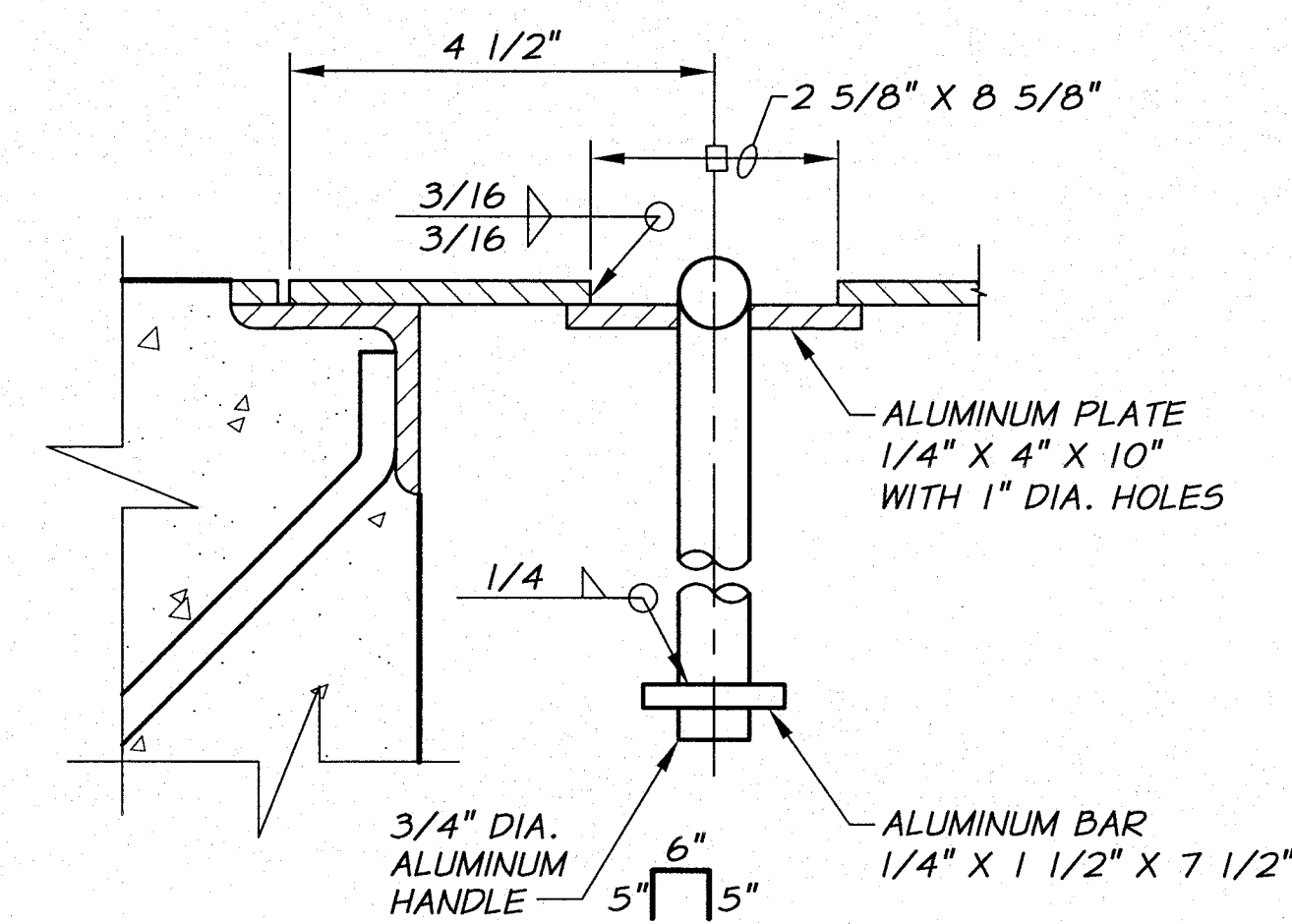
SECTION

ALUMINUM LADDER

N.T.S.

NOTES:

1. INSTALL FALL PREVENTION SYSTEM WHERE HEIGHT OF LADDER EXCEEDS 10'-0".
2. COAT ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.
3. FOR ALL LADDERS PLACED UNDER A HATCH, PROVIDE AN EXTENDIBLE DEVICE SUCH AS "LADDER-UP" AS MANUFACTURED BY BILCO, INC., OR APPROVED EQUAL.



HANDLE DETAIL

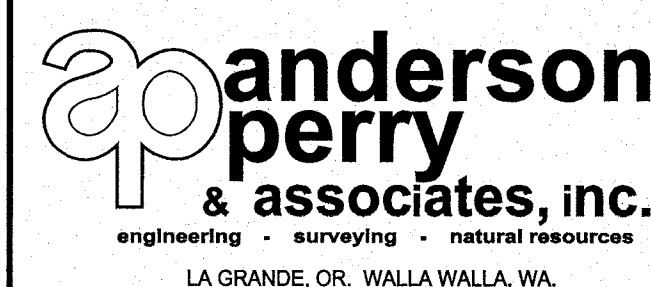
N.T.S.



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DESIGNED BY	B. MOORE		NONE	
DRAWN BY	P. RICHARDSON		JOB NUMBER	1199-336
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**BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION**

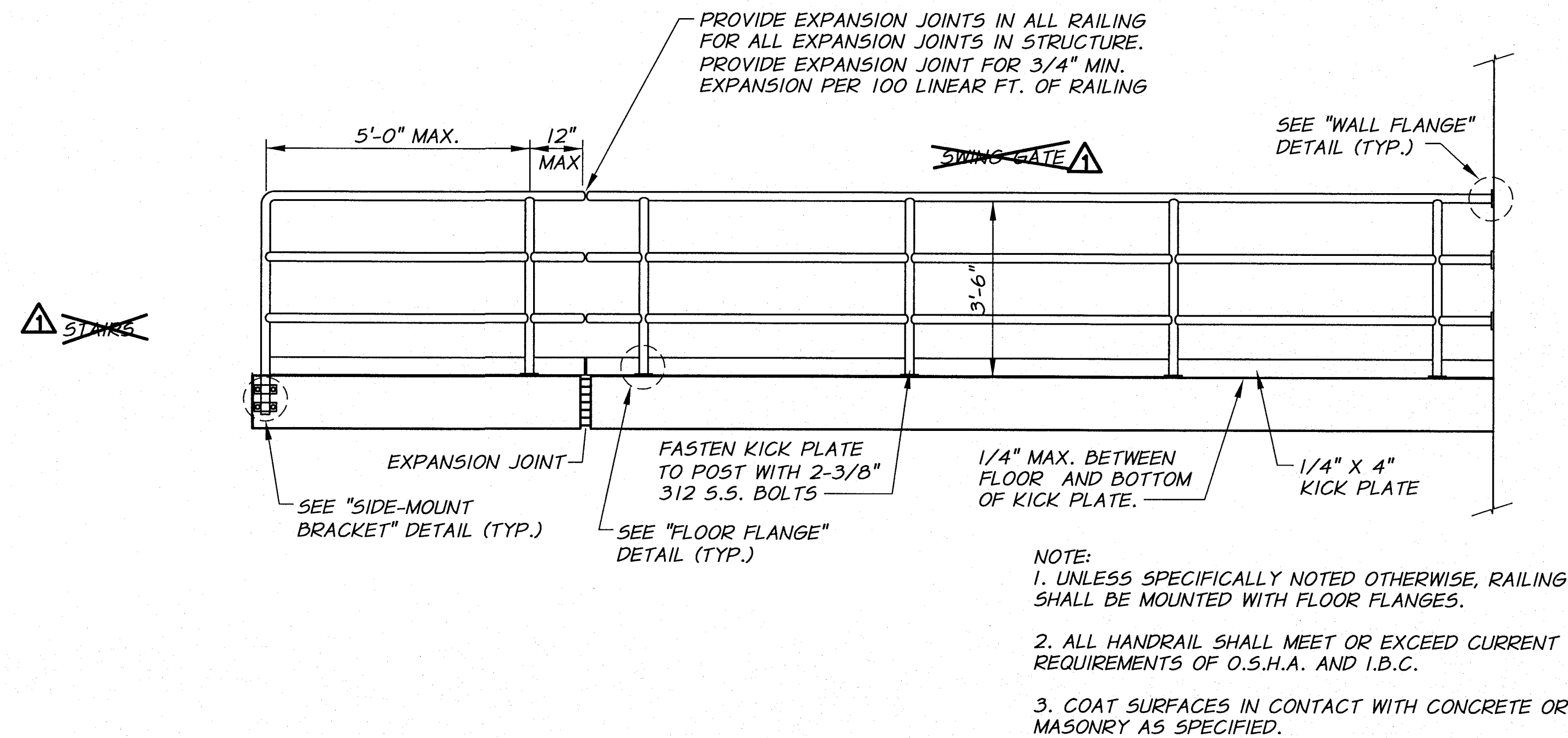
**TYPICAL DETAILS
MISCELLANEOUS DETAILS I**

SHEET

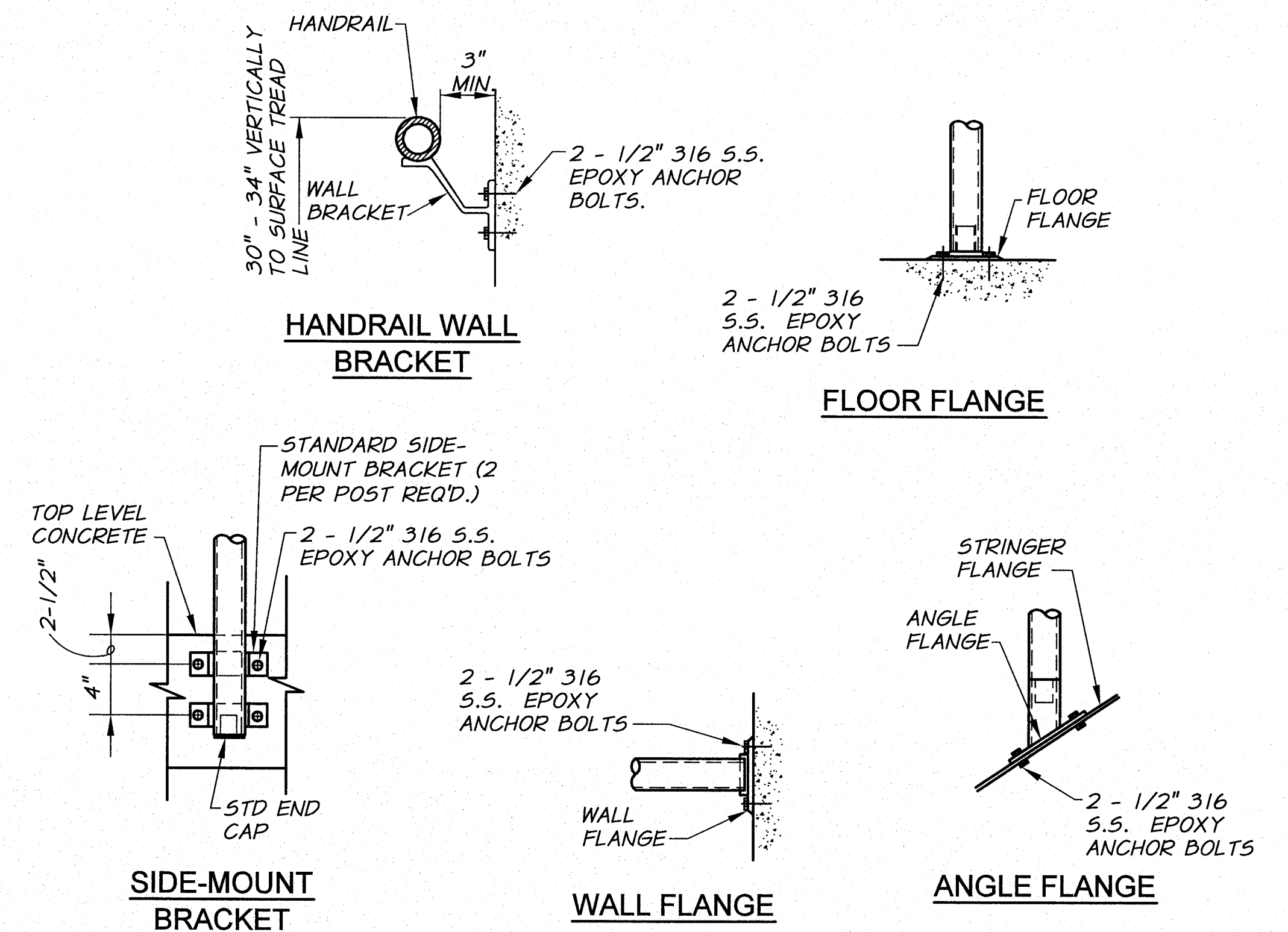
T7

52 OF 60

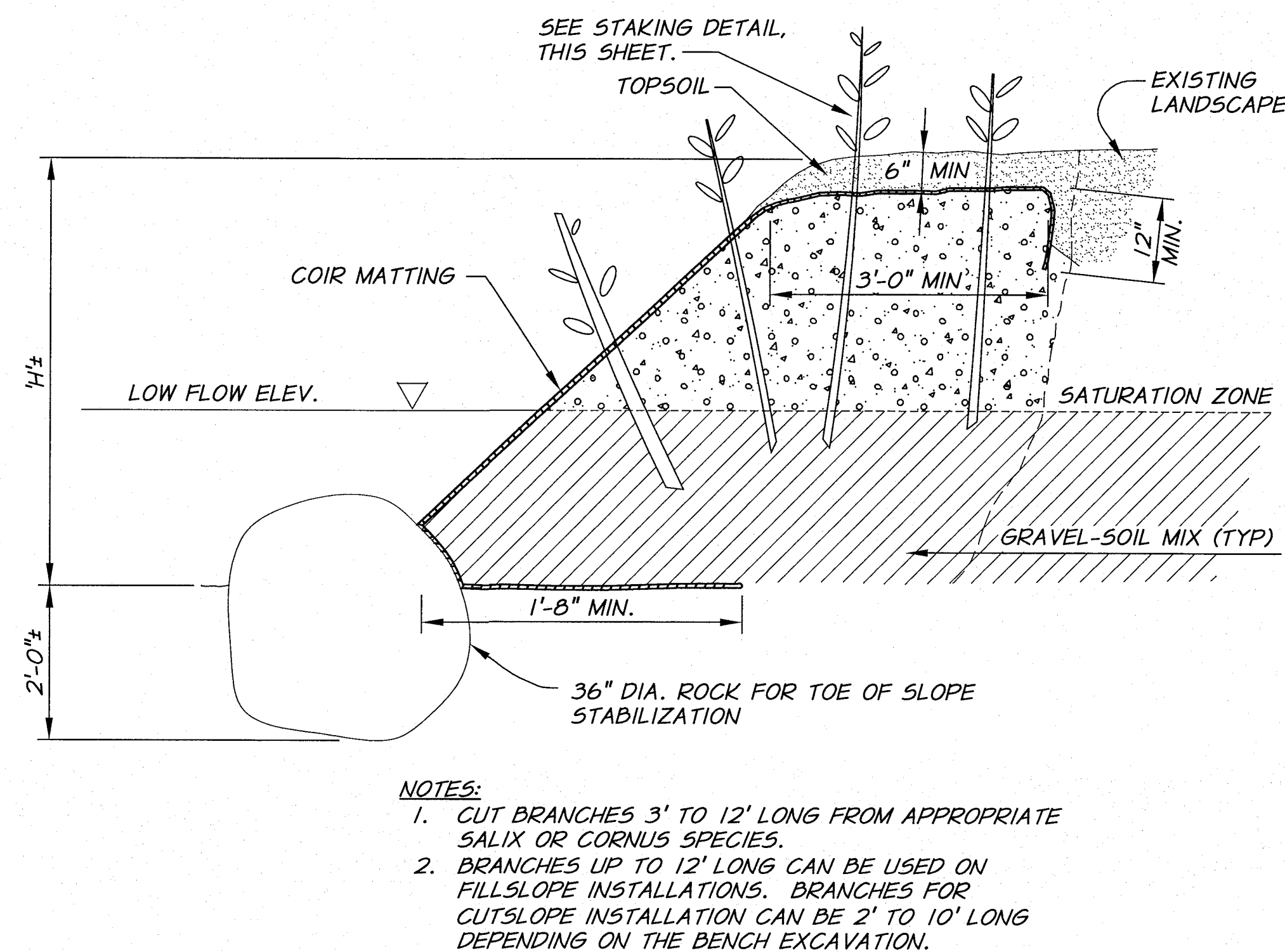
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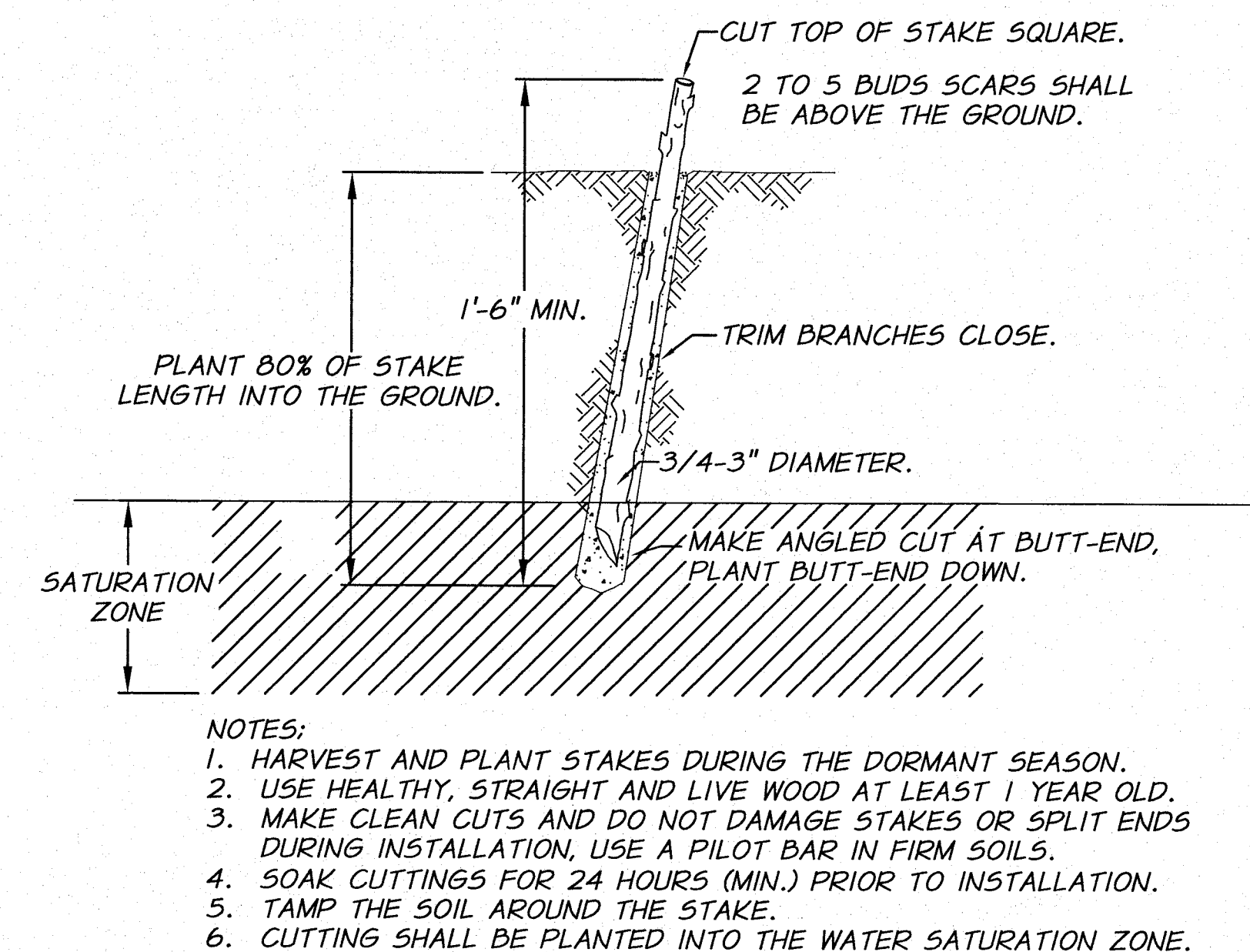
3 PIPE ALUMINUM RAILING WITH KICK PLATE
N.T.S.



RAILING, GUARDRAIL, AND HANDRAIL SUPPORT DETAILS
N.T.S.



BANK STABILIZATION DETAIL
N.T.S.



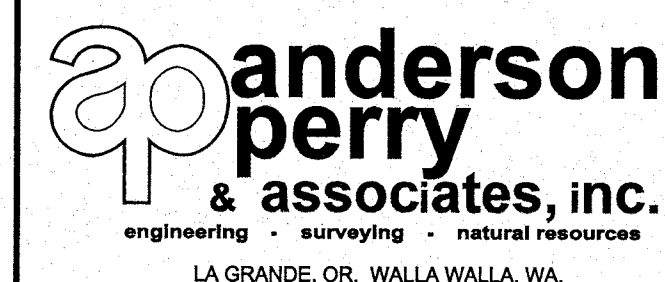
LIVE STAKING DETAIL
N.T.S.



DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg	JOB NUMBER	1199-336	DATE	2009
DRAWN BY	D. CHRISTMAN		ACAD FILE:	HandrailDets.dwg		
REVIEWED BY	H. PERRY		COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.			

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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

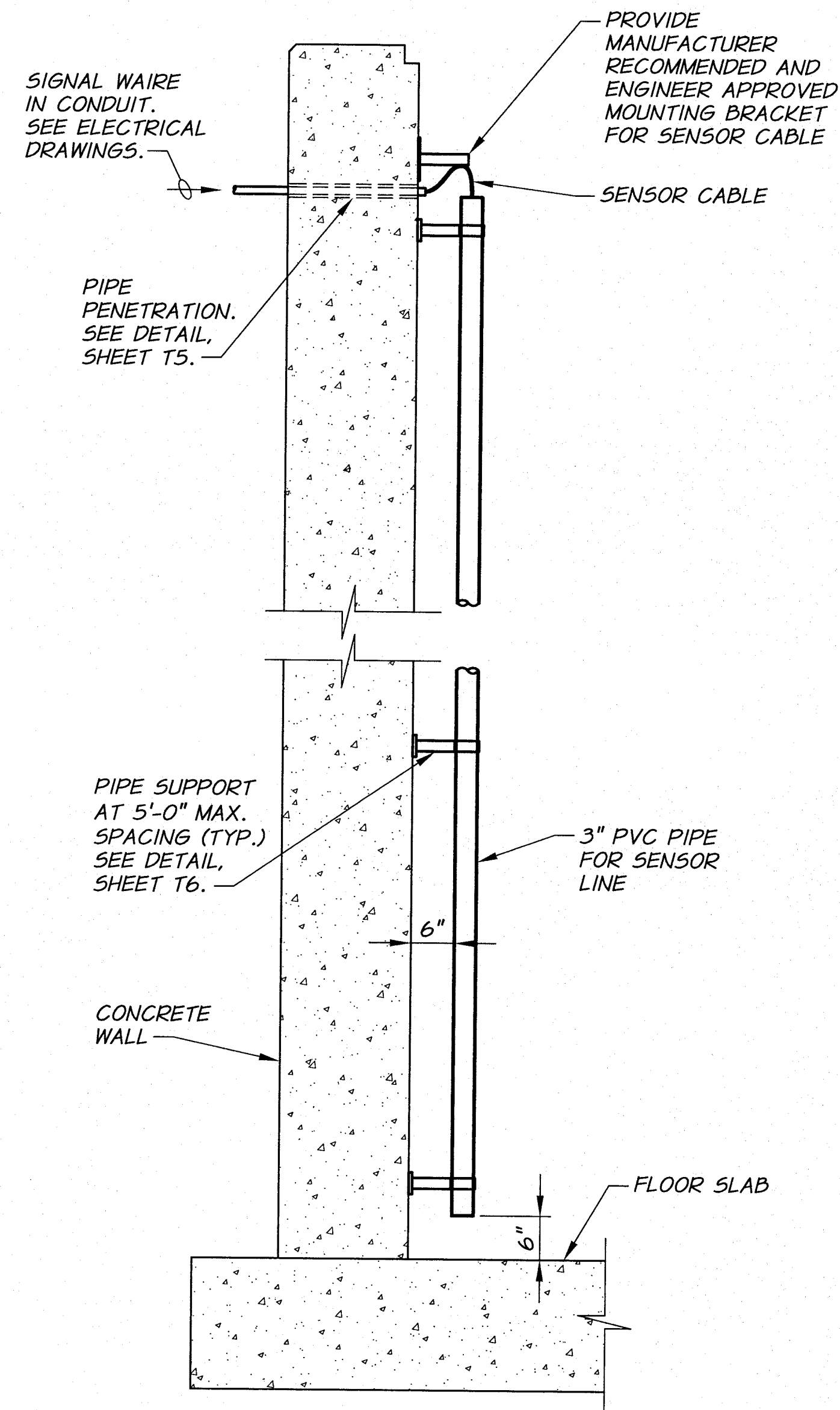
TYPICAL DETAILS
MISCELLANEOUS DETAILS II

SHEET

T8

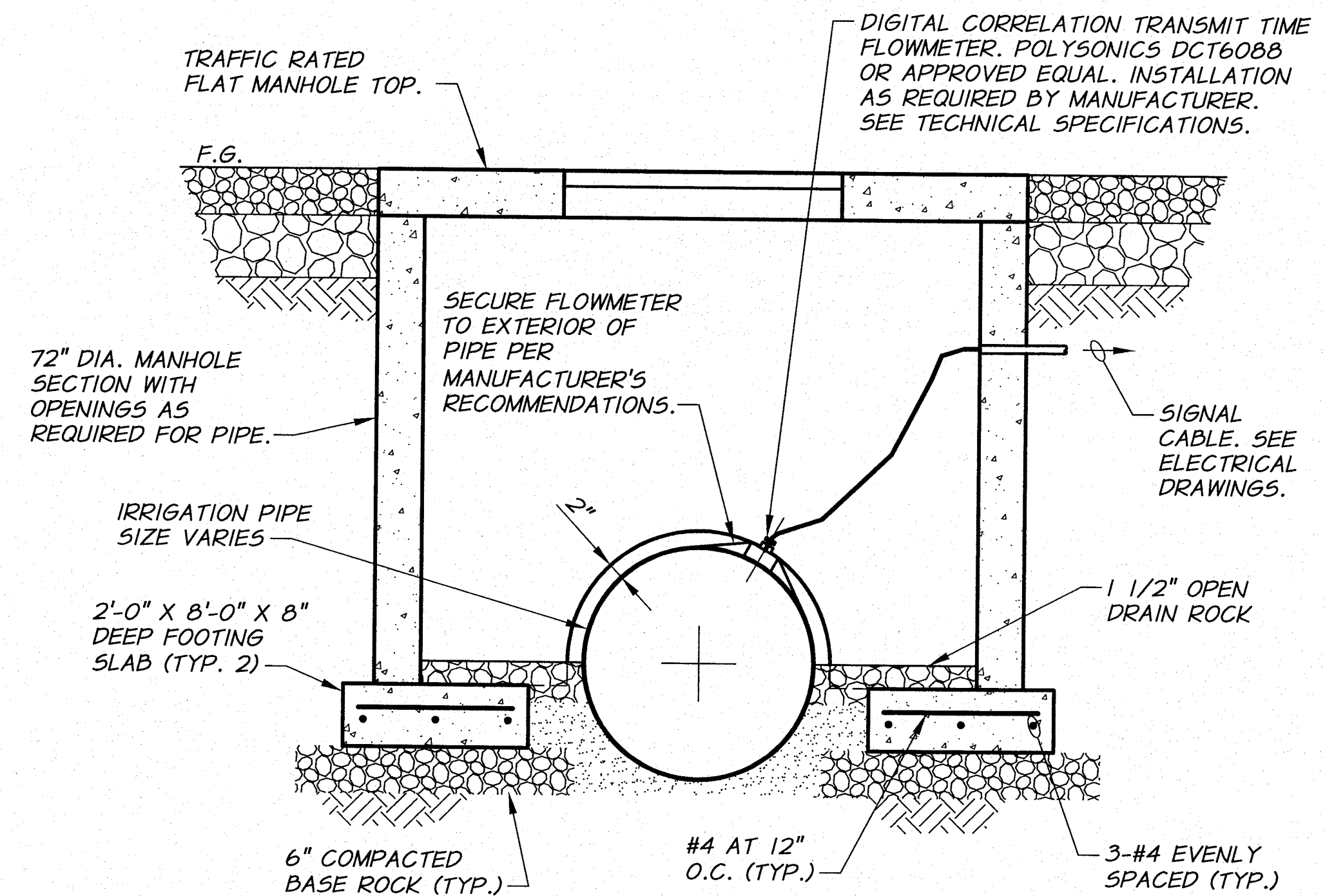
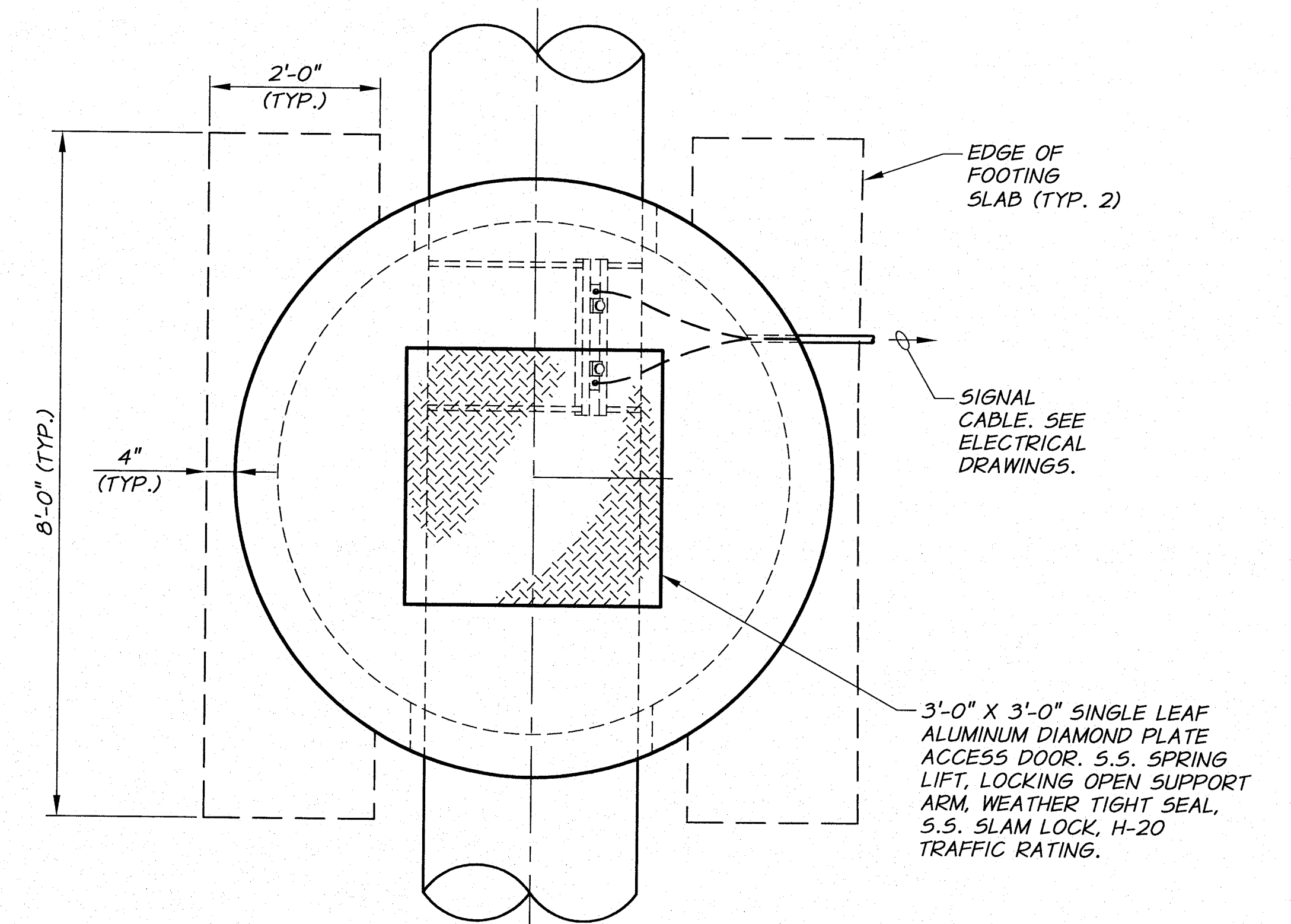
53 OF 60

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WATER LEVEL SENSOR DETAIL

3/4"=1'-0"



METERING MANHOLE DETAIL

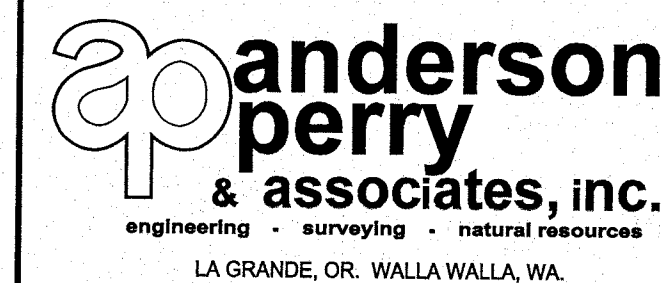
3/4"=1'-0"



DESIGNED BY	B. MOORE	DATE	2009
DRAWN BY	D. CHRISTMAN	DATE	2009
REVIEWED BY	H. PERRY	DATE	2009
PROJECT	XREFS: TB-PumpSta.dwg		
ACAD FILE	MiscDets-1.dwg		
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BENTON IRRIGATION DISTRICT IRRIGATION SYSTEM IMPROVEMENTS RIVER PUMP STATION

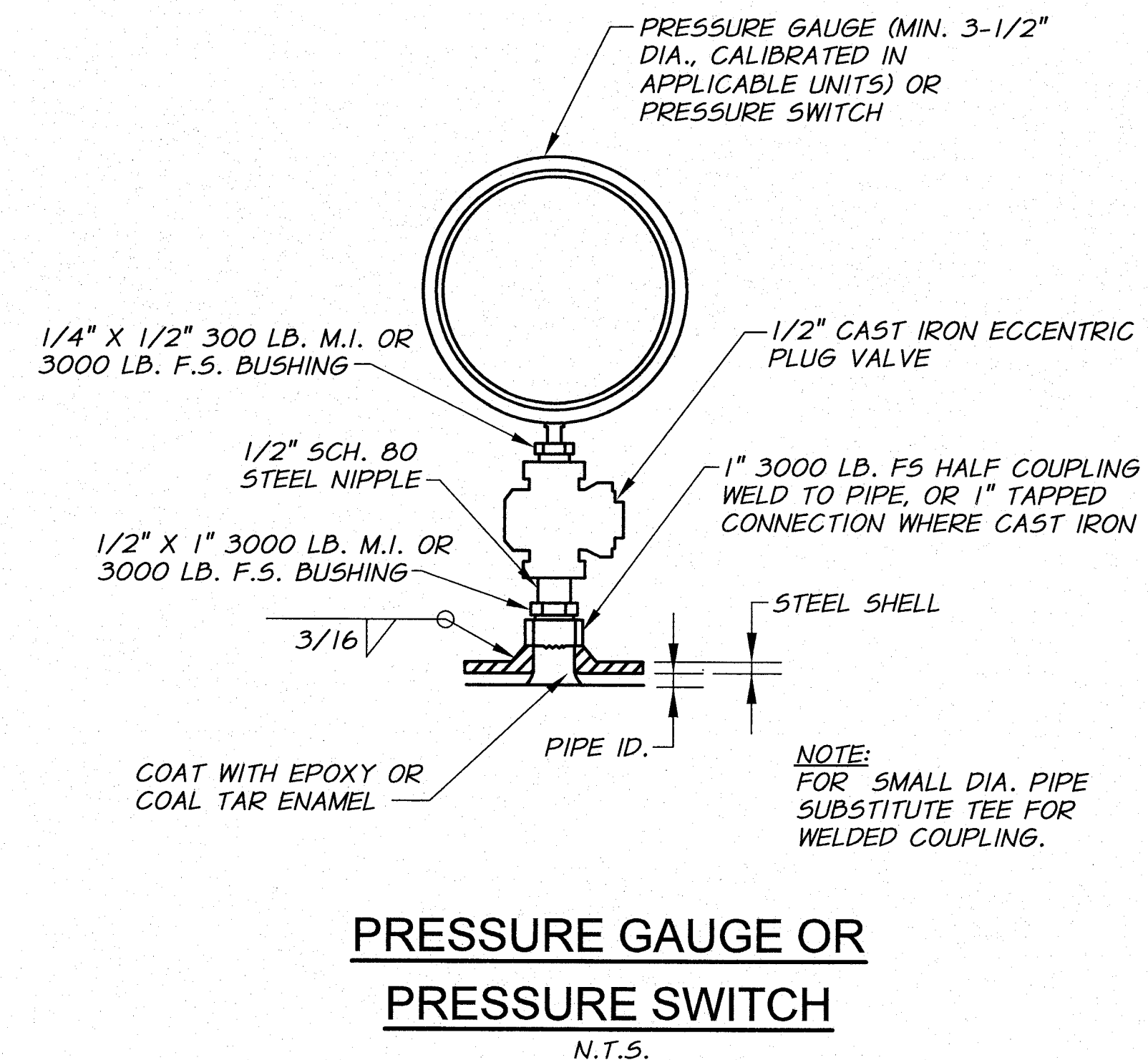
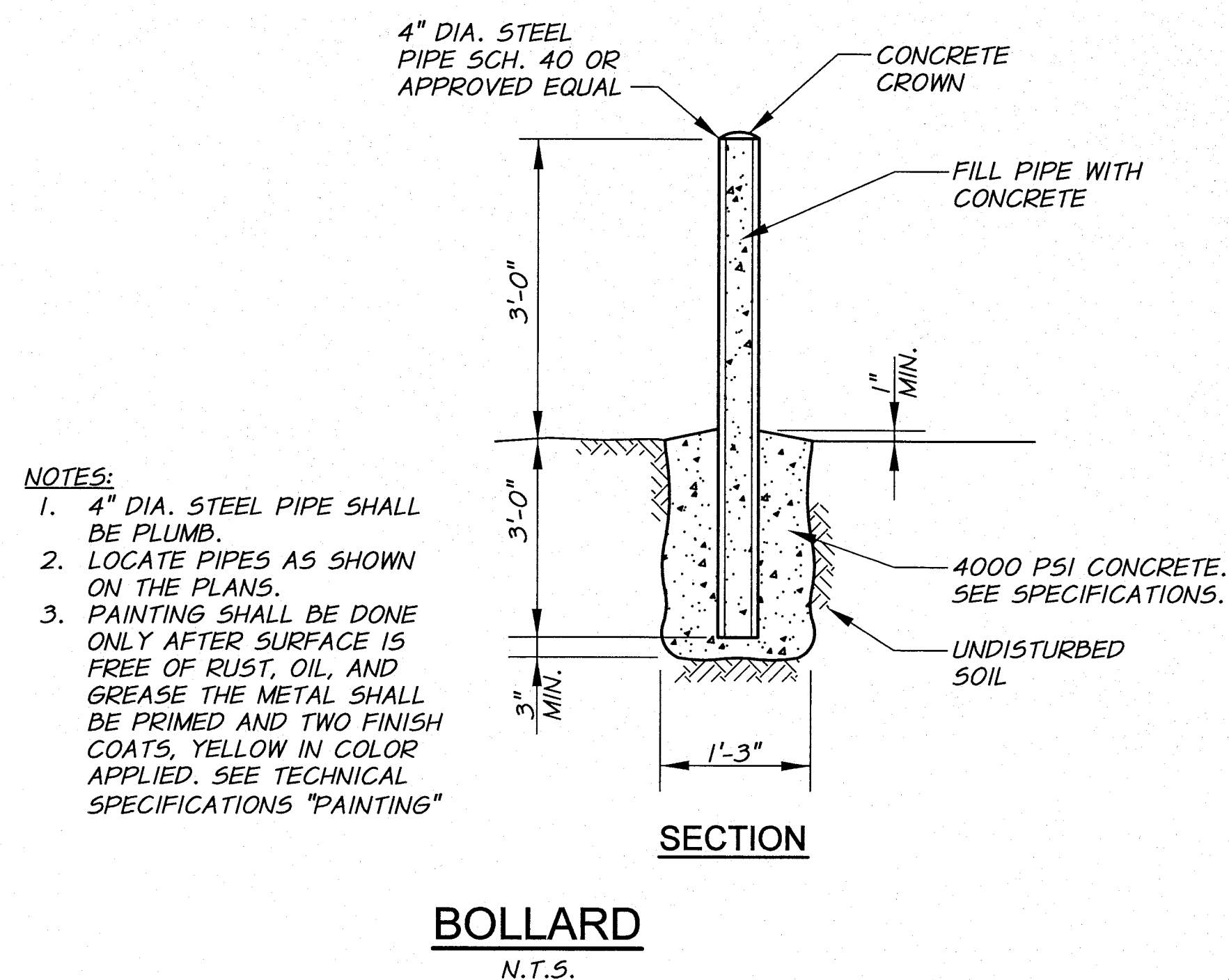
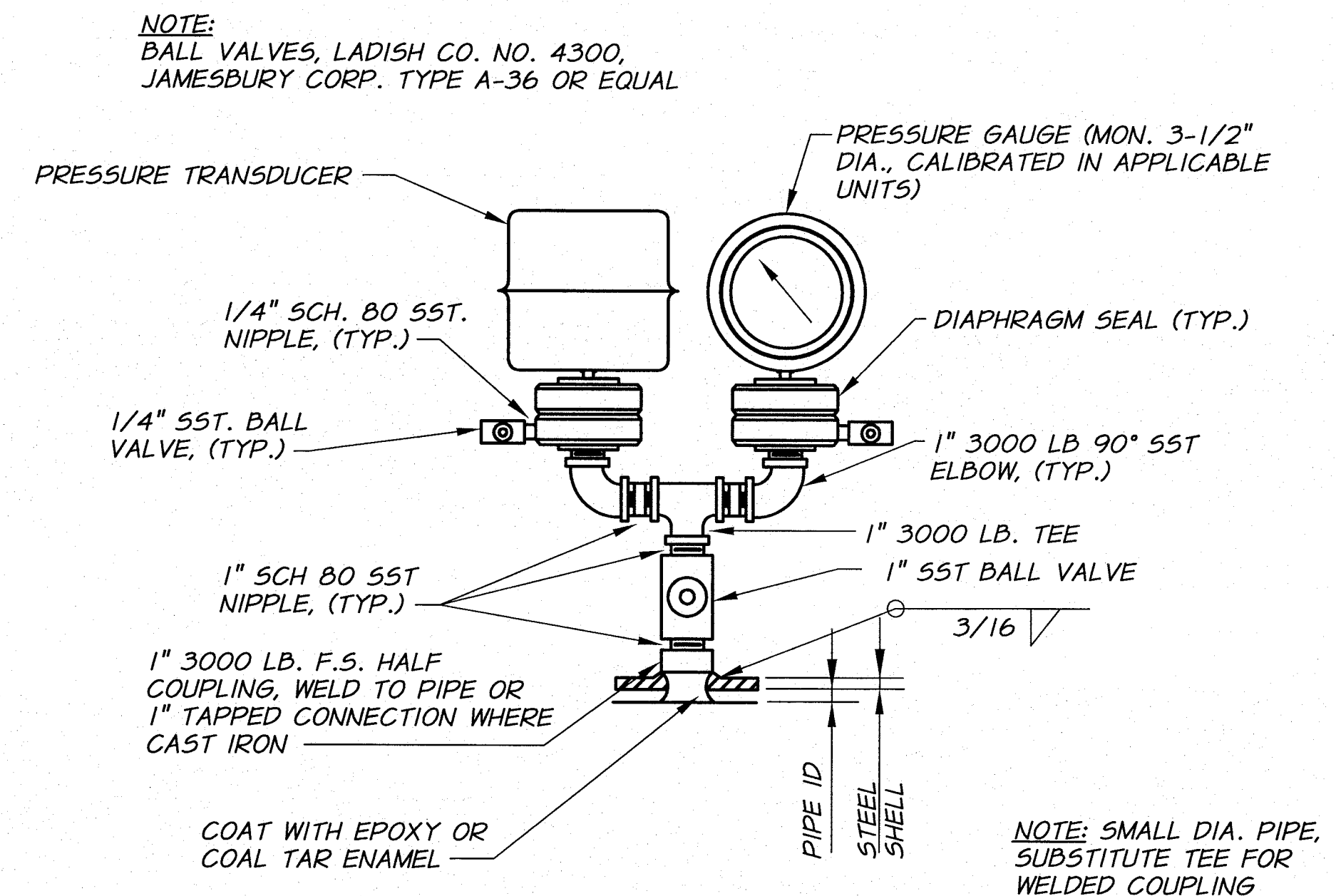
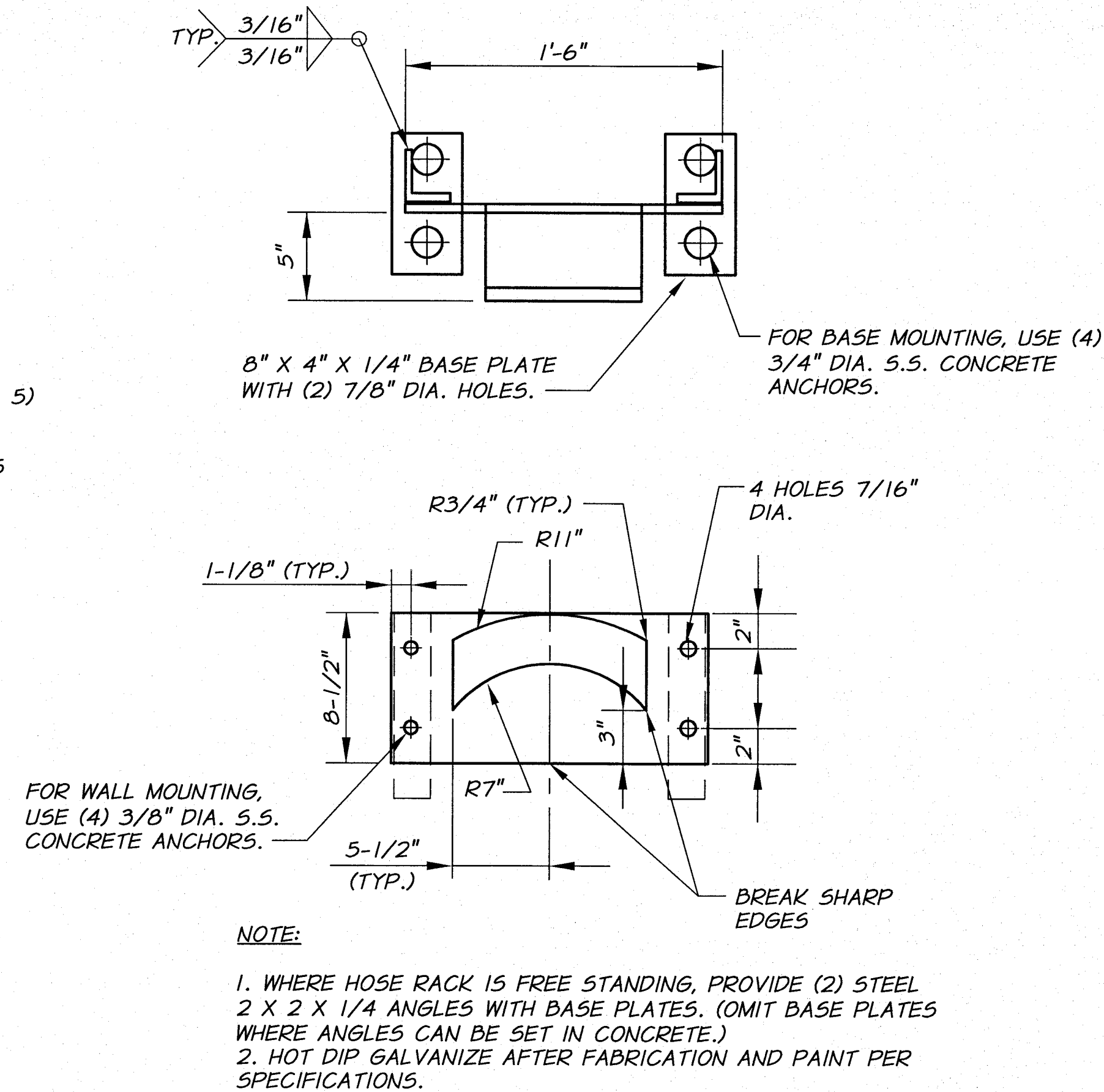
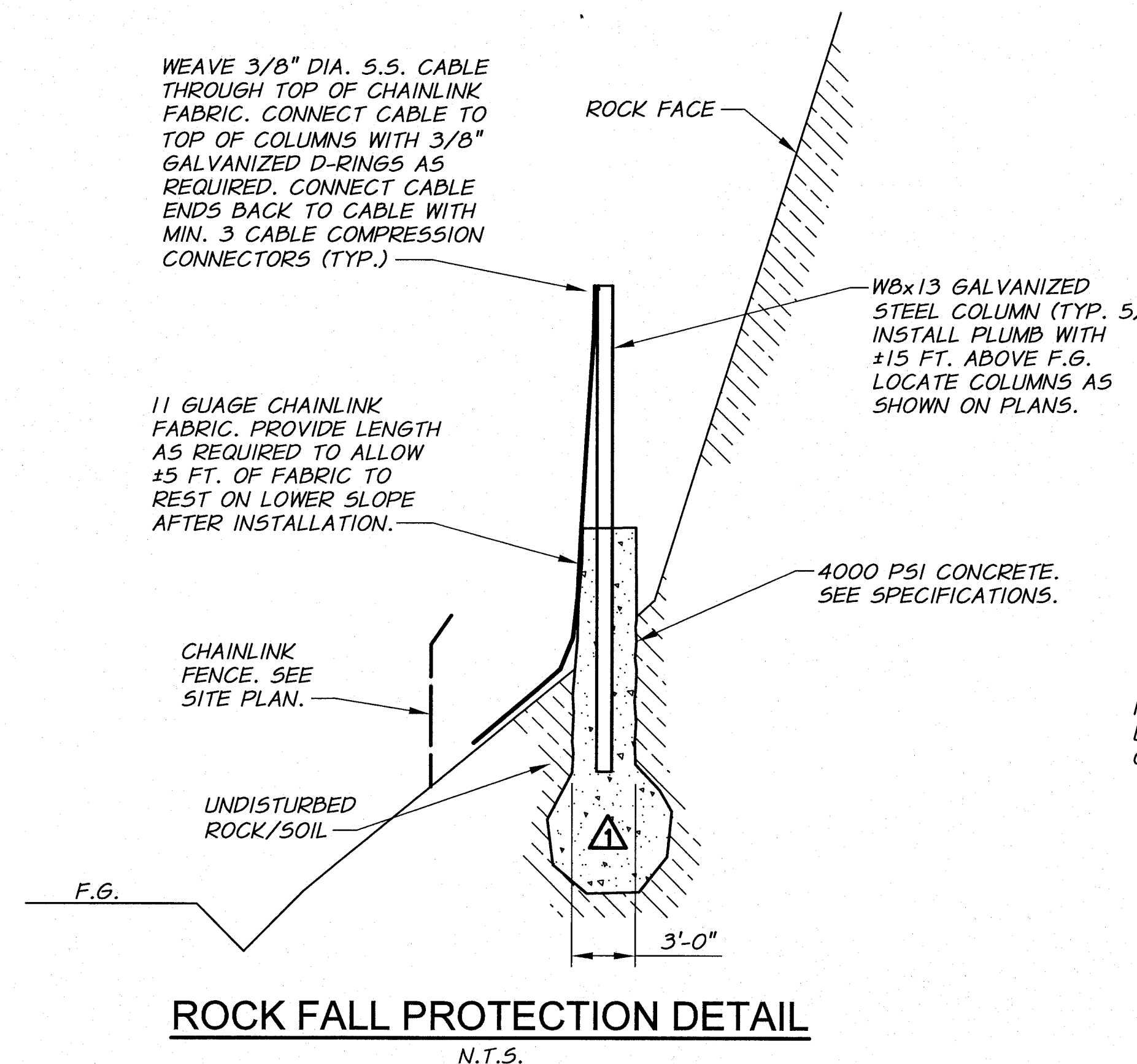
TYPICAL DETAILS
MISCELLANEOUS DETAILS III

SHEET

T9

54 OF 60

ARCHIVED



REVISION		BY	DATE	H.P.	11/10
DESIGNED BY		B. MOORE	XREFS: TB-PumpSta.dwg		
DRAWN BY		P. RICHARDSON	JOB NUMBER 1199-336		
REVIEWED BY		H. PERRY	DATE 2009		
			ACAD FILE: DETLS.dwg		
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RECORD DRAWINGS

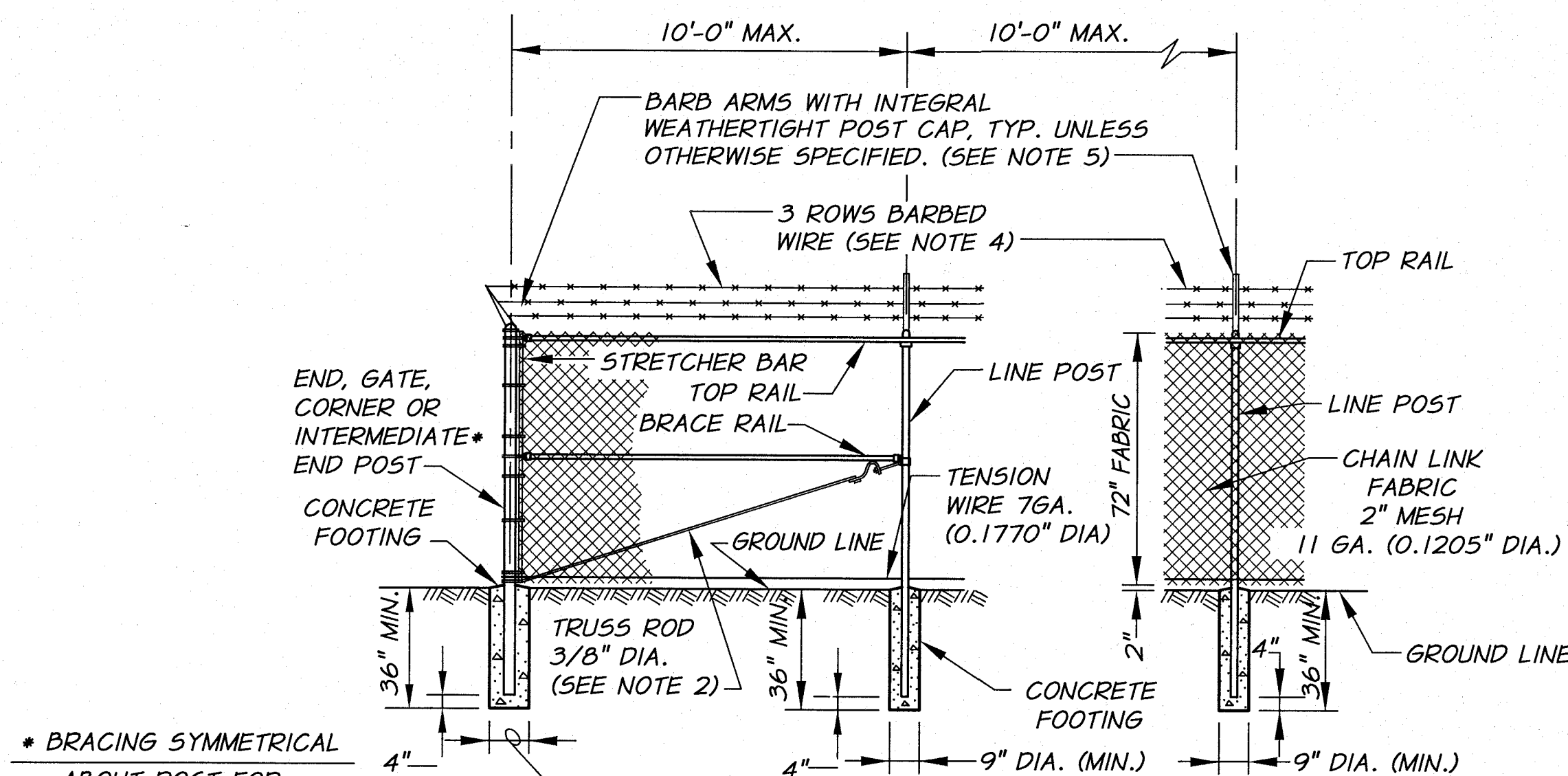
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

TYPICAL DETAILS
MISCELLANEOUS DETAILS IV

SHEET
T10
55 OF 60



* BRACING SYMMETRICAL ABOUT POST FOR INTERMEDIATE END POST

12" DIA. (MIN.)
20" DIA. (MIN.) FOR 6" GATE POST

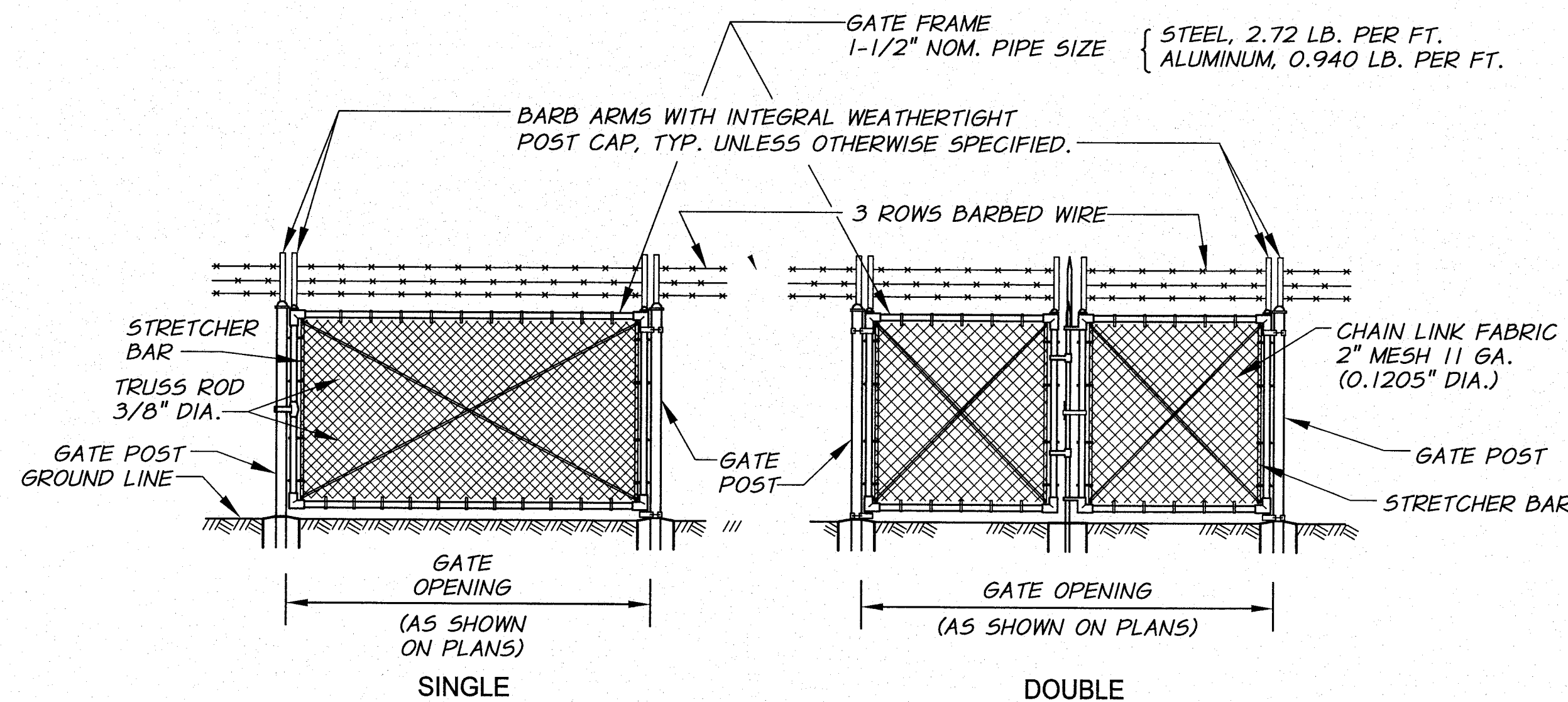
- NOTES:
1. FOR CROSS SECTIONAL DIMENSIONS OF MEMBERS, SEE FENCE MEMBER TABLE.
 2. FOR RUNS OF FENCE OF 20 FEET OR LESS, OMIT TRUSS ROD AT END AND CORNER POSTS.
 3. CHAIN LINK FENCE FABRIC TO BE 6'-0" HIGH.
 4. THREE STRANDS OF BARBED WIRE SHALL RUN THE ENTIRE LENGTH OF FENCE ABOVE THE FABRIC, WITH THE TOP OUTSIDE WIRE APPROXIMATELY 12" HORIZONTALLY FROM THE FENCE LINE AND THE OTHER WIRES SPACED UNIFORMLY.
 5. THE WIRE SHALL BE SUPPORTED ON THE LINE POST BY MEANS OF HEAVY GALVANIZED MALLEABLE IRON CAPS WITH PRESSED STEEL EXTENSION ARMS AT AN ANGLE OF 45°.
 6. PROVIDE 8 "DANGER KEEP OUT" AND 8 "HIGH VOLTAGE" SIGNS MOUNTED PERMANENTLY TO EXTERIOR OF FENCE AS DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE U.V. AND WEATHER PROOF, 10" X 14" IN SIZE, AND WRITTEN IN BOTH ENGLISH AND SPANISH.

FENCE DETAIL
WITH BARBED WIRE
N.T.S.

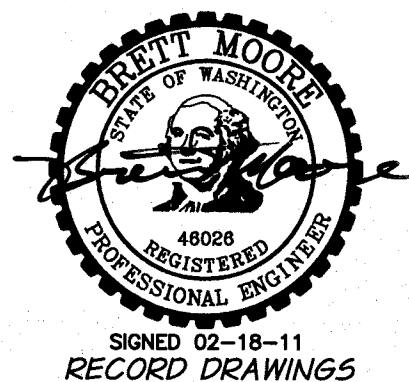
TABLE																
TYPE		MEMBER														
		BRACE AND TOP RAILS		LINE POSTS				END, CORNER & INTERMEDIATE END POST		GATE OPENING IN FEET		GATE POSTS				
		TUBULAR		TUBULAR		H-SECTION		TUBULAR		SINGLE GATE	DOUBLE GATE	TUBULAR				
		NOM. DIA. (INCHES)	WT./FT. LBS.	NOM. DIA. (INCHES)	WT./FT. LBS.	SIZE (INCHES)	WT./FT. LBS.	NOM. DIA. (INCHES)	WT./FT. LBS.			NOM. DIA. (INCHES)	WT./FT. LBS.			
MATERIAL	GALVANIZED OR ALUMINUM COATED STL.	1 1/4	2.27	2	3.65	2 1/4 X 2	4.10	2 1/2	5.79	UP THRU 6 7 THRU 13 14 THRU 18	UP THRU 12 13 THRU 26 27 THRU 36	2 1/2 3 1/2 6	5.79	GALVANIZED OR ALUMINUM COATED STL.	MATERIAL	
	ALUMINUM ALLOY	1 1/4		2				2 1/2		UP THRU 6 7 THRU 13 14 THRU 18	UP THRU 12 13 THRU 26 27 THRU 36	2 1/2 3 1/2 6		ALUMINUM ALLOY		

NOTE:
GATE POSTS ON EACH SIDE OF A GATE OPENING TO BE THE SAME SIZE.
AT A DOUBLE GATE INSTALLATION WITH UNEQUAL WIDTH GATES, SIZE OF BOTH POSTS TO BE AS INDICATED FOR A SINGLE GATE INSTALLATION OF THE WIDER GATE WIDTH.
ALL PIPE SHALL BE SCHEDULE 40

FENCE MEMBER TABLE
N.T.S.

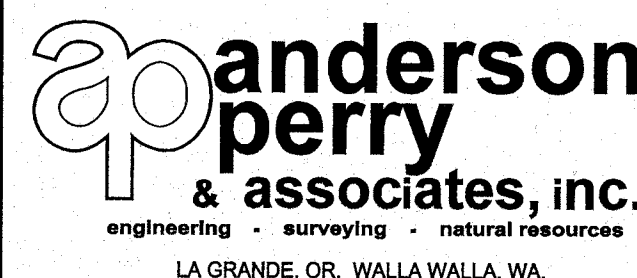


SWING GATE DETAIL
WITH BARBED WIRE
N.T.S.

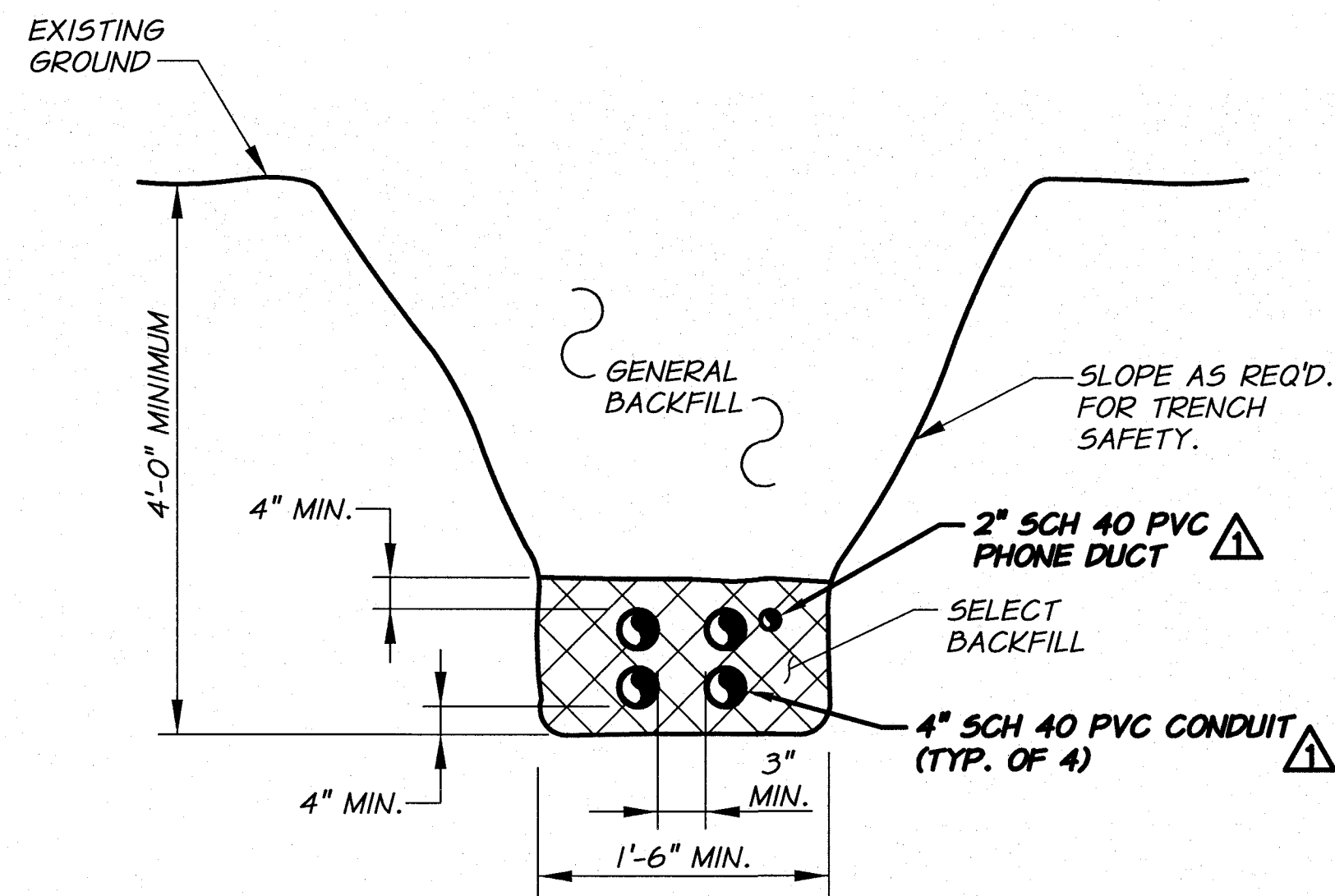


REVISION	BY	DATE	HORZ. SCALE	VERT. SCALE
DESIGNED BY	B. MOORE		NONE	
DRAWN BY	P. RICHARDSON		JOB NUMBER	1199-336
REVIEWED BY	H. PERRY		DATE	2009
		ACAD FILE: DETLS.dwg		
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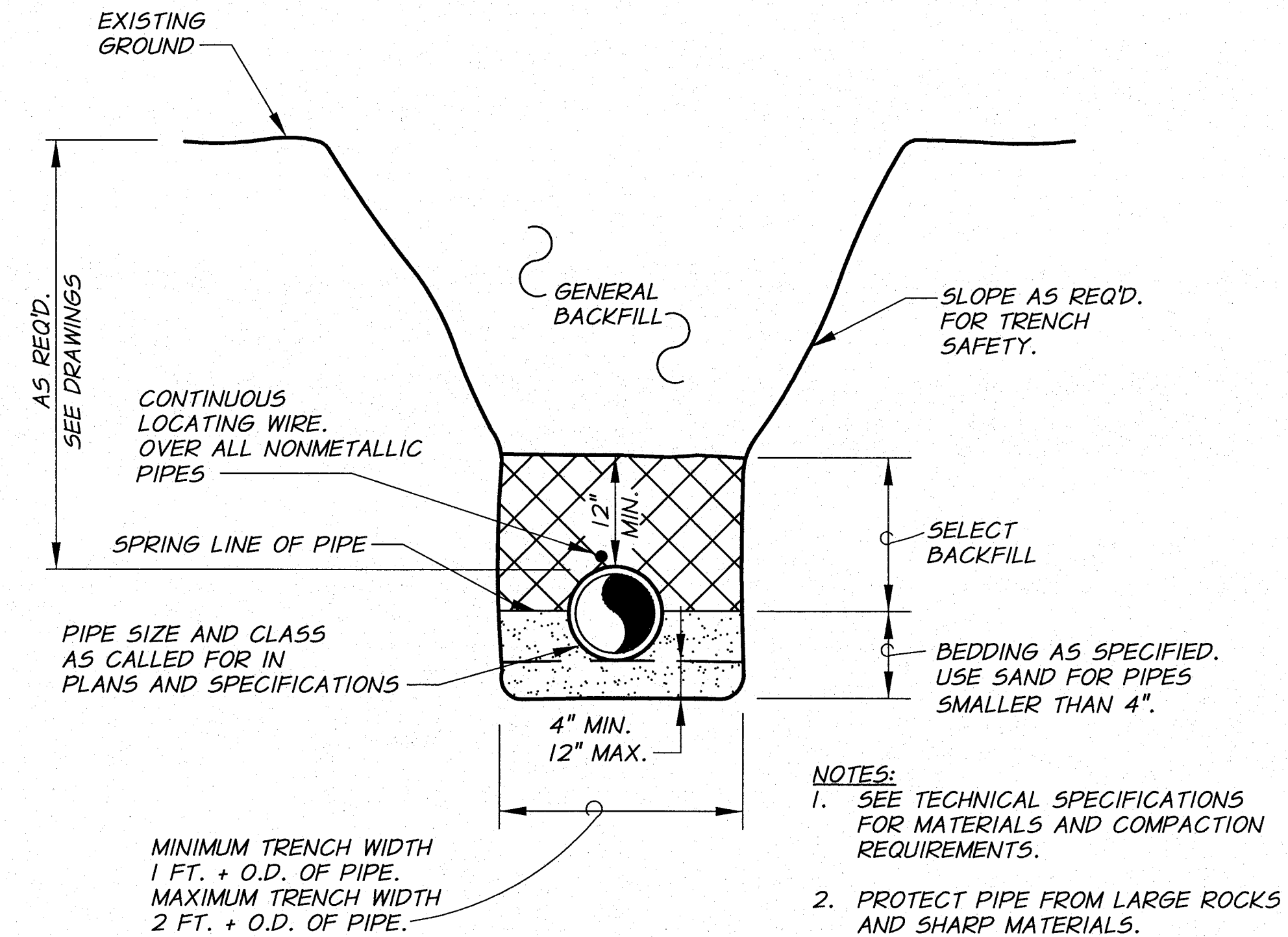
RECORD DRAWINGS
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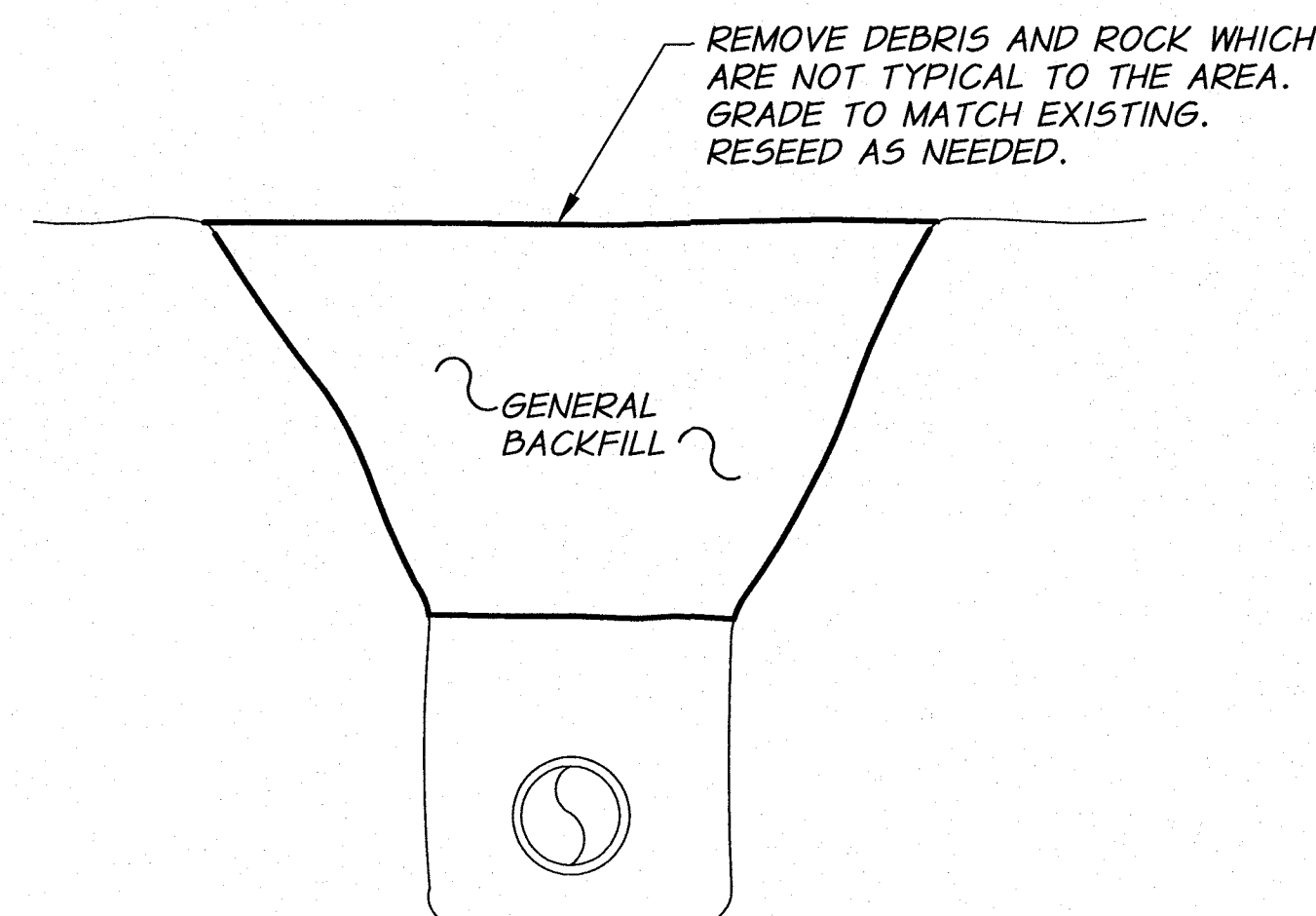
BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION
TYPICAL DETAILS
FENCE DETAILS



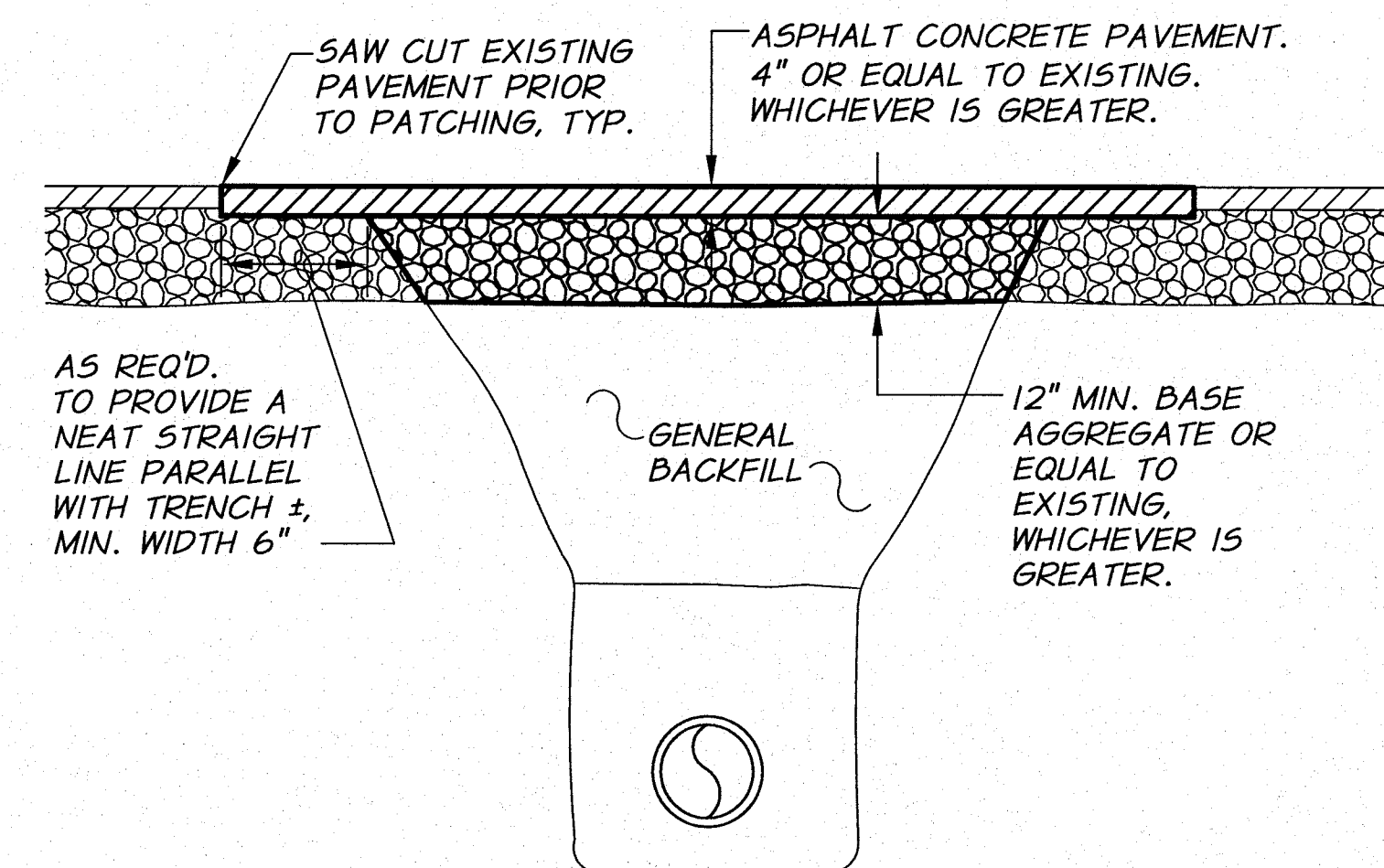
ELECTRICAL CONDUIT TRENCH
PRIMARY FEEDERS
N.T.S.



PIPE TRENCH EXCAVATION AND BACKFILL
N.T.S.



TRENCH RESTORATION
NATURAL AREAS
N.T.S.



TRENCH RESTORATION
PAVED STREETS AND ROADWAYS
("ASPHALT SURFACE RESTORATION" PAY ITEM)
N.T.S.



REVISION	BY	DATE	H.P.	11/10
DESIGNED BY	B. MOORE	XREFS: TB-PumpSta.dwg	JOB NUMBER	1199-336
DRAWN BY	P. RICHARDSON	ACAD FILE: DETLS.dwg	DATE	2009
REVIEWED BY	H. PERRY	COPYRIGHT 2010 BY ANDERSON-PERRY & ASSOC., INC.		

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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION
TYPICAL DETAILS
TRENCH DETAILS

SHEET
T13
58 OF 60

THRUST BLOCK NOTES

1. THRUST BLOCKS SHALL BE REQUIRED AT THE FOLLOWING LOCATIONS:
- A. ALL CHANGES IN DIRECTION.
 - B. ALL DEAD-ENDS.
 - C. ALL VALVES 8-INCHES AND LARGER SHALL BE SIZE FOR CLOSED CONDITION EXCEPTIONS:
 - (1) WHEN RESTRAINED JOINT PIPE IS USED ON BOTH SIDES OF VALVE.
 - (2) WHEN VALVE IS RESTRAINED JOINT CONNECTED TO A FITTING WHICH HAS APPROPRIATE THRUST BLOCKING.
 - D. AT LOCATIONS SPECIFICALLY CALLED OUT ON THE DRAWINGS.
 - E. AT TEMPORARY DEAD ENDS DURING PIPE INSTALLATIONS AS REQUIRED FOR TEMPORARY PRESSURE TESTING.
 - F. AT OTHER LOCATIONS REQUIRED BY THE ENGINEER.
2. THRUST BLOCKS SHALL BE SIZED AS REQUIRED BY SOIL CONDITIONS AND DESIGN PRESSURE.
3. PLACE CONCRETE AGAINST UNDISTURBED TRENCH WALL.
4. CONCRETE SHALL BE 2,500 PSI MINIMUM.
5. ALL CONCRETE SHALL BE PLACED SO THAT PIPE, FITTING JOINTS, BOLTS AND NUTS, ETC., WILL BE ACCESSIBLE FOR REPAIRS.
6. PLACE ONE LAYER OF VISQUEEN BETWEEN FITTING AND CONCRETE TO FACILITATE FUTURE REMOVAL OF THRUST BLOCK IF REQUIRED.
7. ANCHOR RODS SHALL BE 3/4" DIAMETER GALVANIZED STEEL RODS OR #6 EPOXY COATED REINFORCEMENT BAR, AASHTO M284, HAVING AN 18" MINIMUM EMBEDMENT IN CONCRETE.
8. ALL THRUST BLOCKS SHALL BE SIZED FOR 200 PSI PRESSURE.
9. IF THE REQUIRED BEARING AREA IS LESS THAN 1 SQUARE FOOT, A THRUST BLOCK SHALL NOT BE REQUIRED.

DETERMINATION OF THRUST BLOCK BEARING AREA

NOTE:

WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER, THE FOLLOWING PROCEDURE SHALL BE USED TO DETERMINE REQUIRED BEARING AREA.

1. DETERMINE THRUST (T) FOR TYPE OF FITTING OR JOINT AND SIZE OF PIPE FROM TABLE NO. 1 OR TABLE NO. 3.
2. DETERMINE BEARING CAPACITY (B) OF SOIL FROM TABLE NO. 2.
3. DETERMINE REQUIRED BEARING AREA (A) AS FOLLOWS:
- $A = T \div B$
- EXAMPLE: DESIGN PRESSURE = 175 PSI
PIPE = 12"
FITTING = TEE
SOIL - SANDY GRAVEL
FROM TABLE NO. 1: T = 15,050 LB.
FROM TABLE NO. 2: B = 3000 LB/SQ.FT.
 $A = 15,050 \div 3,000 = 5.02 \text{ SQ.FT.} = 9 \text{ SQ.FT. (ROUND UP TO NEAREST WHOLE SQ.FT.)}$

TABLE NO. 1
THRUST AT FITTINGS IN POUNDS AT 100 PSI OF PRESSURE

PIPE SIZE	TEES AND DEAD ENDS	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4"	1,680	2,310	1,290	660	340
6"	3,770	5,320	2,890	1,480	750
8"	6,690	9,460	5,120	2,620	1,320
10"	10,440	14,780	8,010	4,090	2,050
12"	15,050	21,280	11,520	5,880	2,960
14"	20,490	28,960	15,680	8,000	4,020
16"	26,750	37,830	20,470	10,440	5,260
18"	33,850	47,870	25,910	13,210	6,640
20"	41,790	59,090	31,980	16,310	8,190
24"	60,170	85,100	46,060	23,490	11,800
30"	94,060	133,000	72,000	36,750	18,500
36"	135,450	191,520	103,680	52,920	26,640

NOTE:
FOR WATER PRESSURES DIFFERENT THAN 100 PSI, MULTIPLY THRUST FOUND IN TABLE NO. 1 BY REQUIRED PROPORTION.
EXAMPLE: DESIGN PRESSURE = 175 PSI.
MULTIPLY VALUE IN TABLE BY 1.75

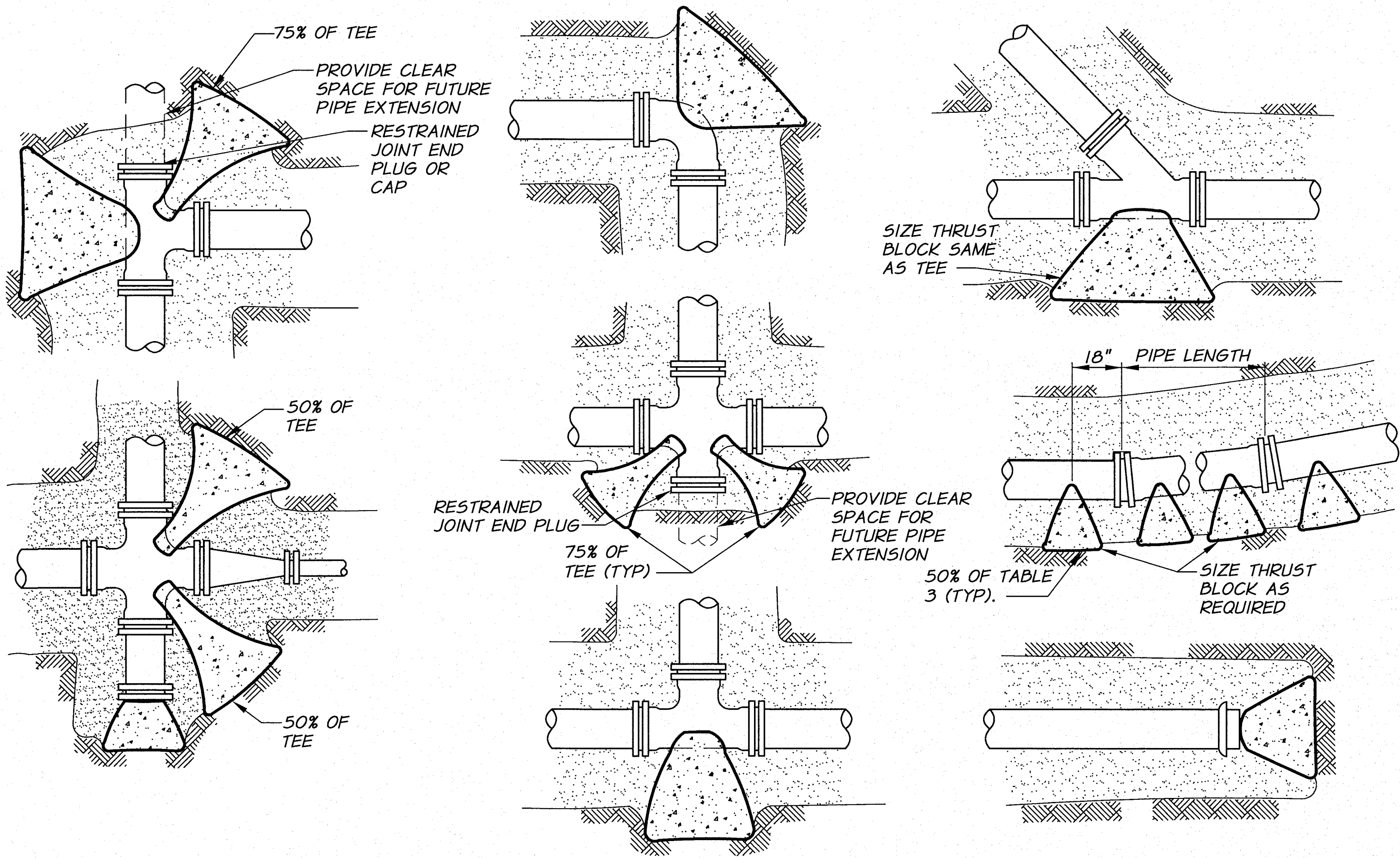
TABLE NO. 2

SOIL	SAFE BEARING LOAD LB/SQ.FT.
SOFT CLAY	500
SILT	1,000
SAND	2,000
SAND AND GRAVEL	3,000
SAND AND GRAVEL CEMENTED WITH CLAY	4,000
HARD CLAY	4,000

TABLE NO. 3

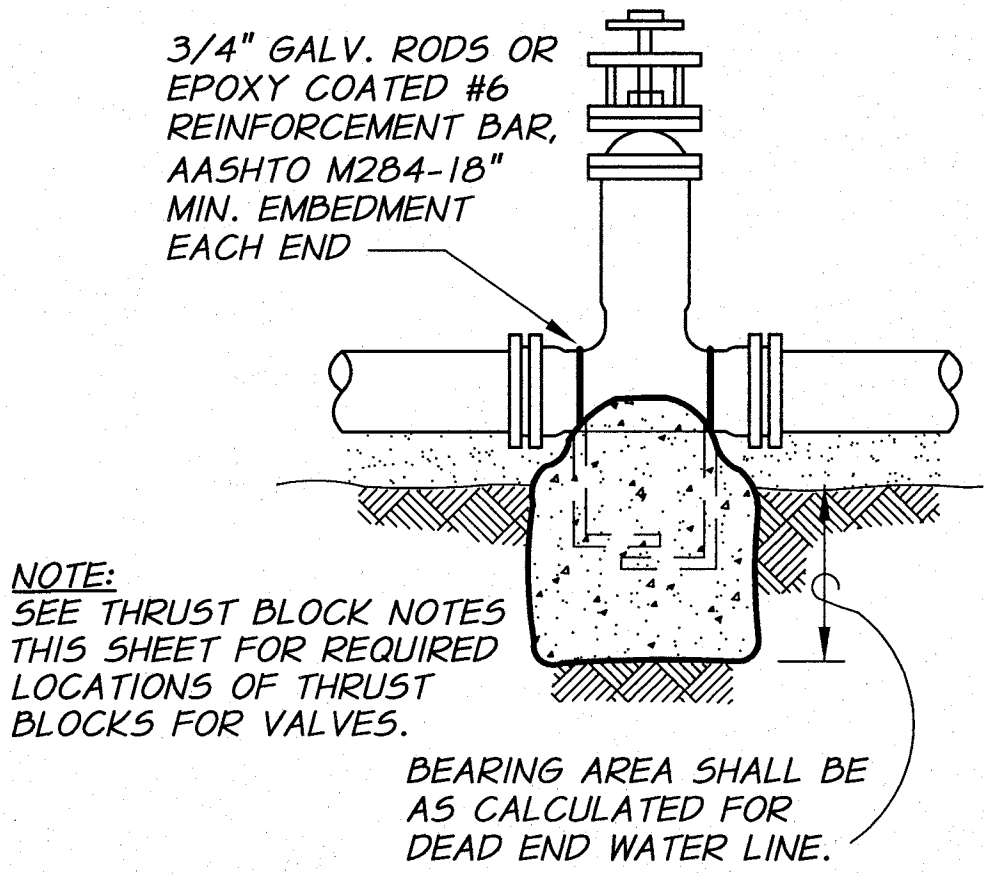
SIDE THRUST PER 100 LB./SQ.IN. PRESSURE PER DEGREE OF DEFLECTION			
PIPE SIZE	SIDE THRUST-LB	PIPE SIZE	SIDE THRUST-LB
4"	N/A	14"	360
6"	N/A	16"	470
8"	N/A	18"	600
10"	190	20"	730
12"	270	24"	1,050

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST

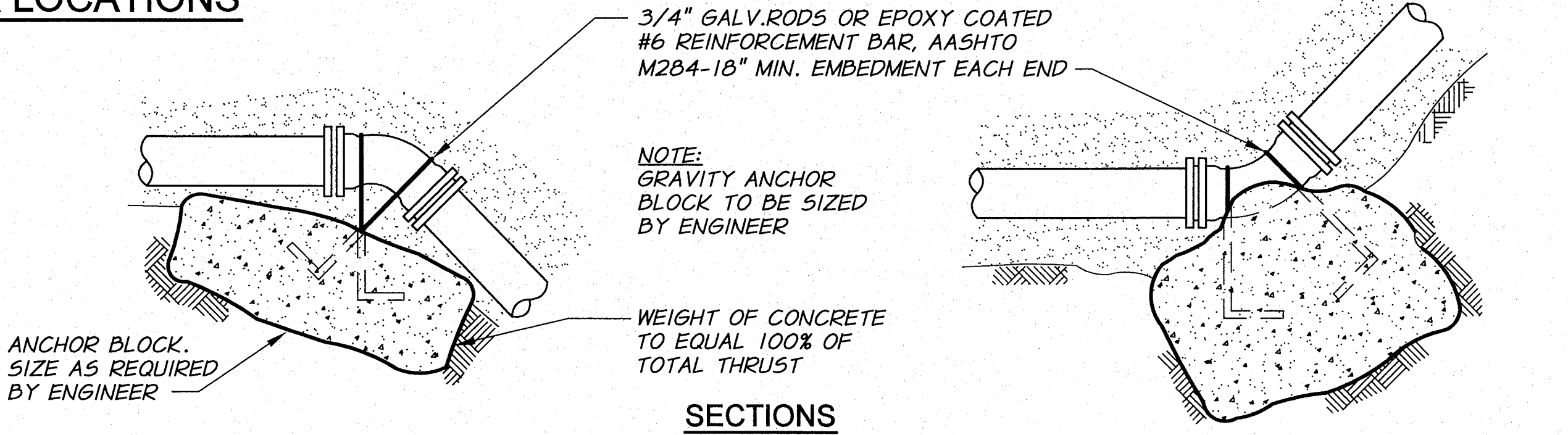


TYPICAL THRUST BLOCK LOCATIONS

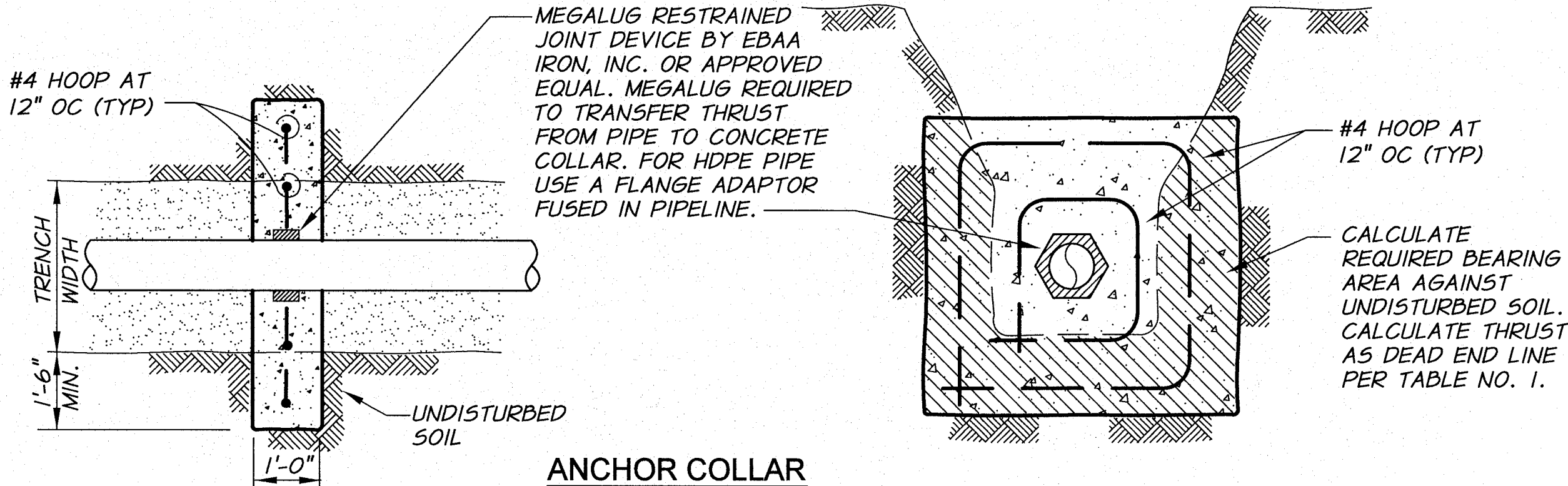
PLAN VIEWS



TYPICAL VALVE THRUST BLOCK



SECTIONS



ANCHOR COLLAR

TYPICAL ANCHOR BLOCKS

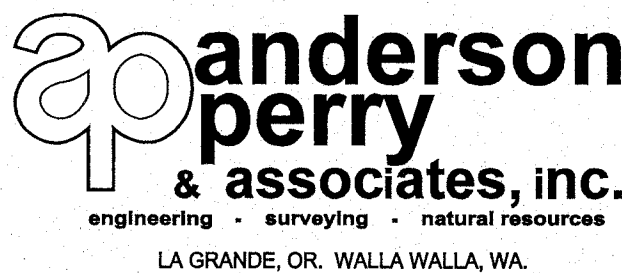


SIGNED 02-18-11
RECORD DRAWINGS

REVISION	BY	DATE	HORIZ. SCALE	VERT. SCALE
DESIGNED BY	B. MOORE		NONE	
DRAWN BY	D. CHRISTMAN		JOB NUMBER	1199-336
REVIEWED BY	H. PERRY		ACAD FILE	Thrust-PumpSta.dwg
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BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

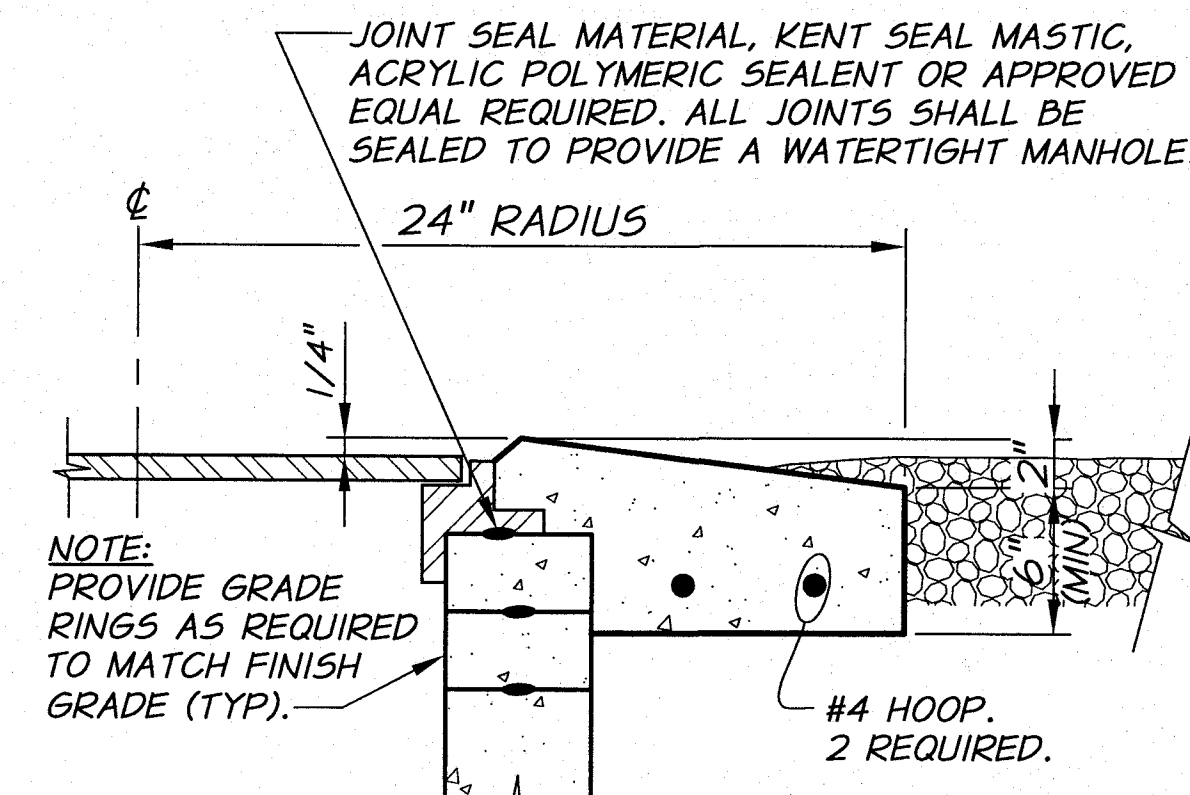
TYPICAL DETAILS
THRUST BLOCK DETAILS

SHEET

T14

59 OF 60

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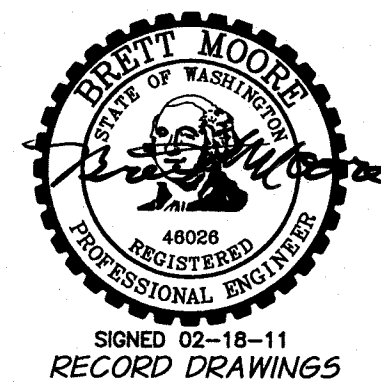
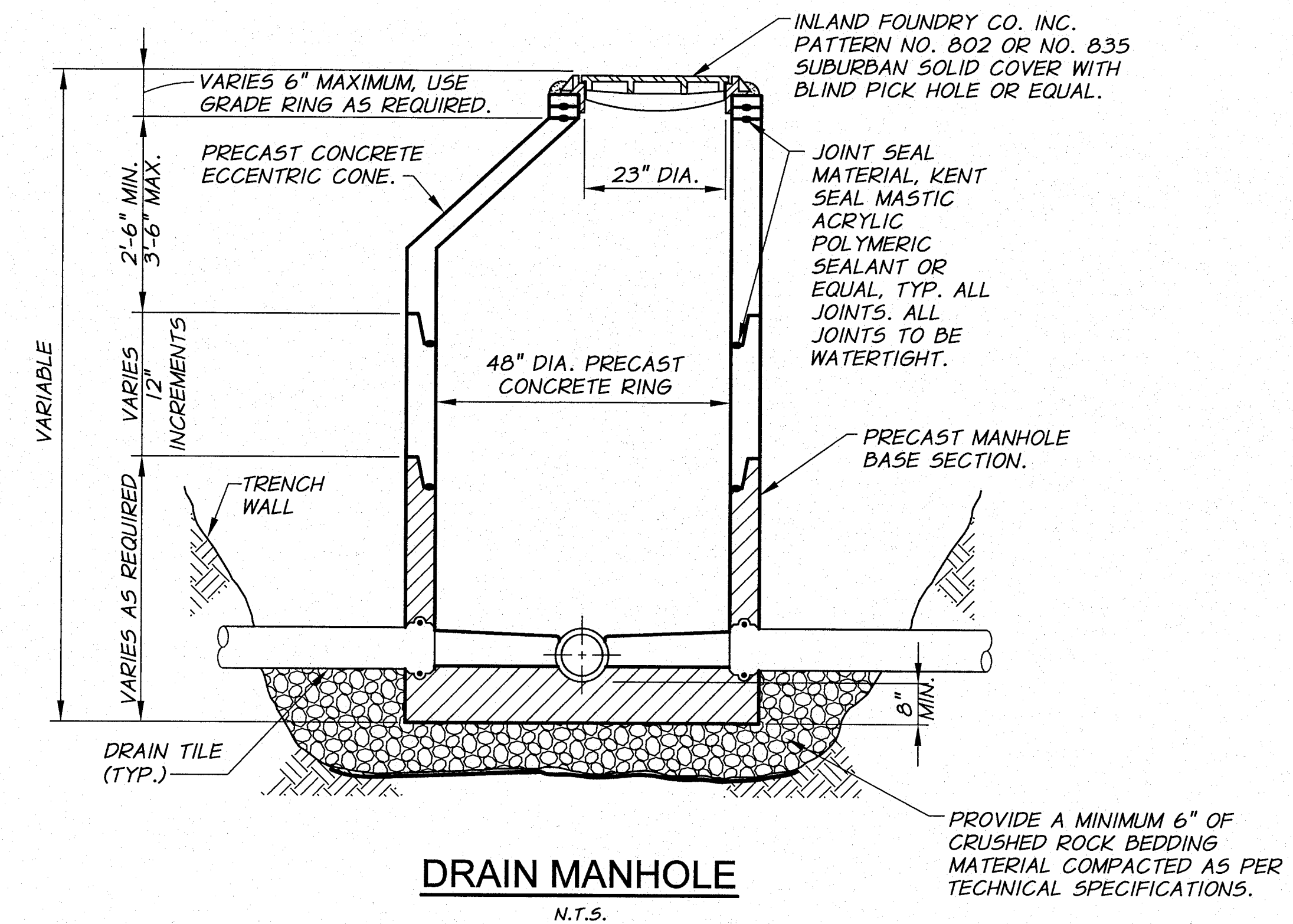


TYPICAL SECTION

REQUIREMENTS FOR CONCRETE COLLARS:

1. CONCRETE: 3/4", 7 SACK, 4000 PSI AT 28 DAYS, 2" TO 4" SLUMP, 4-7% AIR.
2. COLLAR TO BE UNIFORMLY ROUND (FORMED).
3. SMOOTH BROOMED FINISH REQUIRED.
4. APPLY CONCRETE CURING COMPOUND.
5. PROTECT FROM TRAFFIC FOR 4 DAYS MINIMUM.

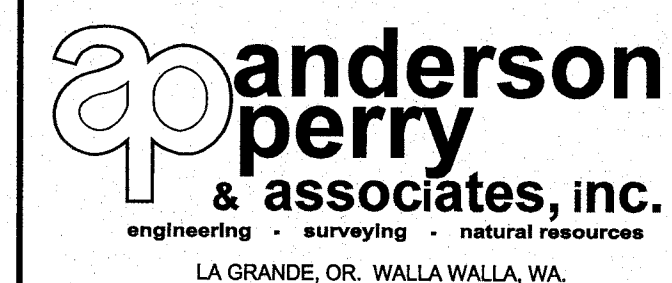
MANHOLE CONCRETE COLLAR DETAIL
IN GRAVEL STREETS OR NATURAL GROUND
N.T.S.



REVISION	BY	DATE	HORIZ. SCALE	VERT. SCALE
DESIGNED BY B. MOORE			NONE	
DRAWN BY D. CHRISTMAN			JOB NUMBER 1199-336	DATE 2009
REVIEWED BY H. PERRY			ACAD FILE: DETLS.dwg	
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RECORD DRAWINGS

These record drawings have been prepared, in part, on the basis of information compiled and furnished by others. They may contain some discrepancies and omissions, and do not necessarily represent "exact" field conditions. The Owner and the Engineer accept no responsibility for their accuracy.



BENTON IRRIGATION DISTRICT
IRRIGATION SYSTEM IMPROVEMENTS
RIVER PUMP STATION

TYPICAL DETAILS
DETAILS

SHEET

T15

60 OF 60

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