# WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

## Humptulips Hatchery
## Hatchery Creek Pipe Line

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## INDEX

SHEET NO.


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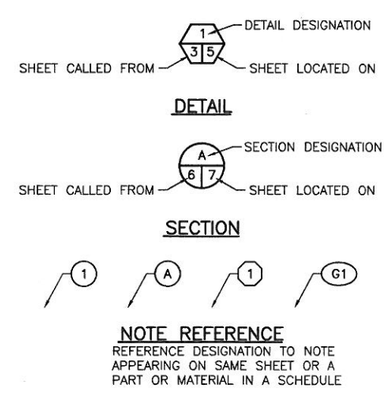
## ABBREVIATIONS

| | |
|---|---|
| APPROX | – APPROXIMATELY |
| BOTT | – BOTTOM |
| ℄ | – CENTERLINE |
| CMP | – CORRUGATED METAL PIPE |
| CO | – COUNTY |
| CY | – CUBIC YARDS |
| EL | – ELEVATION |
| GA | – GAUGE |
| GALV | – GALVANIZED |
| HOR | – HORIZONTAL |
| HWY | – HIGHWAY |
| IE | – INVERT ELEVATION |
| JT | – JOINT |
| LG | – LONG |
| MAX | – MAXIMUM |
| PERFOR | – PERFORATED |
| RD | – ROAD |
| REQD | – REQUIRED |
| SCHED | – SCHEDULE |
| SHT | – SHEET |
| STA | – STATION |
| VERT | – VERTICAL |

## 50% DESIGN DEVELOPMENT SUBMITTAL

## SHEET SYMBOLS

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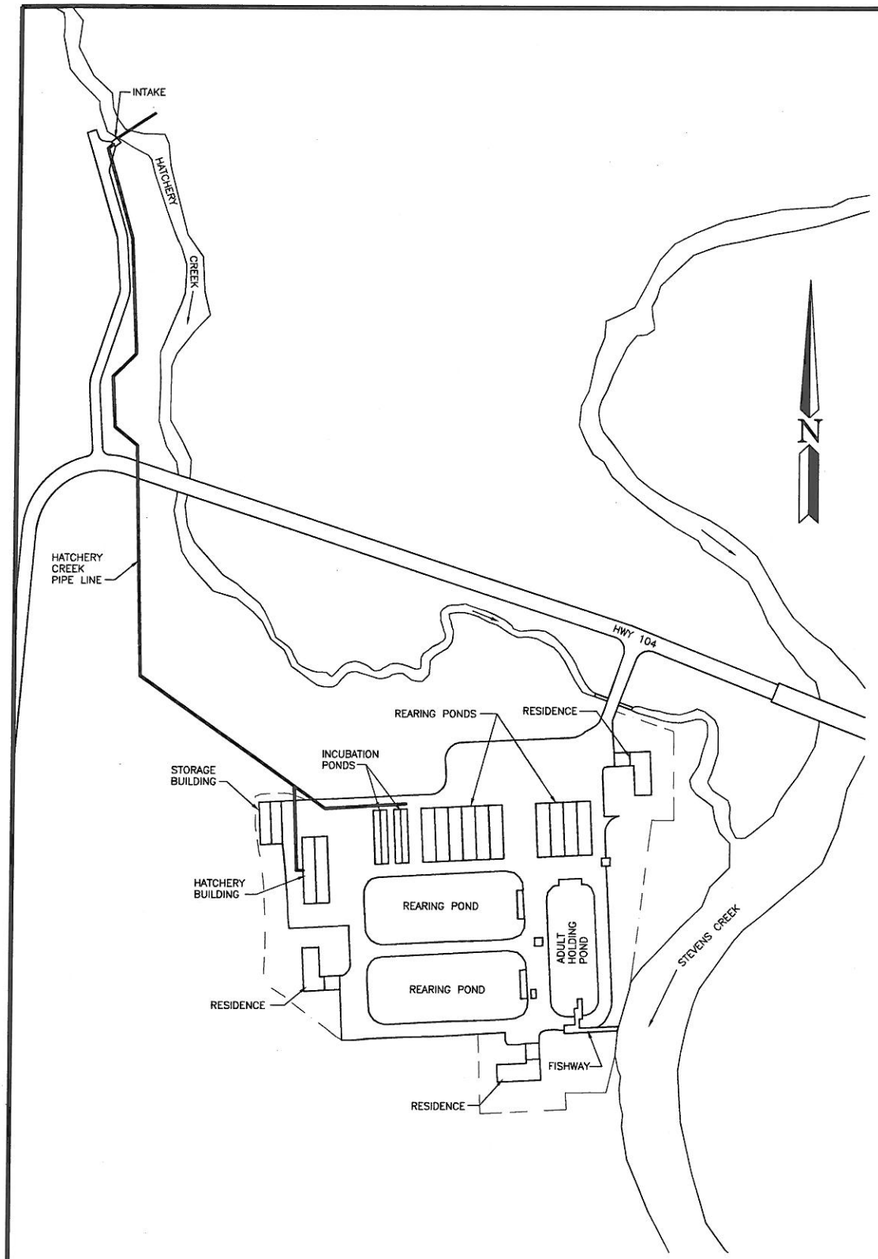
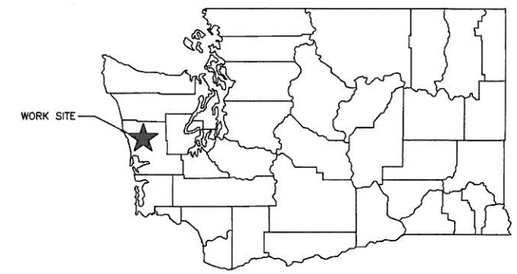
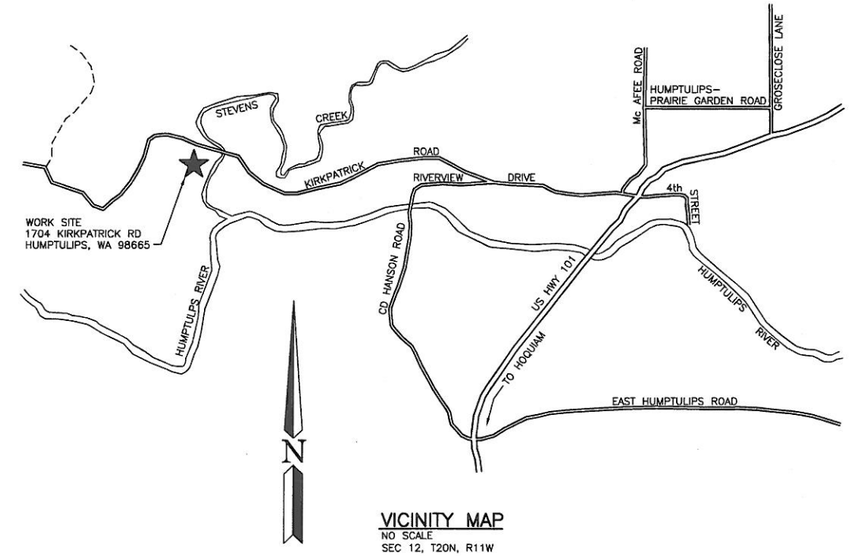
| PROJECT NO. | |
|---|---|
| SHEET 1 | OF |




SITE PLAN
SCALE: 1" = 100'




STATE MAP
NO SCALE




VICINITY MAP
NO SCALE
SEC 12, T20N, R11W

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

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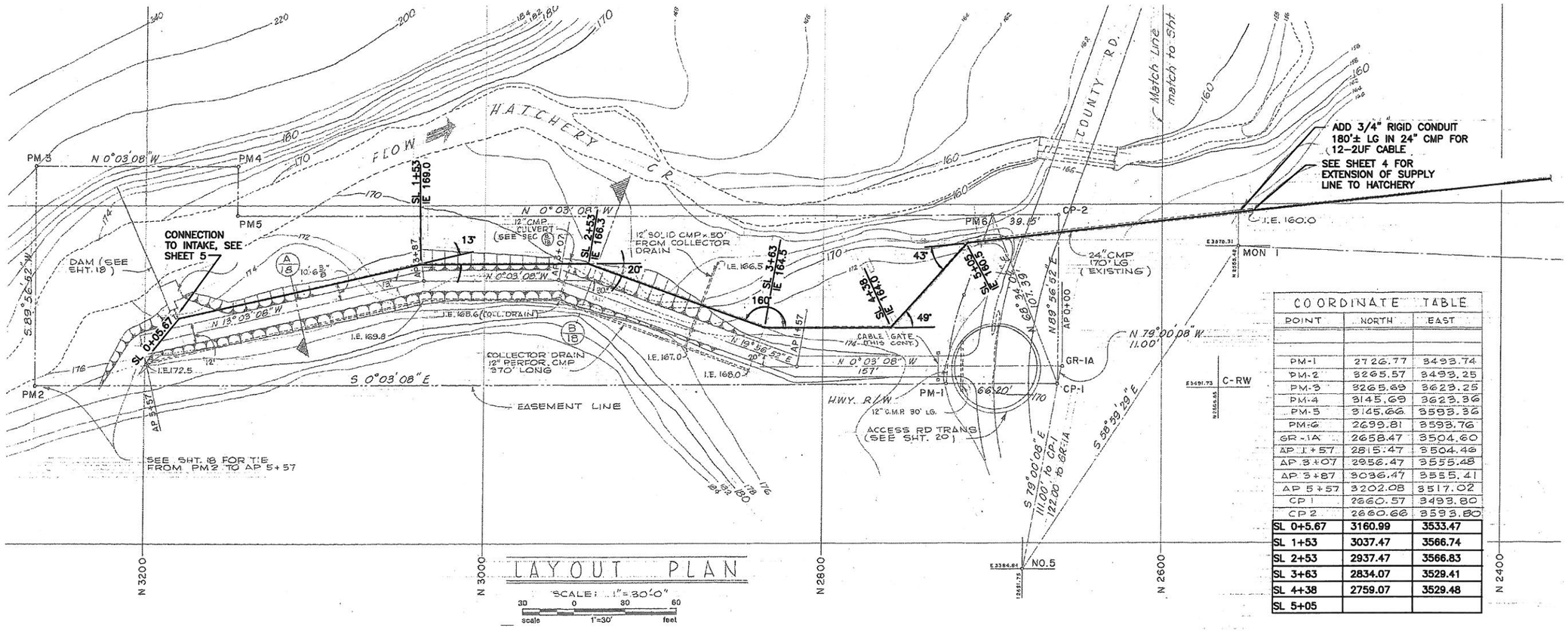
HUMPTULIPS HATCHERY
HATCHERY CREEK PIPE LINE
EXISTING SITE PLAN AND VICINITY MAP

PROJECT NO.

SHEET 2 OF

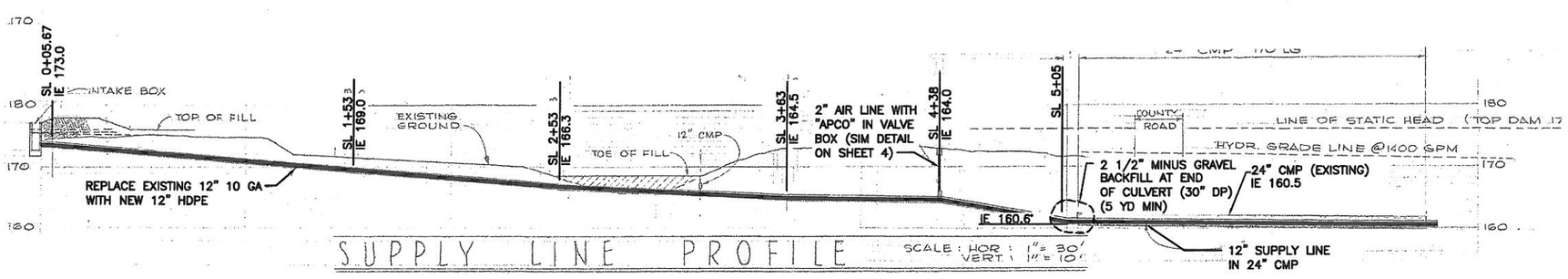



## LAYOUT PLAN

SCALE: 1"=30'-0"

30 0 30 60
scale 1"=30' feet

| COORDINATE TABLE | | |
|---|---|---|
| POINT | NORTH | EAST |
| | | |
| PM-1 | 2726.77 | 3493.74 |
| PM-2 | 3265.57 | 3493.25 |
| PM-3 | 3265.69 | 3623.25 |
| PM-4 | 3145.69 | 3623.36 |
| PM-5 | 3145.66 | 3593.36 |
| PM-6 | 2699.81 | 3593.76 |
| GR-1A | 2658.47 | 3504.60 |
| AP 1+57 | 2815.47 | 3504.46 |
| AP 3+07 | 2956.47 | 3555.48 |
| AP 3+87 | 3036.47 | 3555.41 |
| AP 5+57 | 3202.08 | 3517.02 |
| CP 1 | 2660.57 | 3493.80 |
| CP 2 | 2660.66 | 3593.80 |
| **SL 0+5.67** | **3160.99** | **3533.47** |
| **SL 1+53** | **3037.47** | **3566.74** |
| **SL 2+53** | **2937.47** | **3566.83** |
| **SL 3+63** | **2834.07** | **3529.41** |
| **SL 4+38** | **2759.07** | **3529.48** |
| **SL 5+05** | | |




## SUPPLY LINE PROFILE

SCALE: HOR: 1"= 30' VERT: 1"= 10'

**GENERAL NOTES:**

CONTRACTOR ALLOWED TO REPLACE HORIZONTAL BENDS WITH BENDING RADIUS OF HDPE PIPE AS LONG AS RESULTING HORIZONTAL ALIGNMENT DOES NOT EXCEED 10 FT OFFSET FROM EXISTING ALIGNMENT. CONTRACTOR SHALL REMOVE ALL EXISTING 12 INCH 10 GAUGE STEEL PIPE.

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0 — 1"
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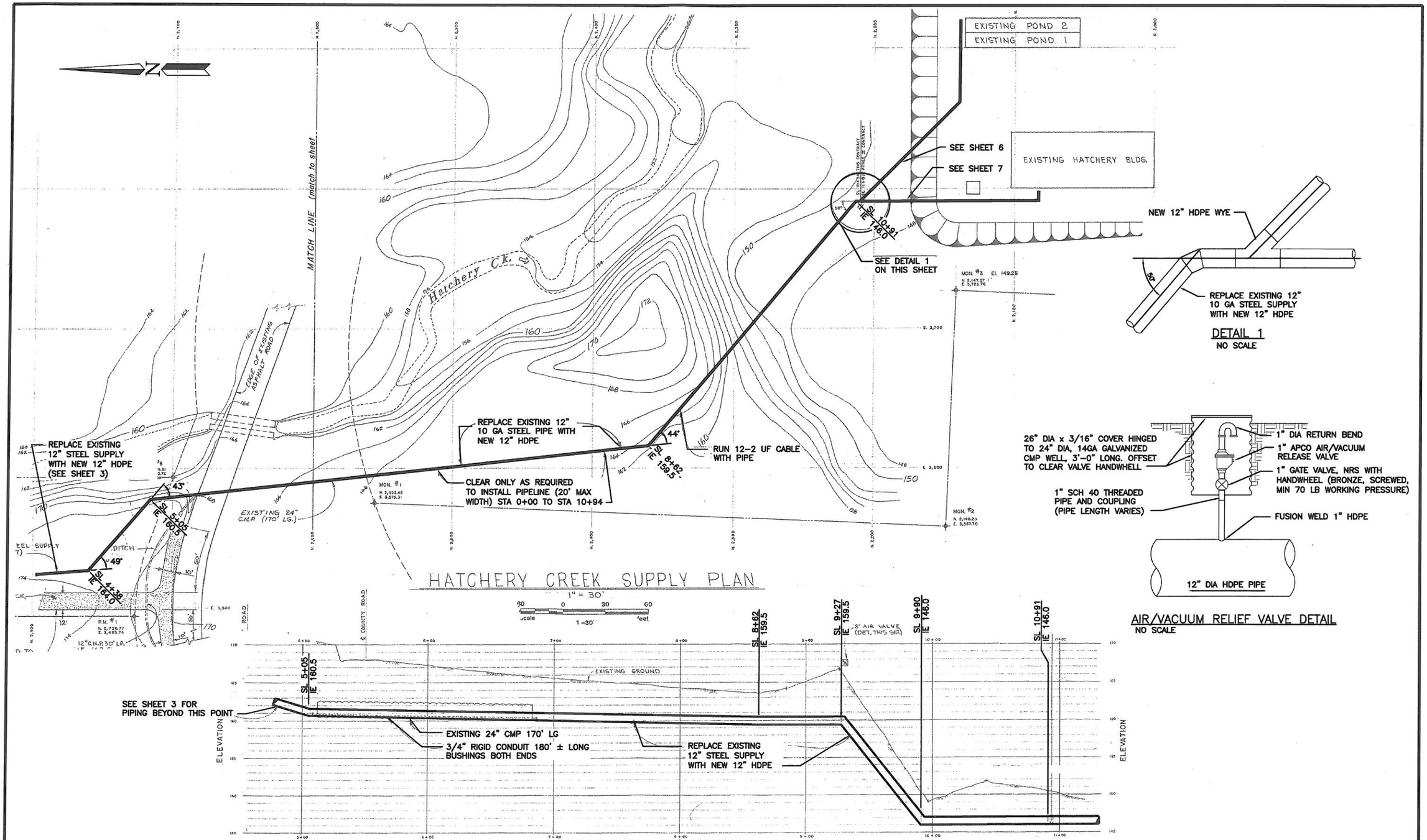
HUMPTULIPS HATCHERY

HATCHERY CREEK PIPE LINE

INTAKE SITE PLAN AND PROFILES

PROJECT NO.

SHEET 3 OF

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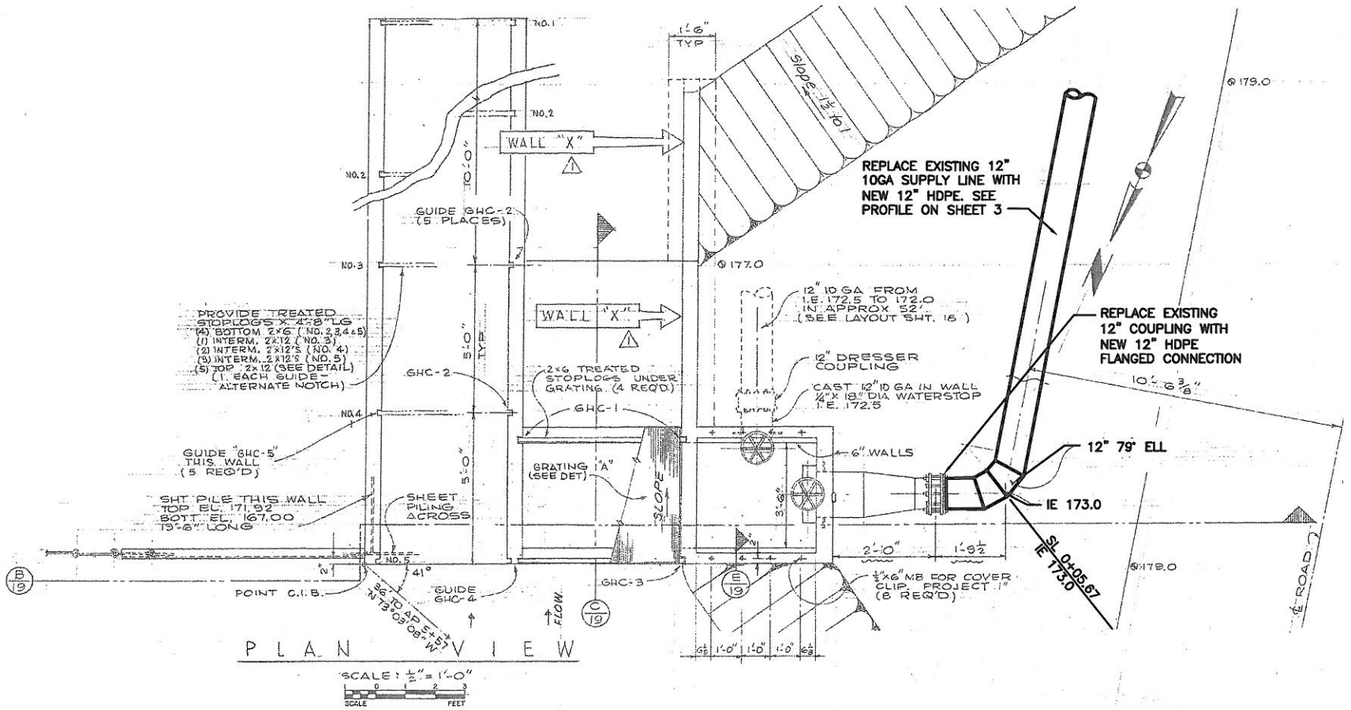
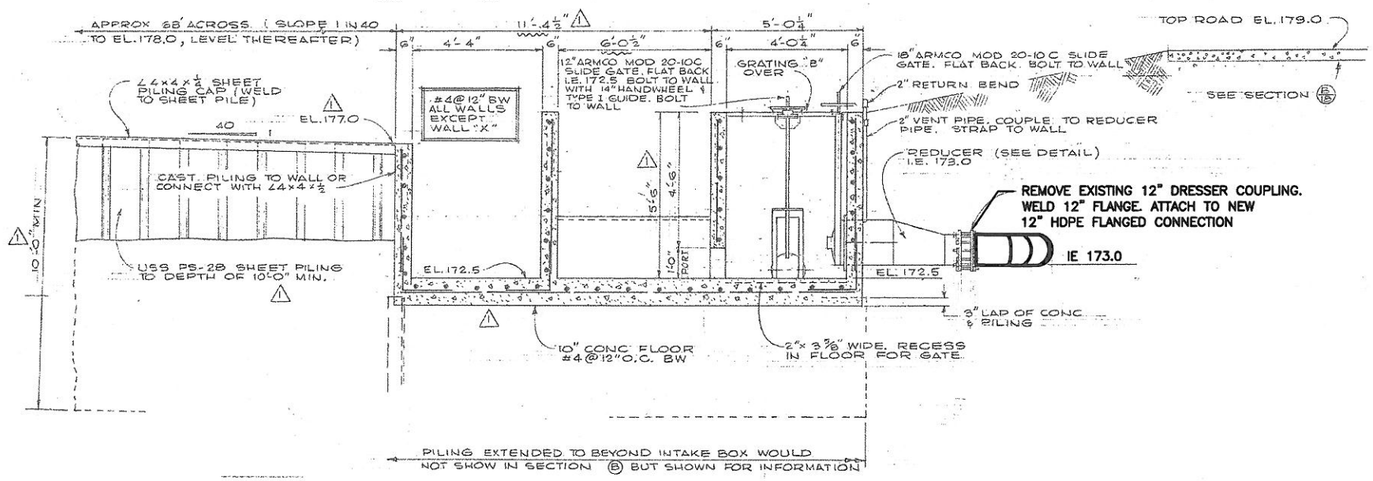
HUMPTULIPS HATCHERY
HATCHERY CREEK PIPE LINE
INTAKE PLAN AND PROFILE

PROJECT NO.
SHEET 4 OF




SECTION B/19

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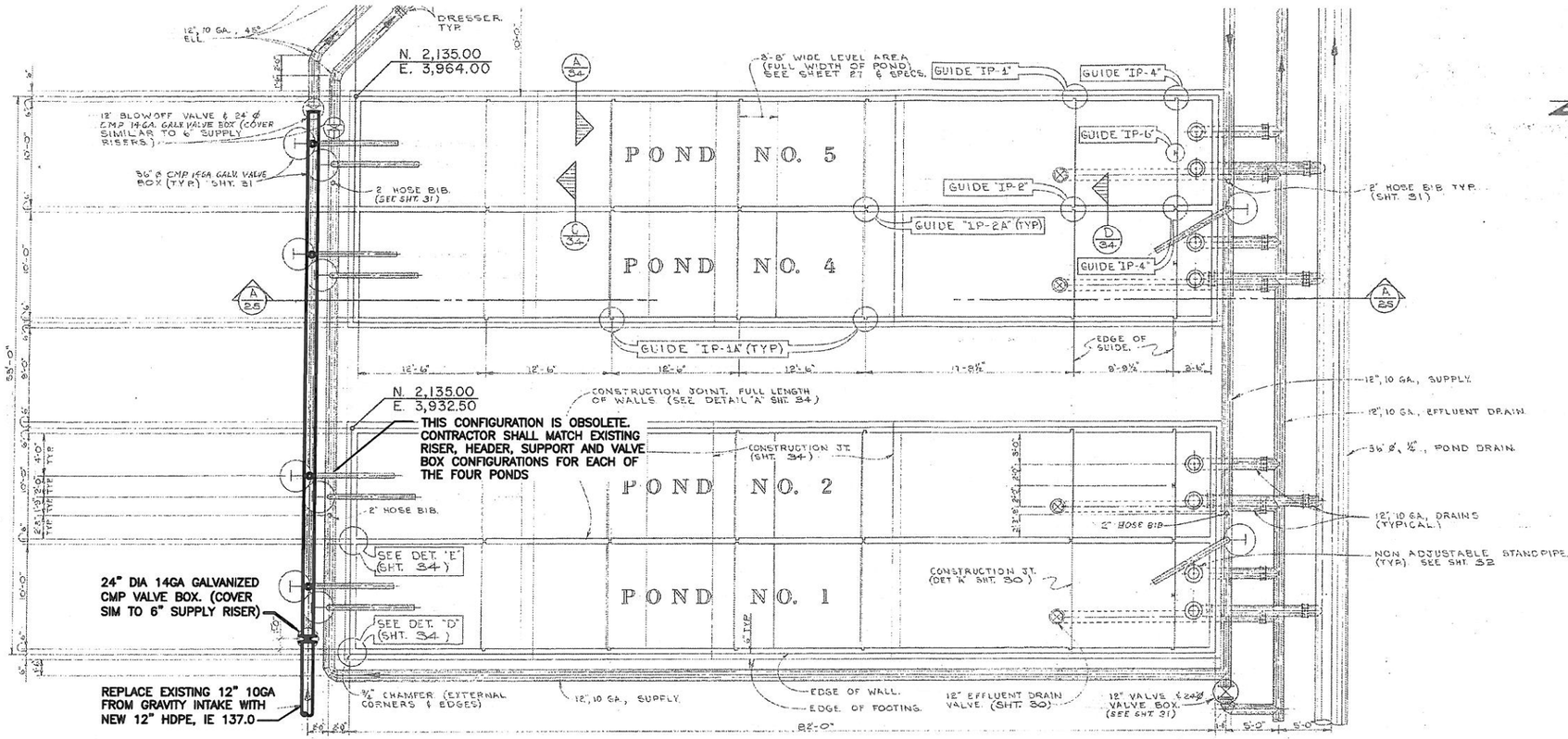
HUMPTULIPS HATCHERY

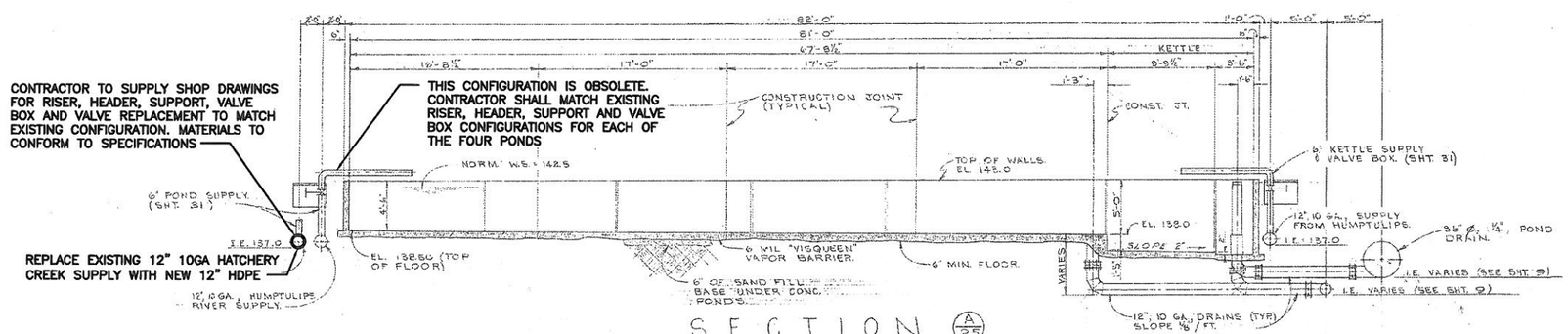
HATCHERY CREEK PIPE LINE
CONNECTION TO INTAKE
PLAN AND SECTION

PROJECT NO.

SHEET 5 OF




TOP VIEW




SECTION A/25

# INCUBATION PONDS ~ PLAN & SECTION

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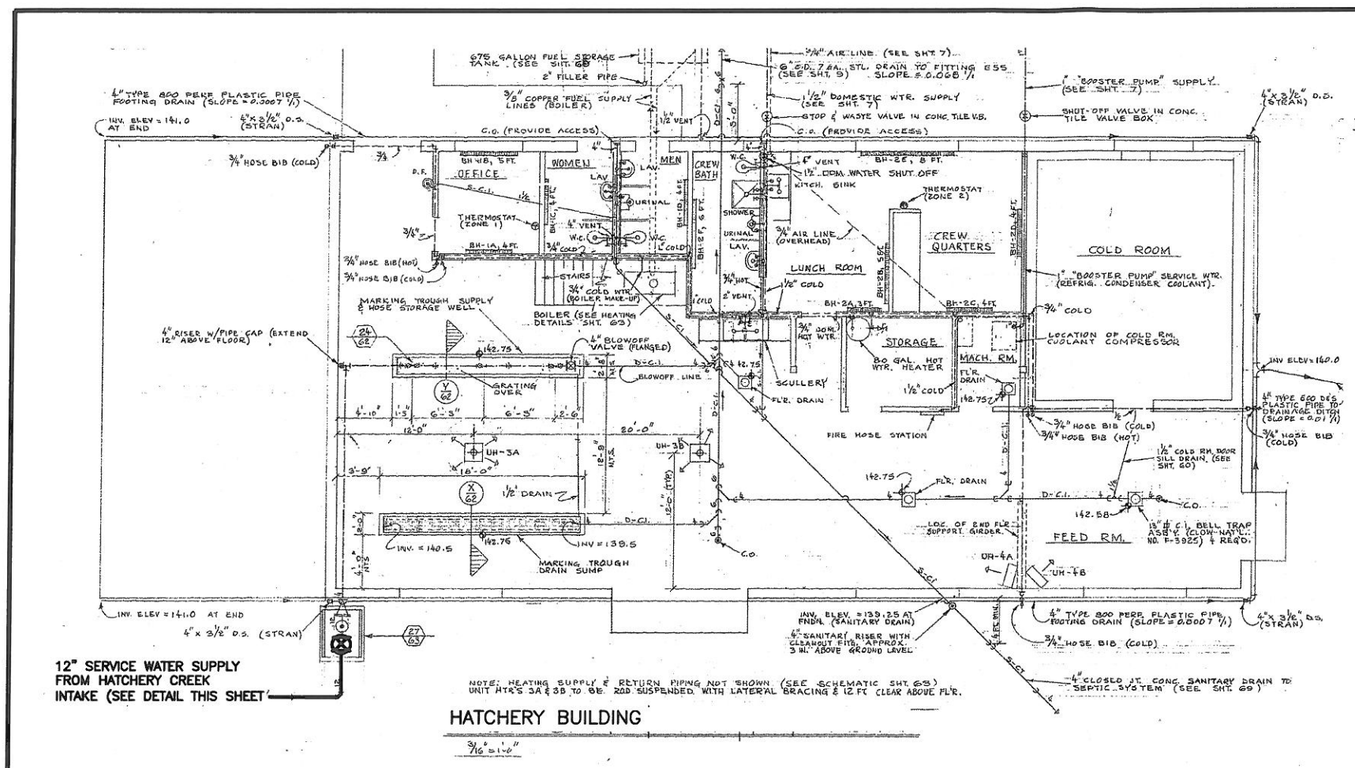
HUMPTULIPS HATCHERY

HATCHERY CREEK PIPE LINE
CONNECTION TO INCUBATION POND
PLAN AND SECTION

PROJECT NO.

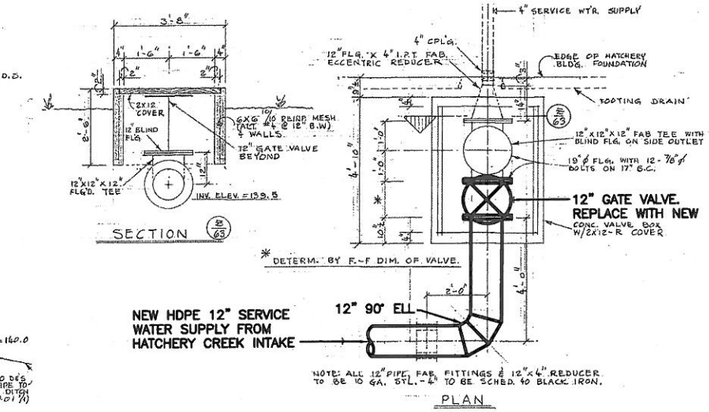
SHEET 6 OF




NOTE: HEATING SUPPLY & RETURN PIPING NOT SHOWN. (SEE SCHEMATIC SHT. 63) UNIT HTR'S 3A & 3B TO BE RDD SUSPENDED WITH LATERAL BRACING & 12 FT CLEAR ABOVE FLR.

## HATCHERY BUILDING

3/16" = 1'-0"

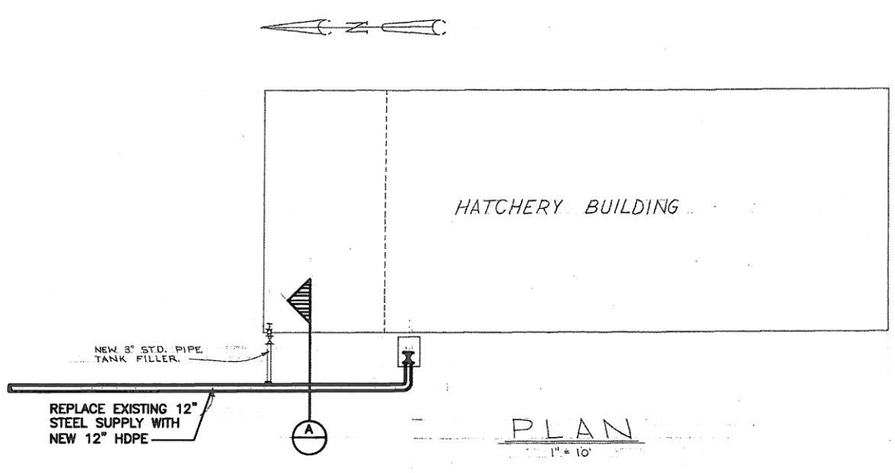



## SERVICE WATER SUPPLY

1/2" = 1'-0"

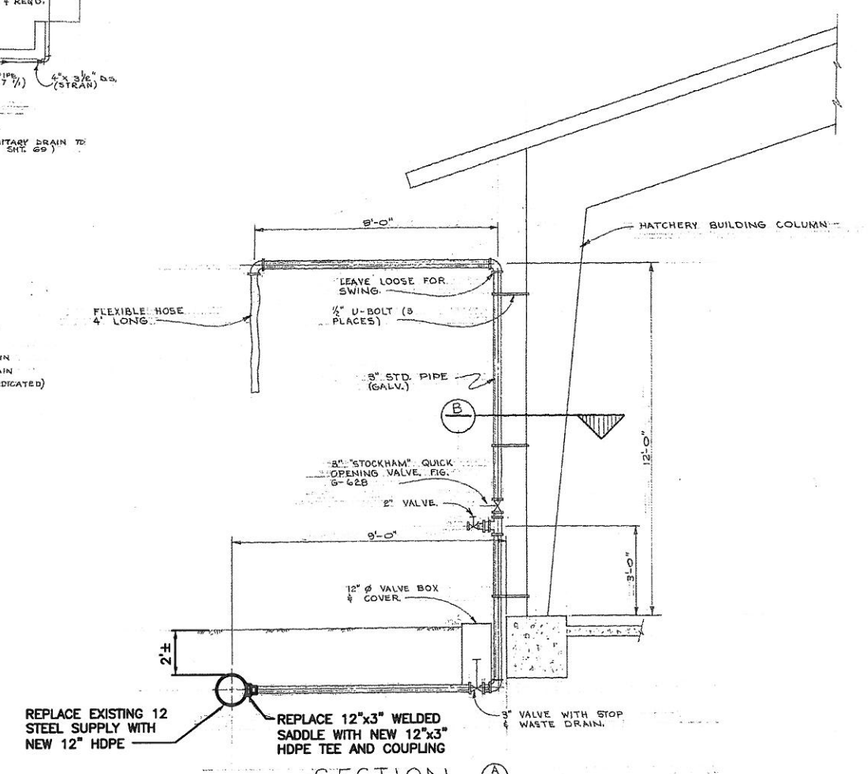
## LEGEND

- HOT WATER (DOMESTIC)
- DOMESTIC COLD WATER
- SERVICE COLD WATER
- S-C.I. CAST IRON SANITARY DRAIN
- S-C.T. CONCRETE TILE SANITARY DRAIN
- D-C.I. CAST. IRON SERVICE WATER DRAIN
- FOOTING DRAIN (FLOW DIRECTION INDICATED)




## PLAN

1" = 10'




## SECTION A

½" = 1'-0"

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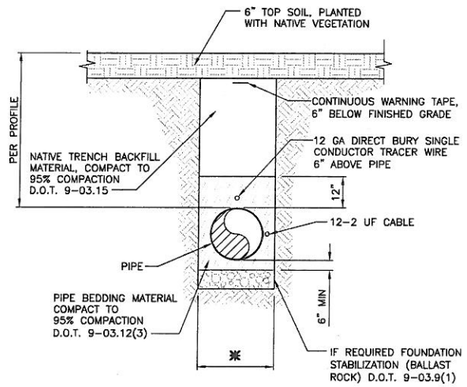
HUMPTULIPS HATCHERY

HATCHERY CREEK PIPE LINE
CONNECTION TO HATCHERY BUILDING
PLANS, DETAIL AND SECTION

PROJECT NO.

SHEET 7 OF



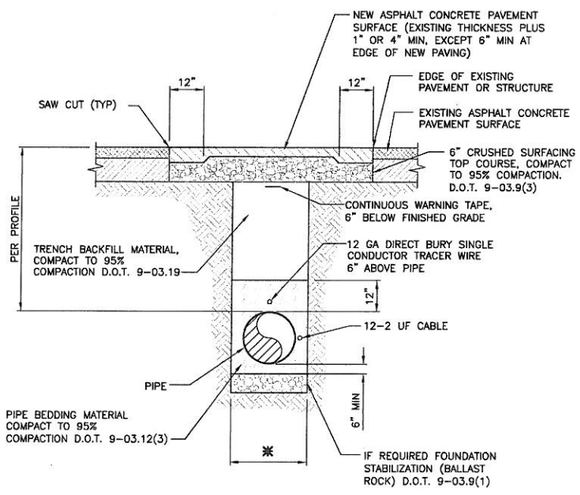

## TYPICAL PIPELINE TRENCH DETAIL

SCALE: NONE

**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"



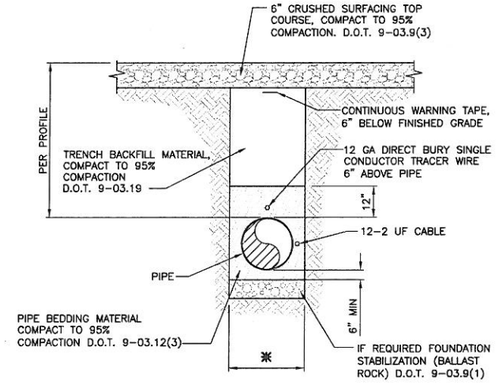

## TYPICAL PIPELINE TRENCH UNDER EXISTING PAVEMENT

SCALE: NONE

**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: NONE

**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"

**NOTES:**

BEARING AREA OF CONCRETE THRUST BLOCK BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2,000 PONDS PER SQUARE FOOT.

AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZE, PRESSURES AND SOIL CONDITIONS.

CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.

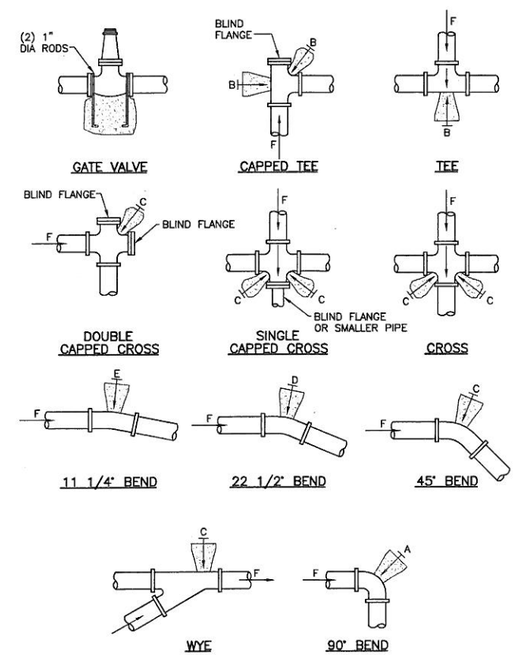
BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING OF JOINT.

CONTRACTOR SHALL INSTALL ADEQUATE BLOCKING TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND AND OPERATION PRESSURE UNDER ALL CONDITIONS OF SERVICE.

THRUST BLOCK – TABLE
MI. BEARING AREA AGAINST UNDISTURBED SOIL
SQUARE FEET

| PIPE SIZE | A (ft.)² | B (ft.)² | C (ft.)² | D (ft.)² | E (ft.)² | X (ft.)² |
|---|---|---|---|---|---|---|
| 4" | 3 | 1 | 1 | 1 | 1 | NONE |
| 6" | 4 | 4 | 2 | 1 | 1 | NONE |
| 8" | 7 | 6 | 4 | 2 | 1 | 4 |
| 10" | 11 | 10 | 6 | 3 | 2 | 6 |
| 12" | 16 | 14 | 9 | 5 | 3 | 9 |
| 14" | 22 | 19 | 12 | 6 | 3 | 12 |
| 16" | 29 | 25 | 16 | 8 | 4 | 16 |
| 18" | 36 | 31 | 20 | 10 | 5 | 20 |
| 20" | 45 | 39 | 24 | 13 | 6 | 24 |
| 22" | 54 | 47 | 29 | 15 | 8 | 29 |
| 24" | 64 | 56 | 35 | 18 | 9 | 35 |
| 28" | 87 | 76 | 48 | 24 | 12 | 48 |
| 30" | 101 | 87 | 55 | 28 | 14 | 55 |
| 36" | 145 | 125 | 78 | 40 | 20 | 78 |
| 42" | 197 | 171 | 107 | 55 | 27 | 107 |
| 48" | 249 | 217 | 136 | 70 | 34 | 136 |

THRUST BLOCKS ARE NOT REQUIRED WITH FULL BUTT FUSION WELDED HDPE JOINTS. THRUST BLOCKS ARE RERQUIRED IF MECHANICAL COUPLINGS/ BENDS/FITTINGS ARE USED.




## THRUST BLOCKS

NOT TO SCALE

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HUMPTULIPS HATCHERY

HATCHERY CREEK PIPE LINE

DETAILS AND NOTES

PROJECT NO.

SHEET 8 OF