

COVERED BRIDGE
AMENITY CENTER

GRADING PLAN

DATE
08-05-2024

PROJECT ADDRESS
6820 COVERED BRIDGE DR.

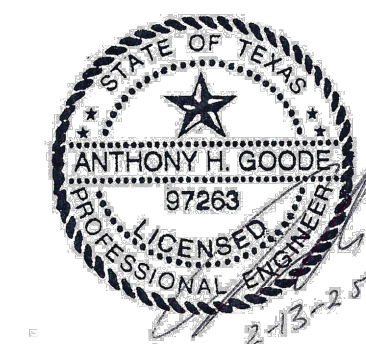
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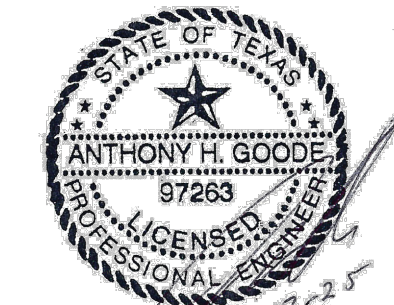
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CHECKED BY

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| REVISIONS | | APPROVAL |
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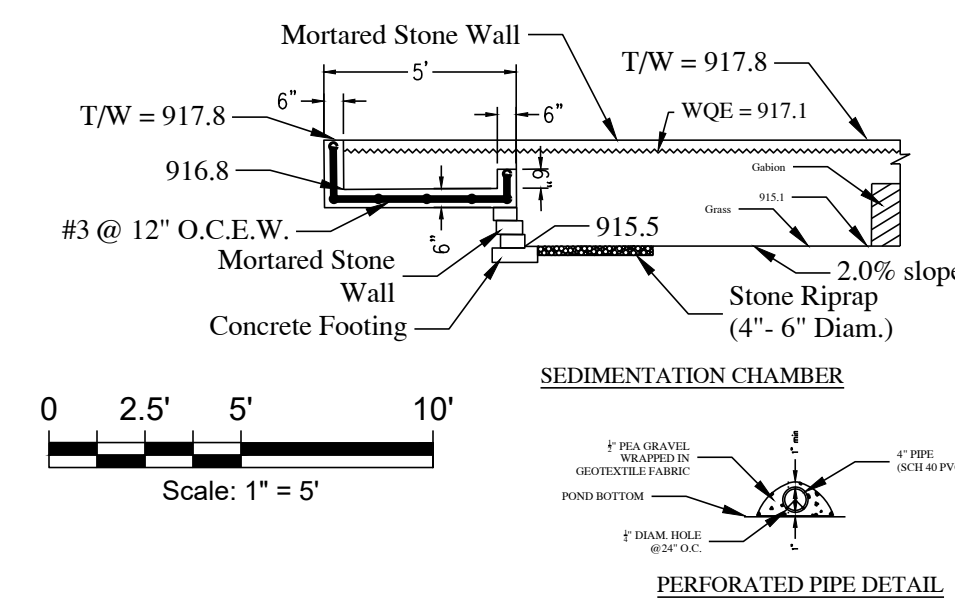
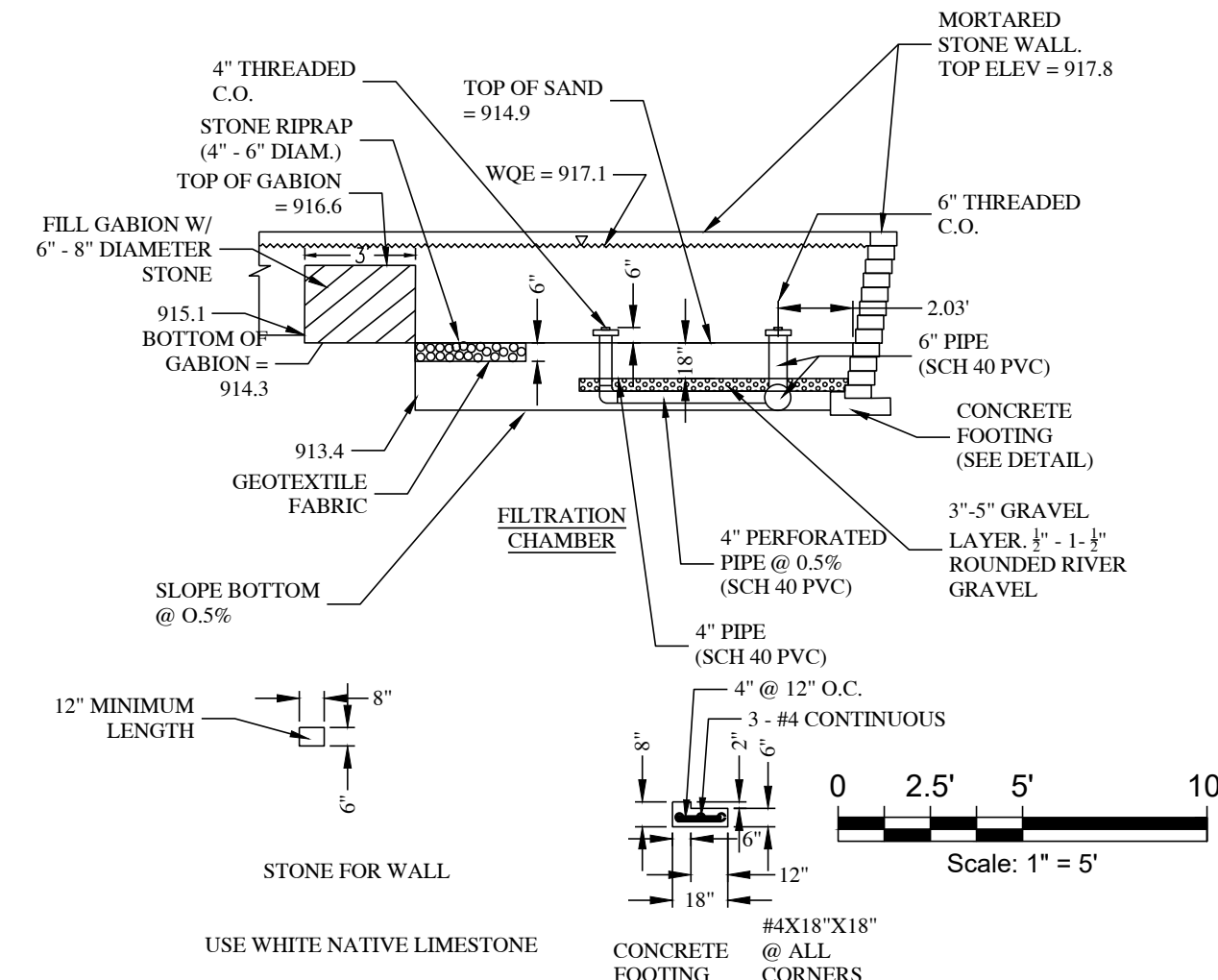
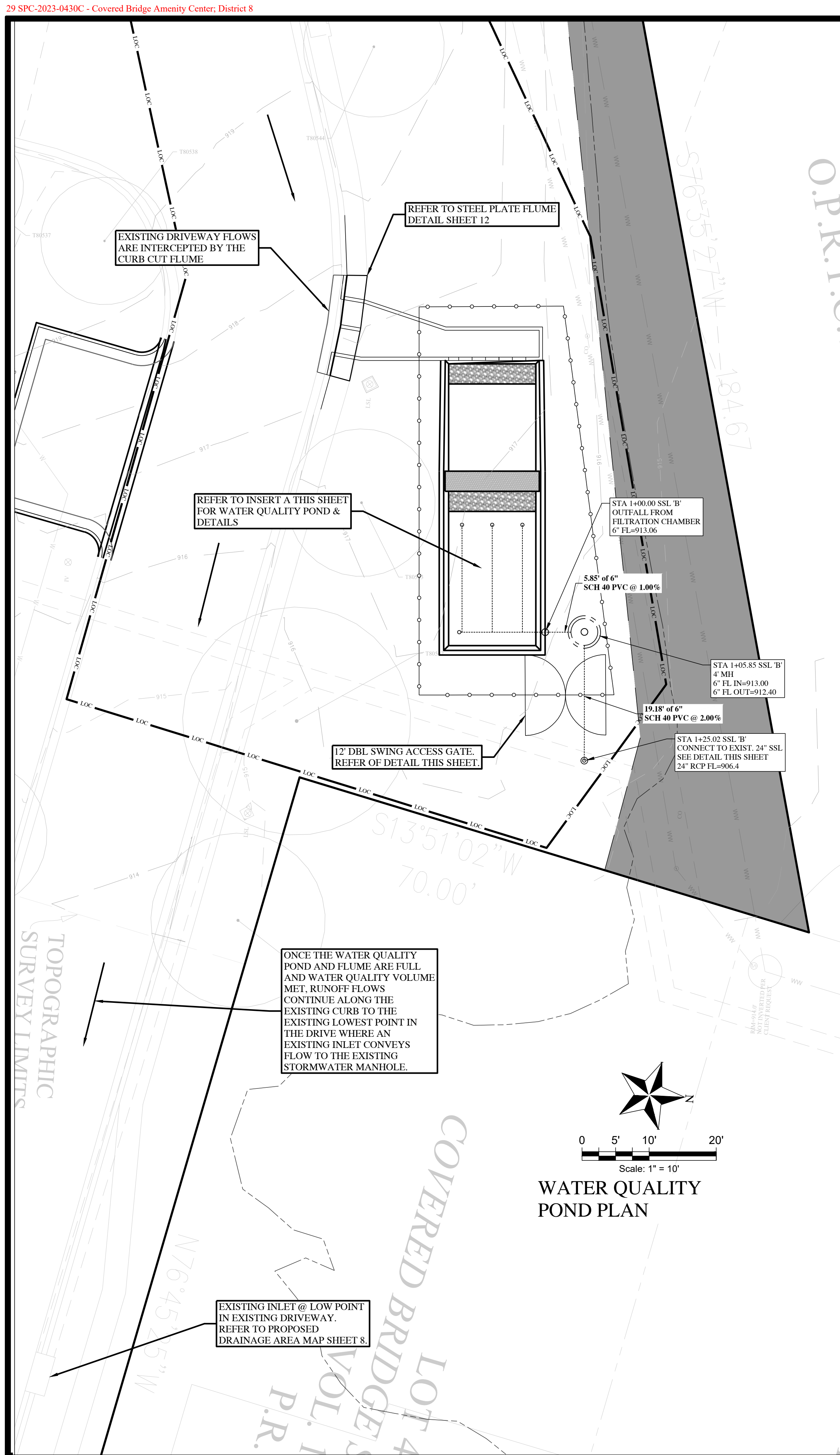
WATER QUALITY POND PLAN

| |
|------------------------|
| DATE |
| 08-05-2024 |
| PROJECT ADDRESS |
| 5820 COVERED BRIDGE DR |

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| DESIGNED BY |
| RDP |
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| SDK |

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11 OF 13



| Sedimentation pond | | |
|-------------------------------|--------------|------------------------|
| Stage (ft msl) (Elevation) | Area (sf) | Storage Volume (cf) |
| 915.3 | 0.0 | 0.0 |
| 915.8 | 260.0 | 130.0 |
| 916.3 | 268.5 | 264.3 |
| 916.8 | 277.2 | 402.8 |
| 917.3 | 285.9 | 488.6 |

| Filtration Pond | | |
|-------------------------------|--------------|------------------------|
| Stage (ft msl) (Elevation) | Area (sf) | Storage Volume (cf) |
| 914.9 | 0.0 | 0.0 |
| 915.3 | 247.0 | 123.5 |
| 915.9 | 268.5 | 257.8 |
| 916.4 | 277.2 | 396.3 |
| 916.8 | 285.9 | 510.7 |
| 917.1 | 323.3 | 607.7 |

NOTE: THIS PROJECT IS SUBJECT TO THE CITY OF AUSTIN REGULATIONS IN EFFECT AS OF JUNE 27, 1978 AND THE RESTRICTIVE COVENANT FILED IN VOLUME 10028, PAGE 356 OF THE DEED RECORDS OF TRAVIS COUNTY, TEXAS.

THE WQ VOLUME IS CALCULATED TO PROVIDE TREATMENT FOR THE CURRENT PROPOSED WORK (TOTAL 13,013 SF) AS WELL AS FOR ADDITIONAL, FUTURE IMPERVIOUS COVER FOR A COMMUNITY CENTER BUILDING, SIDEWALK, AND ADDITIONAL PARKING. MAXIMUM FUTURE ADDITIONAL IMPERVIOUS COVER OF 5,588 SF MAY BE TREATED BY THE PROPOSED POND (18,601 TOTAL IC TREATED).

* Designed per Ordinance NO. 801218-W, Sec. 804.

| |
|---------------------|
| Legend |
| Not In Compliance |
| Do Not Modify Value |

DRAINAGE AREA DATA:

| | | |
|--------------------------------|--------|-----|
| Drainage Area to Control (DA) | 0.53 | ac. |
| Drainage Area Impervious Cover | 80.60% | |
| *Capture Depth (CD) | 0.500 | in |

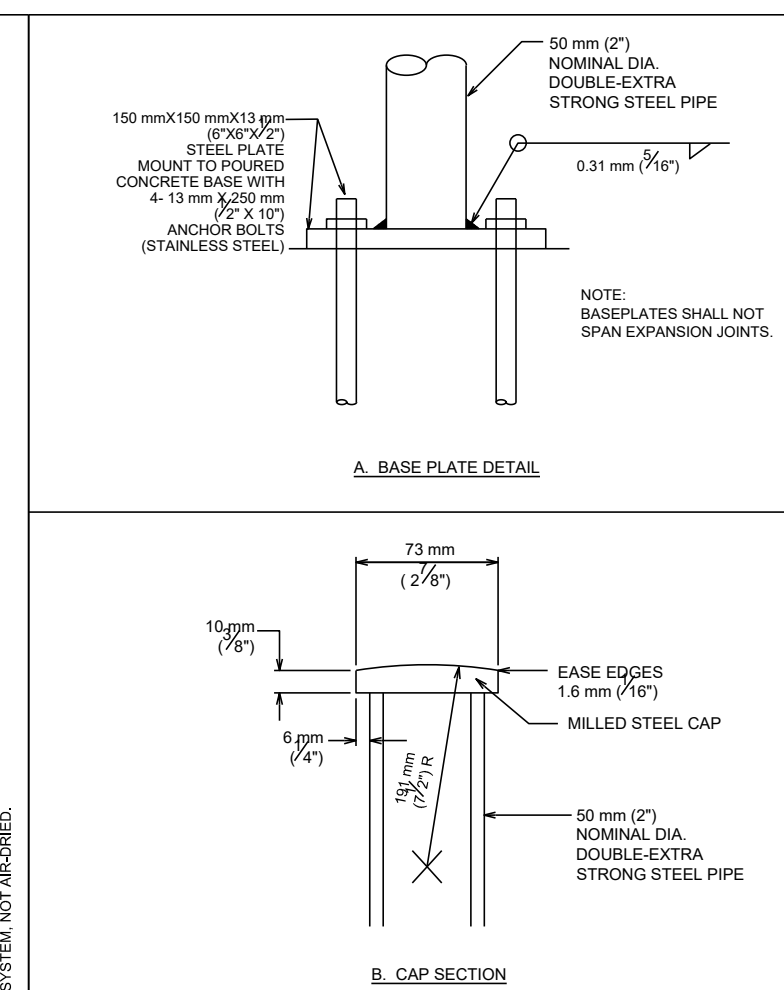
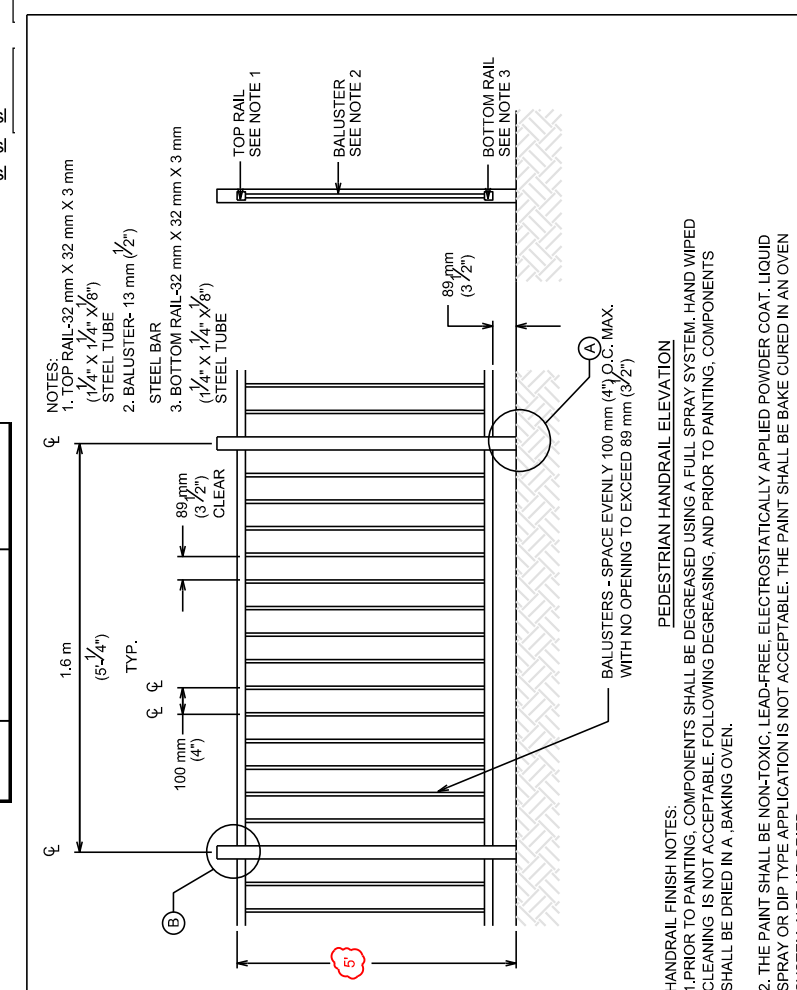
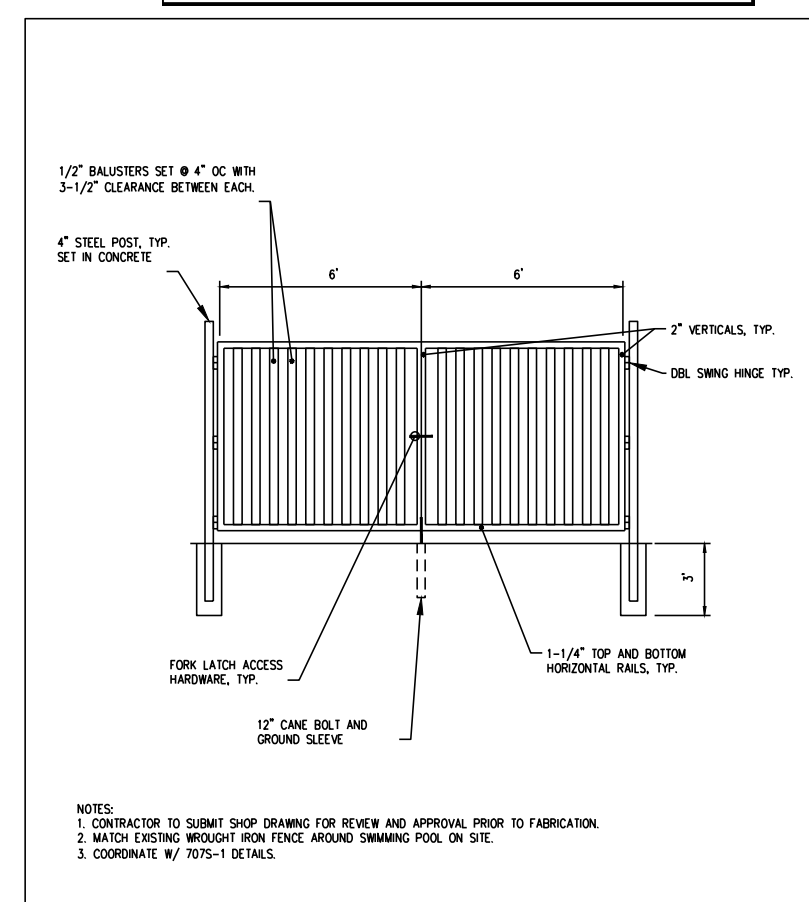
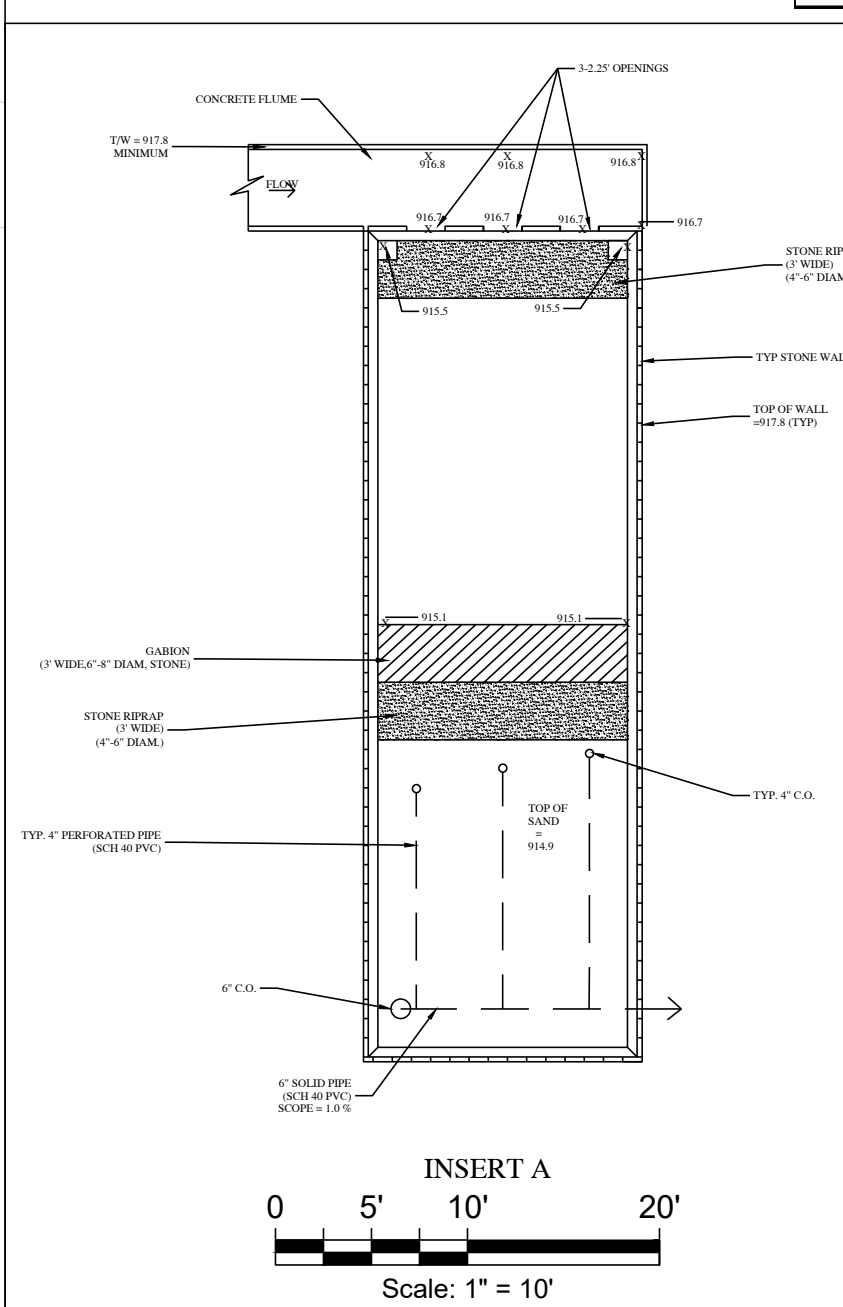
WATER QUALITY CONTROL CALCULATIONS:

| | | |
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| | Required | Provided |
| The Water Quality Control is to be PARTIAL SEDIMENTATION FILTRATION | | |
| 25-year Peak Flow Rate to Control (Q25) | 5.50 | cfs |
| 100-year Peak Flow Rate to Control (Q100) | 7.30 | cfs |

| | | | |
|---|----------|----------|--------|
| Water Quality Volume (WQV)=(NEWSD * (0.7 ⁵)/12) | 542 | cf | 206 |
| Maximum Ponding Depth above Sand Bed (ft) | | | 1.40 |
| Sedimentation Pond Area | | | 296 |
| Sedimentation Pond Volume (S20WQV) | ≥ 219.26 | cf | 233 |
| Filtration Pond Area (WQV/(4+1.33*H)) | ≥ 152 | sf | 333 |
| Filtration Pond Volume | | | 672 |
| Water Quality Elevation | | | 917.10 |
| Elevation of Spillway/Overflow Wall | ≥ 917.10 | ft (msl) | 917.10 |
| Height of Gabion Wall | ≥ 917.10 | ft (msl) | 916.90 |
| Gabion Wall under 6ft (check) | ≤ 6.00 | ft (max) | 7.00 |
| Length of Splitter Wall | | | 8.00 |
| Required Head to Pass Q ₉₀ | ≤ 1.00 | ft (max) | 0.447 |
| Pond Freeboard to Provide to Pass Q ₉₀ | ≥ 1.250 | ft (min) | 0.253 |
| *48 Hour Drawdown Time Operator Opening diameter (inches) | | | 11/16 |
| Drawdown Time COA Calc. Avg Head (min 48 hrs) | ≥ 48 | hrs | 55.19 |

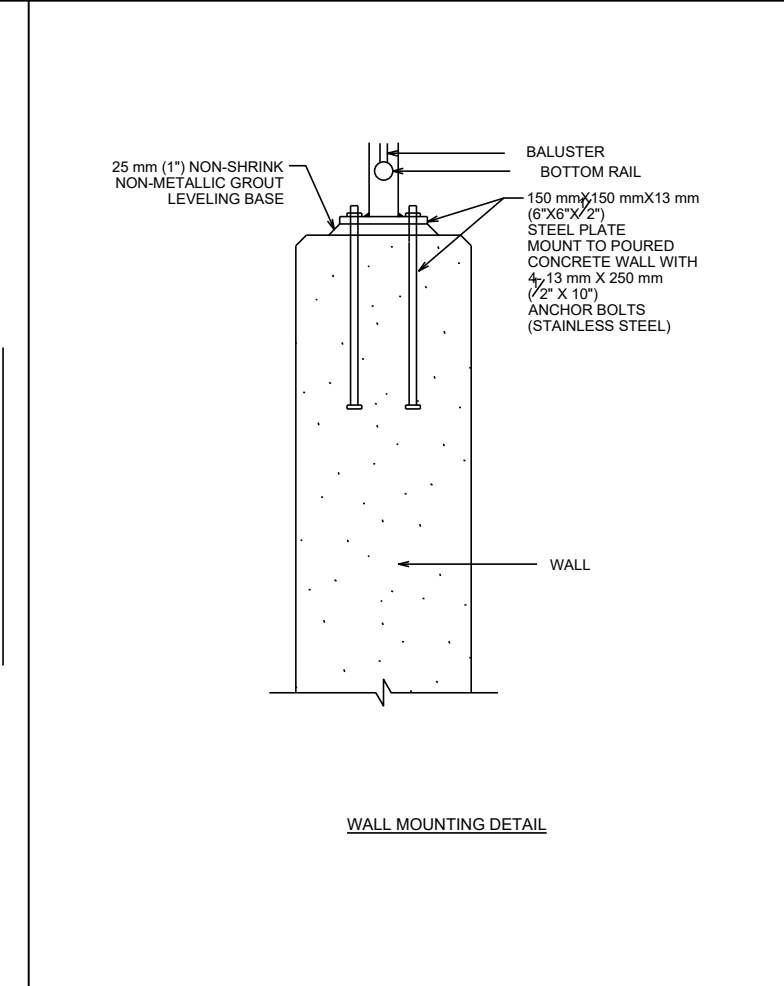
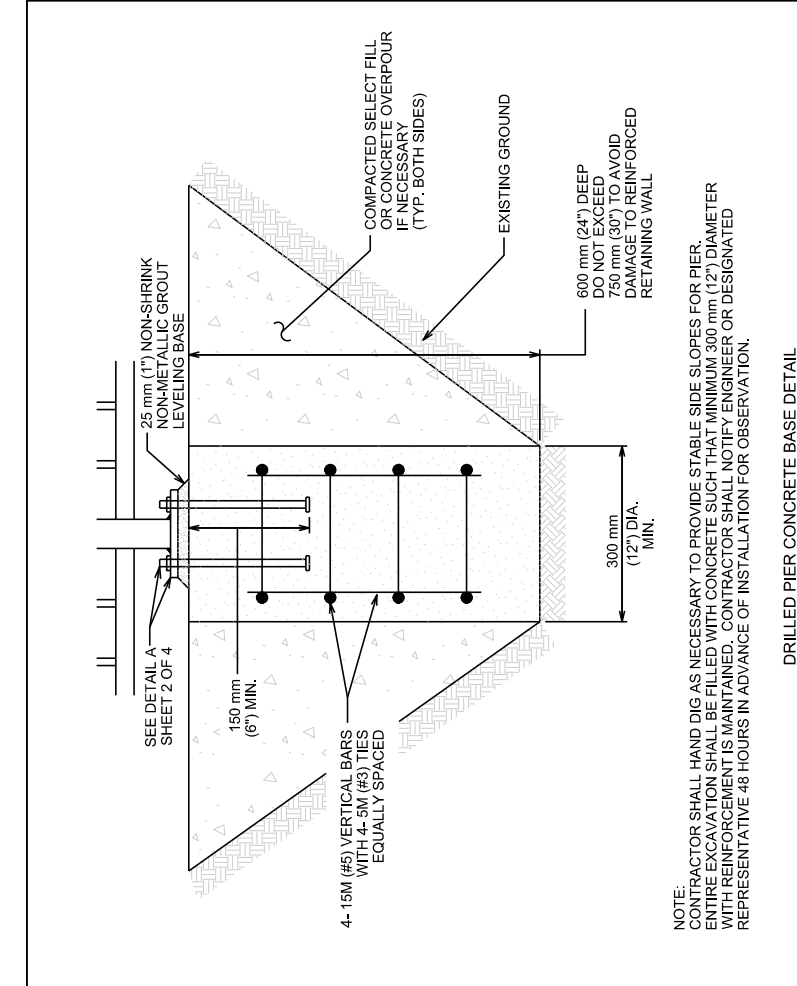
| Inlet Velocity Calculations | | |
|-----------------------------|---------------------|---------------------------|
| Broad Crested Weir Eqn: | | |
| | $Q = C_w L H^{3/2}$ | Notes |
| | $C_w = 3.05$ | Weir Coefficient |
| Q25 = | 5.5 cfs | per opening |
| # openings | 3 | |
| | $Q = 1.83$ | cfs |
| | $L = 2.25$ | ft |
| | $H = 0.41$ | ft |
| | | $H = Q / (C_w * L)^{2/3}$ |
| | $V = 1.96$ | ft/s |
| | | $V = Q / A = Q / (L * H)$ |

| Falling Head Orifice Calculation | |
|---------------------------------------|-------|
| Surface Area (sq. ft.) | 609 |
| Orifice coefficient (use 0.6 per DCM) | 0.6 |
| h_1 (ft) | 4.1 |
| h_2 (ft) | 0 |
| t (hrs.) | 48 |
| A_o orifice area (sq. ft.) | 0.003 |
| Orifice diameter (in.) | 0.74 |



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| CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS | | PEDESTRIAN HANDRAIL | |
| RECORD COPY SIGNED BY KERI JUAREZ | 01/04/11 ADOPTED | THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. | STANDARD NO. 707S-1 1 OF 4 |

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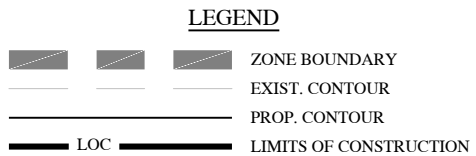
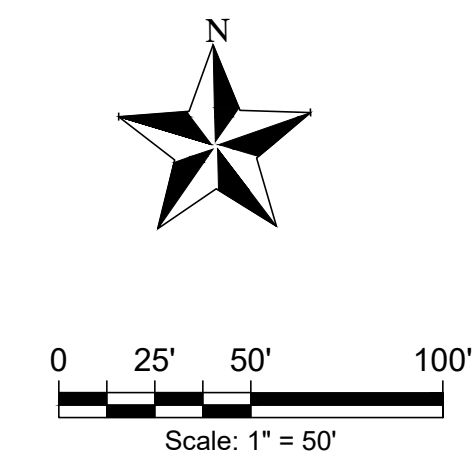
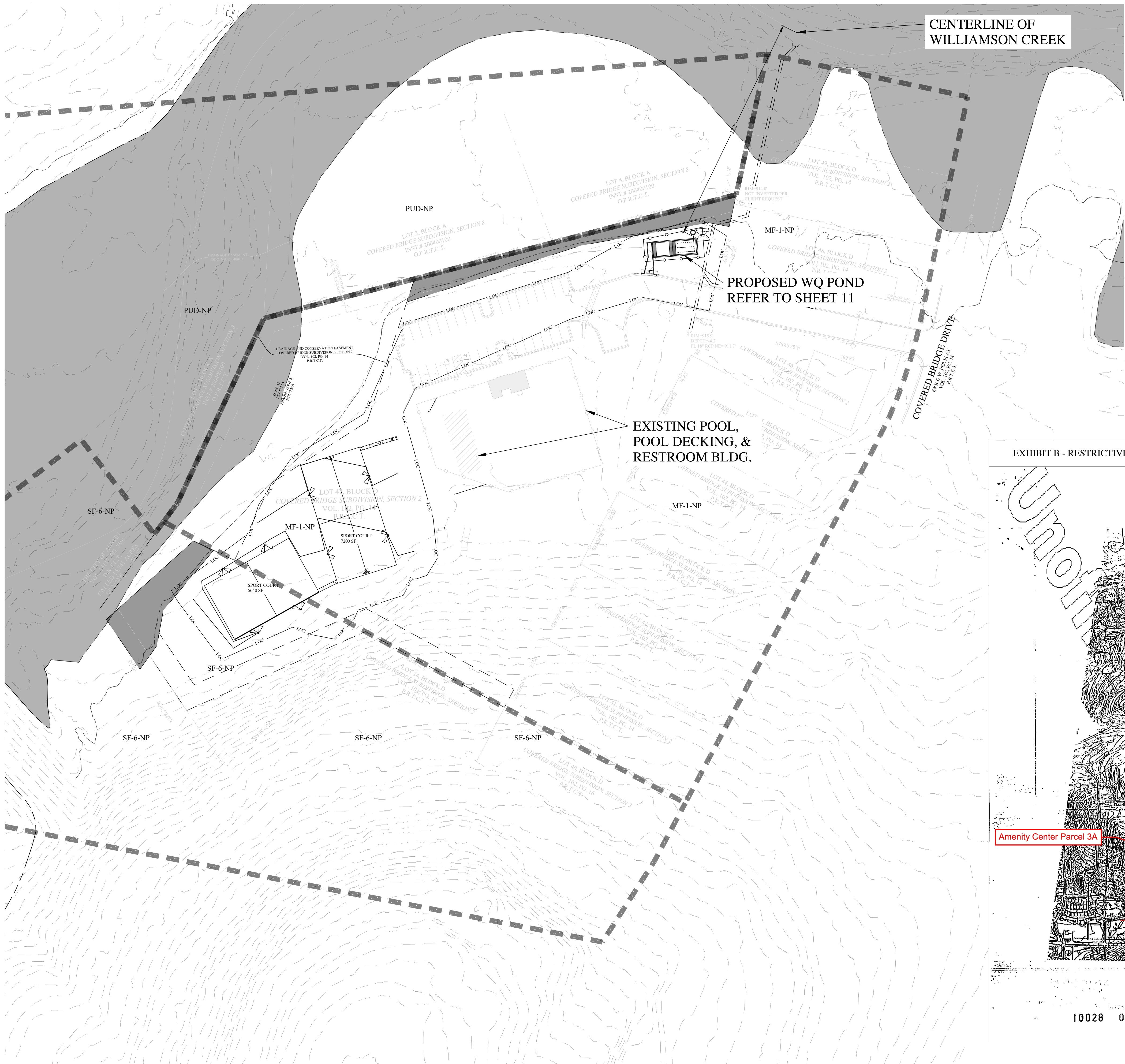
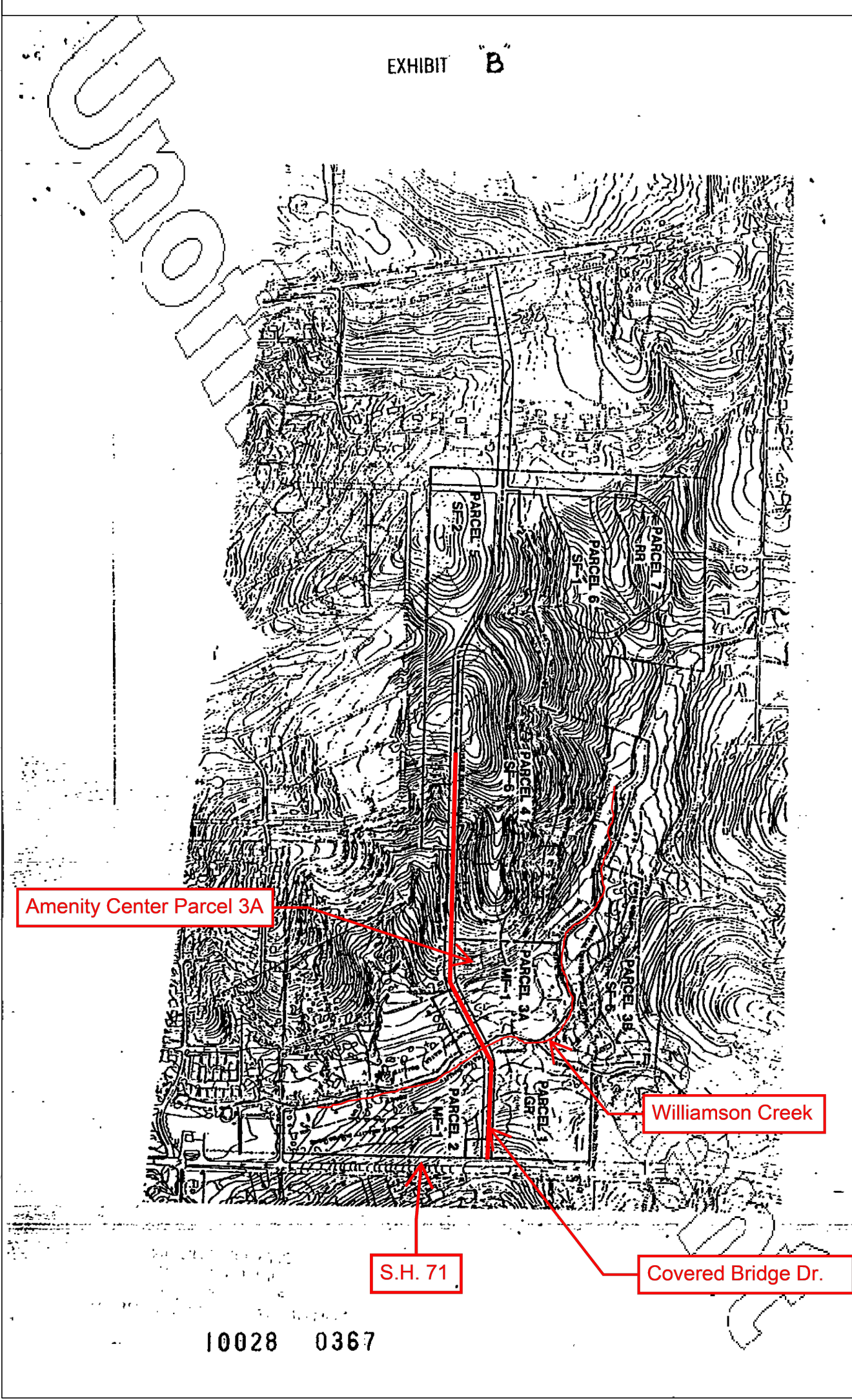


EXHIBIT B - RESTRICTIVE COVENANT, VOL 10028, PG (SCALE: N.T.S.)



COVERED BRIDGE
AMENITY CENTER
ENVIRONMENTAL EXHIBIT

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