WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
MN:H107:12-1

INDEX

SHEET NO.

LEGEND

PROPOSED

- GRAVEL SURFACING
- SUCTION DISCHARGE ASSEMBLY
- FLOW DIRECTION ARROW
- PIPE

EXISTING

- 5" X 5" METAL POST W/ CONCRETE BASE FOR NETTING SUPPORT
- POWER METER
- SERVICE POLE
- POWER OUTLET
- CG82
- CATCH BASIN
- ANCHOR AS NOTED
- SIGN

EXISTING CONT.

- HYDRANT
- MAILBOX
- SPECIES SIZE — CONIFER TREE AS NOTED
- SPECIES SIZE — DECIDUOUS TREE AS NOTED
- PROTECTIVE NETTING
- WATER LINE PER RECORD
- UNDERGROUND POWER LINE
- CONCRETE
- BUILDING

THESE DRAWINGS ARE NOT COMPLETE AND THE STATE OF WASHINGTON MAKES NO CLAIMS AS TO THE PERFORMANCE OF THE MECHANISM IN ANY APPLICATION. OTHER PARTIES THAT MAY USE THESE DRAWINGS MUST USE THEM AS A GUIDE ONLY AND TAKES FULL RESPONSIBILITY AND LIABILITY FOR THE USE OF ANY OF THEIR ELEMENTS.

BASIS OF BEARINGS:

ASSUMED

VERTICAL DATUM:

ASSUMED – SEE THREE(3) POINTS ON SHEET C4

SURVEYORS NOTE:

THIS IS NOT A BOUNDARY SURVEY. THE PURPOSE OF THIS SURVEY IS TO DEPICT SITE CONDITIONS AS THEY EXISTED IN AUGUST OF 2012. NO BOUNDARY LINES ARE SHOWN HEREON.

UTILITY NOTE:

UNDERGROUND UTILITY LOCATES ARE NOT PART OF THIS SURVEY; ONLY SURFACE FEATURES WERE LOCATED BY KPFF. ALL UNDERGROUND UTILITIES SHOWN HEREON ARE PER AS-BUILT DATA PROVIDED BY WASHINGTON DEPARTMENT OF FISH AND WILDLIFE AND SHOULD BE CONSIDERED APPROXIMATE ONLY.

ABBREVIATIONS

&	–	AND
@	–	AT
ø	–	DIAMETER
ACC	–	ACCUMULATED
CB	–	CATCH BASIN
CF	–	CUBIC FEET
CLR	–	CLEAR, CLEARANCE
CONC	–	CONCRETE
DEMO	–	DEMOLISH, DEMOLITION
DI	–	DUCTILE IRON
DIA	–	DIAMETER
DOT	–	DEPARTMENT OF TRANSPORTATION
E	–	EAST, EASTING
ELEV	–	ELEVATION
EX	–	EXISTING
FF	–	FINISHED FLOOR
FG	–	FINISHED GRADE
FT	–	FEET, FOOT
GA	–	GAUGE
GALV	–	GALVANIZED
GPM	–	GALLONS PER MINUTE
GR	–	GRADE
HDPE	–	HIGH DENSITY POLYETHYLENE
HORIZ	–	HORIZONTAL
HR	–	HOUR
HZ	–	HERTZ
IE	–	INVERT ELEVATION
IN	–	INCH, INCHES
INFO	–	INFORMATION
L	–	LENGTH
LBS	–	POUNDS
LF	–	LINEAR FEET
MAX	–	MAXIMUM
MG	–	MILLIGRAMS
MIN	–	MINIMUM
MON	–	MONUMENT
N	–	NORTH, NORTHING
NO	–	NUMBER
OC	–	ON CENTER
OD	–	OUTSIDE DIAMETER
PA	–	POLLUTION ABATEMENT
PH	–	PHASE
PL	–	PLATE
PSI	–	POUNDS PER SQUARE INCH
PVC	–	POLYVINYL CHLORIDE
REINF	–	REINFORCED, REINFORCEMENT
REQ'D	–	REQUIRED
S	–	SOUTH
SARV	–	SEWAGE AIR RELEASE VALVE
SCH	–	SCHEDULE
SHT	–	SHEET
SQ	–	SQUARE
STD	–	STANDARD
TESC	–	TEMPORARY EROSION AND SEDIMENT CONTROL
TOW	–	TOP OF WALL
TYP	–	TYPICAL
V	–	VOLT
VERT	–	VERTICAL
W	–	WEST, WIDTH
W/	–	WITH
WDFW	–	WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
WS	–	WATER SURFACE

SHEET SYMBOLS

DETAIL DESIGNATION (1 / 3 5) — SHEET CALLED FROM — SHEET LOCATED ON

DETAIL

SECTION DESIGNATION (A / 6 7) — SHEET CALLED FROM — SHEET LOCATED ON

SECTION

1 — A

NOTE REFERENCE

NOTE REFERENCE REFERS TO NOTE APPEARING ON SAME SHEET.

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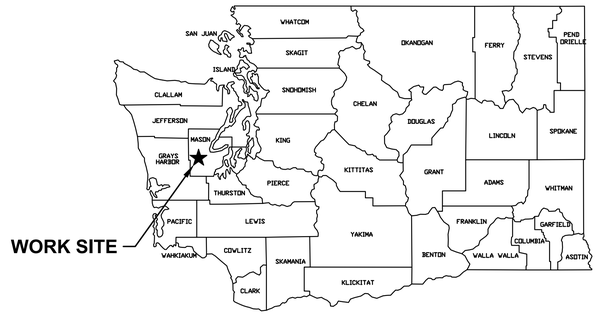
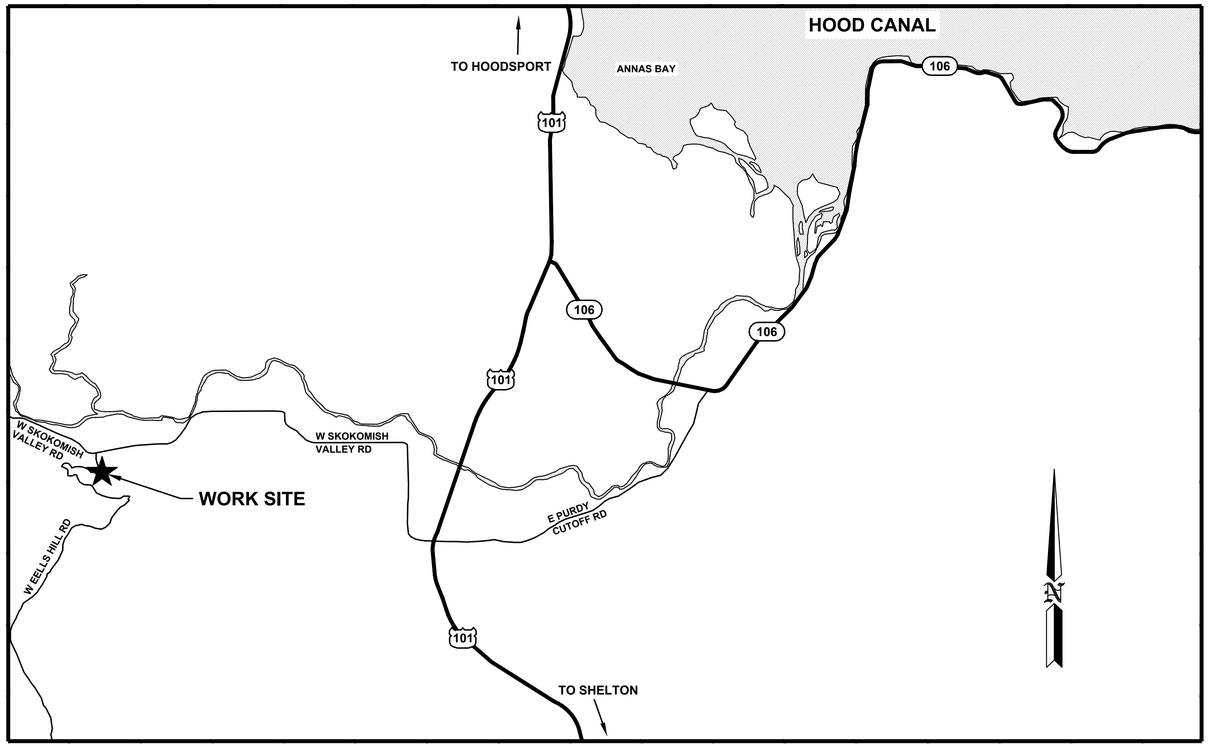
4200 6th Avenue SE, Suite 309
Lacey, Washington 98503
(360) 292-7230 Fax (360) 292-7231

80% CONSTRUCTION DOCUMENTS

PROJECT NO.	
MN:H107:12-1	
SHEET	OF
1	28



STATE MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

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SHEET NUMBER G1

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WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY
		APPROVED AND RELEASED FOR CONSTRUCTION	

CHIEF ENGINEER ..... DATE: .....
PROGRAM ..... DATE: .....

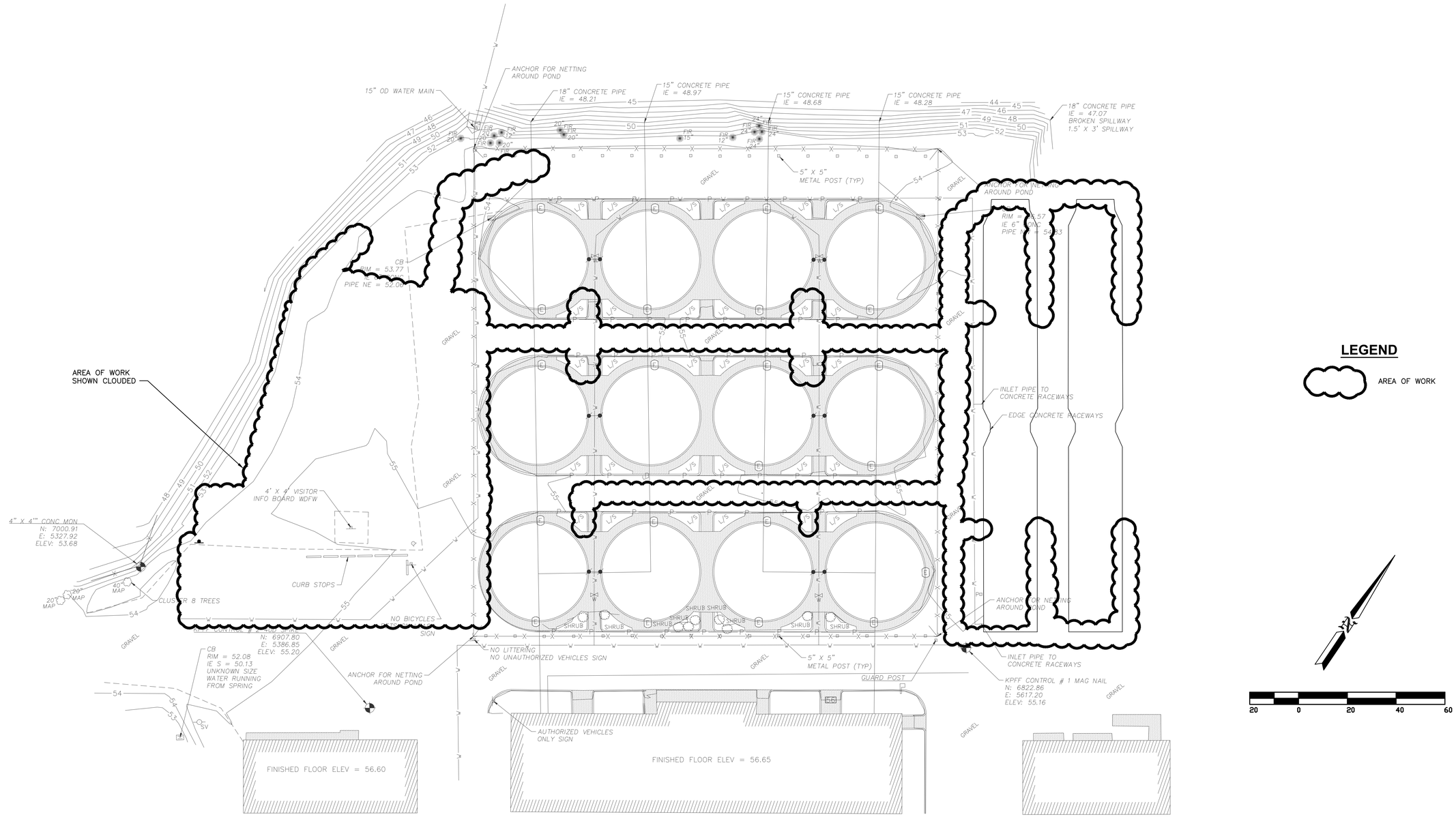
0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
VICINITY MAP

PROJECT NO. MN:H107:12-1

SHEET 2 OF 28



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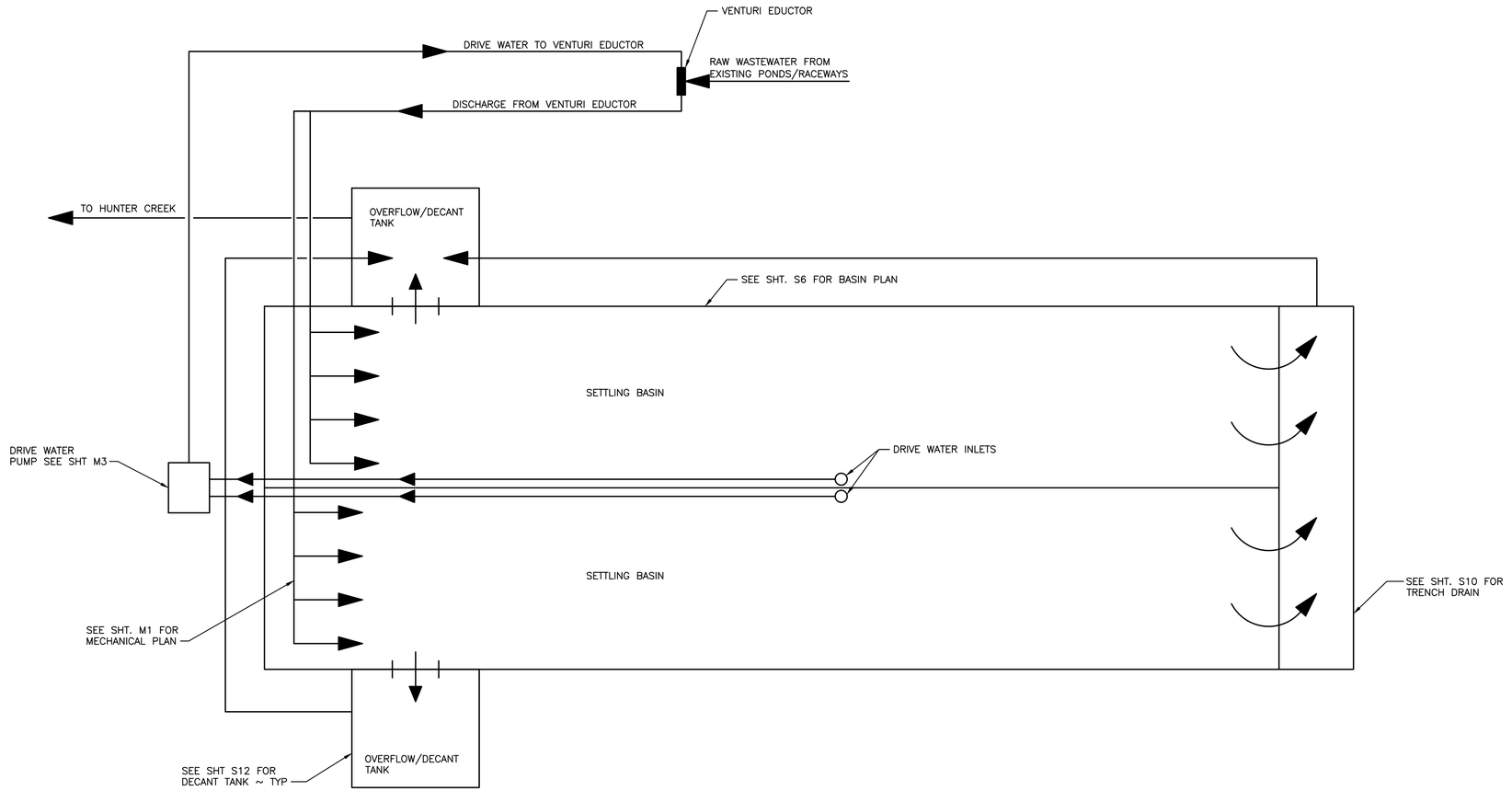
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

AREA OF WORK

PROJECT NO. MN:H107:12-1

SHEET 3 OF 28



SYSTEM SCHEMATIC
NOT TO SCALE

SITE P.A. POND

MASS BALANCE, INSTANTANEOUS FLOW:

	BY VOLUME (GALLONS/MINUTES)			BY WEIGHT (LBS/HR)		
	WATER	SOLIDS	SLUGE	WATER	SOLIDS	SLUGE
IN	200	0.05	2.25	748,800	22.7	1,136.6
OUT	200	0.01	0.50	748,000	5.0	250.4
ACC	0	0.04	1.76	0	17.7	886.3
				SEE NOTE 1–4		

MASS BALANCE, WEEKLY (11 HOURS OF PUMPING)

	BY VOLUME (GALLONS)			BY WEIGHT (LBS)		
	WATER	SOLIDS	SLUGE	WATER	SOLIDS	SLUGE
IN	132,000	29.7	1487.0	8,236,800	250.1	12503.1
OUT	132,000	6.6	327.5	8,236,800	55.1	2754.0
ACC	0	23.2	1159.4	0	195.0	9749.1
				SEE NOTE 1–4		

SLUDGE ACCUMLATION IN CUBIC FEET=160 CF/WEEK

LEVEL RISE, INCHES (FOR 95.83'x19' POND)=1.52 IN./WEEK

NOTES:
1. WATER ACCOMULATION IS WATER OCCLUDED WITH SOLIDS, 2% SOLIDS (BY WEIGHT) ASSUMED.

2. ACCULUATION IS PERIODICALLY REMOVED AND DISPOSED OF AT A PUBLICLY OWNED WASTEWATER TREATMENT WORKS.

3. CALCULATIONS BASED ON INLET TSS OF 227 MG/L, OUTLET TSS OF 50MG/L.

4. SPECIFIC GRAVITY OF 2% SLUDGE IS 1.008 (DENSITY OF 62.9 LBS/FT^3).

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EELLS SPRINGS HATCHERY

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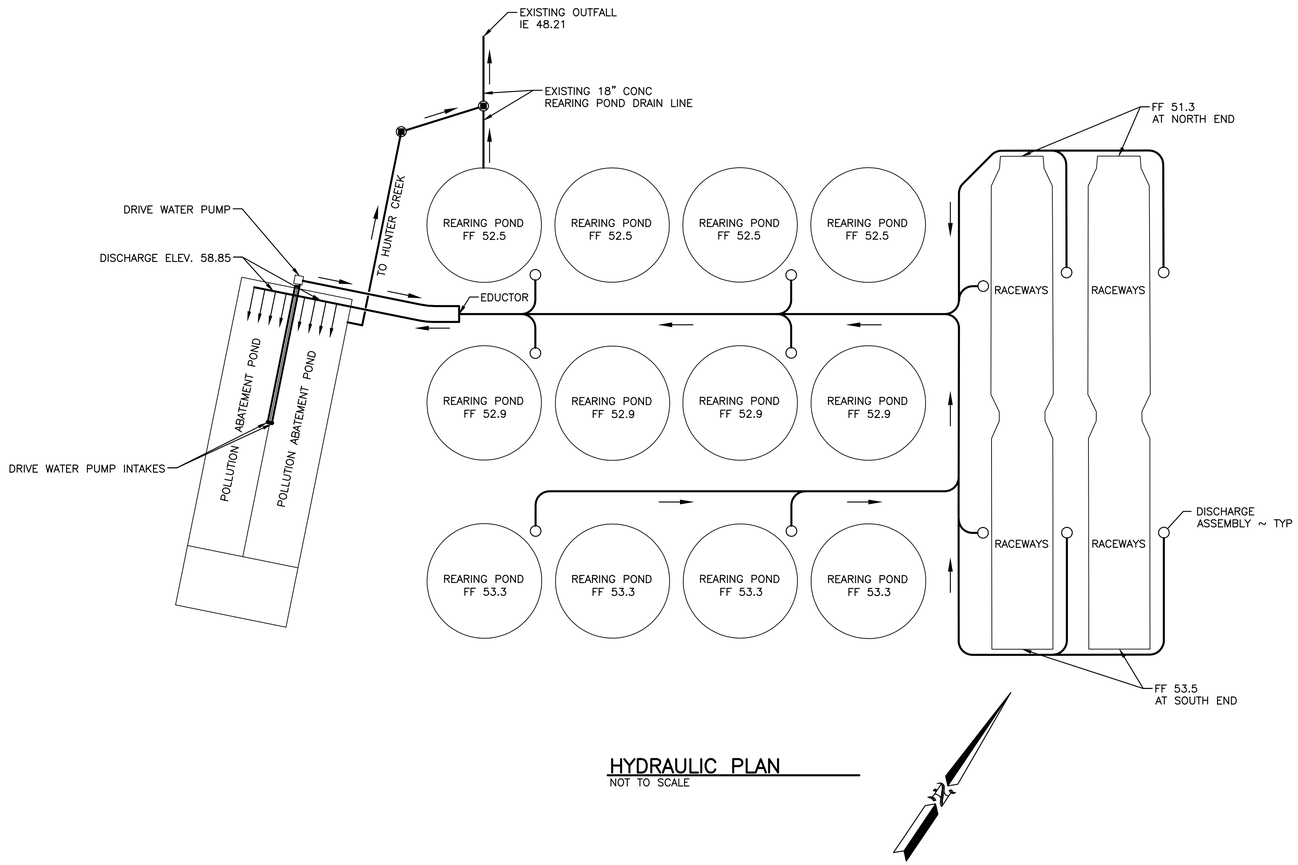
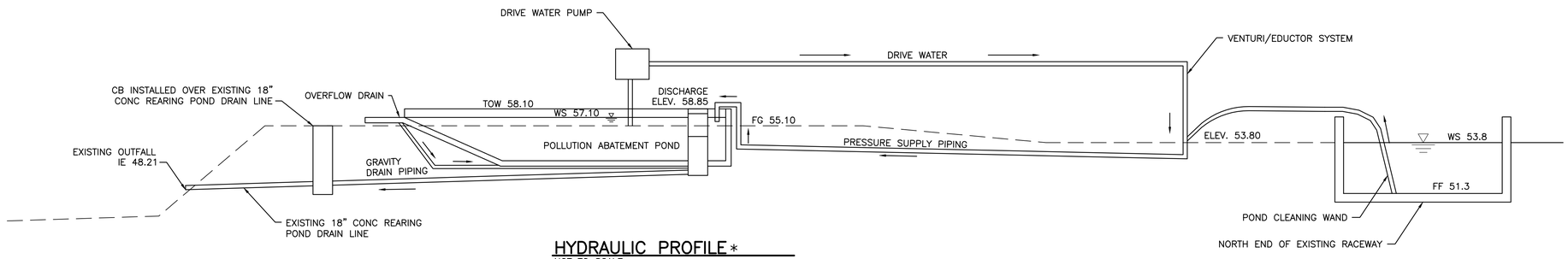
SYSTEM SCHEMATIC PLAN

PROJECT NO. MN:H107:12-1

SHEET 4 OF 28



HYDRAULIC PLAN
NOT TO SCALE



HYDRAULIC PROFILE *
NOT TO SCALE

*HYDRAULIC PROFILE SHOWS PIPING FROM THE NORTH END OF THE RACEWAYS (LOWEST CLEANING POINT) TO THE POND DRAIN OUTLET AT HUNTER CREEK.

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SHEET NUMBER C2

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DEPARTMENT OF FISH AND WILDLIFE

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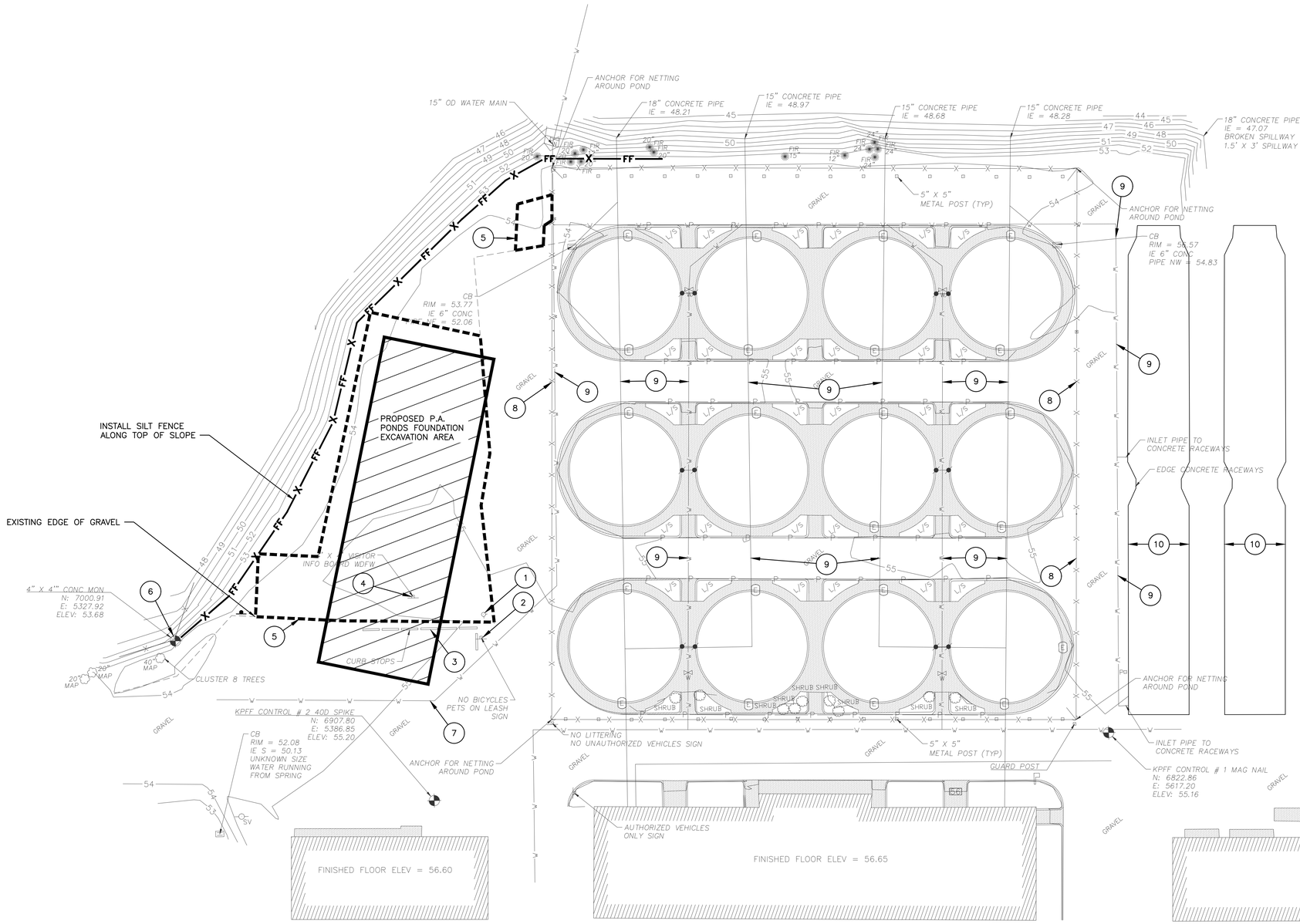
EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
HYDRAULIC PLAN & PROFILE

PROJECT NO. MN:H107:12-1

SHEET 5 OF 28



DEMOLITION NOTES

1. PROTECT AND MAINTAIN EX FIRE HYDRANT.
2. SALVAGE SIGN AND RELOCATE PER SITE PLAN.
3. SALVAGE CURB STOPS AND RELOCATE PER SITE PLAN (TYP).
4. SALVAGE INFO BOARD AND RELOCATE PER SITE PLAN.
5. APPROXIMATE LIMITS OF CLEARING AND GRUBBING. SEE SITE PLAN FOR EXACT LIMITS.
6. PROTECT AND MAINTAIN CONCRETE MONUMENT.
7. PROTECT EX 15"ø WATER PIPE
8. PROTECT AND MAINTAIN EX FENCE WHERE PRESSURE SUPPLY PIPING PASSES BENEATH.
9. PROTECT AND MAINTAIN EX WATER OR SEWER PIPE AT CROSSING WITH PRESSURE SUPPLY PIPING.
10. PROTECT AND MAINTAIN EX BIRD PREDATION NETTING SYSTEM.

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SHEET NUMBER C3

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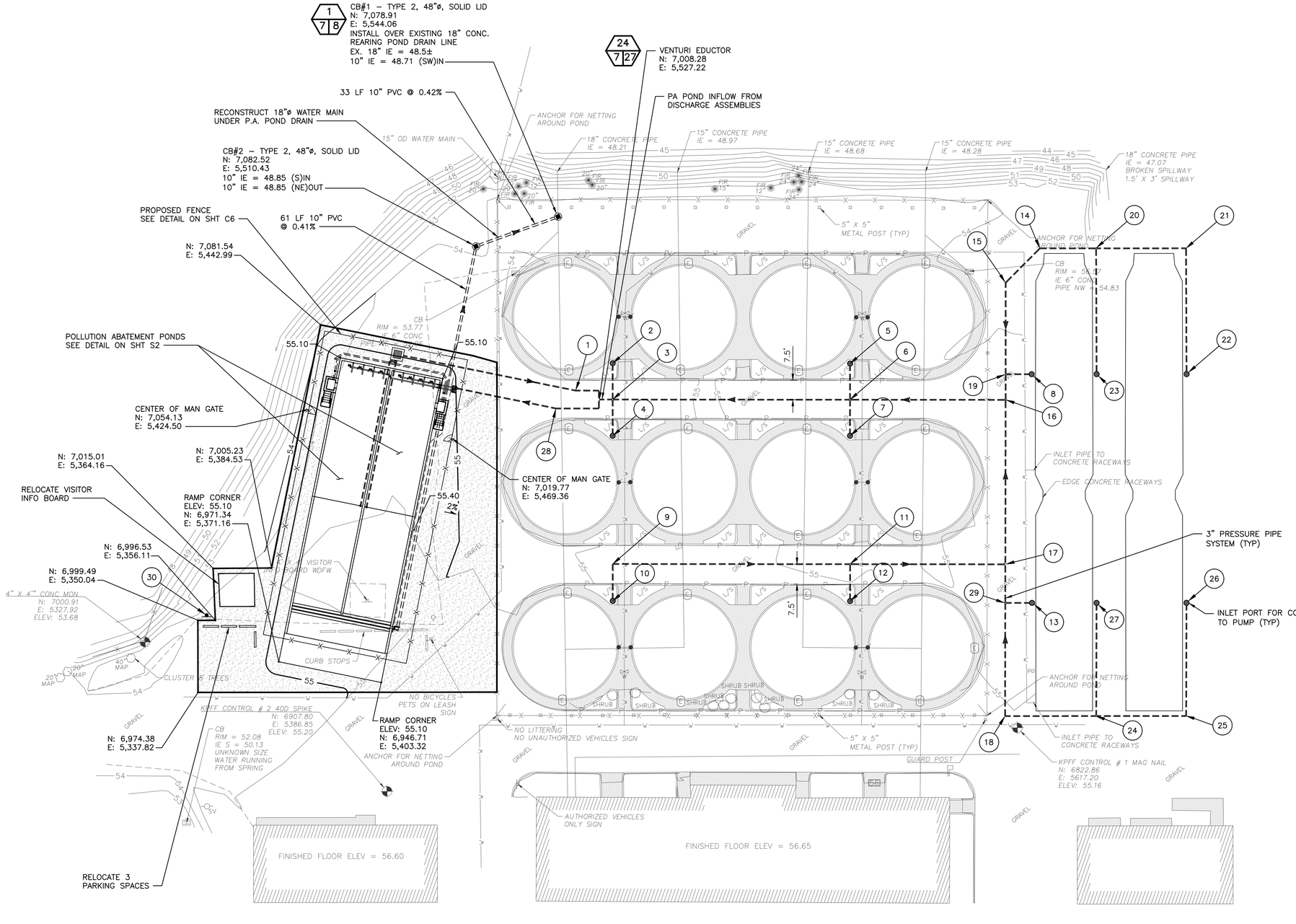
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

TESC AND DEMO PLAN

PROJECT NO. MN:H107:12-1

SHEET 6 OF 28



PRESSURE SUPPLY PIPING TABLE

ITEMS		COORDINATES	
1	(1)–11.25° BEND	N: 7,015.34	E: 5,520.64
2	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 7,018.59	E: 5,538.20
3	(1)–3" CROSS	N: 7,005.94	E: 5,532.02
4	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,993.29	E: 5,525.83
5	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,978.13	E: 5,620.81
6	(1)–3" CROSS	N: 6,965.55	E: 5,614.66
7	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,952.97	E: 5,608.51
8	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,943.59	E: 5,682.24
9	(1)–3" TEE	N: 6,948.64	E: 5,504.11
10	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,935.78	E: 5,497.83
11	(1)–3" TEE	N: 6,908.26	E: 5,586.75
12	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,895.39	E: 5,580.46
13	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,863.87	E: 5,643.50
14	(1) – 45° BEND	N: 6,986.02	E: 5,706.52
15	(1) – 45° BEND	N: 6,979.90	E: 5,688.78
16	(1) – 3" TEE	N: 6,939.08	E: 5,668.83
17	(1) – 3" TEE	N: 6,881.84	E: 5,640.80
18	(1) – 90° BEND	N: 6,829.01	E: 5,614.92
19	(1) – 3" TEE	N: 6,948.00	E: 5,673.19
20	(1) – 3" TEE	N: 6,976.48	E: 5,726.10
21	(1) – 90° BEND	N: 6,961.16	E: 5,757.28
22	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,917.29	E: 5,736.22
23	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,932.57	E: 5,704.88
24	(1) – 3" TEE	N: 6,813.54	E: 5,646.68
25	(1) – 90° BEND	N: 6,798.44	E: 5,677.97
26	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,837.65	E: 5,697.34
27	(1) – SUCTION DISCHARGE ASSEMBLY (1) – CLEANOUT ASSEMBLY	N: 6,852.92	E: 5,665.99
28	(1)–11.25° BEND	N: 7,012.49	E: 5,510.74
29	(1) – 3" TEE	N: 6,868.39	E: 5,634.22
30	SALVAGED "NO BICYCLES PETS ON LEASH" SIGN	N: 6,999.81	E: 5,353.95

20 0 20 40 60

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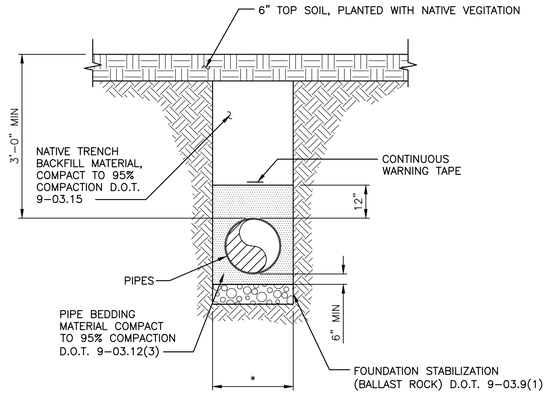
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

SITE PLAN

PROJECT NO. MN:H107:12-1

SHEET 7 OF 28



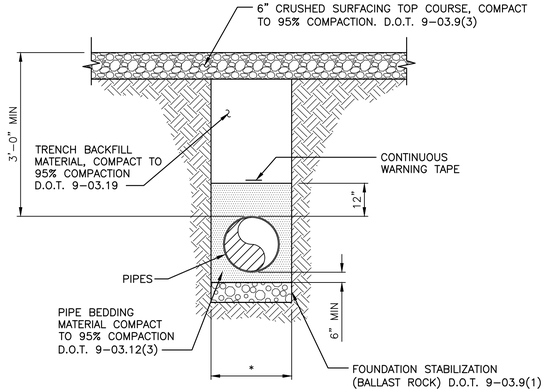
TYPICAL PIPELINE TRENCH DETAIL

SCALE: NOT TO SCALE

NOTE:

BED THE ENTIRE WIDTH OF THE TRENCH BOX.

* TRENCH WIDTH DIMENSIONS FOR PIPES LESS THAN 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 12" AND FOR PIPES GREATER THAN OR EQUAL TO 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 24"



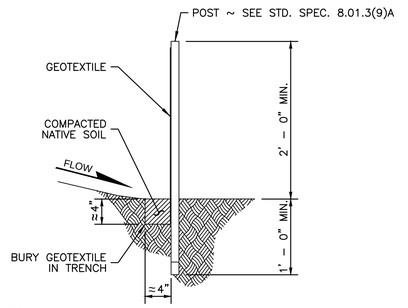
TYPICAL PIPELINE TRENCH DETAIL UNDER EXISTING GRAVEL AREAS

SCALE: NOT TO SCALE

NOTE:

BED THE ENTIRE WIDTH OF THE TRENCH BOX.

* TRENCH WIDTH DIMENSIONS FOR PIPES LESS THAN 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 12" AND FOR PIPES GREATER THAN OR EQUAL TO 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 24"

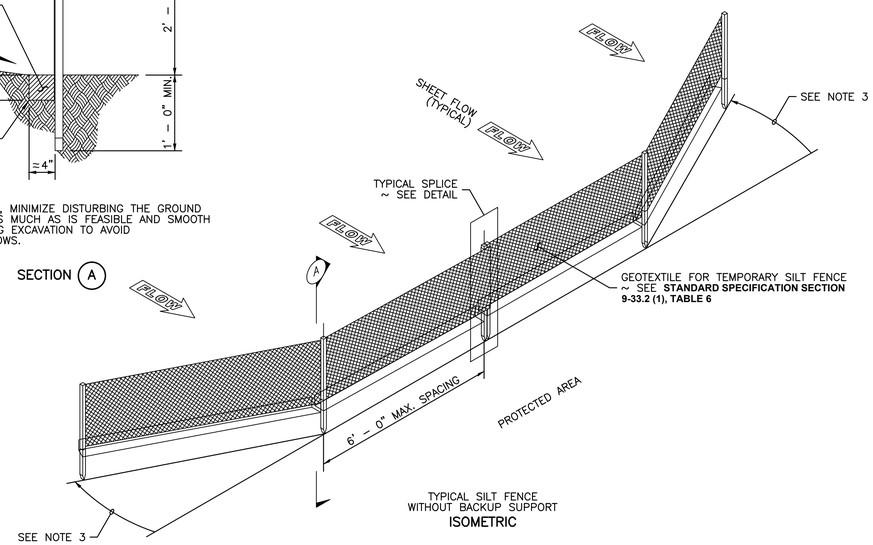


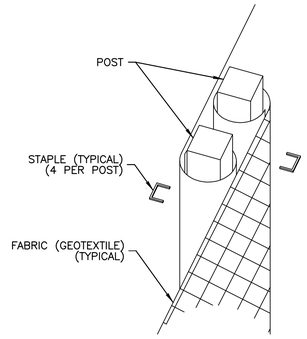
NOTE

DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS.

NOTES

1. Maximize detention of stormwater by placing fence as far away from toe of slope as possible without encroaching on sensitive areas or outside of the clearing boundaries.
2. Install silt fencing along contours.
3. Install the ends of the silt fence to point slightly up-slope to prevent sediment from flowing around the ends of the fence.
4. Perform maintenance in accordance with Standard Specifications 8.01.3(9)A and 8.01.3(15).



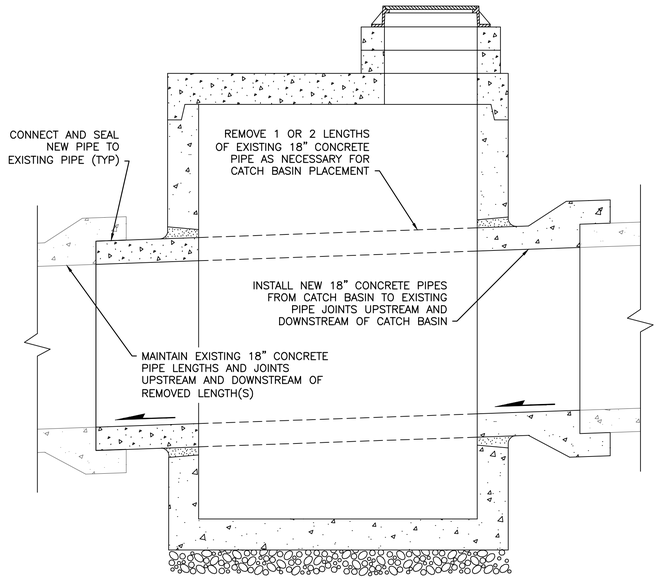


SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP. JOINING SECTIONS SHALL NOT BE PLACED IN LOW SPOTS OR IN SUMP LOCATIONS.

SPLICE DETAIL

SILT FENCE DETAIL

SCALE: NOT TO SCALE



CB#1 INSTALLATION DETAIL

SCALE: NOT TO SCALE

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SHEET NUMBER C5

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CIVIL DETAILS

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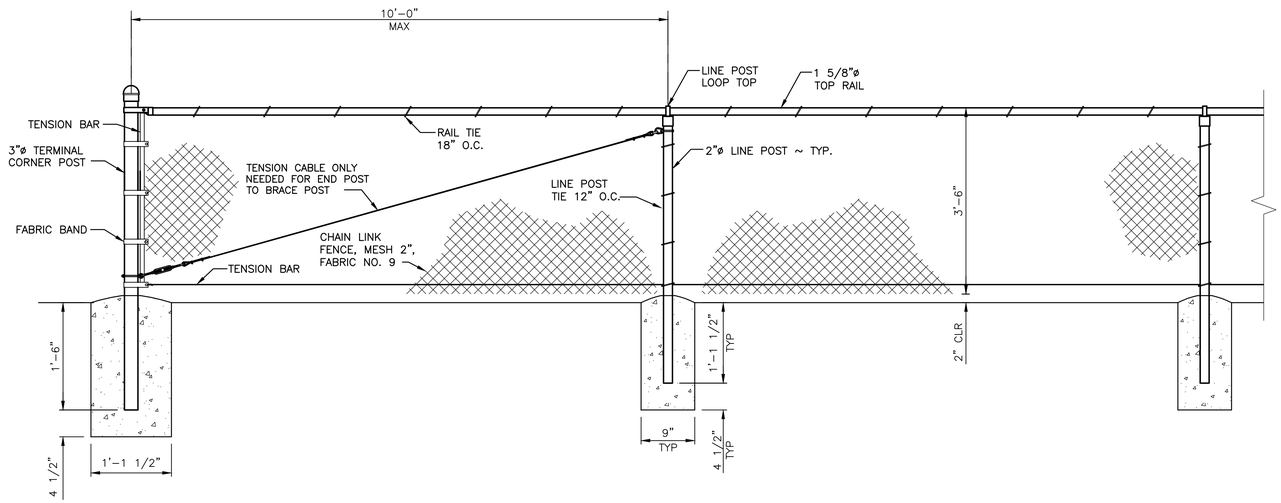
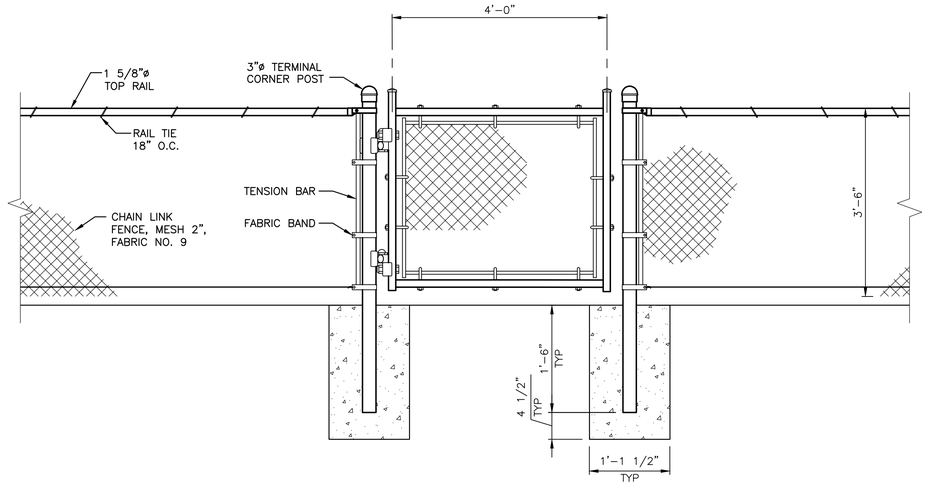
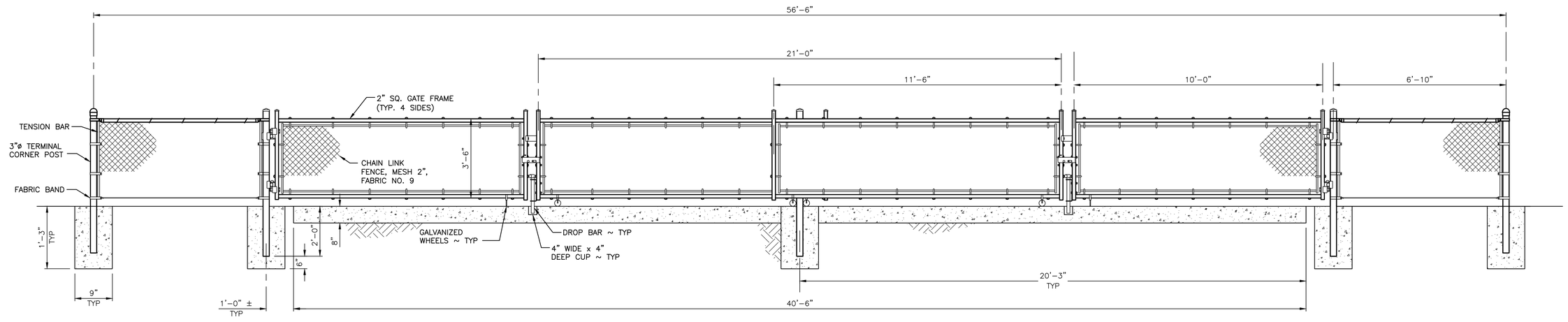
SHEET 8 OF 28



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



TYPICAL MAN GATE
SCALE: 3/4" = 1'-0"



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

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SHEET NUMBER C6

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FENCE DETAILS

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SHEET 9 OF 28

GENERAL NOTES

1. CONSTRUCTION DOCUMENTS ARE NOT TO BE SCALED.
2. VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH CONSTRUCTION. ANY DIMENSIONAL DEVIATION FROM THAT SHOWN ON THE CONSTRUCTION DOCUMENTS, THAT MAY AFFECT THE INTENT OF DESIGN, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PROMPTLY AND RESOLUTION OBTAINED PRIOR TO PROCEEDING.
3. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND/OR SHORING OF ANY STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
4. CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT. ALL DEVIATIONS AND/OR MODIFICATIONS TO THESE DRAWINGS SHALL BE APPROVED BY THE ENGINEER OF RECORD IN WRITING PRIOR TO CHANGE OR MODIFICATION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO DO THE WORK.
6. SHOP DRAWINGS AND MATERIAL DATA SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO ANY FABRICATION OR CONSTRUCTION AND ARE TO BE CHECKED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE ENGINEER.
7. REFERENCE GEOTECHNICAL REPORT BY GEOENGINEERS, DATED OCT 12 2012. FOR MORE COMPLETE INFORMATION.
   EARTH WORK MATERIAL BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE GEOTECHNICAL REPORT.

SS1–WA

STRUCTURAL NOTES

REFERENCE CODE	2009 INTERNATIONAL BUILDING CODE
	SEISMIC OCCUPANCY CATEGORY = I SEISMIC DESIGN CATEGORY = D IMPORTANCE FACTOR I_E = 1.0 S_S (MAPPED MAXIMUM CONSIDERED ACC) = 1.250 S_1 (MAPPED MAXIMUM CONSIDERED ACC) = 0.4 S_{DS} (SHORT PERIOD ACC) = 0.83 S_{D1} (1 SECOND PERIOD ACC) = 0.427 SITE CLASS = D FOUNDATION Design Allowable Bearing Pressure = 2000 psf ACTIVE PRESSURE = 80 pcf Static Passive Pressure = 120 pcf AT–REST PRESSURE = 90 pcf Base Friction Coefficient = 0.35
SHOP DRAWINGS	REINFORCING STEEL, STEEL FABRICATION, AND PRECAST BOX CULVERTS. SEE SPECIFICATIONS FOR COMPLETE LIST.
STRUCTURAL TESTS	CYLINDER TESTS REQUIRED – SEE SPECIFICATIONS
SPECIAL INSPECTION	CONCRETE, REINFORCING STEEL, BOLTING, WELDING
	SEE SPEC INSPECTION TABLE

SS2–WA

CONCRETE FABRICATION

MATERIAL	QUANTITY	REMARKS
CONCRETE~ 4000 PSI 28 DAY COMPRESSIVE STRENGTH WITH 6% AIR ENTRAINMENT [EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS] SUBMIT CONCRETE MIX DESIGN FOR WRITTEN APPROVAL PRIOR TO ANY POUR CALL ENGINEERING FOR INSPECTION PRIOR TO ANY POUR FORMS TO REMAIN IN PLACE A MINIMUM OF 7 DAYS AFTER POUR UNLESS APPROVED BY THE ENGINEER CONCRETE SHALL REACH THE 4000 PSI 28 DAY COMPRESSIVE STRENGTH PRIOR TO TRANSPORT FOR PRECAST ITEMS LIGHT BROOM FINISH ON ALL SLABS CYLINDER TESTS REQUIRED (6) AT 7, 14, AND 28 DAYS TO BE TAKEN BY OWNER	AS REQUIRED	SEE SPECIFICATIONS
<u>CONCRETE REINFORCING STEEL</u> 1. DEFORMED BAR ASTM A615 GRADE 60 2. WELDED BARS ASTM A706 GRADE 60		
COAT ALL EXPOSED REINFORCING WITH ZINC COATING		

METALS SCHEDULE

MATERIAL	QUANTITY	REMARKS
PLATES	AS REQUIRED	ASTM A36
ANGLES	AS REQUIRED	ASTM A36
W–SHAPES	AS REQUIRED	A992 (GRADE 50 MINIMUM)
HSS–RECTANGULAR	AS REQUIRED	A500 GRADE B (Fy = 46 KSI MINIMUM)
PIPE (STRUCTURAL)	AS REQUIRED	A53 GRADE B (Fy = 35 KSI MINIMUM) ~ SCH 40 STANDARD WEIGHT
CHANNELS	AS REQUIRED	ASTM A36
STRUCTURAL BARS	AS REQUIRED	ASTM A36
STAINLESS STEEL MATERIALS	AS REQUIRED	TYPE 316
PERFORATED PLATE	AS REQUIRED	ASTM 5052
STRUCTURAL TEES	AS REQUIRED	SEE W, M OR S SHAPES AS SPECIFIED
ALL STEEL MATERIALS TO BE GALVANIZED AFTER FABRICATION UNLESS NOTED OTHERWISE. ALUMINUM AND STAINLESS STEEL MATERIALS TO BE NATURAL FINISH UNLESS NOTED OTHERWISE.		
GENERAL MATERIALS LIST ~ NOT ALL MATERIALS WILL NECESSARILY BE USED ON THIS PROJECT		

CONNECTIONS

TYPE	REMARKS
MACHINE BOLTS	ASTM A307
HIGH STRENGTH BOTS	ASTM A325
THREADED ROD	ASTM A36
HEADED SHEAR STUDS (WHS)	ASTM A108

SPECIAL INSPECTION SCHEDULE

ESTABLISHED PER 2009 IBC SECTION 109 & CHAPTER 17

ITEM	CONTINUOUS INSPECTION	PERIODIC INSPECTION	COMMENTS
SOILS			
GRADING, EXCAVATION & FILL			BY GEOTECHNICAL ENGINEER
FINAL FOUNDATION PREPARATION			BY GEOTECHNICAL ENGINEER
PREFAB. CONSTRUCTION			REF. NOTE 5
CONCRETE			
REINFORCING PLACEMENT		X	
REINFORCING WELDING		X	
ANCHOR BOLTS & INSERTS	X		
PREPARATION OF TEST SPECIMENS	X		
CONCRETE PLACEMENT	X		
ADHESIVE ANCHOR PLACEMENT	X		REF. NOTE 6
EMBEDDED PLATES		X	
CURING		X	
STRUCTURAL STEEL			
FABRICATION & ERECTION		X	REF. NOTE 7
HIGH STRENGTH BOLTING			REF. NOTE 8
SINGEL PASS FILLET WELDS ≤ 5/16"		X	REF. NOTE 9
FILLET WELDS > 5/16"	X		REF. NOTE 9
PARTIAL/COMPLETE PENETRATION WELD	X		REF. NOTE 10
OTHER WELDING			
WELDING OF ANCHORS AND STUDS		X	

<u>INSPECTION SCHEDULE NOTES:</u>

1. THE ITEMS CHECKED WITH AN "X" SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO PROJECT SPECIFICATIONS, THE STRUCTURAL NOTES AND THE NOTES BELOW. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ENGINEER. ANY MATERIALS WHICH FAIL TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
2. SPECIAL INSPECTION IS NOT REQUIRED FOR WORK PERFORMED BY AN APPROVED FABRICATOR PER IBC SECTION 1704.2.2.
3. CONTINUOUS SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON THE SITE AT ALL TIMES OBSERVING THE WORK REQUIRING SPECIAL INSPECTION (IBC 1702). PERIODIC SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON SITE AT TIME INTERVALS NECESSARY TO CONFIRM THAT ALL WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE.
4. INSPECTION REQUIREMENTS FOR SYSTEMS DESIGNED BY OTHERS SHALL BE DEFINED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THEIR DESIGN.
5. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL 5. USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.
6. INSPECTION OF DRILLED CONCRETE ANCHORS, INCLUDING EXPANSION AND ADHESIVE ANCHORS, 6. SHALL INCLUDE VISUAL VERIFICATION OF DRILLED HOLE DEPTH, SPACING, EDGE DISTANCES AND HOLE CLEANING. FOR ADHESIVE ANCHORS, ADHESIVE INSTALLATION SHALL BE OBSERVED AND ADHESIVE PRODUCT SPECIFICATION AND PREPARATION SHALL BE VERIFIED.
7. INSPECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH IBC SECTION 1704.3.
8. INSPECTION OF BOLT INSTALLATION FOR PRETENSIONING IS PERMITTED TO BE PERFORMED ON A 8. PERIODIC BASIS WHEN USING THE TURN–OF–NUT METHOD WITH MATCHMARKING TECHNIQUES, THE DIRECT TENSION INDICATOR METHOD, OR THE ALTERNATE DESIGN FASTENER (TWIST–OFF BOLT) METHOD. JOINTS DESIGNATED AS SNUG TIGHT NEED ONLY PERIODIC INSPECTION.
9. ALL WELDS SHALL BE VISUALLY INSPECTED.
10. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED ULTRASONICALLY OR BY USING 10. ANOTHER APPROVED METHOD.

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER S1

kpff Consulting Engineers
4200 6th Avenue SE, Suite 309
Lacey, Washington 98503
(360) 292-7230 Fax (360) 292-7231

WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY
		APPROVED AND RELEASED FOR CONSTRUCTION	
		CHIEF ENGINEER ..... DATE:	
		PROGRAM ..... DATE:	

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11–9–2012

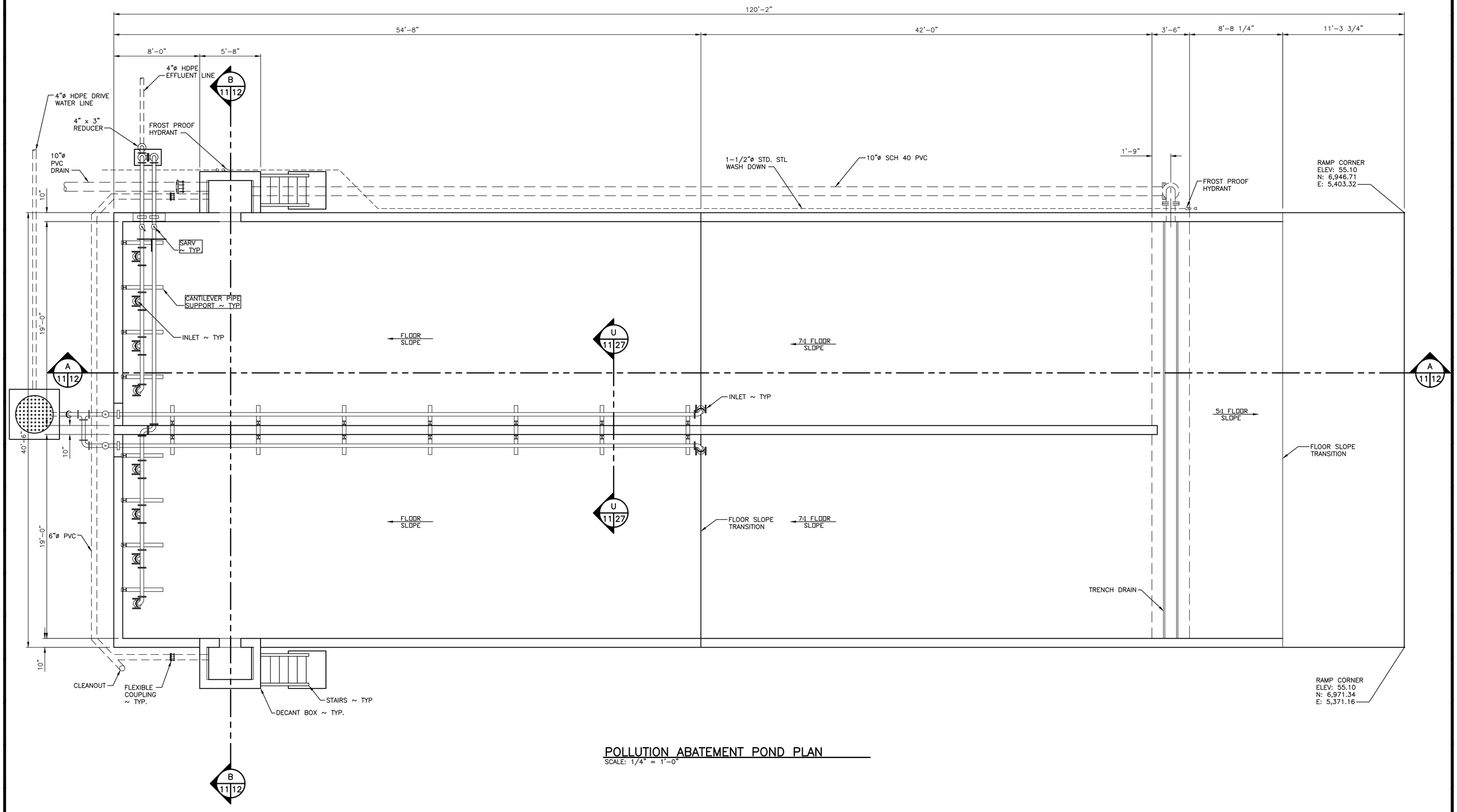
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

STRUCTURAL NOTES

PROJECT NO. MN:H107:12–1

SHEET 10 OF 28



POLLUTION ABATEMENT POND PLAN

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

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER S2

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4200 6th Avenue SE, Suite 309
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WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY

APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

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BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

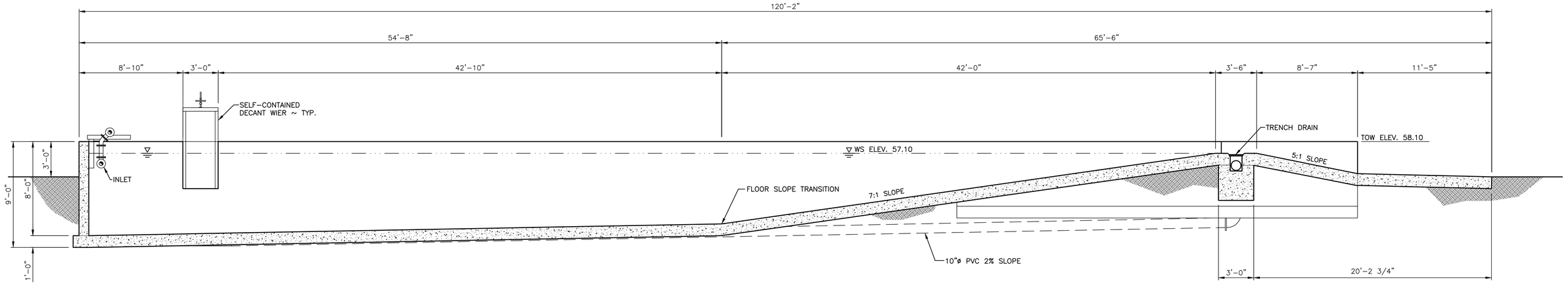
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

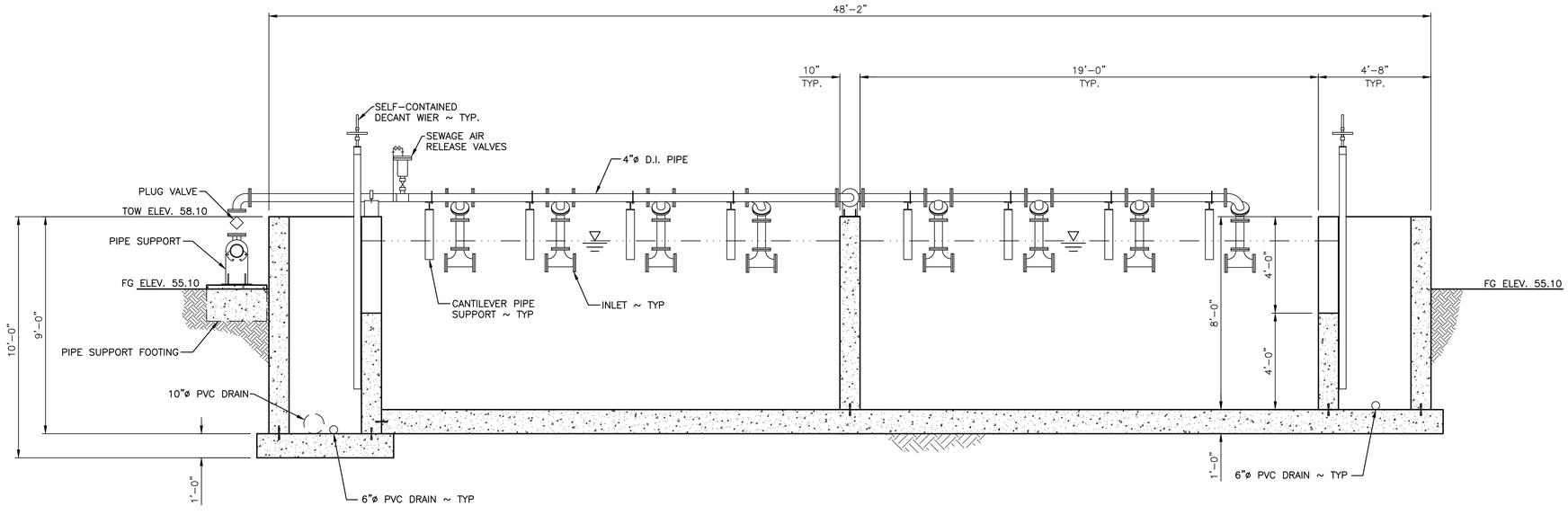
STURCTURAL PLAN

PROJECT NO. MN:H107:12-1

SHEET 11 OF 28



SECTION A
SCALE: 1/4" = 1'–0"
11 12



SECTION B
SCALE: 1/4" = 1'–0"
11 12

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER S3

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WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

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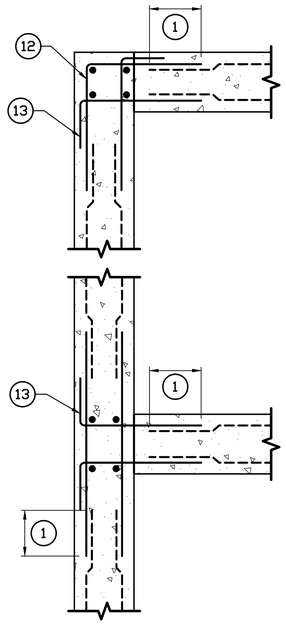
CHIEF ENGINEER ..... DATE: .....
PROGRAM ..... DATE: .....

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11–9–2012

EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
STRUCTURAL POND SECTIONS

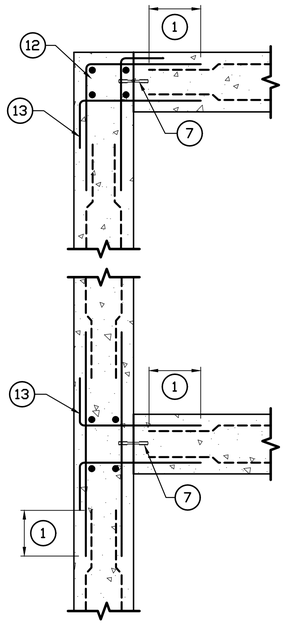
PROJECT NO. MN:H107:12–1
SHEET 12 OF 28



CORNER AND INTERSECTION REINFORCING R1

NOT TO SCALE

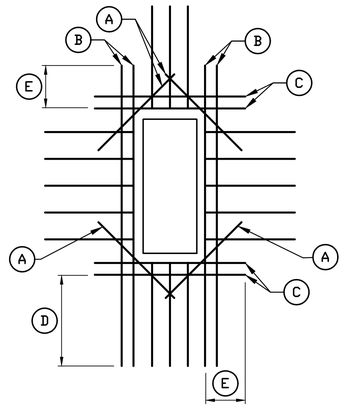
NOTE:
OK TO RUN HORIZ. BARS
CONTINUOUS THROUGH INTERSECTION



CORNER AND INTERSECTION REINFORCING WITH WATERSTOP R2

NOT TO SCALE

NOTE:
OK TO RUN HORIZ. BARS
CONTINUOUS THROUGH INTERSECTION



SQUARE OR RECTANGULAR OPENING REINFORCEMENT

NOT TO SCALE

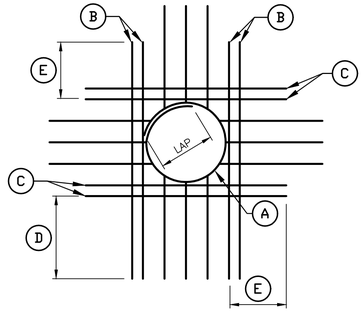
A. ADD NO. 5 DIAGONAL, 4 FEET IN LENGTH AT EACH CONER OF EACH LAYER

B. PLACE THE SAME SIZE BAR AS VERTICAL REINFORCEMENT EACH SIDE OF OPENING EQUAL TO THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.

C. PLACE THE SAME SIZE BAR AS HORIZONTAL REINFORCEMENT EACH SIDE OF OPENING EQUAL THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.

D. PROVIDE LAP SPLICE (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS TO VERTICAL DOWELS.

E. PROVIDE LAP SPLICE OF DEVELOPMENT LENGTH (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS.



ROUND OPENING REINFORCEMENT

NOT TO SCALE

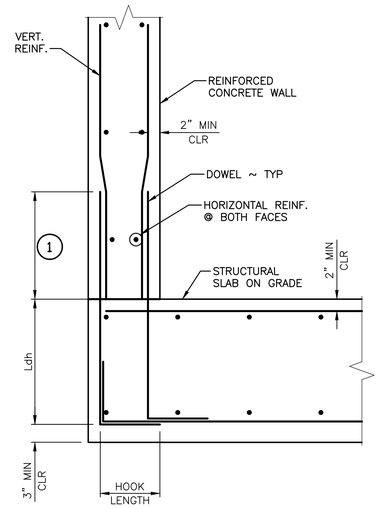
A. ADD NO. 5 HOOP WITH A DIAMETER EQUAL TO THE DIAMETER OF THE OPENING PLUS 8 INCHES WITH 18 INCH LAP SPLICE. PLACE ONE HOOP AT EACH LAYER OF REINFORCEMENT.

B. PLACE THE SAME SIZE BAR AS VERTICAL REINFORCEMENT EACH SIDE OF OPENING EQUAL TO THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.

C. PLACE THE SAME SIZE BAR AS HORIZONTAL REINFORCEMENT EACH SIDE OF OPENING EQUAL THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.

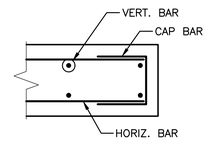
D. PROVIDE LAP SPLICE (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS TO VERTICAL DOWELS.

E. PROVIDE LAP SPLICE OF DEVELOPMENT LENGTH (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS.

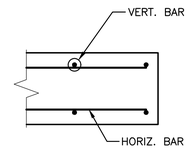


DOWEL BAR DETAIL

NOT TO SCALE



VERTICAL BARS INSIDE



VERTICAL BARS OUTSIDE

END OF WALL DETAIL

NOT TO SCALE

NOTES:

1. TENSION LAP SPLICE LENGTH PER SCHEDULE
2. REINFORCING BARS 100% CONTINUOUS FROM FIRST POUR ACROSS JOINT.
3. REINFORCING BARS CONTINUOUS ACROSS JOINTS

   WALLS
   SINGLE MATT ~TERMINATE EVERY OTHER HORIZONTAL BAR 2 INCHES FROM JOINT BOTH SIDES

   DOUBLE MATT ~TERMINATE EVERY OTHER PAIR OF HORIZONTAL BARS 2 INCHES FROM JOINT BOTH SIDES

   SLABS
   SINGLE MATT ~TERMINATE EVERY OTHER BAR 2 INCHES FROM JOINT BOTH SIDES

   DOUBLE MATT ~TERMINATE EVERY OTHER TOP BAR 2 INCHES FROM JOINT BOTH SIDES
4. 3/4 INCH CHAMFER TYPICAL BOTH SIDES
5. 3/4 INCH TOOLED EDGE TOP SIDE ONLY
6. SAWCUT 1/8 INCH WIDE WITH DEPTH AS DETAILED ~JOINT FORMED WITH TOOL OR INSERT STRIP MAY BE SUBSTITUTED FOR SAWED TYPE JOINT ONLY WITH WRITTEN PRIOR APPROVAL BY THE ENGINEER
7. WATERSTOP PER SPECIFICATIONS
8. DOWEL BAR AND DOWEL EXPANSION CAP PER SPECIFICATIONS AT ONE FOOT ON CENTER
9. ALL BARS DISCONTINUOUS ACROSS JOINT ~TERMINATE 2 INCHES FROM JOINT BOTH SIDES
10. PRE-MOLDED JOINT FILLER PER SPECIFICATIONS
11. EPOXY SEAL PER SPECIFICATIONS
12. CORNER BARS TYPICAL ~BAR SIZE SAME AS REINFORCEMENT THAT DIRECTION
13. STANDARD HOOK TYPICAL ~BAR SIZE SAME AS REINFORCEMENT THAT DIRECTION

TENSION LAP SPLICE LENGTHS

	UNCOATED BARS		EPOXY COATED BARS	
BAR SIZE	TOP BARS	OTHERS	TOP BARS	OTHERS
4	2'-8"	2'-1"	3'-4"	2'-6"
5	3'-4"	2'-7"	4'-0"	3'-1"
6	4'-0"	3'-1"	5'-0"	3'-9"
7	5'-10"	4'-6"	7'-0"	5'-5"
8	6'-8"	5'-1"	8'-0"	6'-2"
9	7'-6"	5'-10"	9'-1"	6'-11"

NOTES:

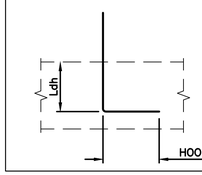
A. TOP BARS: WHERE MORE THAN 12 INCHES OF CONCRETE IS PLACED BELOW THE REINFORCEMENT.

B. ASSUMES TENSION LAP SPLICE GRADE 60 BARS CLASS B 4000 PSI CONCRETE.

C. TO BE USED FOR ALL TENSION LAP SPLICES UNLESS APPROVED BY THE ENGINEER OR NOTED OTHERWISE ON THE DRAWINGS.

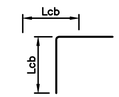
DOWEL BAR EMBEDMENT

BAR SIZE	Ldh	HOOK LENGTH
4	10"	8
5	12"	10
6	15"	12
7	17"	14
8	19"	16
9	22"	19



CORNER BAR LENGTH

BAR SIZE	Lcb
3	1'-4"
4	1'-9"
5	2'-3"
6	2'-7"
7	3'-10"



80% CONSTRUCTION DOCUMENTS

SHEET NUMBER S4

kpff Consulting Engineers
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(360) 292-7230 Fax (360) 292-7231

WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY
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CHIEF ENGINEER ..... DATE: .....
PROGRAM ..... DATE: .....

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

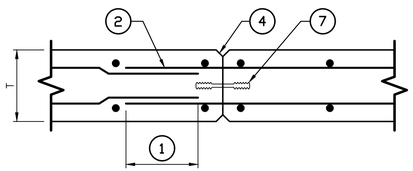
DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

EELLS SPRINGS HATCHERY

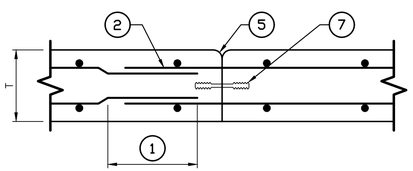
POLLUTION ABATEMENT PONDS
STANDARD CONCRETE REINFORCEMENT
DETAILS, SHEET 1

PROJECT NO. MN:H107:12-1

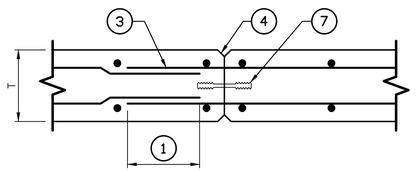
SHEET 13 OF 28



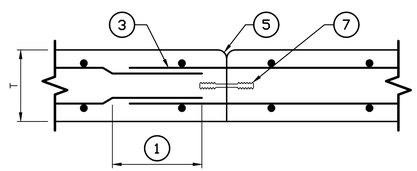
WALL CONSTRUCTION
JOINT WITH WATERSTOP
NOT TO SCALE
R5



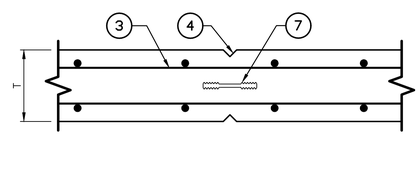
SLAB CONSTRUCTION
JOINT WITH WATERSTOP
NOT TO SCALE
R9



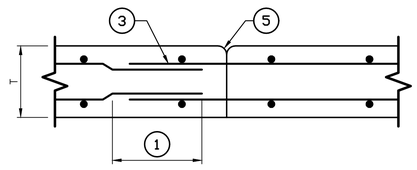
WALL CONSTRUCTION–CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE
R13



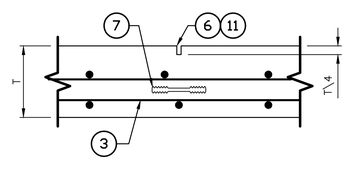
SLAB CONSTRUCTION–CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE
R17



WALL CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE
R21



SLAB CONSTRUCTION–CONTROL
JOINT WITHOUT WATERSTOP
NOT TO SCALE
R18



SLAB CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE
R25

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER
S5

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(360) 292-7230 Fax (360) 292-7231

WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

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PROGRAM ..... DATE: .....

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BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

EELLS SPRINGS HATCHERY

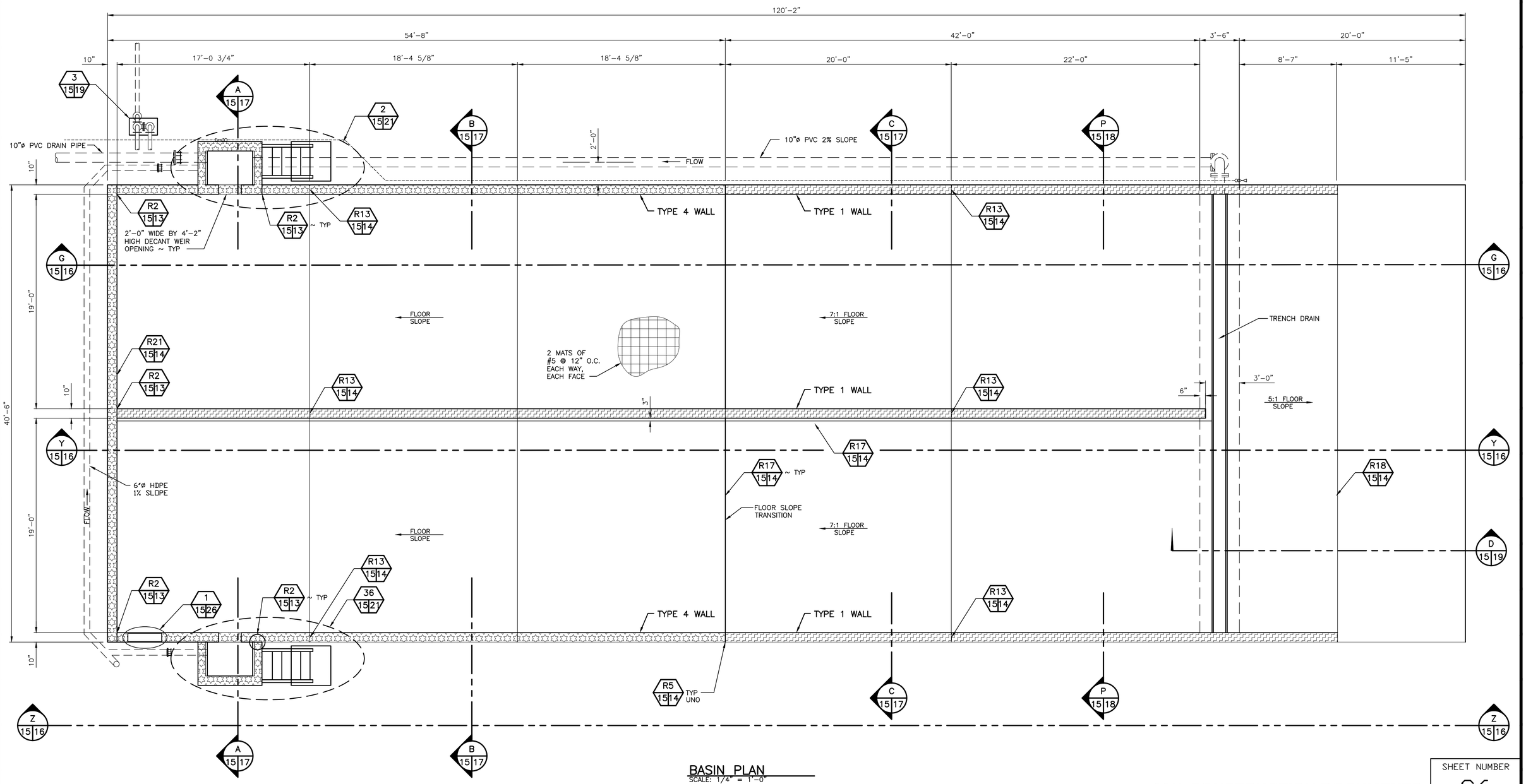
POLLUTION ABATEMENT PONDS
STANDARD CONCRETE REINFORCEMENT
DETAILS, SHEET 2

PROJECT NO.
MN:H107:12-1

SHEET 14 OF 28

WALL AND FLOOR LEGEND

- TYPE 1 WALL
- TYPE 4 WALL
- TYPE A FLOOR



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

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER S6

kpff Consulting Engineers
4200 6th Avenue SE, Suite 309
Lacey, Washington 98503
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WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY

APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

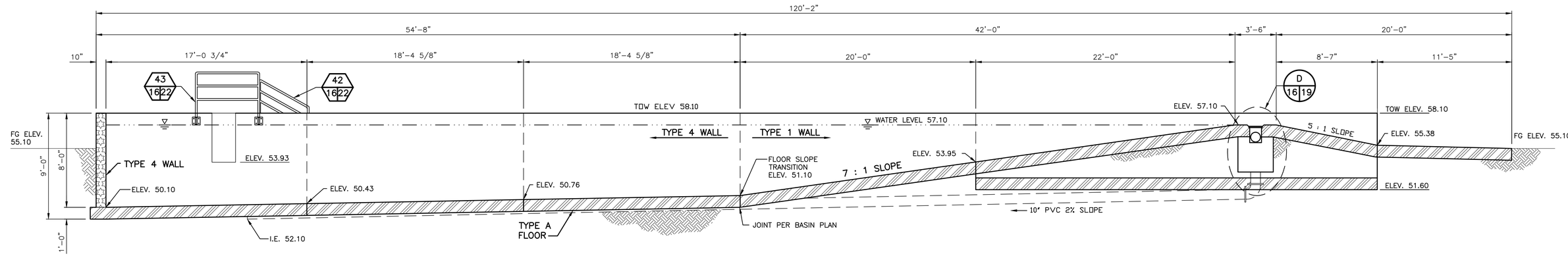
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

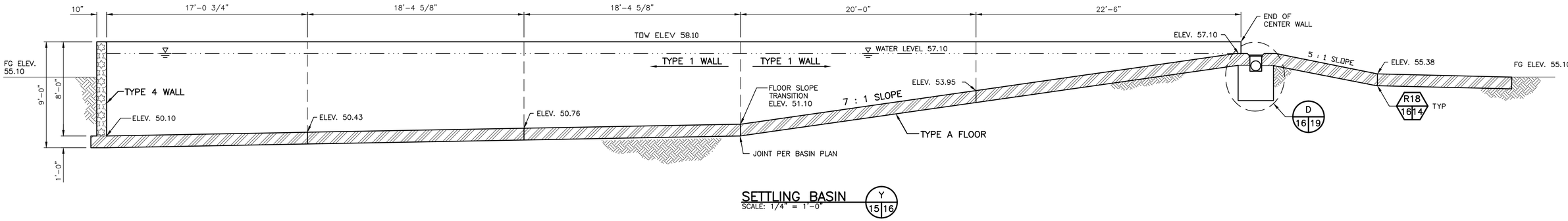
REINFORCEMENT BASIN PLAN

PROJECT NO. MN:H107:12-1

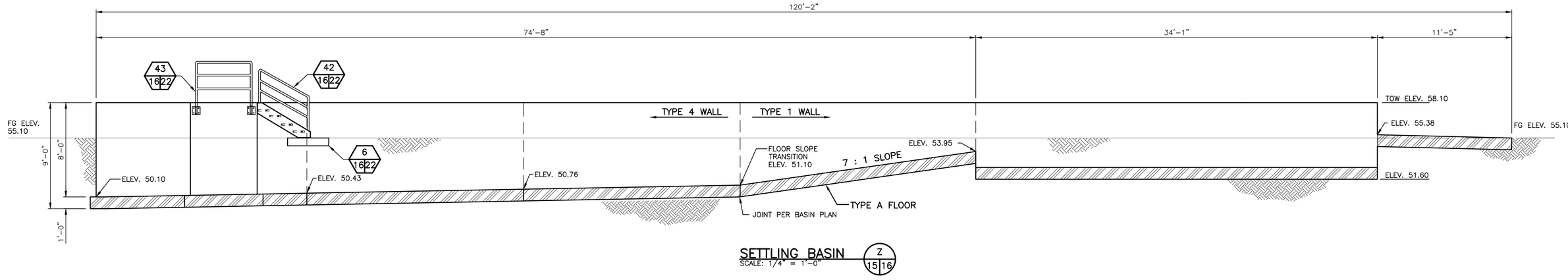
SHEET 15 OF 28



SETTLING BASIN (G 15|16)
SCALE: 1/4" = 1'-0"



SETTLING BASIN (Y 15|16)
SCALE: 1/4" = 1'-0"



SETTLING BASIN (Z 15|16)
SCALE: 1/4" = 1'-0"

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SHEET NUMBER S7

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PROGRAM ..... DATE: .....

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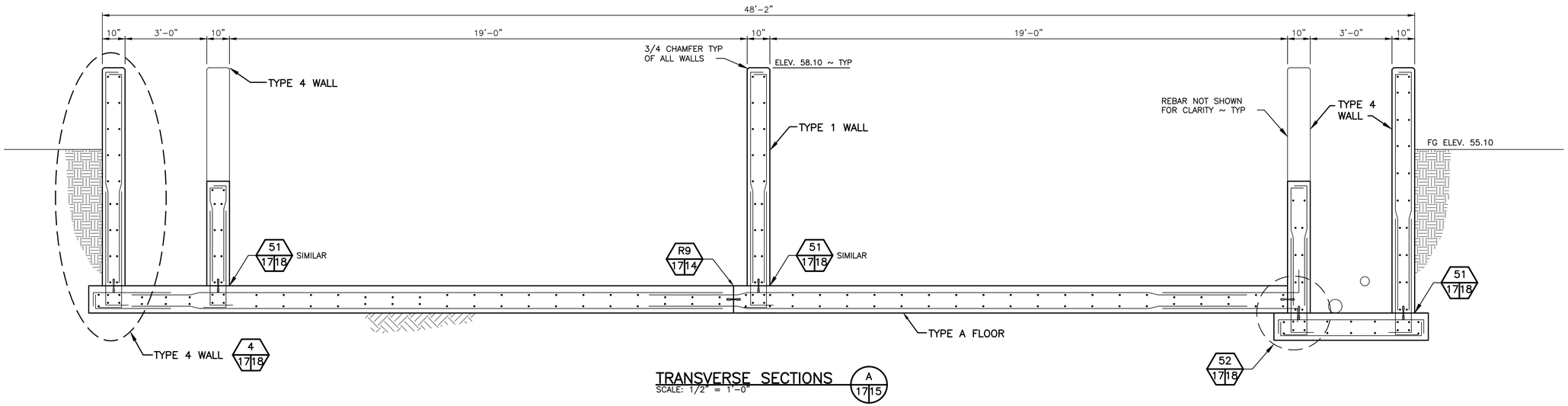
DATE 11-9-2012

EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
BASIN SECTIONS

PROJECT NO. MN:H107:12-1
SHEET 16 OF 28



TRANSVERSE SECTIONS A 17|15
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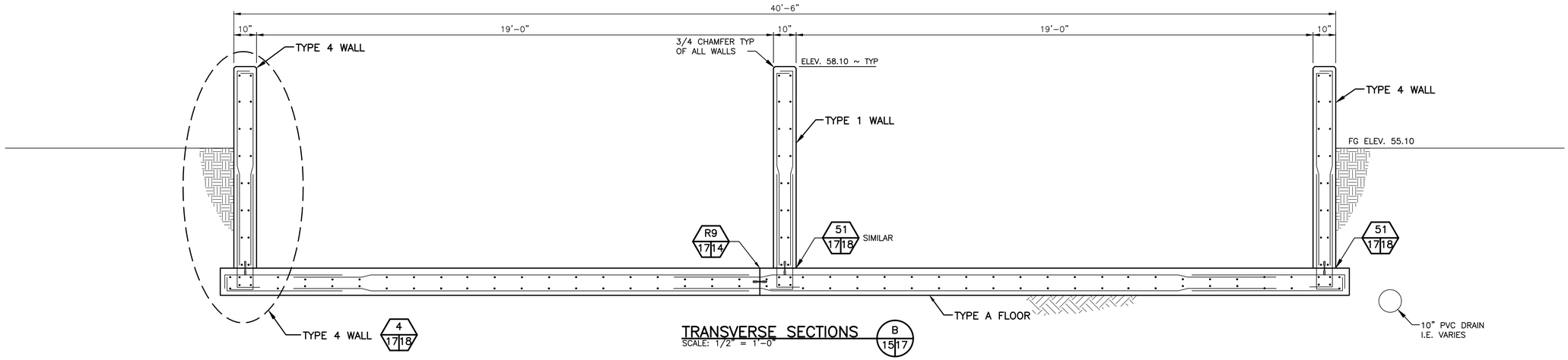

TRANSVERSE SECTIONS B 15|17
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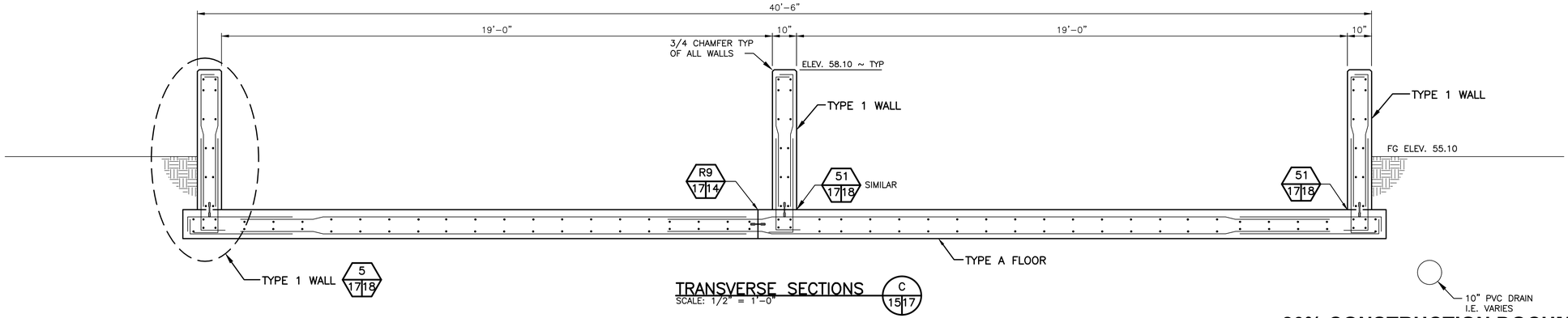

TRANSVERSE SECTIONS C 15|17
SCALE: 1/2" = 1'-0"

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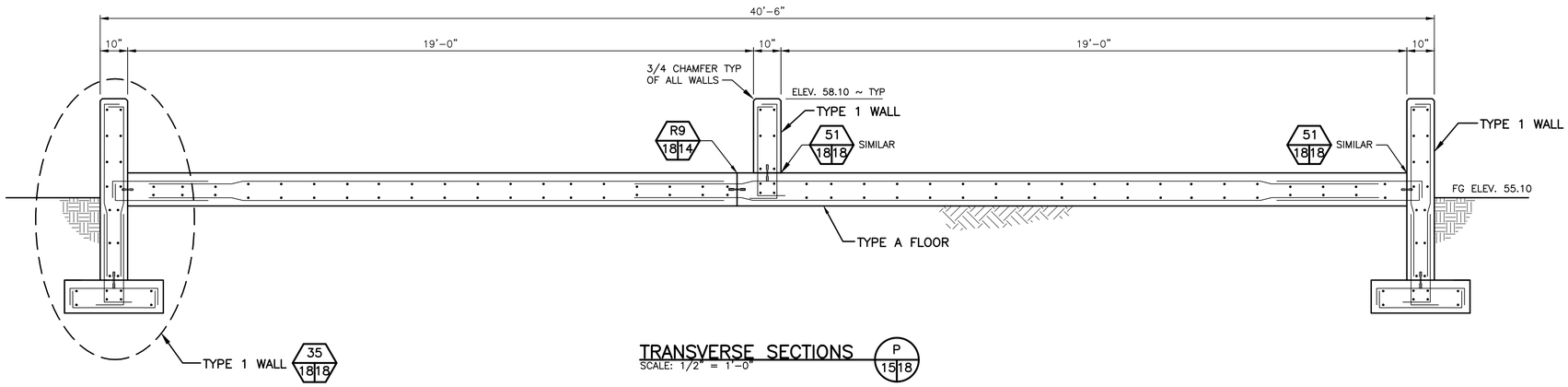
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

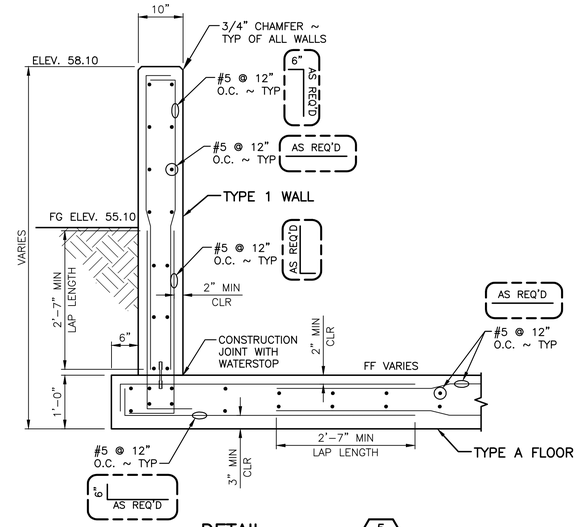
SECTIONS

PROJECT NO. MN:H107:12-1

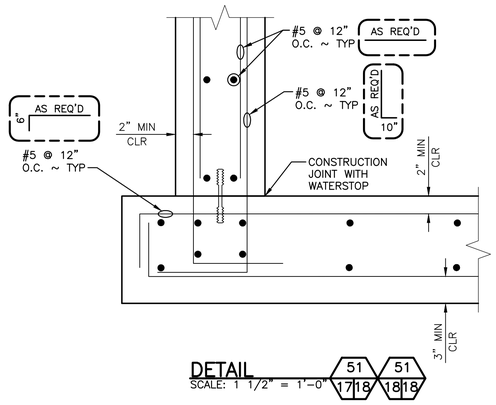
SHEET 17 OF 28



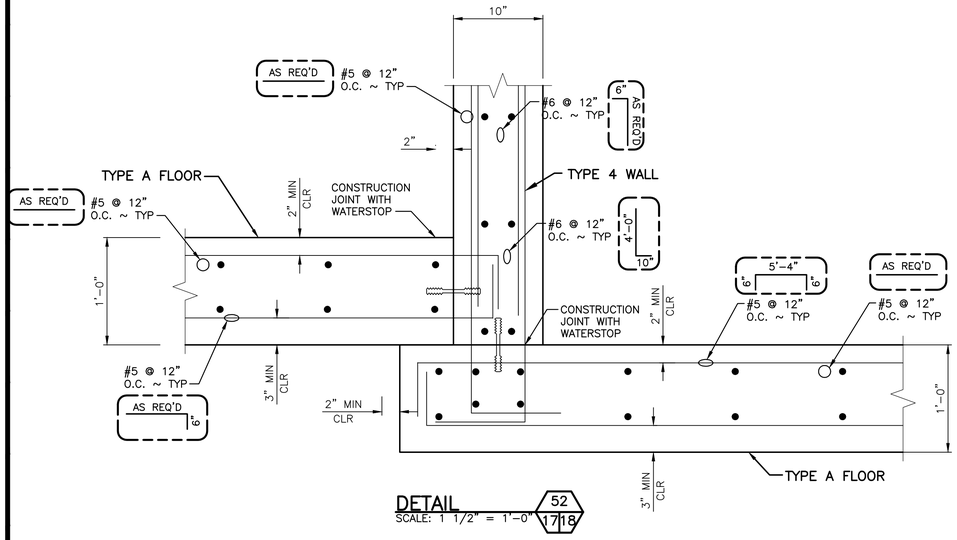
TRANSVERSE SECTIONS P 15|18
SCALE: 1/2" = 1'-0"



DETAIL 5 17|18
SCALE: 3/4" = 1'-0"



DETAIL 51 17|18 51 18|18
SCALE: 1 1/2" = 1'-0"



DETAIL 52 17|18
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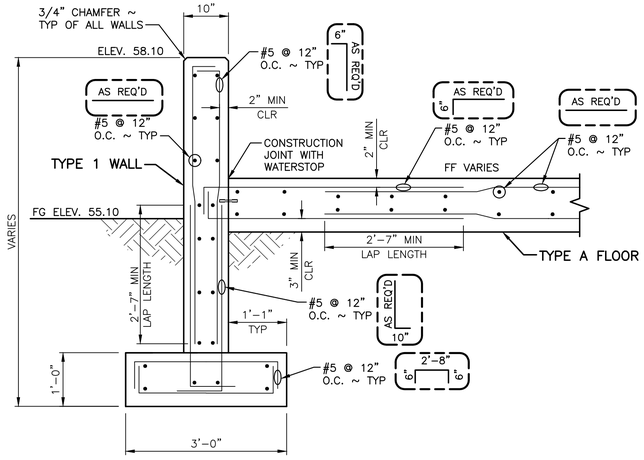
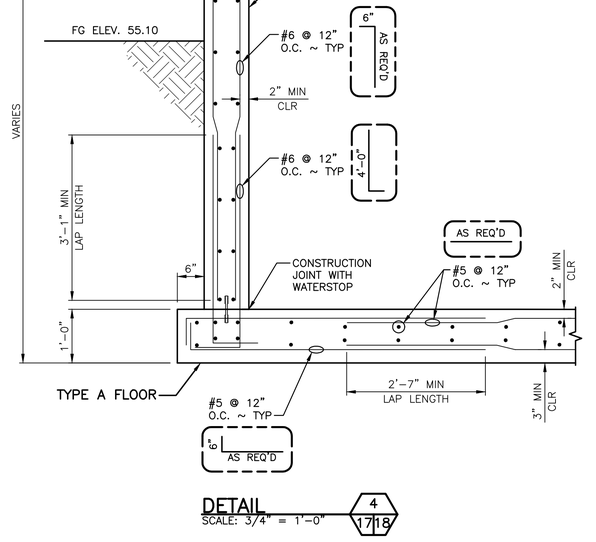


DETAIL 35 18|18
SCALE: 3/4" = 1'-0"



DETAIL 4 17|18
SCALE: 3/4" = 1'-0"

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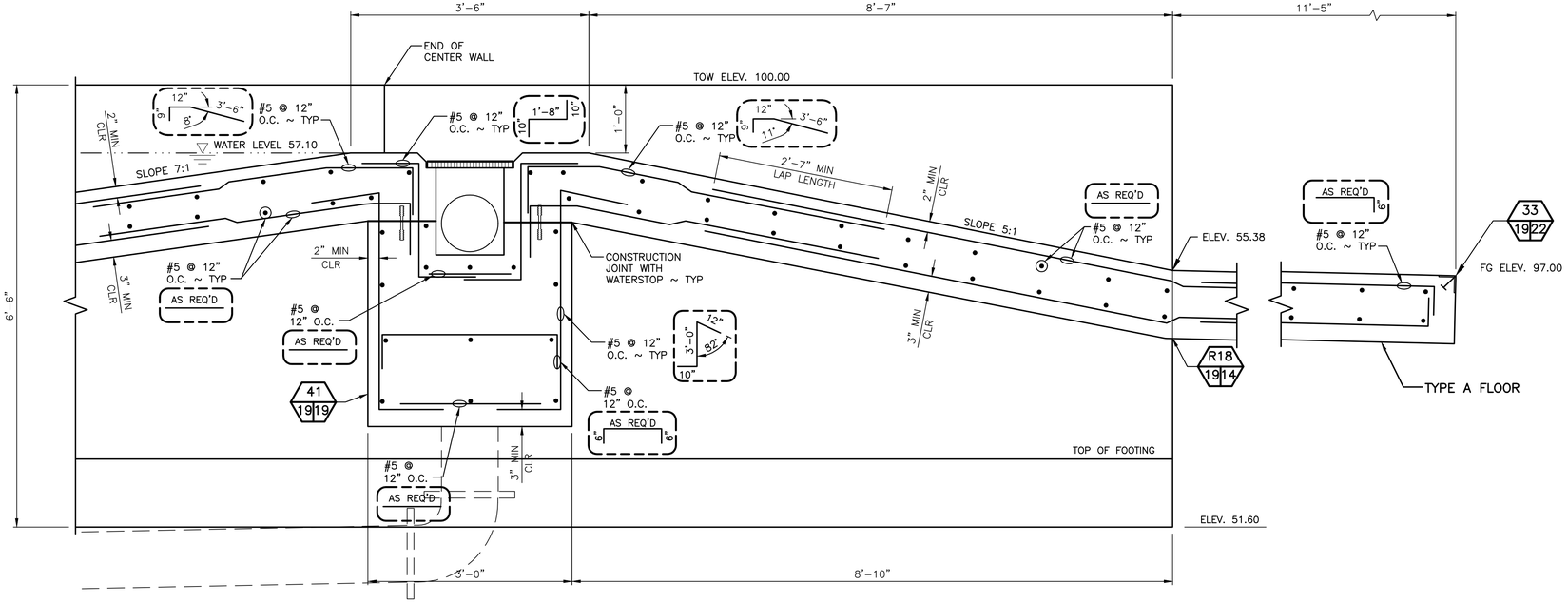
EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
STRUCTURAL DETAILS 2

PROJECT NO. MN:H107:12-1

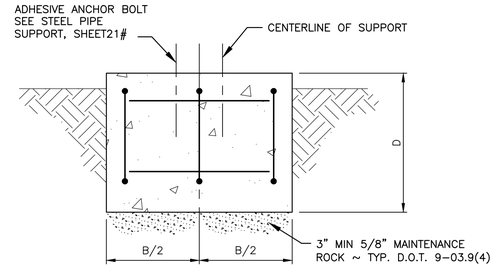
SHEET 18 OF 28



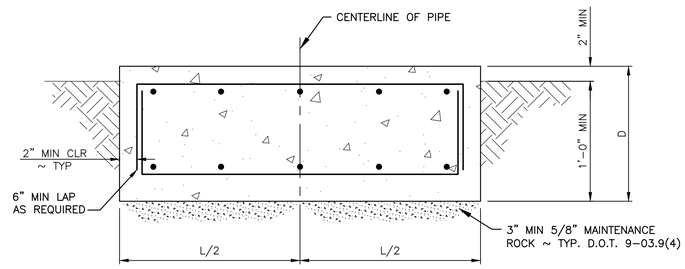
TRENCH DRAIN
SCALE: 1" = 1'-0"
D 15 19 / D 16 19

GRATING

MARK	MATERIAL	QUANTITY	REMARKS
G1	GRATING	AS REQUIRED	HEAVY DUTY WELDED STEEL GRATING, AS MANUFACTURED BY GRATING PACIFIC, SHALL BE TYPE W-19-4 WITH 1 1/2 IN BY 3/8 BEARING BARS SPACED AT 1 3/16 IN ON CENTER WITH 1 IN BY 1/4 IN CROSS BARS AT 4 IN ON CENTER. OPEN ENDS OF GRATING SHALL BE FULL DEPTH LOAD BANDED WITH 1 1/2 BY 3/8 IN BARS. ALL BARS TO BE ASTM A36. ALL STEEL TO BE GALVANIZED AFTER FABRICATION. PROVIDE WELDED LUGS (1/4 INCH MINIMUM THICKNESS) FOR ANCHORING TO ACCOMMODATE 1/4 INCH DIAMETER THREADED STUDS. SPACE AT A MINIMUM, 2 AT EACH END OF PANEL, APPROXIMATELY 6 INCHES FROM EACH SIDE OF PANEL AND ONE AT MIDDLE OF PANEL AT EACH INTERMEDIATE SUPPORT IF ANY. GRATING LOAD CAPACITY TO BE AS LISTED IN GRATING PACIFIC STEEL BAR GRATING LOAD TABLE. SEE DETAIL INSTALL PER DETAIL [TRENCH DRAIN COVER]

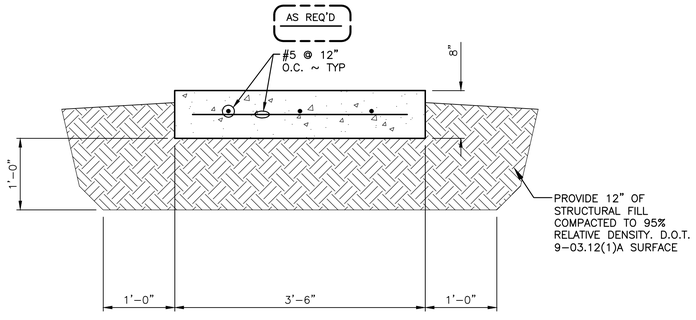


END VIEW



SIDE VIEW

TRENCH DRAIN
SCALE: 1 1/2" = 1'-0"
41 19 19



STAIR LANDING
SCALE: 1" = 1'-0"
6 16 19 / 6 21 19

PIPE SIZE	FOOTING DIMENSIONS B	L	D	REBAR	REMARKS
4" TO 6"	1'-6"	2'-6"	1'-2"	#4 @ 12" EACH WAY (SEE SECTIONS)	FOR STEEL PLATE, ANCHOR BOLTS AND CONNECTIONS SEE PIPE SUPPORT DETAIL
8" TO 10"	1'-6"	3'-0"	1'-2"		
12" TO 16"	2'-0"	3'-6"	1'-4"		
18" TO 20"	2'-0"	4'-0"	1'-4"		
24"	2'-6"	4'-6"	1'-4"		

PIPE SUPPORT FOOTING
NOT TO SCALE
3 15 19

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WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

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CHIEF ENGINEER ..... DATE: .....
PROGRAM ..... DATE: .....

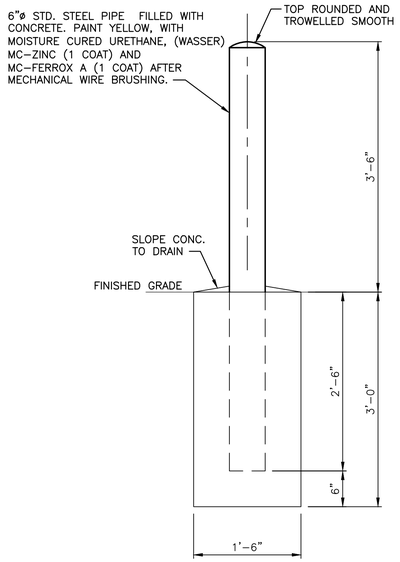
0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

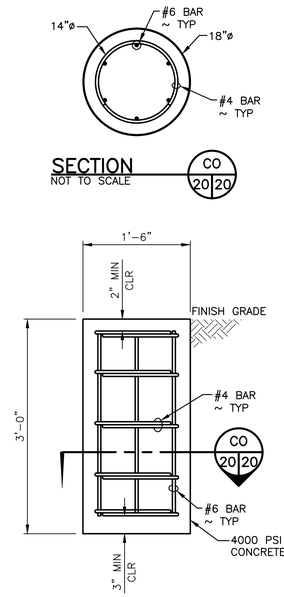
EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
STRUCTURAL DETAILS 3

PROJECT NO. MN:H107:12-1

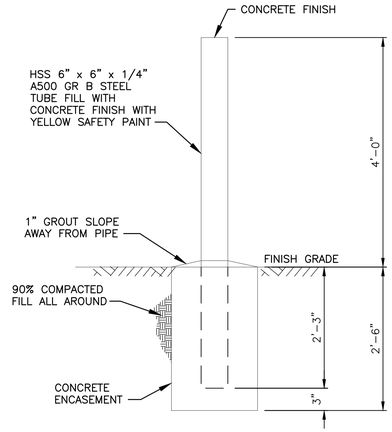
SHEET 19 OF 28



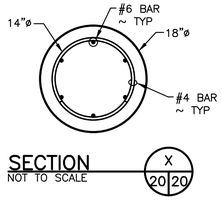
TYPICAL BOLLARD DETAIL
NOT TO SCALE

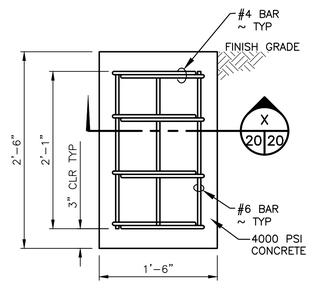


TYPICAL BOLLARD BASE
NOT TO SCALE



TYPICAL RECEPTACLE POST DETAIL
NOT TO SCALE





TYPICAL RECEPTACLE BASE
NOT TO SCALE

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CHECKED BY MRS
DRAWN BY NLA
DATE 11–9–2012

EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

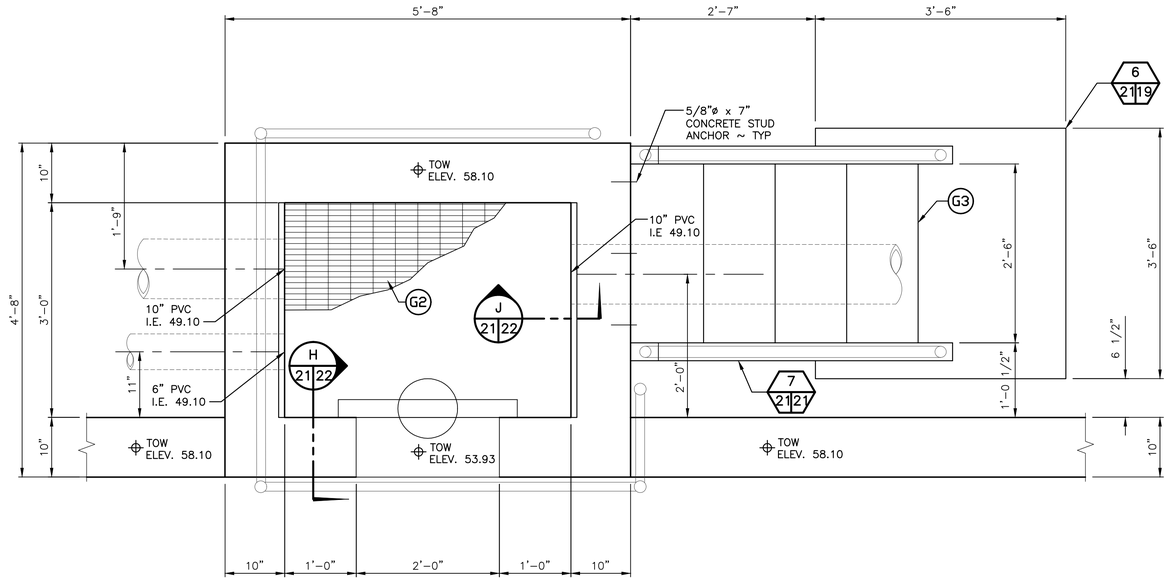
STRUCTURAL DETAILS 4

PROJECT NO. MN:H107:12–1

SHEET 20 OF 28

GRATING AND STAIR TREADS

MARK	MATERIAL	QUANTITY	REMARKS
G2	GRATING	AS REQUIRED	STANDARD DUTY WELDED STEEL GRATING AS MANUFACTURED BY GRATING PACIFIC, SHALL BE TYPE W-19-4 WITH 1 1/2 IN BY 1/8 IN BEARING BARS SPACED AT 1 3/16 IN ON CENTER WITH CROSS BARS AT 4 IN ON CENTER. OPEN ENDS OF GRATING SHALL BE BANDED WITH 1 1/4 BY 1/8 IN BARS. ALL BARS TO BE ASTM A36. ALL STEEL TO BE GALVANIZED AFTER FABRICATION. PROVIDE WELDED LUGS (1/2 INCH MINIMUM THICKNESS) FOR ANCHORING TO ACCOMMODATE 1/4 INCH DIAMETER THREADED STUDS SPACE AT A MINIMUM, 2 AT EACH END OF PANEL. APPROXIMATELY 6 INCHES FORM EACH SIDE OF PANEL AND ONE AT MIDDLE OF PANEL AT EACH INTERMEDIATE SUPPORT IF ANY GRATING LOAD CAPACITY TO BE AS LISTED IN GRATING PACIFIC STEEL BAR GRATING LOAD TABLE. SEE DETAIL INSTALL PER DETAIL [DECANT TANK COVER]
G3	GRATING	AS REQUIRED	STANDARD GRIP STRUT STAIR TREADS AS MANUFACTURED BY GRATING PACIFIC, SHALL BE TYPE T-51414, 1 1/2 INCH DEEP, 5-DIAMOND, 14 GAUGE GALVANIZED STEEL. [STAIR TREADS DECANT TANKS]



EAST DECANT TANK (2 15 21 / 2 24 21)
SCALE: 3/4" = 1'-0"

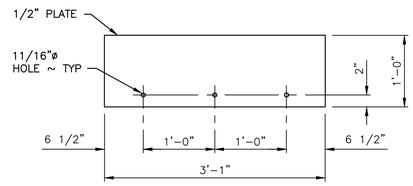
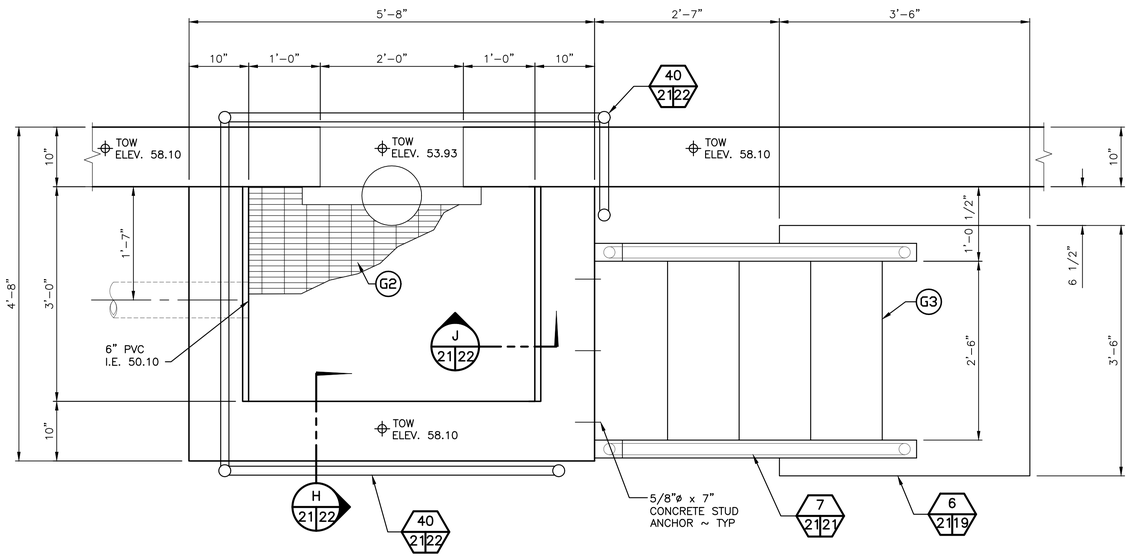
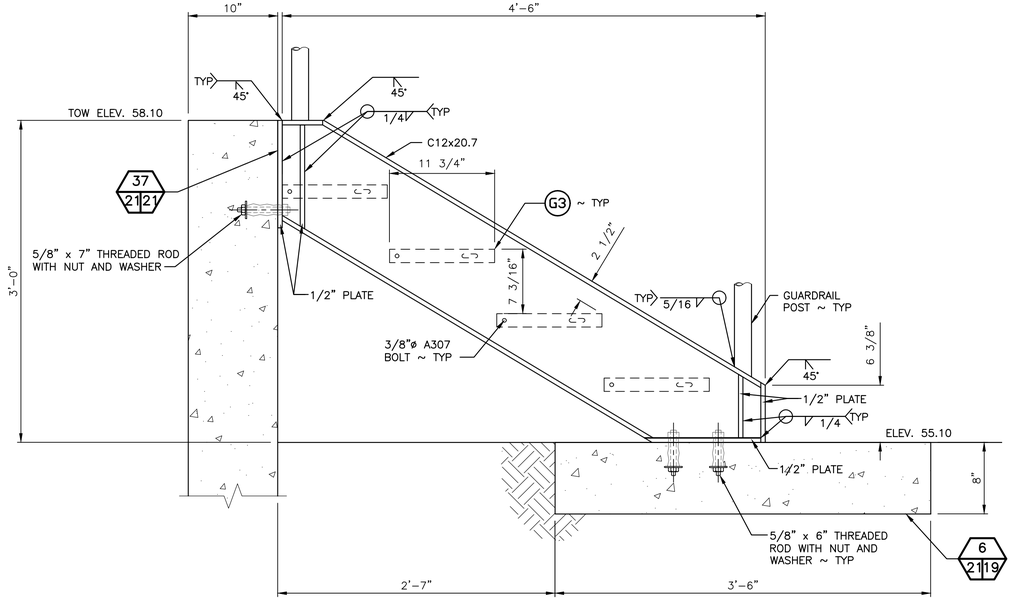


PLATE (37 21 21)
SCALE: 1" = 1'-0"



WEST DECANT TANK (36 15 21 / 36 24 21)
SCALE: 3/4" = 1'-0"



TYPICAL STAIRS ELEVATION (7 21 21)
SCALE: 1 1/2" = 1'-0"

80% CONSTRUCTION DOCUMENTS

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WASHINGTON STATE
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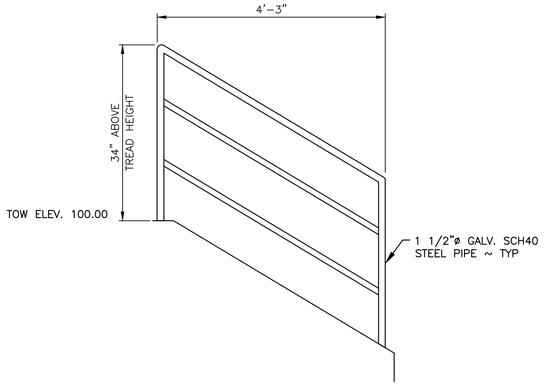
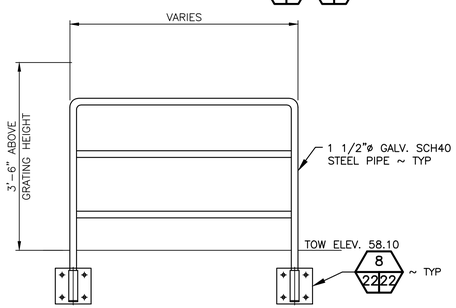
EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
MISCELLANEOUS DETAILS

PROJECT NO. MN:H107:12-1

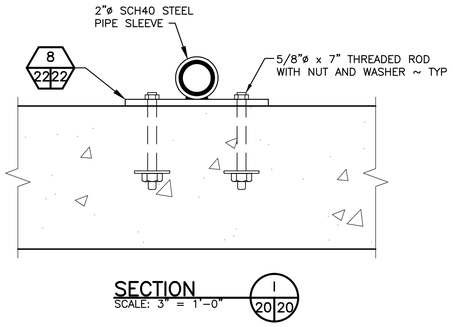
SHEET 21 OF 28



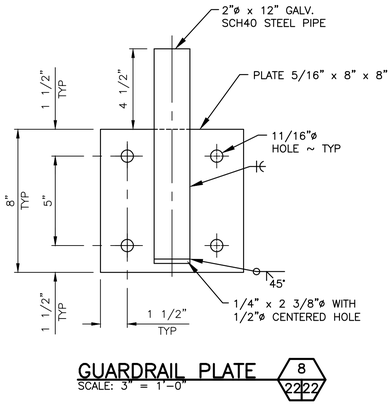
TYPE 1 GUARDRAIL (42 / 16 22 — 42 / 22 22)
SCALE: 3/4" = 1'-0"



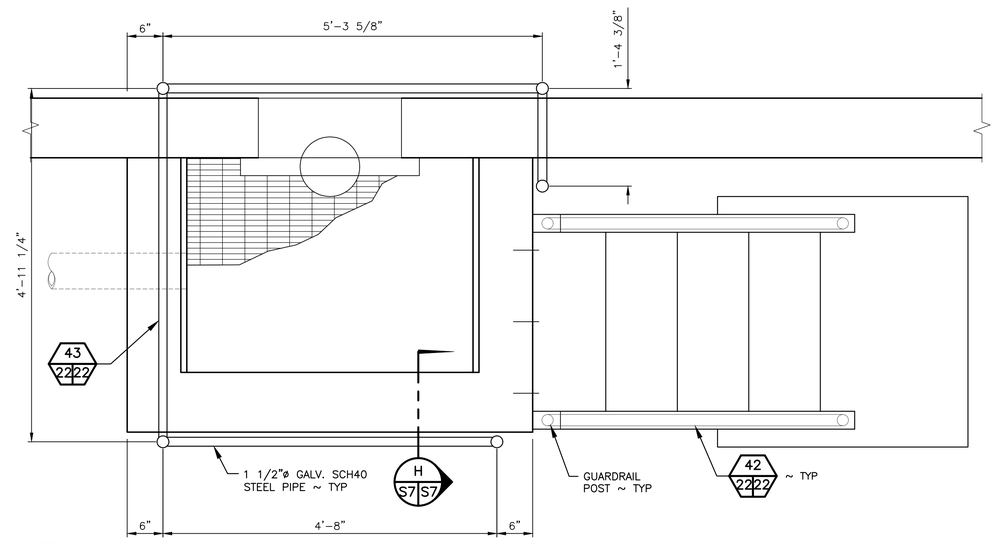
TYPE 2 GUARDRAIL (43 / 16 22 — 43 / 22 22)
SCALE: 3/4" = 1'-0"



SECTION I / 20 20
SCALE: 3" = 1'-0"

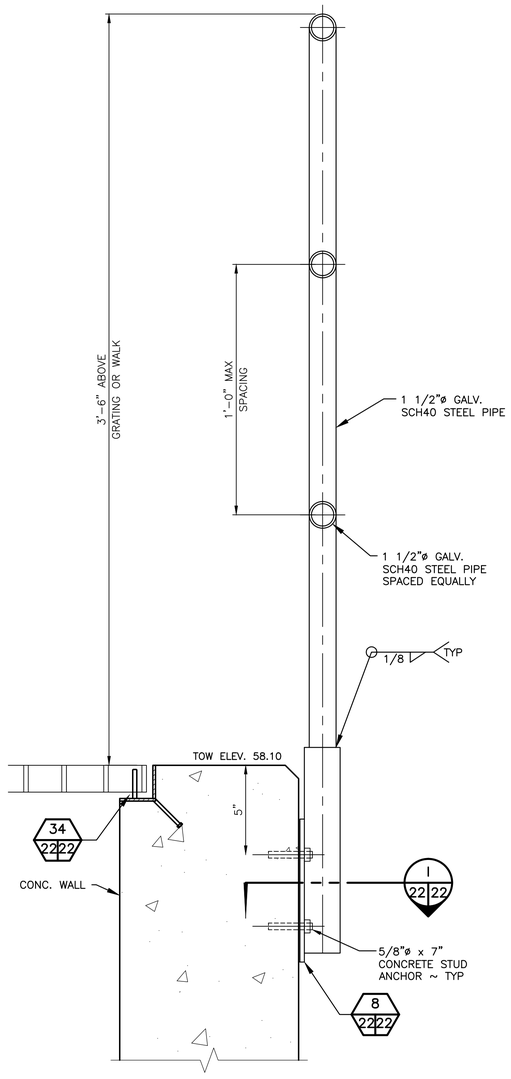


GUARDRAIL PLATE 8 / 22 22
SCALE: 3" = 1'-0"

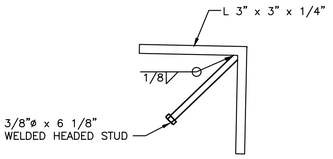


NOTE:
DETAIL MIRRORED FOR NORTHERN DECANT TANK

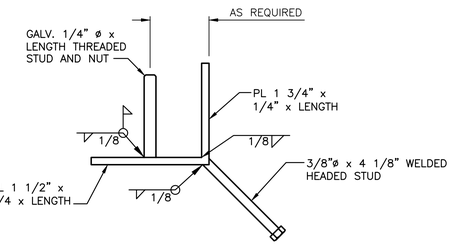
WEST DECANT TANK GUARDRAIL 40 / 21 22
SCALE: 3/4" = 1'-0"



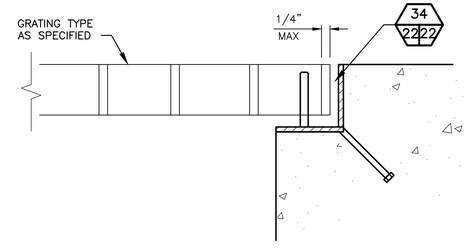
GUARDRAIL H / 21 22 — H / 22 22
SCALE: 3" = 1'-0"



NOSING ANGLE 33 / 19 22
SCALE: 6" = 1'-0"



BEARING DETAIL 34 / 19 22 — 34 / 22 22
NOT TO SCALE



GRATING SUPPORT J / 21 22
NOT TO SCALE

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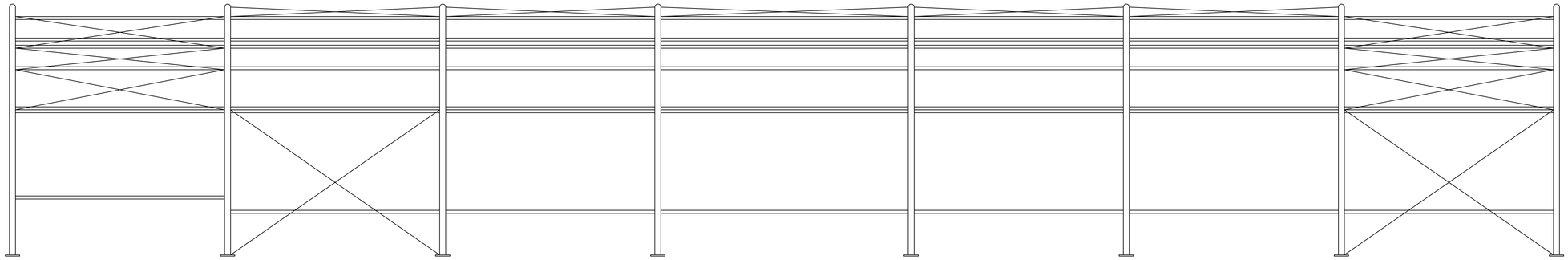
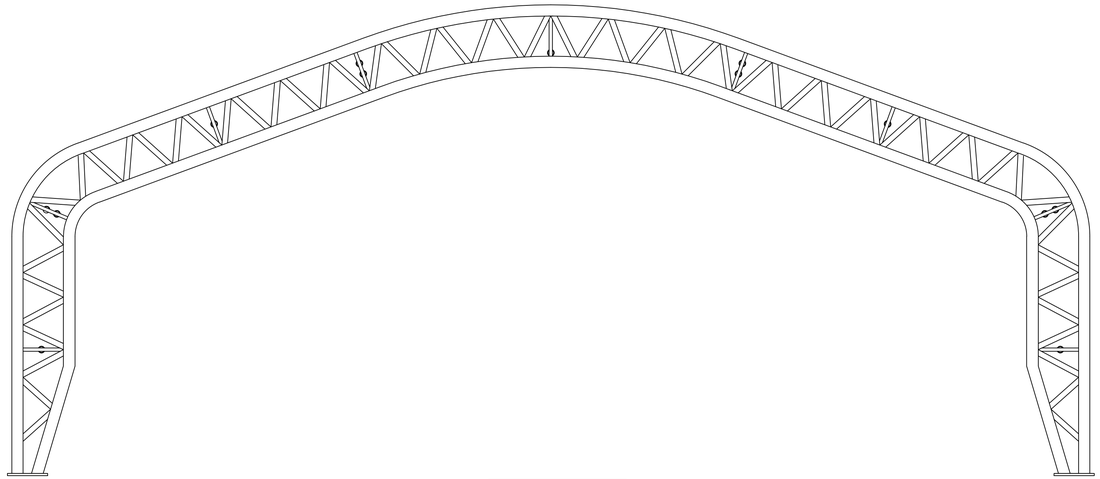
EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
GUARDRAIL

PROJECT NO. MN:H107:12-1

SHEET 22 OF 28



SIDE ELEVATION



FRONT ELEVATION

POLLUTION ABATEMENT POND COVER

NOT TO SCALE

NOTES:

1. POND COVER SHALL BE FABRIC STRUCTURE WITH A GABLE OR MODIFIED QUONSET PROFILE WITH 8' HIGH SIDEWALLS AND AN OVERALL HEIGHT OVER 14'. THE SHELTER WILL BE MOUNTED ON A 10" WIDE, STEEL REINFORCED, CAST IN–PLACE CONCRETE WALL. EPOXY ANCHORS WILL BE USED TO ATTACH VENDOR SUPPLIED BRACKETS TO POND WALL WITH BOLTS AS DETERMINED BY THE STRUCTURAL CALCULATIONS.

2. THE FABRIC STRUCTURE AND FRAME SHALL BE DESIGNED TO WITHSTAND WIND AND SNOW LOADS PER CURRENT IBC CODES.

3. THE FRAME IS TO BE FABRICATED FROM GALVANIZED STEEL TUBING (ALLIED FLO–COAT TUBE OR EQUIVALENT) OR STRUCTURAL ALUMINUM. ALL STEEL COMPONENTS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.

4. MINIMUM 20 OUNCE COATED POLYESTER REINFORCED PVC WHITE OPAQUE FABRIC WITH PVDF TOPCOAT. FABRIC TO MEET NFPA 701 – SMALL AND LARGE–SCALE TEST FOR FLAME RETARDENCE. FABRIC TO HAVE MINIMUM STRIP TENSILE STRENGTH WARP/FILL OF 260/250 POUNDS. EXPECTED FABRIC LIFE IS 15 TO 20 YEARS.

5. FABRIC TO BE TENSIONED BOTH HORIZONTALLY (ALONG THE LENGTH OF THE SHELTER) AND VERTICALLY (AT THE SIDES) USIING 2", 10,000–POUND RATCHETS LOCATED NO MORE THAN FIVE FEET APART.

6. VENDOR TO PROVIDE DRAWINGS AND STRUCTURAL CALCULATIONS, BOTH SEALED BY A STRUCTURAL ENGINEER, LICENSED IN THE STATE OF WASHINGTON FOR APPROVAL BY THE WDFW PRIOR TO FABRICATION. VENDOR SHALL INCLUDE INSTALLATION INSTRUCTIONS FOR THE STRUCTURE.

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER S14

kpff Consulting Engineers
4200 6th Avenue SE, Suite 309
Lacey, Washington 98503
(360) 292-7230 Fax (360) 292-7231

WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY

APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11–9–2012

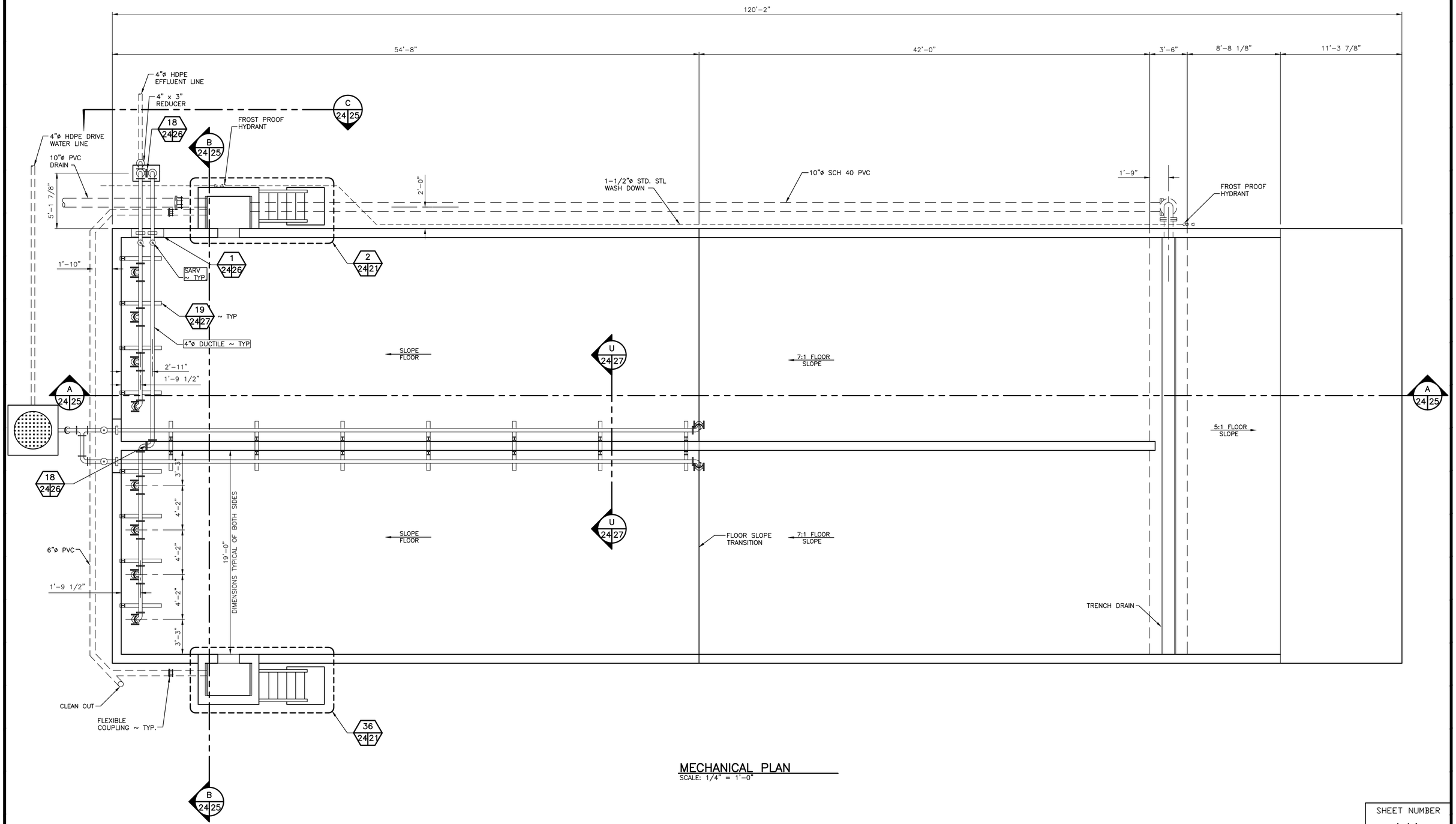
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

POND COVER

PROJECT NO. MN:H107:12–1

SHEET 23 OF 28



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

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER M1

kpff Consulting Engineers
4200 6th Avenue SE, Suite 309
Lacey, Washington 98503
(360) 292-7230 Fax (360) 292-7231

WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE

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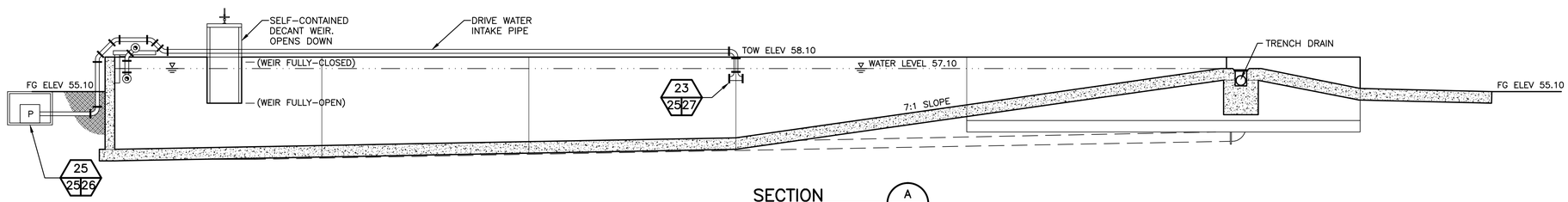
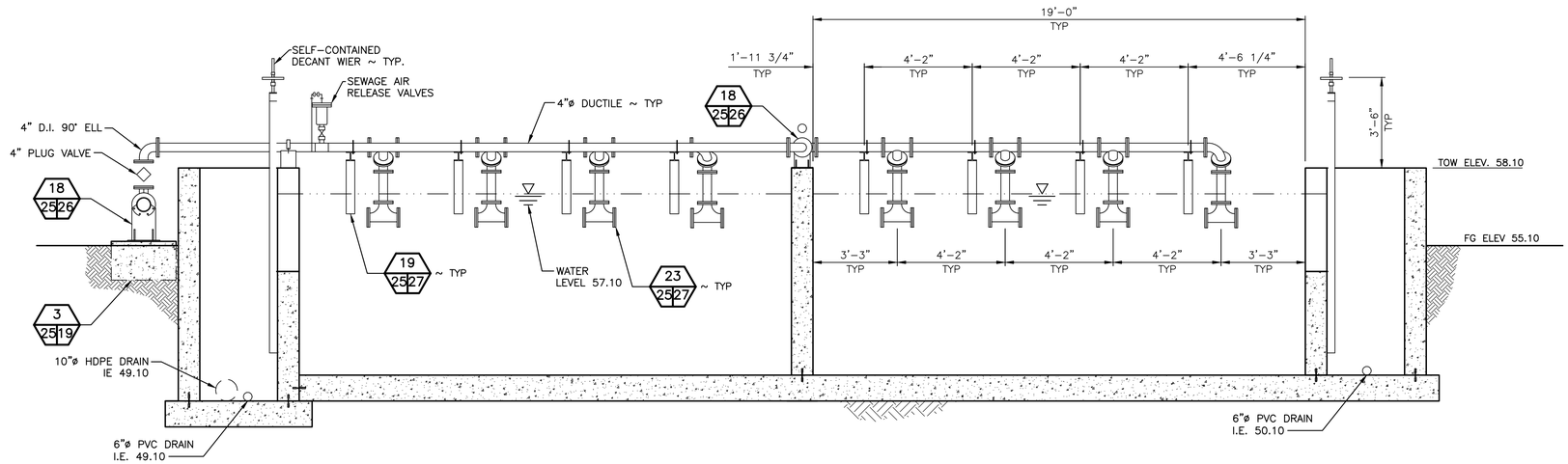
EELLS SPRINGS HATCHERY
POLLUTION ABATEMENT PONDS
MECHANICAL PLAN

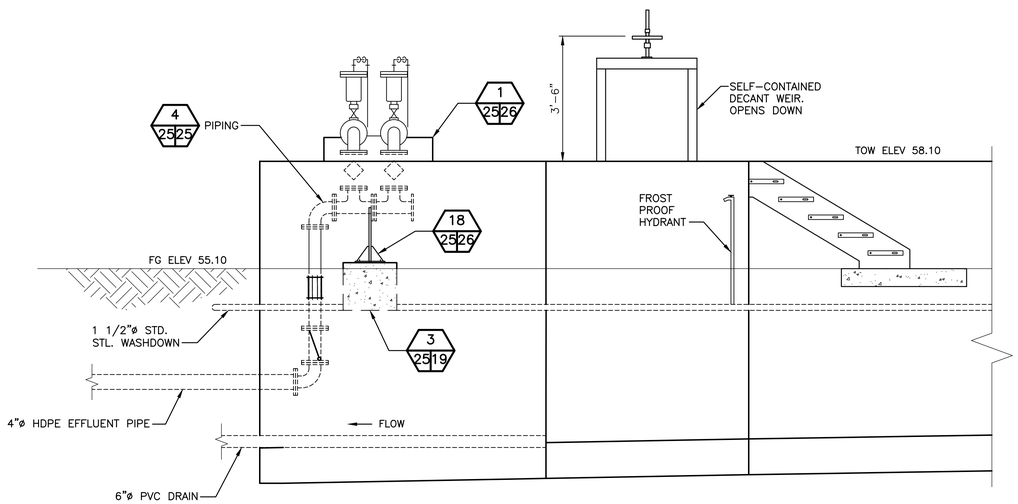
PROJECT NO. MN:H107:12-1
SHEET 24 OF 28



SECTION
SCALE: 1/4" = 1'-0"
A
24 25



SECTION
SCALE: 1/4" = 1'-0"
B
24 25



SECTION
SCALE: 1/4" = 1'-0"
C
24 25

DETAIL
SCALE: 3/4" = 1'-0"
4
25 25

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER
M2

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WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE

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PROGRAM ..... DATE: .....

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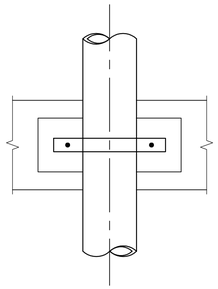
DESIGNED BY KPK
CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

EELLS SPRINGS HATCHERY

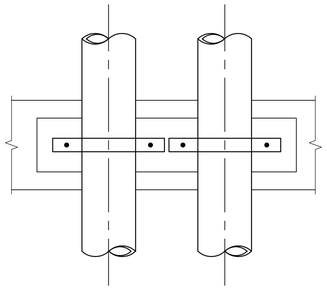
POLLUTION ABATEMENT PONDS
MECHANICAL SECTIONS & DETAILS

PROJECT NO.
MN:H107:12-1

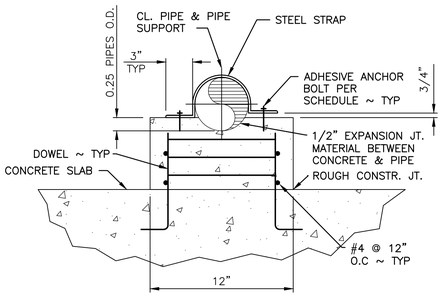
SHEET 25 OF 28



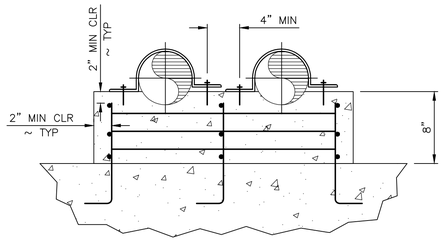
PLAN VIEW



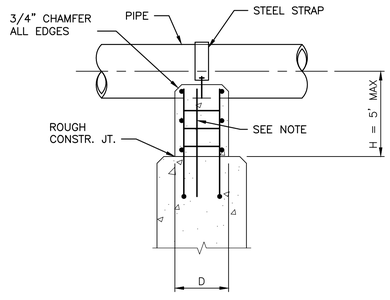
PLAN VIEW



FRONT VIEW



FRONT VIEW



SIDE VIEW

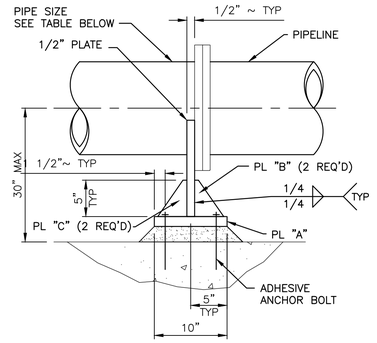
PIPE SIZE	"D"	DOWELS	ADHESIVE ANCHOR BOLT	STEEL STRAP
≤ 6"	6"	#4 @ 12"–SEE NOTE	1/2" – 4" EMBED	1/4" x 1 1/2"
>6" ≤ 12"	1'–0"	#4 @ 12"	5/8" – 5" EMBED	3/8" x 2"

NOTE:

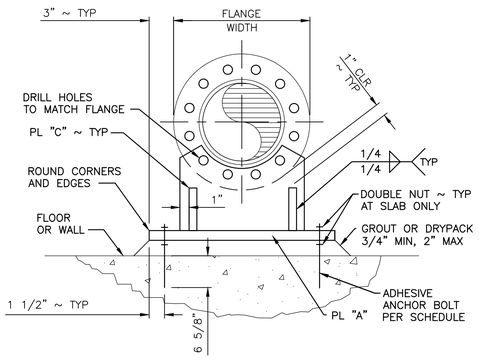
PROVIDE DOWELS AND TIES ONLY AT MID–WIDTH FOR PIPE SIZE ≤ 6"

PIPE SUPPORT BLOCKS

NOT TO SCALE — 15 26 | 24 26 | 25 26



SIDE VIEW

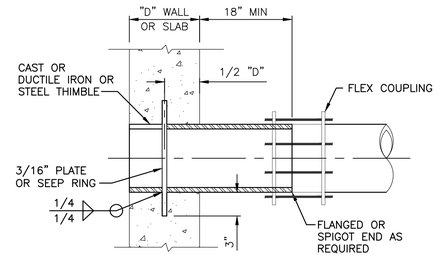


END VIEW

SUPPORT (T10S)				ADHESIVE ANCHOR BOLT	REMARKS
PIPE SIZE	MEMBERS				
	PL. "A"	PL. "B"	PL. "C"		
≤ 12"	1/2"	–	–	3/4"	PL. "B" & "C" NOT REQ'D.

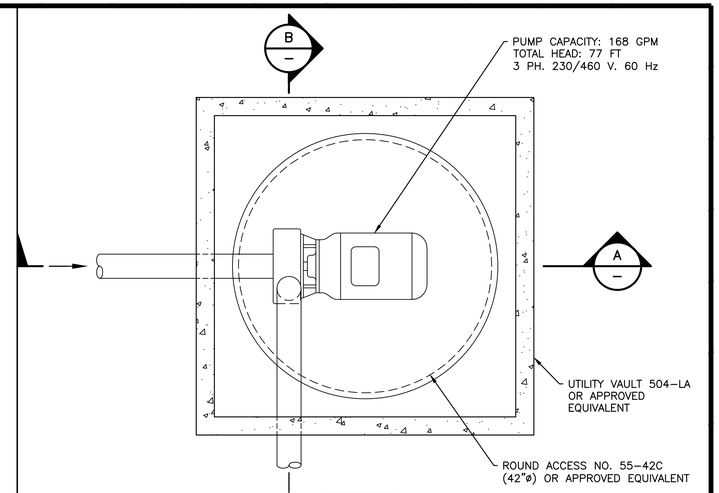
STEEL PIPE SUPPORT (T10S)

NOT TO SCALE (SEISMIC RESTRAINT) — 18 24 23 | 18 25 23

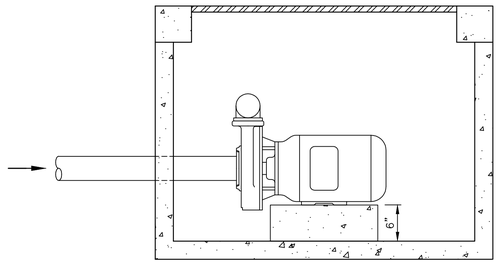


TANK THIMBLE DETAIL WITH THRUST RESISTANCE

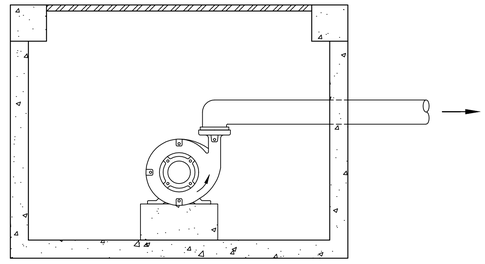
NOT TO SCALE — 15



PLAN VIEW



SECTION A



SECTION B

DRIVE WATER PUMP

NOT TO SCALE — 25 25 26

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER M3

kpff Consulting Engineers
4200 6th Avenue SE, Suite 309
Lacey, Washington 98503
(360) 292-7230 Fax (360) 292-7231

WASHINGTON STATE DEPARTMENT OF FISH AND WILDLIFE

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PROGRAM ..... DATE: .....

0 —— 1"
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CHECKED BY MRS
DRAWN BY NLA
DATE 11–9–2012

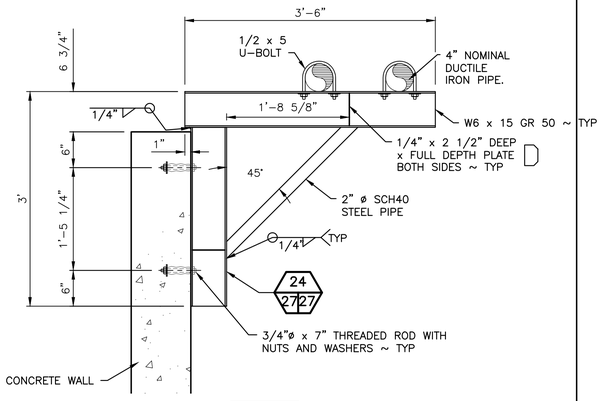
EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

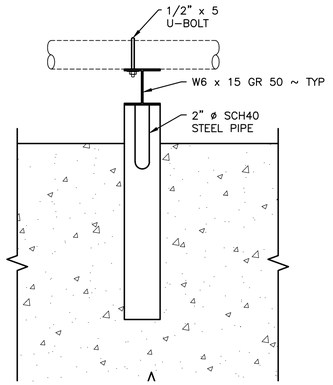
MECHANICAL DETAILS

PROJECT NO. MN:H107:12–1

SHEET 26 OF 28



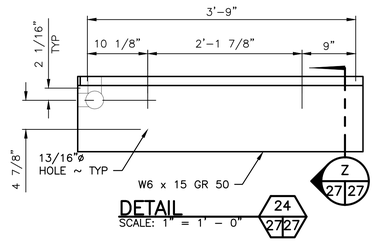
SIDE VIEW



FRONT VIEW

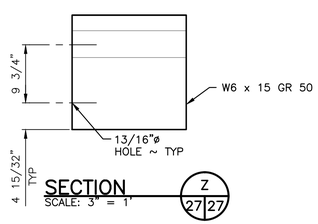
STEEL CANTILEVER PIPE SUPPORT (SEISMIC RESTRAINT) — 19 (24 27) | 19 (25 27) | 19 (27 27)

NOT TO SCALE



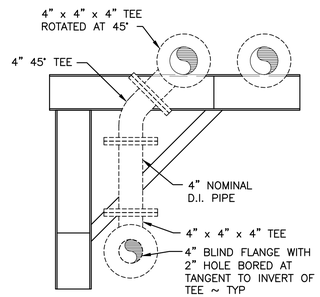
DETAIL — 24 (27 27)

SCALE: 1" = 1' - 0"

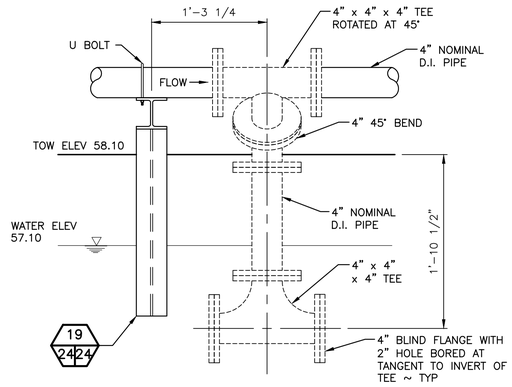


SECTION — Z (27 27)

SCALE: 3" = 1'



SIDE



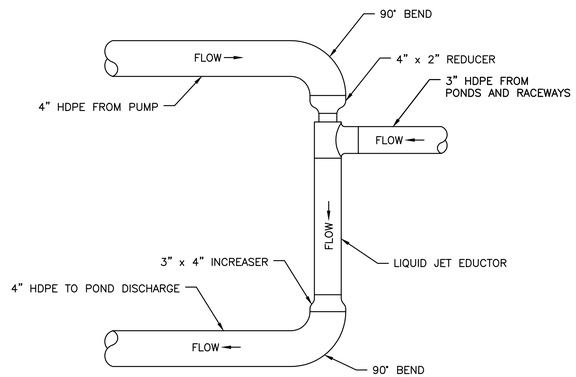
FRONT

NOTE:

ALL PIPE IS 4" DUCTILE IRON.

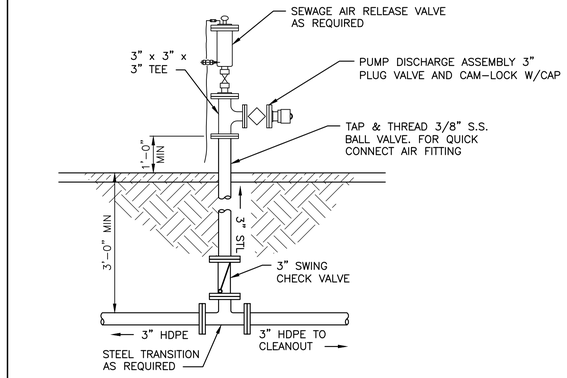
INLET DETAIL — 23 (25 27)

NOT TO SCALE



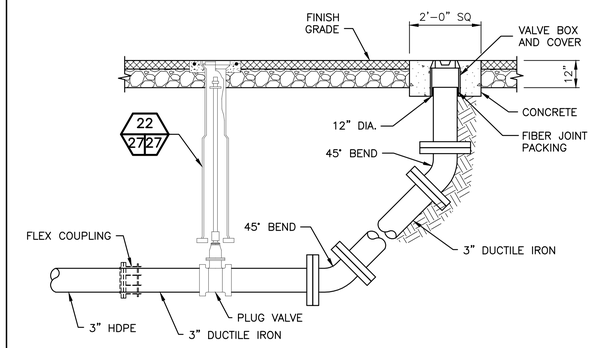
VENTURI EDUCTOR — 24 (7 27)

SCALE: NOT TO SCALE



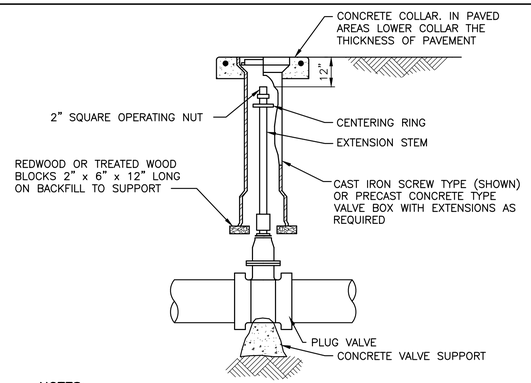
SUCTION DISCHARGE ASSEMBLY — 20 (- 27)

NOT TO SCALE



TYPICAL CLEANOUT — 21 (- 27)

NOT TO SCALE

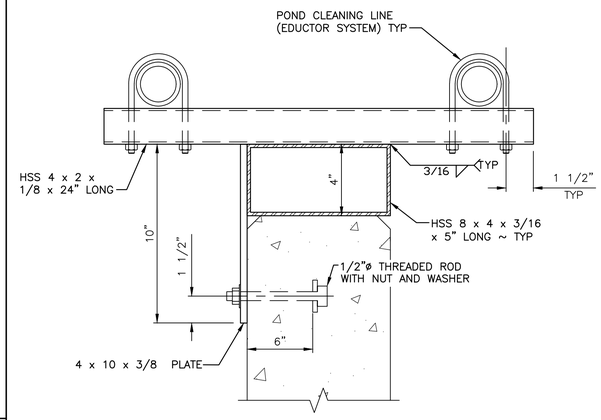


NOTES:

1. PROVIDE POSITION INDICATORS ON ALL BURIED VALVES IN ACCORDANCE WITH THE SPECIFICATIONS

TYPICAL BURIED VALVE INSTALLATION — 22 (27 27)

NOT TO SCALE



SECTION — U (11 27) | U (24 27)

SCALE: 3" = 1'-0"

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER M4

kpff Consulting Engineers
4200 6th Avenue SE, Suite 309
Lacey, Washington 98503
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WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

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0 —— 1"
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ONE INCH ON
ORIGINAL DRAWINGS

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CHECKED BY MRS
DRAWN BY NLA
DATE 11-9-2012

EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

MECHANICAL DETAILS & SECTIONS

PROJECT NO. MN:H107:12-1

SHEET 27 OF 28

PROVIDE ELECTRICAL SERVICE TO DRIVE WATER PUMP. PUMP REQUIRES 3-PHASE, 230/460 VOLT, 60 HZ POWER.

4" X 4"" CONC MON
N: 7000.91
E: 5327.92
ELEV: 53.68

KPFF CONTROL # 2 40D SPIKE
N: 6907.80
E: 5386.85
ELEV: 55.20

KPFF CONTROL # 1 MAG NAIL
N: 6822.86
E: 5617.20
ELEV: 55.16

20 0 20 40 60

80% CONSTRUCTION DOCUMENTS

SHEET NUMBER E1

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EELLS SPRINGS HATCHERY

POLLUTION ABATEMENT PONDS

ELECTRICAL PLAN & DETAILS

PROJECT NO. MN:H107:12-1

SHEET 28 OF 28