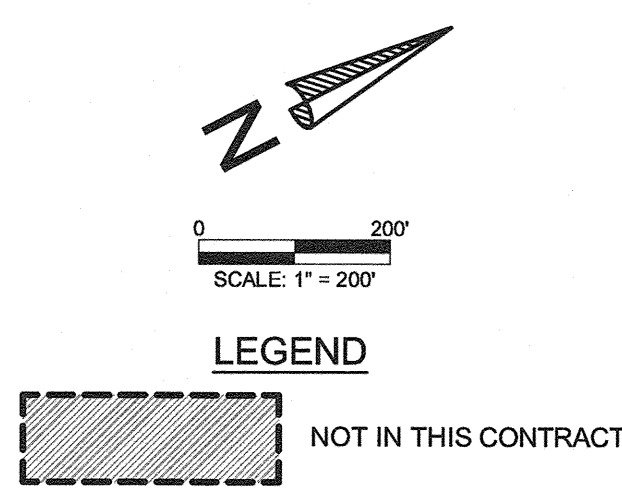




TENNIS COURTS AND TRACK ARE IMPERVIOUS COVER AND ARE INCLUDED IN THE CHART  
FOOTBALL AND PRACTICE FIELDS ARE GRASS.

THIS INCLUDES THE IMPERVIOUS COVER FOR THE VAIL DIVIDE SOUTHERN EXTENSION  
AND THE VAIL DIVIDE INTERSECTION RE-CONFIGURATION.

**MALONE ★ WHEELER**  
SINCE 1975  
INC.

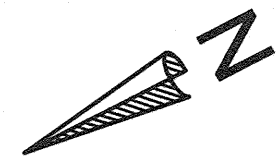
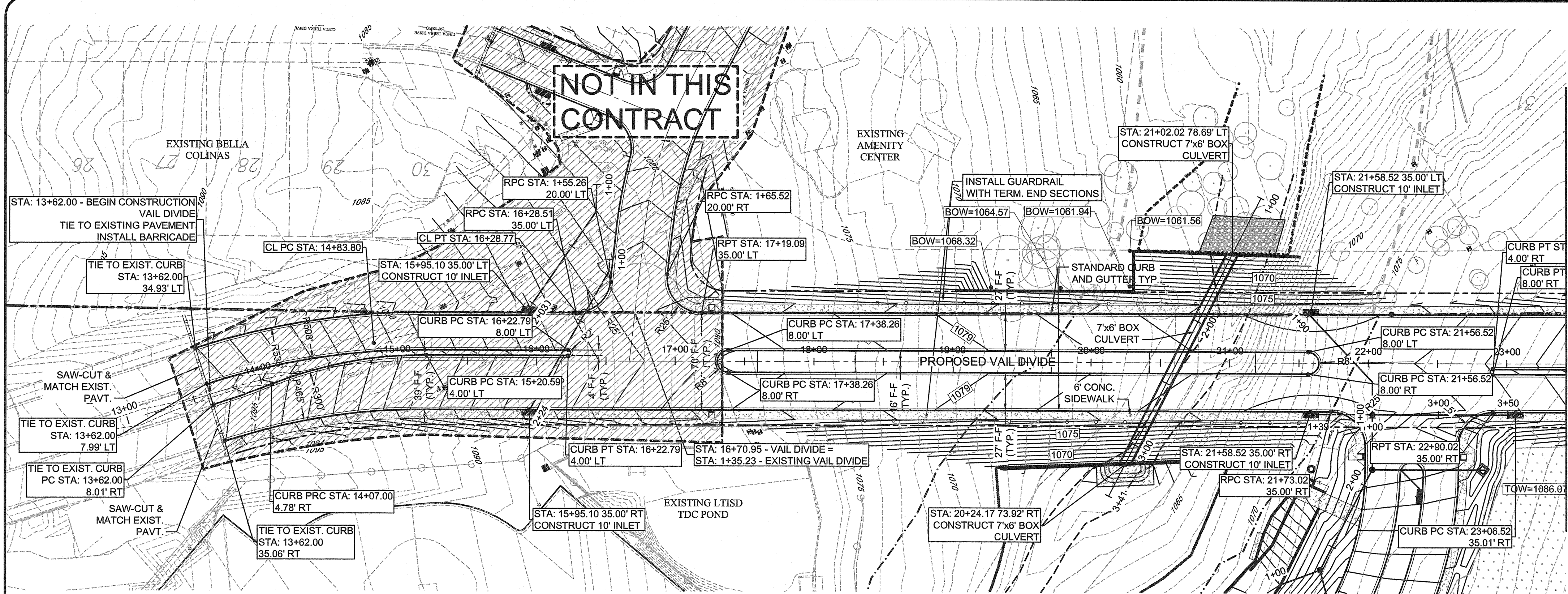
CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT

5113 Southwest Pkwy, Suite 260  
Austin, Texas 78735  
Phone: (512) 899-0601 Fax: (512) 899-0655  
Firm Registration No. F-786

DESIGN BY : MV  
CHECKED BY : DRM  
APPROVED BY : DRM  
DATE : 11/30/2017

SHEET 22  
OF 139

F:\LTSD Overall Projects\15-015 LTSD Middle School 3 Design\Drawings\Plan\132 BLANK.DWG, 11/14/2017, MV



0 50'  
SCALE: 1" = 50'

**LEGEND**

- PROP. ROW
- PROP. FACE OF CURB
- PROP. CENTER LINE
- PROP. SIDEWALK
- PROP. CURB RAMP
- PROP. DRAINAGE EASEMENT
- PROP. PUBLIC UTILITY EASEMENT
- NOT IN THIS CONTRACT

**WARNING !!!!**

CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. TRAVIS COUNTY/CITY OF BEE CAVE IN REVIEWING THESE PLANS, MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

SCALE:

1" = 50' HORIZ.

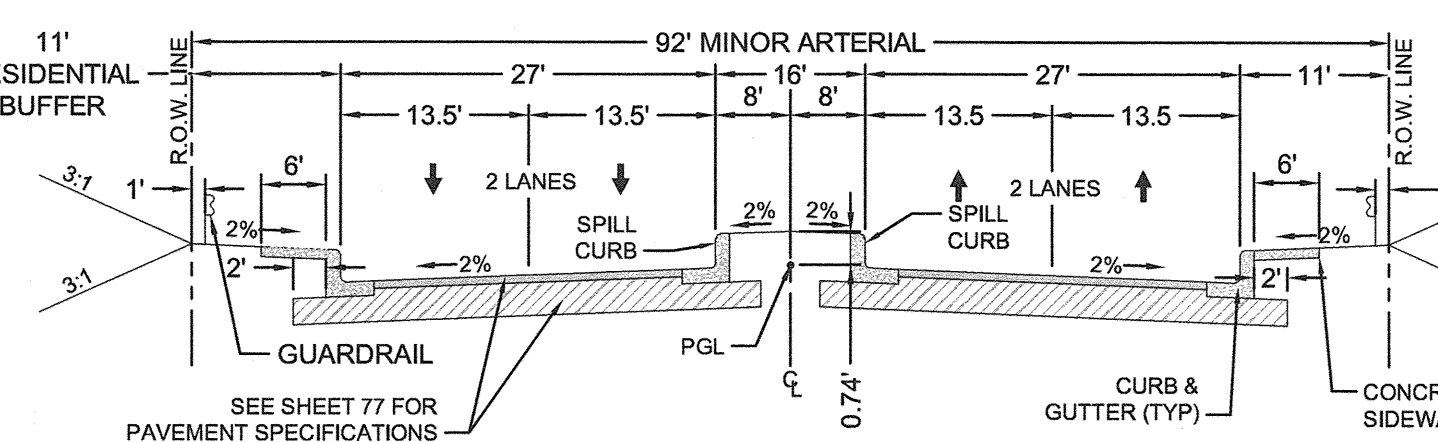
1" = 5' VERT.

**PROFILE LEGEND:**

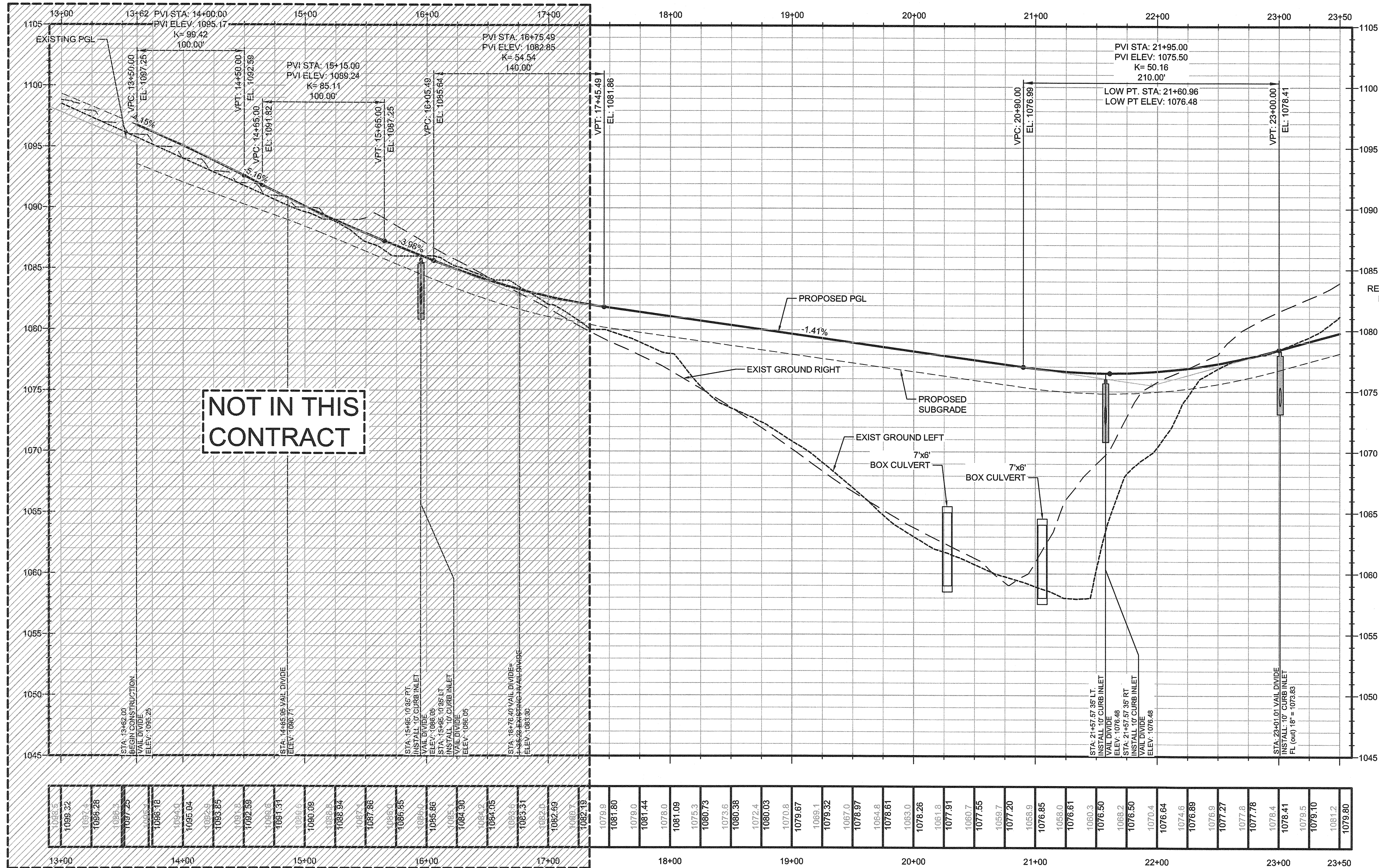
--- PROPOSED TOC  
--- EXIST GND LT  
--- EXIST GND RT  
--- SUBGRADE

**NOTES:**

1. CONTRACTOR TO NOTIFY ESD NO. 6, CITY OF BEE CAVE AND 911 PRIOR TO ROAD CLOSURE.
2. ALL SIDEWALKS, HANDICAP PARKING SPACES AND ACCESSIBLE ROUTES TO HAVE A MAX. CROSS SLOPE OF 2.0%.
3. CONTRACTOR TO RELOCATE ALL SIGNS AND COORDINATE WITH ALL UTILITY PROVIDERS TO RELOCATE ANY CONFLICTING UTILITY APPURTENANCES.



**EXISTING AND PROPOSED MINOR ARTERIAL PAVEMENT SECTION - 35 MPH**



**LTISD EDUCATIONAL FACILITIES, PHASE 3  
MIDDLE SCHOOL 3**

**VAIL DIVIDE 1 PLAN AND PROFILE**

**MALONE★WHEELER**  
SINCE 1995

CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT  
5113 Southwest Pkwy, Suite 260  
Dallas, Texas 75225  
Phone: (512) 895-0401 Fax: (512) 895-0455  
Firm Registration No. F-786

*Dan Wheeler*  
11/14/17

DESIGN BY: MV  
CHECKED BY: DRM  
APPROVED BY: DRM  
DATE: 11/13/2017

**SHEET 29  
OF 139**





## LTISD EDUCATIONAL FACILITIES, PHASE 3

### ADDITIONAL FACILITIES MIDDLE SCHOOL 3

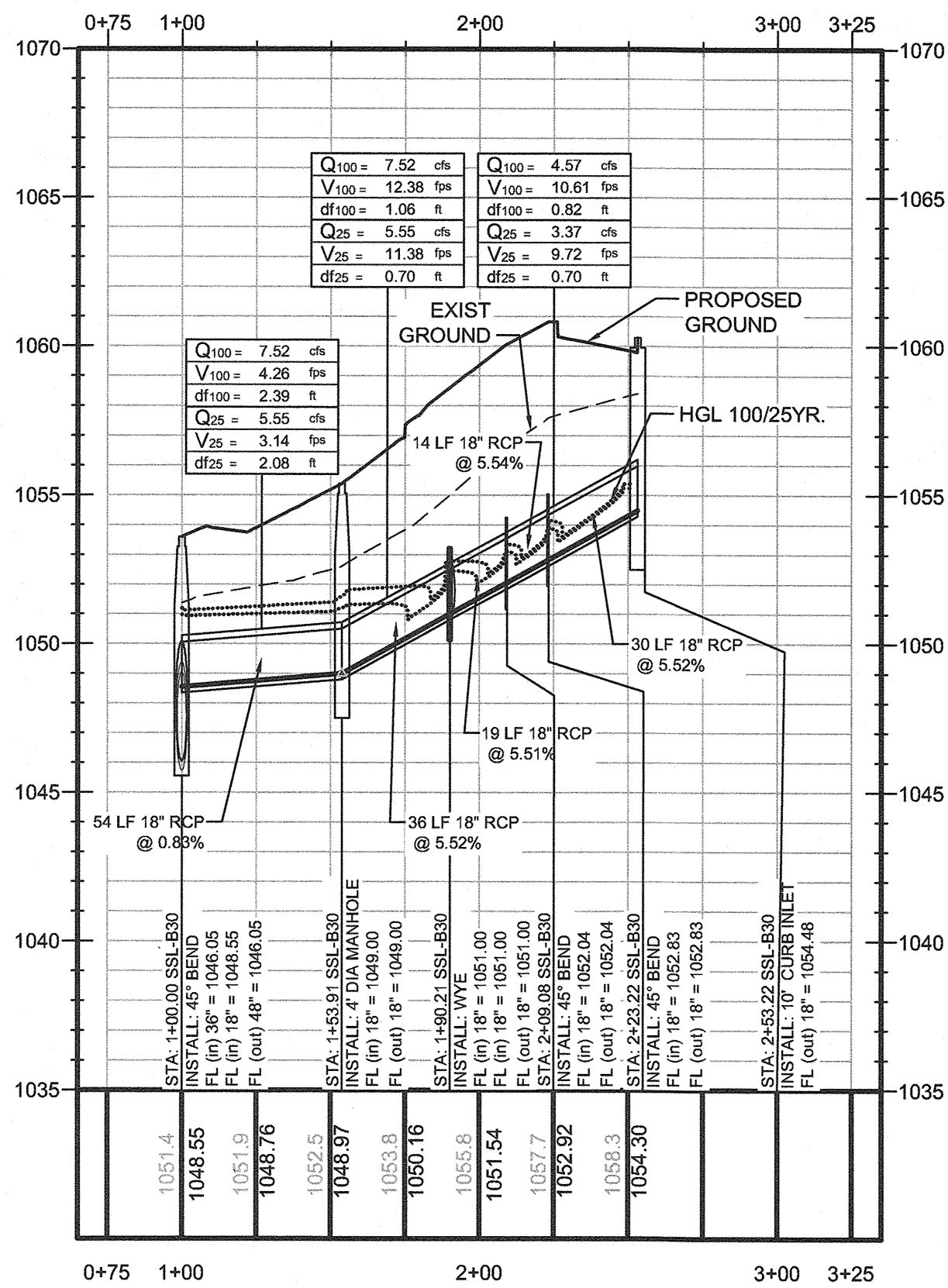
**MALONE ★ WHEELER**  
SINCE INC. 1995

CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT

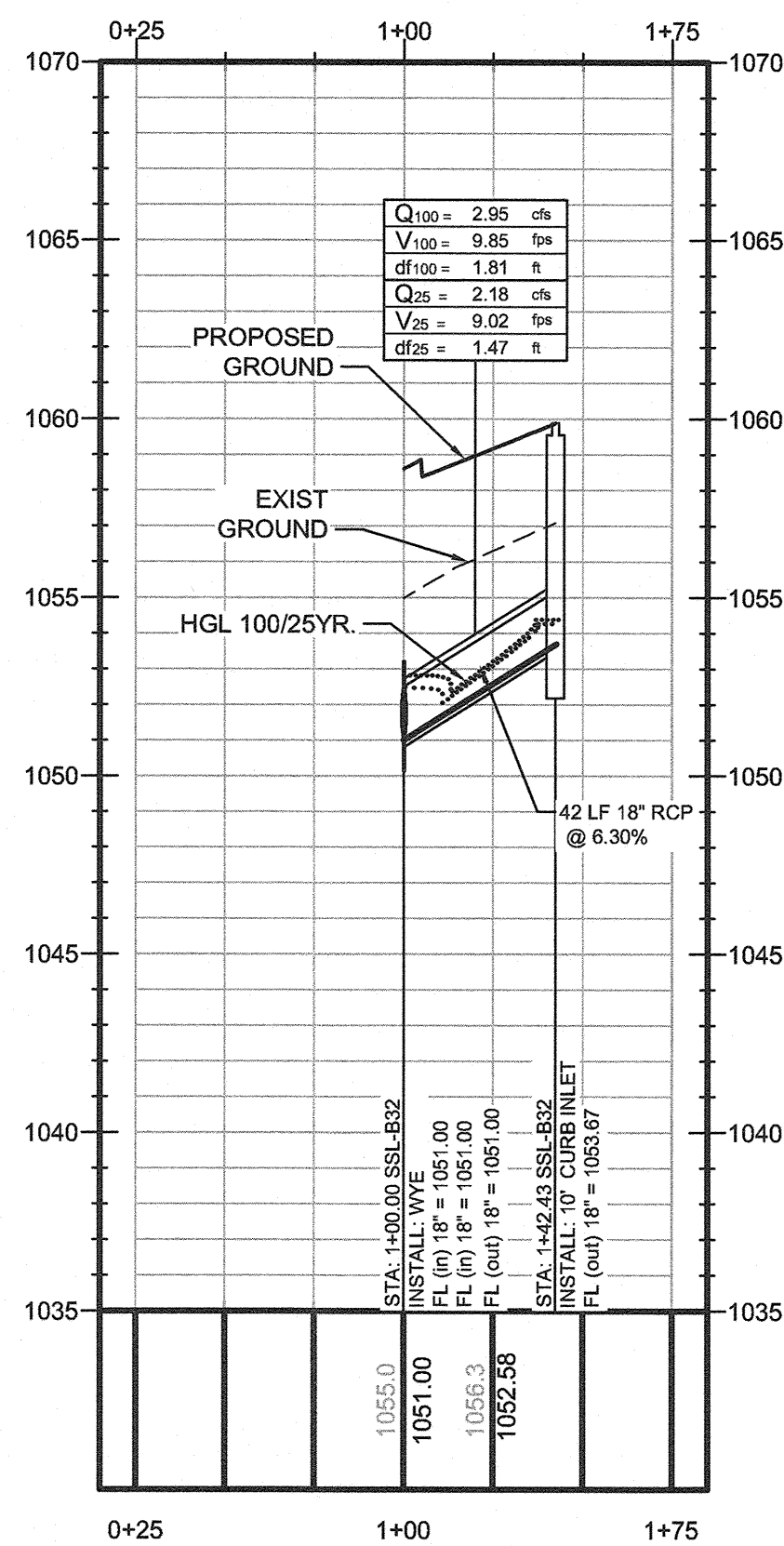
5113 Southwest Pkwy, Suite 240  
Austin, Texas 78735  
Phone: (512) 899-0655 Fax: (512) 899-0655  
E-mail: [info@malonewheeler.com](mailto:info@malonewheeler.com)  
Firm Registration No. 17456

DESIGN BY: MV  
CHECKED BY: DRM  
APPROVED BY: DRM  
DATE: 11/30/2017

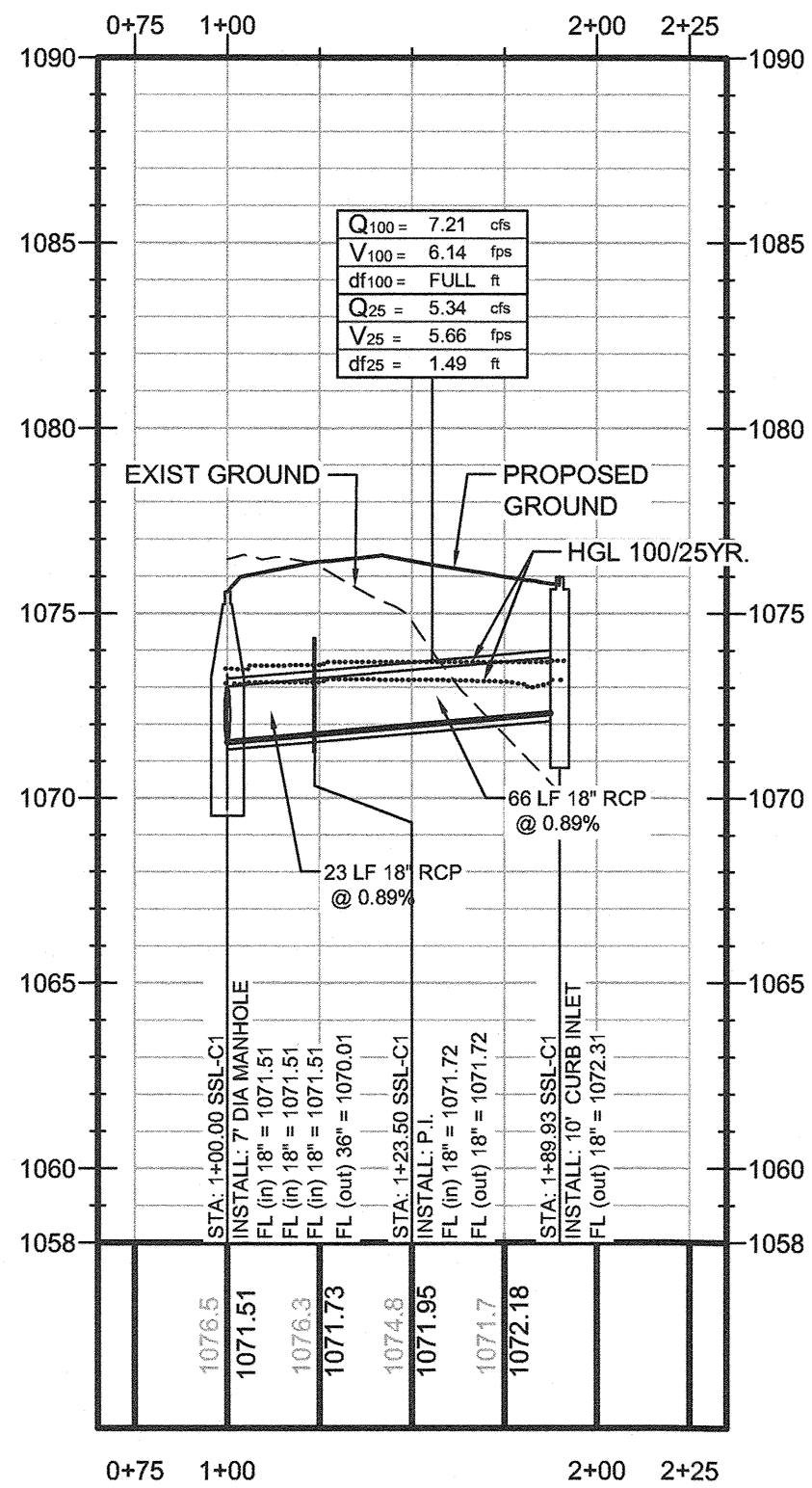
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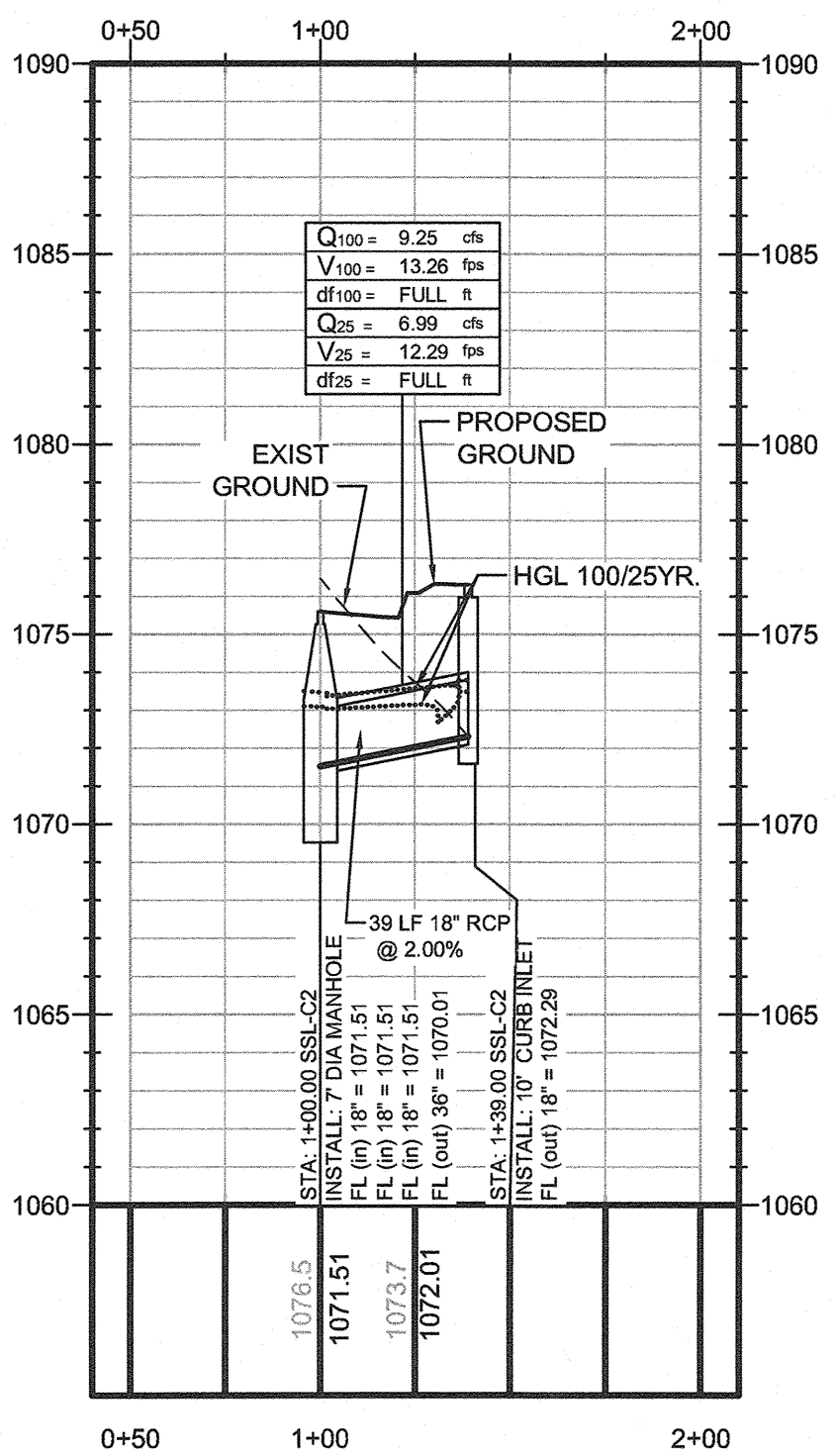
SSL-B32



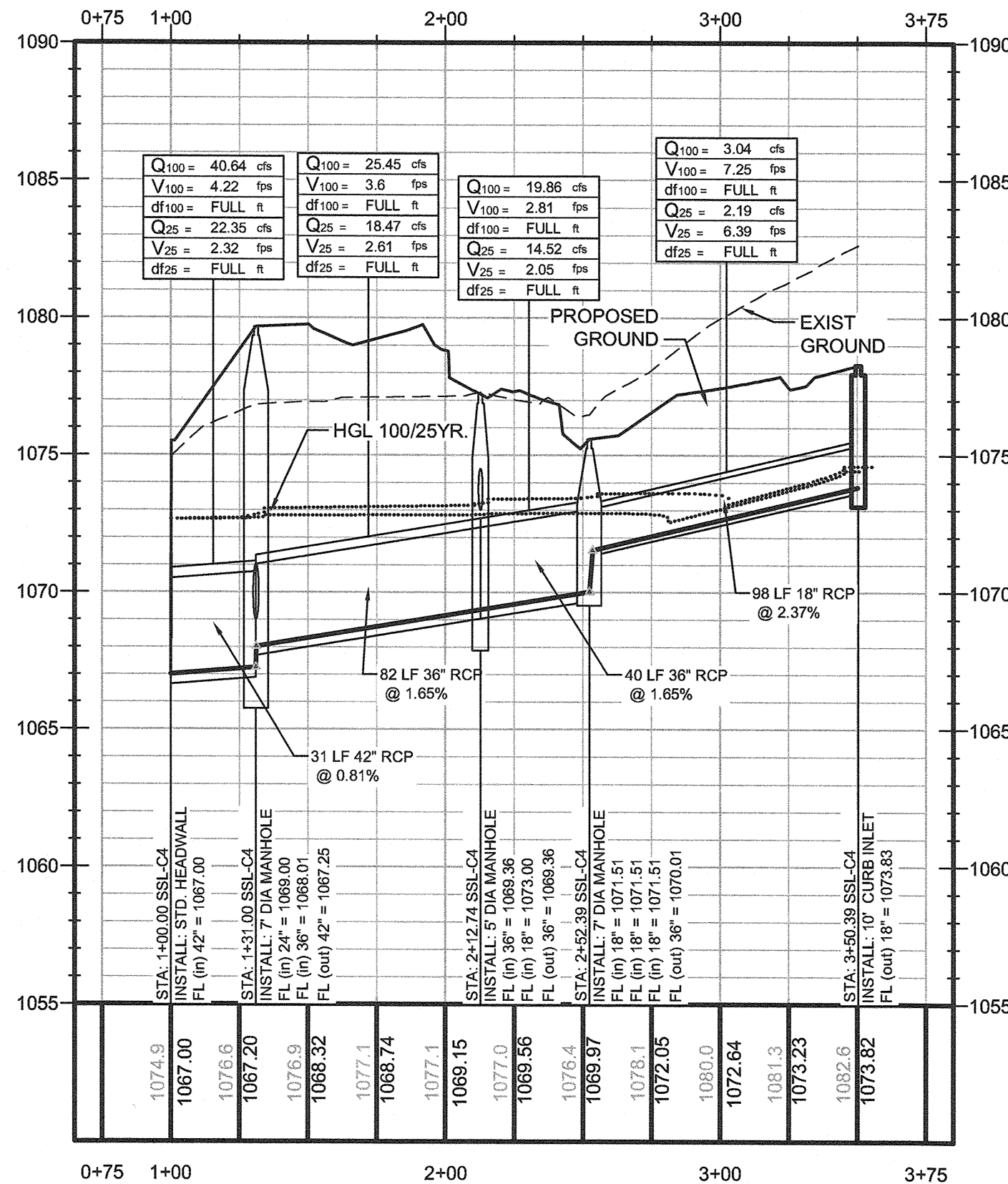
SSL-C1



SSL-C2

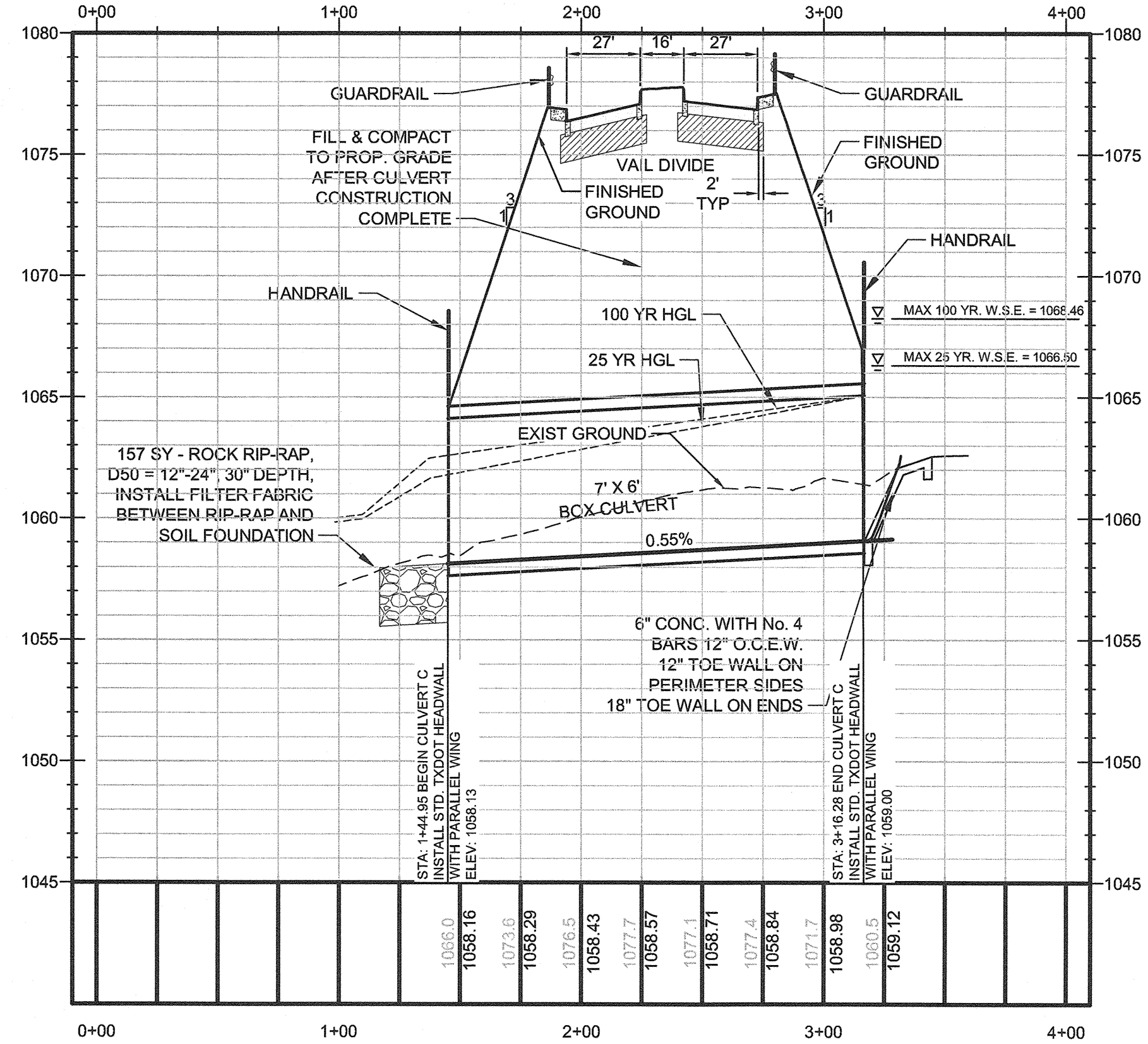


SSL-C4



CULVERT C

| CULVERT 100-YR ANALYSIS |            |
|-------------------------|------------|
| DISCHARGE DEV.          | 436 CFS    |
| HW ELEV                 | 1068.46 FT |
| TW ELEV                 | 1060.00 FT |
| VELOCITY                | 13.65 FTS  |
| SLOPE TYPE              | N/A        |
| DS DEPTH                | 4.56 FT    |
| NORMAL DEPTH            | 4.55 FT    |
| CRITICAL DEPTH          | 4.96 FT    |
| CRITICAL SLOPE          | .0047%     |



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TRAVIS COUNTY/CITY OF BEE CAVE  
IN REVIEWING THESE PLANS, MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

| SCALE:          | PROFILE LEGEND: |
|-----------------|-----------------|
| 1" = 50' HORIZ. | PROPOSED TOC    |
| 1" = 5' VERT.   | EXIST GND LT    |
|                 | EXIST GND RT    |
|                 | SUBGRADE        |

LTISD EDUCATIONAL FACILITIES, PHASE 3  
MIDDLE SCHOOL 3

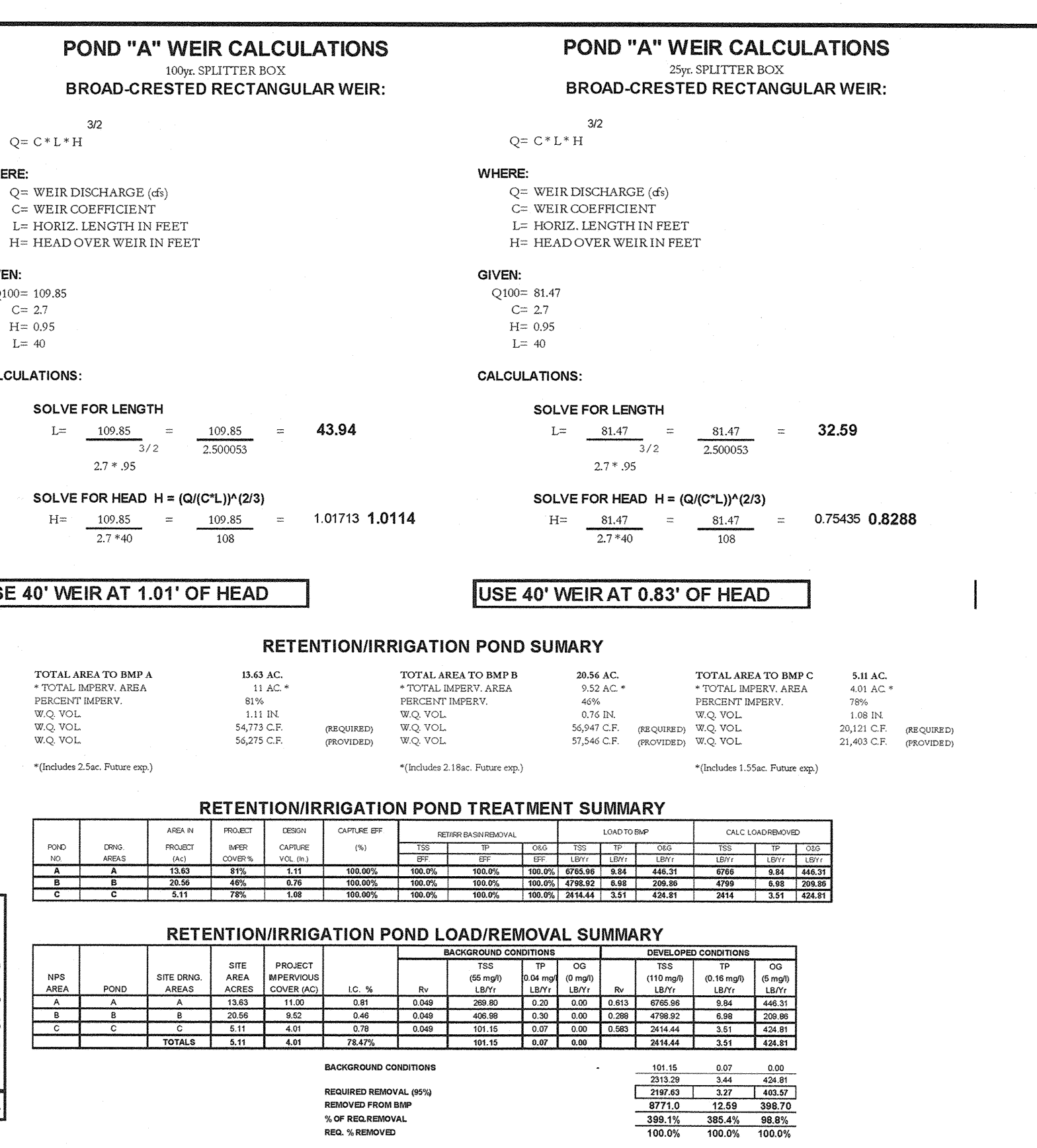
STORM SEWER PROFILES & CULVERT C PLAN AND PROFILE

**MALONE ★ WHEELER**  
SINCE INC. 1993

CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT  
5113 Southwest Pkwy, Suite 260  
Austin, Texas 78735  
Phone: (512) 899-0601 Fax: (512) 899-0655  
Firm Registration No. F-766



DESIGN BY: MV  
CHECKED BY: DRM  
APPROVED BY: DRM  
DATE: 11/30/2017



**REQUIRED IRRIGATION AREA - B**

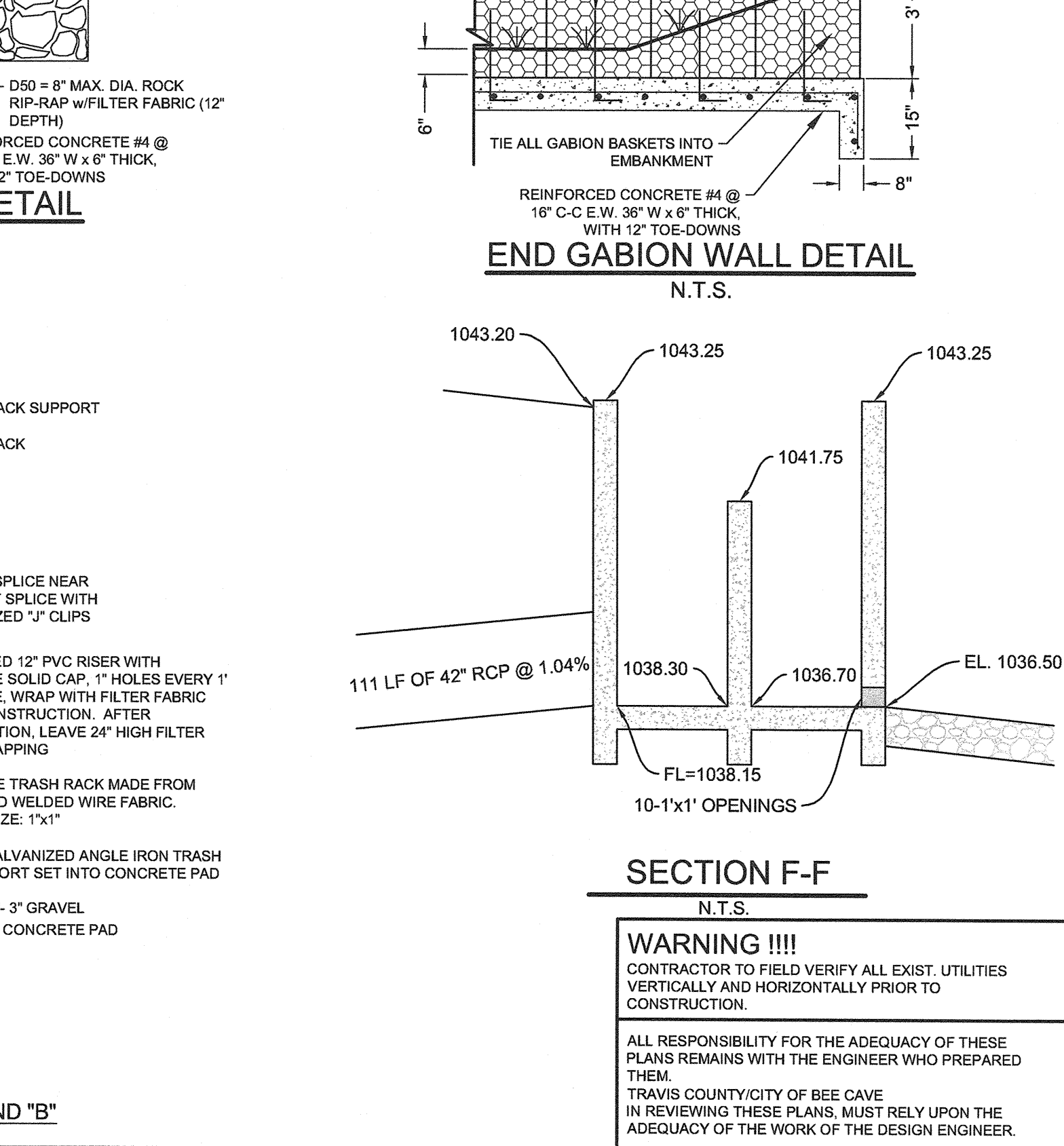
$$A = \frac{12 \times V}{T \times R}$$

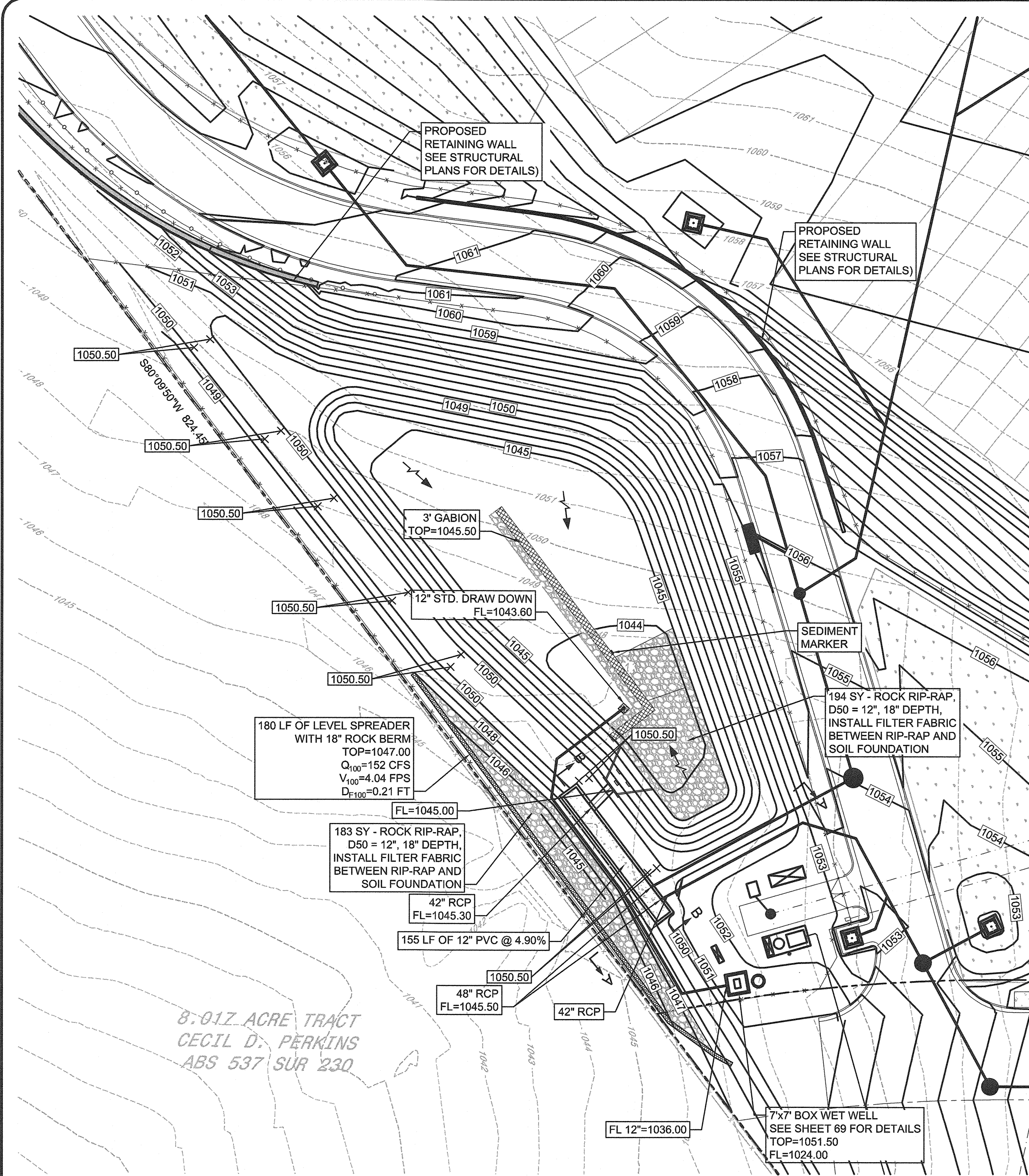
$$A = (12 \times 575.46) / (30 \times 20)$$

**TOTAL = 115092.0 SF** **2.642** AC

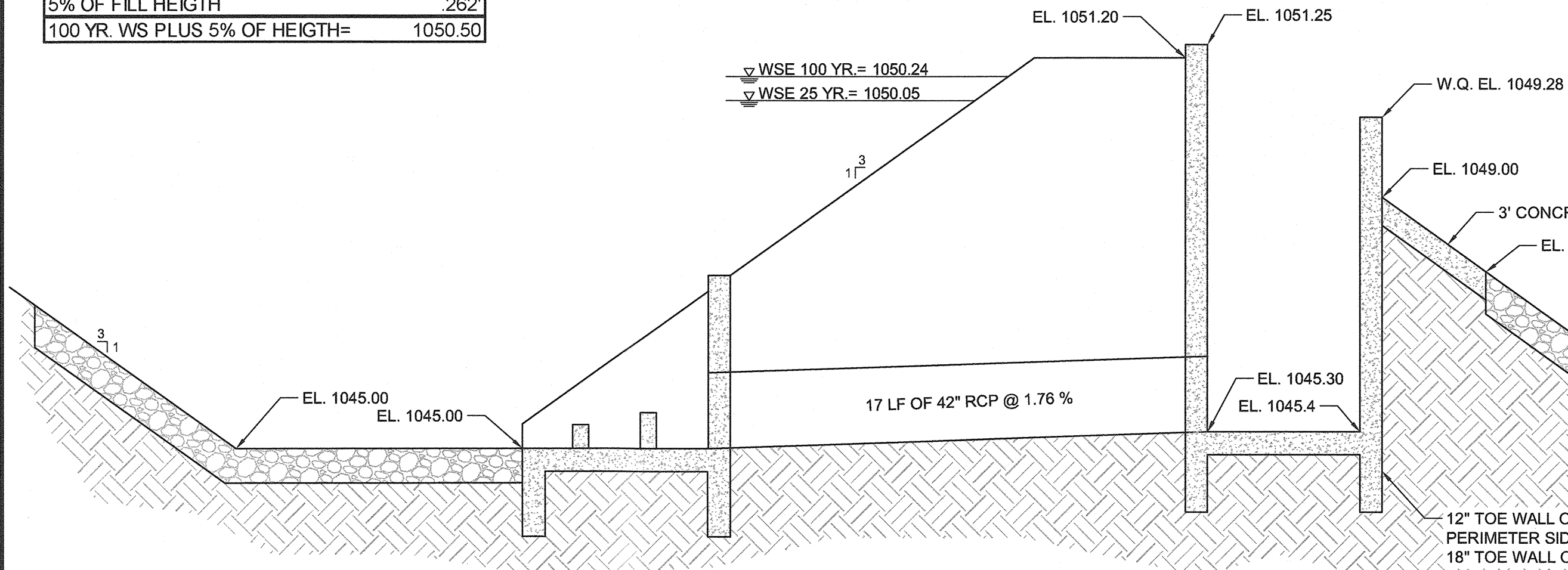
Diagram illustrating the construction and installation of Gabion Baskets:

- Construction:** Shows a cross-section of a gabion basket with dimensions: 18" #4 REBAR, 3' MIN. (width), and 3' MIN. (height).
- Installation:** Shows the baskets being placed on a concrete slab with 18" #4 REBAR. The baskets are tied together and to the concrete slab with 18" #4 REBAR every 48" C-C.
- Labels:**
  - POND EMBANKMENT
  - TIE ALL GABION BASKETS TOGETHER & TO CONCRETE SLAB WITH 18" #4 REBAR EVERY 48" C-C
  - TOP OF GABION
  - 3'

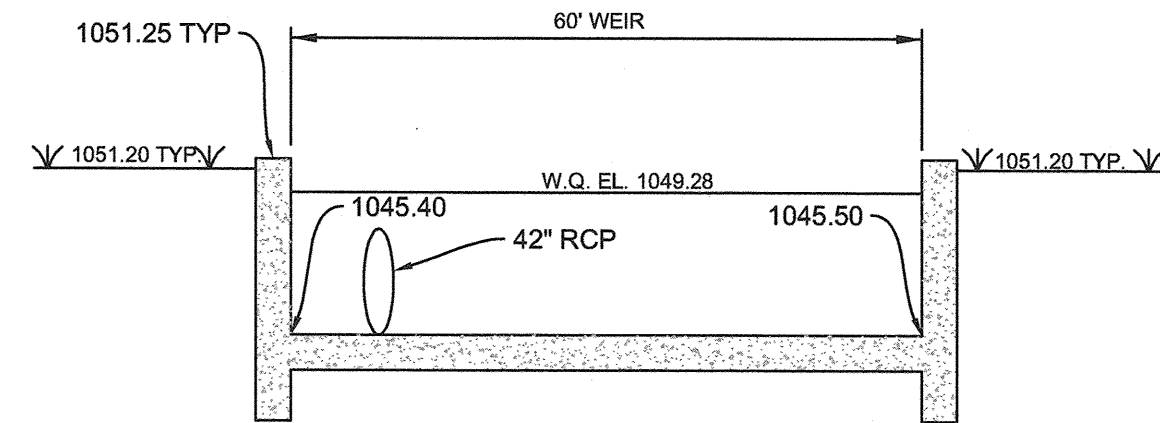
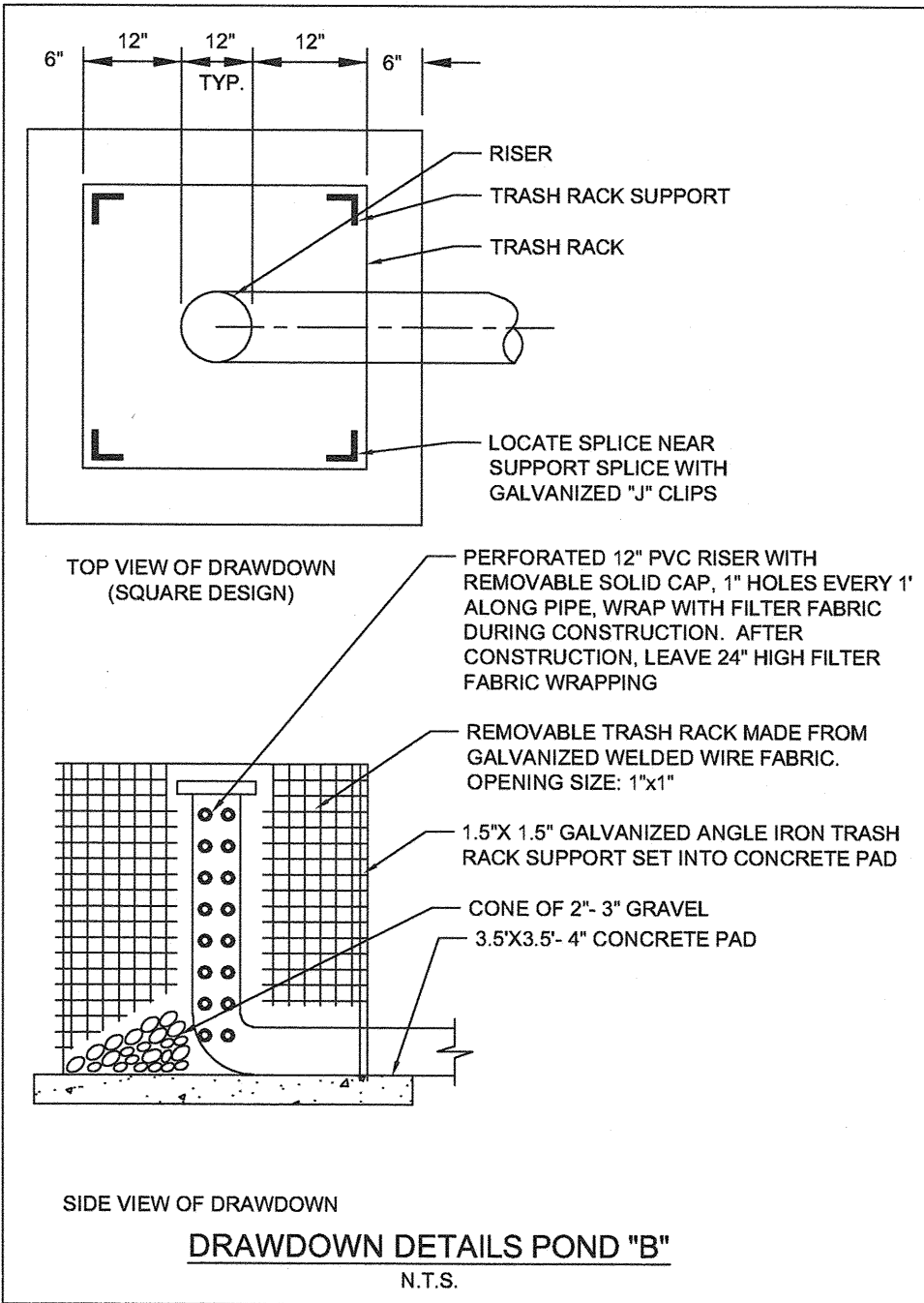




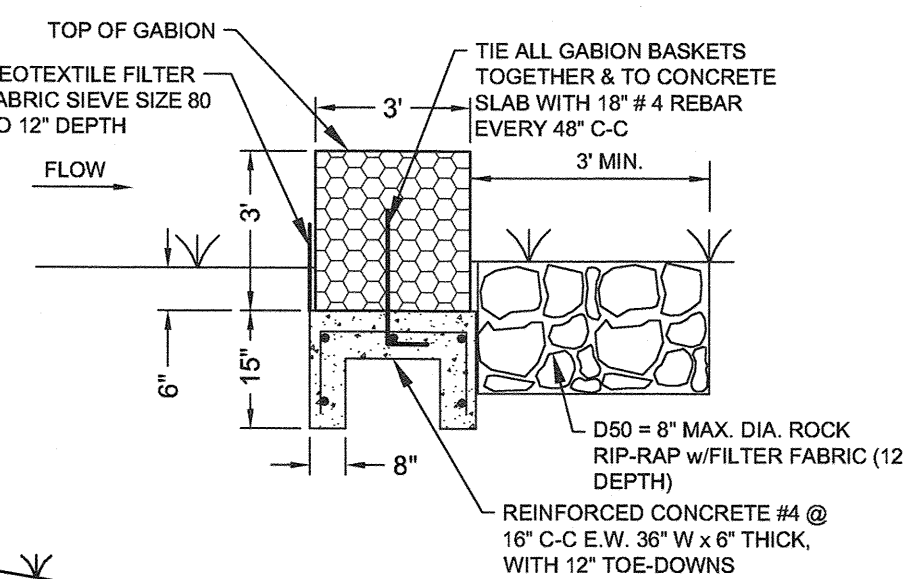
| COA ECM 1.6.2.B.1 (c)         |         |
|-------------------------------|---------|
| <b>POND "B"</b>               |         |
| WIER LENGTH                   | 60'     |
| WIER ELEV.                    | 1049.28 |
| 100YR. W.S. ELEV.             | 1050.24 |
| FILL HEIGHT (1045-1050.24)    | 5.5'    |
| 5% OF FILL HEIGHT             | .262'   |
| 100 YR. WS PLUS 5% OF HEIGHT= | 1050.50 |



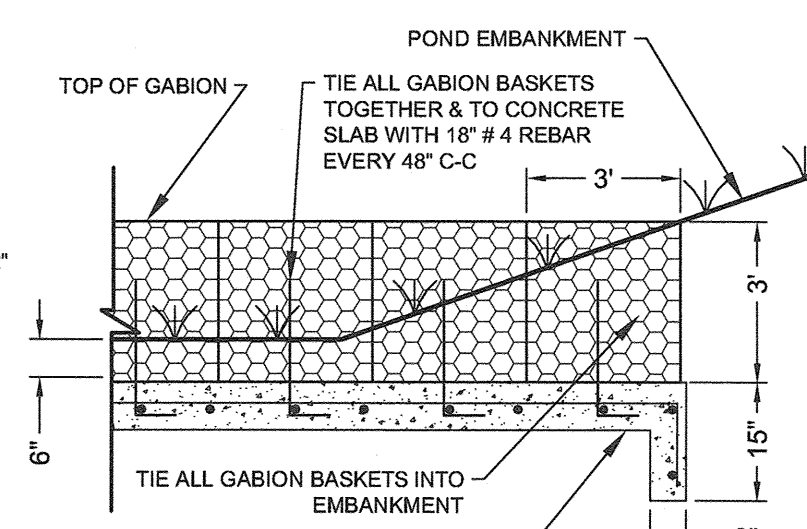
SECTION A-A  
NTS



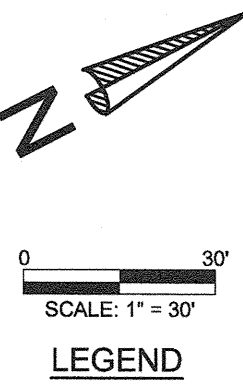
SECTION B-B  
N.T.S.



GABION WALL DETAIL  
N.T.S.



END GABION WALL DETAIL  
N.T.S.



- LEGEND**
- PROPERTY BOUNDARY
  - PROPOSED POND CONCRETE WALL
  - PROPOSED POND ROCK WALL
  - PROPOSED ROCK GABION
  - PROPOSED ROCK RUBBLE
  - PROPOSED ROCK RIP-RAP
  - PROPOSED PVC PIPE
  - PROP. PERFORATED PVC PIPE
  - PROPOSED SPOT ELEVATION
  - EXISTING GROUND CONTOUR
  - PROPOSED FINISHED CONTOUR
  - PROPOSED STORM SEWER
  - PROPOSED CURB INLET

- NOTES**
- SEE SHEET 72 FOR RE-VEGETATION REQUIREMENTS
  - CONTRACTOR TO ADD VARIOUS ROCKS AND BOULDERS BESIDES ROCK RIP-RAP TO CREATE VISUAL APPEAL

### RETENTION/IRRIGATION POND SUMMARY

| TOTAL AREA TO BMP A  |  | 13.43 AC.   | TOTAL AREA TO BMP B  |  | 28.56 AC.   | TOTAL AREA TO BMP C  |  | 3.11 AC.    |
|----------------------|--|-------------|----------------------|--|-------------|----------------------|--|-------------|
| * TOTAL IMPERV. AREA |  | 11 AC.*     | * TOTAL IMPERV. AREA |  | 9.52 AC.*   | * TOTAL IMPERV. AREA |  | 4.01 AC.*   |
| PERCENT IMPERV.      |  | 81%         | PERCENT IMPERV.      |  | 46%         | PERCENT IMPERV.      |  | 78%         |
| W.Q. VOL.            |  | 1.11 IN.    | W.Q. VOL.            |  | 0.76 IN.    | W.Q. VOL.            |  | 1.08 IN.    |
| W.Q. VOL.            |  | 54,773 C.F. | W.Q. VOL.            |  | 56,947 C.F. | W.Q. VOL.            |  | 20,121 C.F. |
| W.Q. VOL.            |  | 56,275 C.F. | W.Q. VOL.            |  | 57,546 C.F. | W.Q. VOL.            |  | 21,403 C.F. |

\*(Includes 2.5ac. Future exp.)

\*(Includes 2.18ac. Future exp.)

\*(Includes 1.55ac. Future exp.)

### RETENTION/IRRIGATION POND TREATMENT SUMMARY

| POND NO. | DRNG. AREA (AC) | PROJECT AREA (AC) | DESIGN CAPTURE EFF. (%) | TSS (55 mg/l) | TP (0.04 mg/l) | OG (0.07 mg/l) | TSS (110 mg/l) | TP (0.16 mg/l) | OG (0.18 mg/l) |
|----------|-----------------|-------------------|-------------------------|---------------|----------------|----------------|----------------|----------------|----------------|
|          |                 |                   |                         |               |                |                |                |                |                |
| A        | 13.43           | 81%               | 1.11                    | 100.00%       | 100.00%        | 100.00%        | 100.00%        | 100.00%        | 100.00%        |
| B        | 28.56           | 46%               | 0.76                    | 100.00%       | 100.00%        | 100.00%        | 100.00%        | 100.00%        | 100.00%        |
| C        | 3.11            | 78%               | 1.08                    | 100.00%       | 100.00%        | 100.00%        | 100.00%        | 100.00%        | 100.00%        |

### RETENTION/IRRIGATION POND LOAD/REMOVAL SUMMARY

| NPS AREA | POND | SITE DRNG. AREA (AC) | PROJECT AREA (AC) | COVER (%) | L.C. % | Rv    | TSS (55 mg/l) | TP (0.04 mg/l) | OG (0.07 mg/l) | TSS (110 mg/l) | TP (0.16 mg/l) | OG (0.18 mg/l) |
|----------|------|----------------------|-------------------|-----------|--------|-------|---------------|----------------|----------------|----------------|----------------|----------------|
|          |      |                      |                   |           |        |       |               |                |                |                |                |                |
| A        | A    | 13.43                | 11.00             | 0.81      | 0.049  | 0.049 | 289.80        | 0.20           | 0.00           | 0.613          | 0.795          | 0.84           |
| B        | B    | 28.56                | 9.52              | 0.46      | 0.049  | 0.049 | 406.98        | 0.30           | 0.00           | 0.286          | 478.92         | 6.98           |
| C        | C    | 3.11                 | 4.01              | 0.78      | 0.049  | 0.049 | 101.15        | 0.07           | 0.00           | 0.583          | 2414.44        | 3.51           |
| TOTALS   |      | 5.11                 | 4.91              | 78.47%    |        |       | 991.15        | 0.67           | 0.00           | 2414.44        | 3.51           | 424.81         |

#### BACKGROUND CONDITIONS

REQUIRED REMOVAL (95%)

REMOVED FROM BMP

% OF REQ. REMOVAL

REQ. % REMOVED

### REQUIRED IRRIGATION AREA - A

$$A = \frac{12xV}{TxR}$$

$$A = (12 \times 56275) / (30 \times 20)$$

$$TOTAL = 112550.0 \text{ S.F.} \quad \boxed{2.584 \text{ A.C.}}$$

### REQUIRED IRRIGATION AREA - B

$$A = \frac{12xV}{TxR}$$

$$A = (12 \times 57546) / (30 \times 20)$$

$$TOTAL = 115092.0 \text{ S.F.} \quad \boxed{2.642 \text{ A.C.}}$$

### REQUIRED IRRIGATION AREA - C

$$A = \frac{12xV}{TxR}$$

$$A = (12 \times 21403) / (30 \times 20)$$

$$TOTAL = 42806.0 \text{ S.F.} \quad \boxed{0.983 \text{ A.C.}}$$

### POND "B" WEIR CALCULATIONS

100yr. SPLITTER BOX  
BROAD-CRESTED RECTANGULAR WEIR:

$$Q = C \cdot L \cdot H^{3/2}$$

WHERE:

Q= WEIR DISCHARGE (cfs)  
C= WEIR COEFFICIENT  
L= HORIZ. LENGTH IN FEET  
H= HEAD OVER WEIR IN FEET

GIVEN:

Q= 152  
C= 2.7  
H= 1  
L= 60

CALCULATIONS:

$$L = \frac{152}{2.7 \cdot 0.94} = \frac{152}{2.538} = 59.9$$

$$L = 59.9 \approx 60$$

$$H = \frac{152}{2.7 \cdot 60} = \frac{152}{162} = 0.93827 \quad \boxed{0.9585}$$

USE 60' WEIR AT 0.96' OF HEAD

### POND "B" WEIR CALCULATIONS

25yr. SPLITTER BOX  
BROAD-CRESTED RECTANGULAR WEIR:

$$Q = C \cdot L \cdot H^{3/2}$$

WHERE:

Q= WEIR DISCHARGE (cfs)  
C= WEIR COEFFICIENT  
L= HORIZ. LENGTH IN FEET  
H= HEAD OVER WEIR IN FEET

GIVEN:

Q= 109  
C= 2.7  
H= 0.94  
L= 60

CALCULATIONS:

$$L = \frac{109}{2.7 \cdot 0.94} = \frac{109}{2.538} = 42.9$$

$$L = 42.9 \approx 43$$

$$H = \frac{109}{2.7 \cdot 60} = \frac{109}{162} = 0.67284 \quad \boxed{0.7680}$$

USE 60' WEIR AT 0.77' OF HEAD

### PROP. WQ POND B

| CONTOUR | AREA   | AVERAGE AREA | INCREMENTAL STORAGE (CF) | CUMMULATIVE STORAGE (CF) |
|---------|--------|--------------|--------------------------|--------------------------|
| 1043.6  | 10     | 0            | 0                        | 0                        |
| 1044    | 2,160  | 0.00         | 0                        | 0                        |
| 1045    | 8,797  | 5,478.50     | 5479                     | 5479                     |
| 1046    | 10,481 | 9,639.00     | 9639                     | 15118                    |
| 1047    | 11,943 | 11,212.00    | 11212                    | 26330                    |
| 1048    | 13,461 | 12,702.00    | 12702                    | 39032                    |
| 1049    | 15,076 | 14,248.50    | 14249                    | 53281                    |
| 1049.28 | 15,438 | 15,237.00    | 4266                     | 57546                    |
| 1050    | 17,624 | 16,531.00    | 11902                    | 69449                    |
| 1050.3  | 18,209 | 17,916.5     | 5375                     | 74824                    |

### WARNING !!!!

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TRAVIS COUNTY/CITY OF BEE CAVE  
IN REVIEWING THESE PLANS, MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

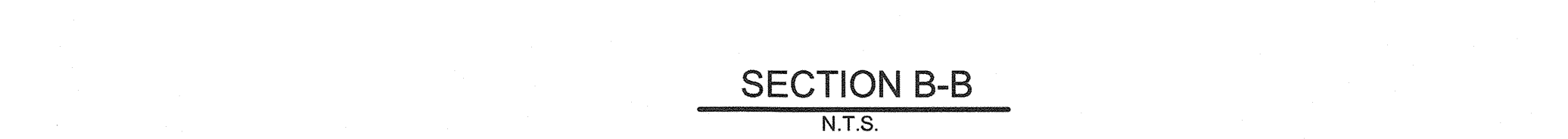
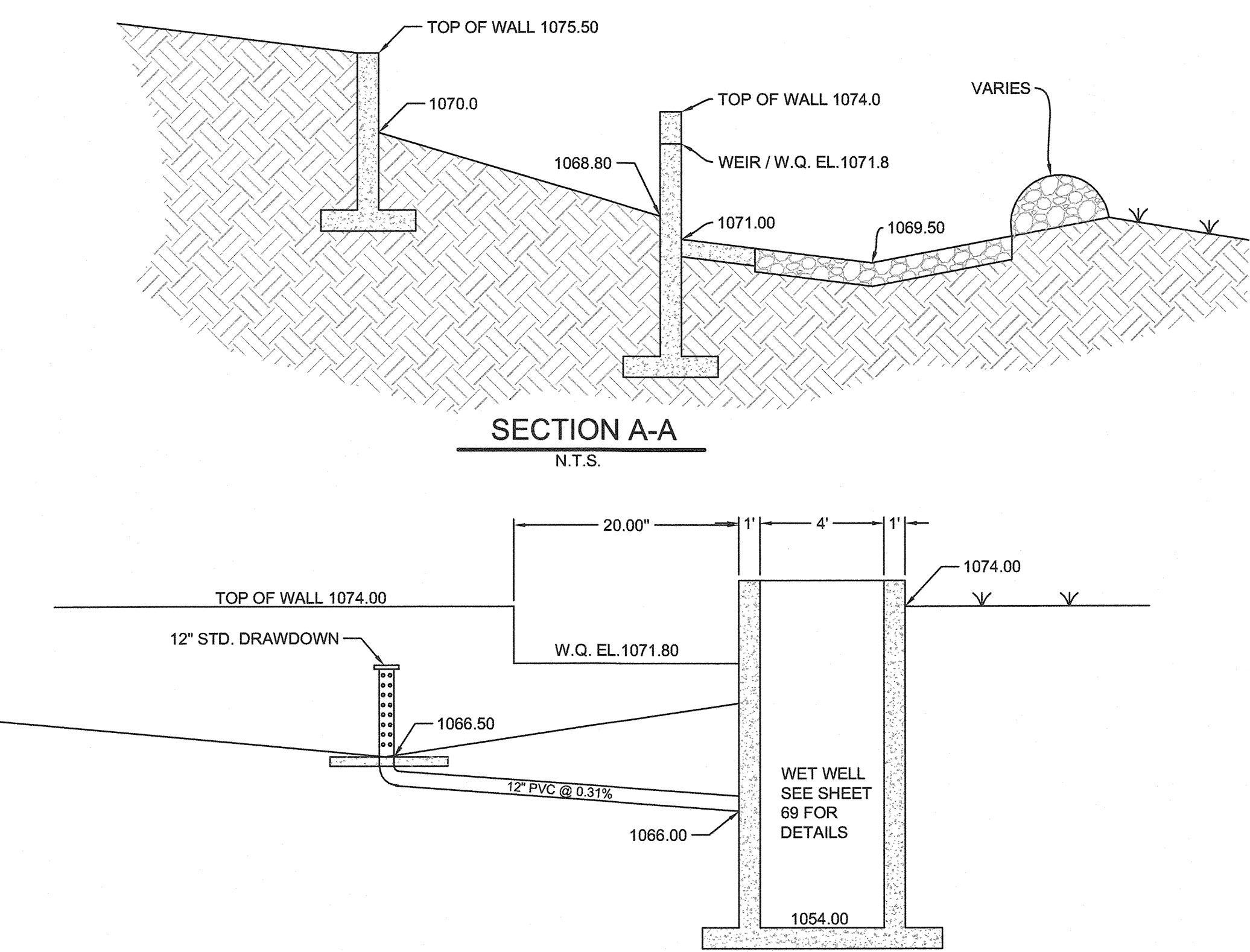
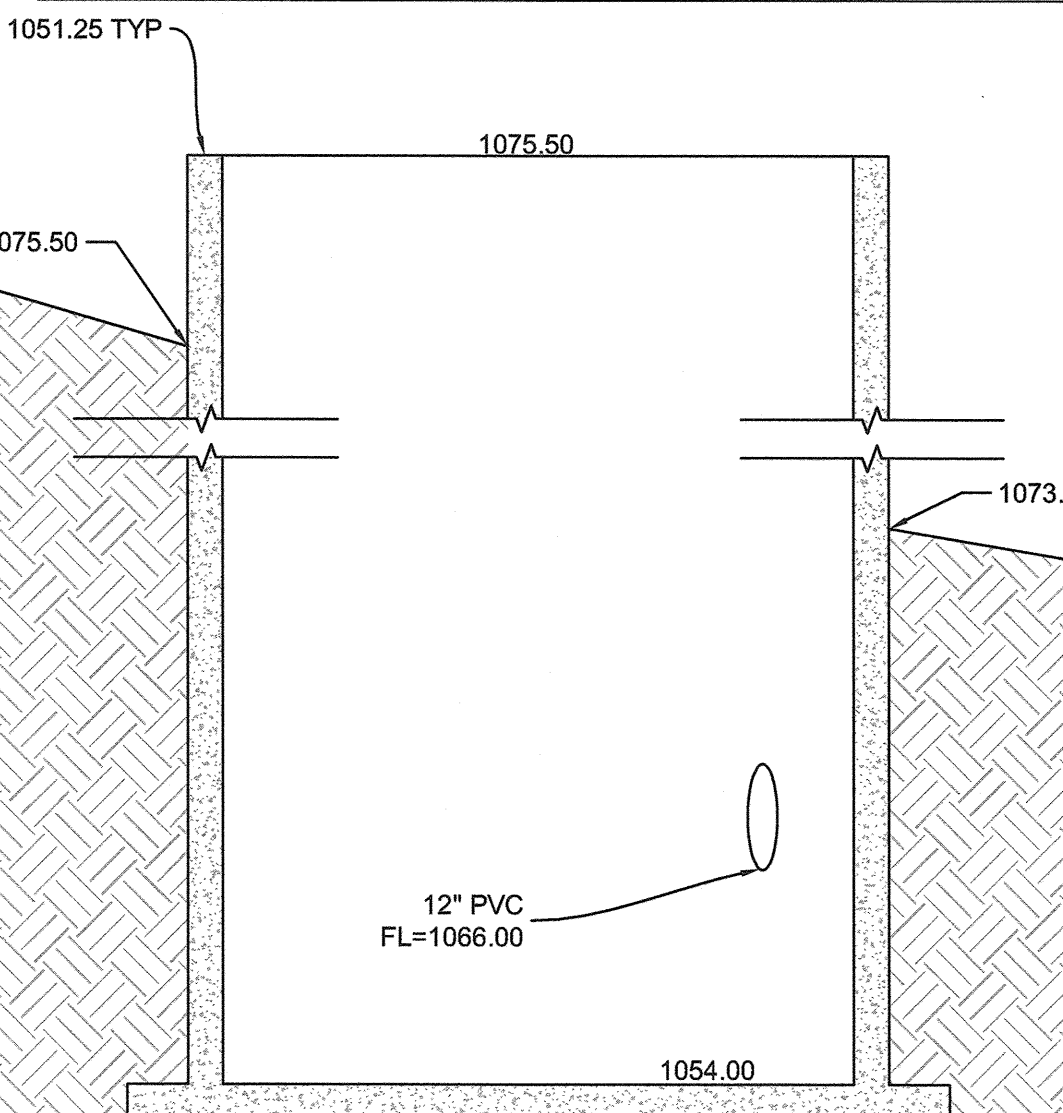
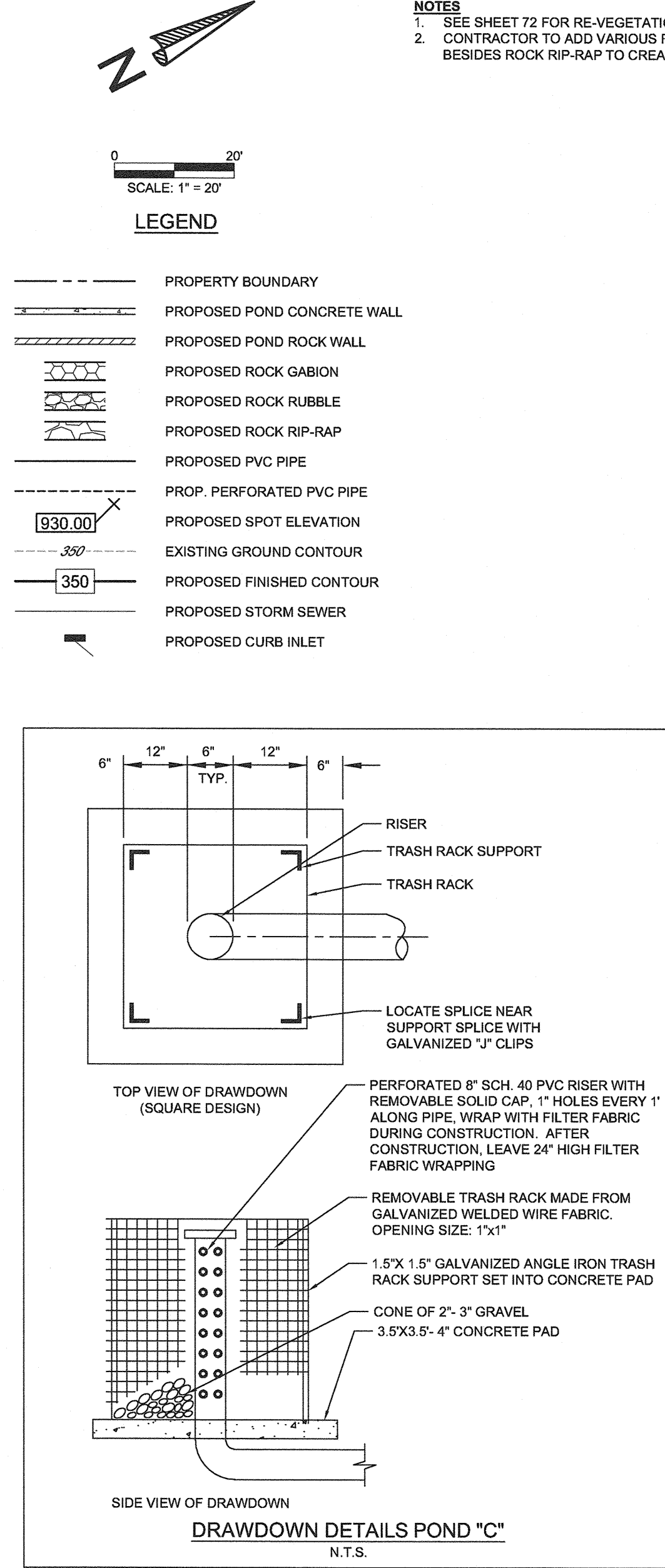
LTISD EDUCATIONAL FACILITIES, PHASE 3  
MIDDLE SCHOOL 3  
WATER QUALITY POND B

**MALONE ★ WHEELER**  
SINCE INC. PWS  
CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT

5113 Southwest Pkwy, Suite 260  
Austin, Texas 78735  
Phone: (512) 899-0601 Fax: (512) 899-0655  
Firm Registration No. F-786

DESIGN BY: MW  
CHECKED BY: DRM  
APPROVED BY: DRM  
DATE: 12/1/2017

SHEET 67  
OF 139



| RETENTION/IRRIGATION POND LOAD/REMOVAL SUMMARY |   |      |   |                            |       |                               |       |                       |                      |                 |       |                       |                       |                      |  |  |
|------------------------------------------------|---|------|---|----------------------------|-------|-------------------------------|-------|-----------------------|----------------------|-----------------|-------|-----------------------|-----------------------|----------------------|--|--|
| NPS AREA<br>(SQ. FT.)                          |   | POND |   | SITE DRNG. AREA<br>(ACRES) |       | PROJECT IMPERVIOUS COVER (AC) |       | BACKGROUND CONDITIONS |                      |                 |       |                       |                       | DEVELOPED CONDITIONS |  |  |
|                                                |   |      |   |                            |       |                               |       | TSR<br>(55 mg/LB/RY)  | CO<br>(0.4 mg/LB/RY) | CO<br>(10 mg/L) | Rv    | TSR<br>(110 mg/LB/RY) | CO<br>(0.16 mg/LB/RY) | CO<br>(5 mg/LB/RY)   |  |  |
| A                                              | A | A    | A | 13.63                      | 11.05 | 0.81                          | 0.049 | 269.80                | 0.20                 | 0.00            | 0.613 | 6785.95               | 0.84                  | 446.31               |  |  |
| B                                              | B | B    | B | 20.56                      | 0.52  | 0.049                         | 0.049 | 408.08                | 0.30                 | 0.00            | 0.268 | 299.66                | 0.89                  | 239.66               |  |  |
| C                                              | C | C    | C | 5.11                       | 4.01  | 0.78                          | 0.049 | 101.15                | 0.07                 | 0.00            | 0.563 | 2414.44               | 3.51                  | 424.81               |  |  |
| TOTALS                                         |   |      |   | 5.11                       | 4.01  | 78.47%                        |       | 101.15                | 0.07                 | 0.00            |       | 2414.44               | 3.51                  | 424.81               |  |  |
| BACKGROUND CONDITIONS                          |   |      |   |                            |       |                               |       |                       |                      |                 |       |                       |                       |                      |  |  |
| REMOVED REMOVAL (95%)                          |   |      |   |                            |       |                               |       |                       |                      |                 |       |                       |                       |                      |  |  |
| REMOVED FROM BMP                               |   |      |   |                            |       |                               |       |                       |                      |                 |       |                       |                       |                      |  |  |
| % OF REQ. REMOVAL                              |   |      |   |                            |       |                               |       |                       |                      |                 |       |                       |                       |                      |  |  |
| REQ. % REMOVED                                 |   |      |   |                            |       |                               |       |                       |                      |                 |       |                       |                       |                      |  |  |

**REQUIRED IRRIGATION AREA - C**

SOIL TYPE "C"

$$A = \frac{12xV}{TxR}$$

570,022

$$A = (12x21403)/(30x.20)$$

**TOTAL= 42806.0 SP**

|              |
|--------------|
| <b>0.983</b> |
|--------------|

A.C.

### POND "C" WEIR CALCULATIONS

3/2  
C \* L \* H  
WEIR DISCHARGE (cfs)  
WEIR COEFFICIENT  
HORIZ. LENGTH IN FEET  
HEAD OVER WEIR IN FEET

| PROP. WQ POND C |              |                 |                          |                         |
|-----------------|--------------|-----------------|--------------------------|-------------------------|
| CONTOUR         | AREA         | AVERAGE AREA    | INCREMENTAL STORAGE (CF) | CUMULATIVE STORAGE (CF) |
| 1066.5          | 10           | 0               | 0                        | 0                       |
| 1067            | 486          | 248.00          | 124.00                   | 124.00                  |
| 1068            | 2,027        | 1,256.50        | 1,256.50                 | 1,380.50                |
| 1069            | 3,975        | 3,001.00        | 3,001.00                 | 4,381.50                |
| 1070            | 6,053        | 5,014.00        | 5,014.00                 | 9,395.50                |
| 1070.5          | 6,669        | 6,361.00        | 3,180.50                 | 12,576.00               |
| 1071            | 6,770        | 6,719.50        | 3,359.75                 | 15,935.75               |
| <b>1071.8</b>   | <b>6,898</b> | <b>6,834.00</b> | <b>5,467.20</b>          | <b>21,402.95</b>        |
| 1072            | 6,991        | 6,944.50        | 1,388.90                 | 22,791.85               |
| 1073            | 7,183        | 7,087.00        | 3,543.50                 | 26,335.35               |
| 1074            | 7,364        | 7,273.50        | 3,636.75                 | 29,972.10               |

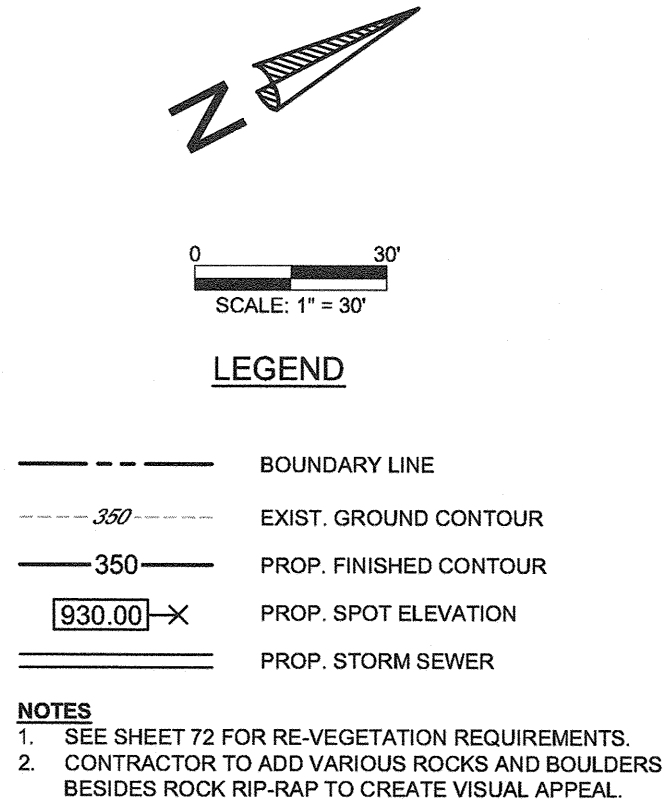
**WARNING !!!!**  
CONTRACTOR TO FIELD VERIFY ALL EXIST. UTILITIES  
VERTICALLY AND HORIZONTALLY PRIOR TO  
CONSTRUCTION.

---

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE  
PLANS REMAINS WITH THE ENGINEER WHO PREPARE  
THEM.  
TRAVIS COUNTY/CITY OF BEE CAVE  
IN REVIEWING THESE PLANS, MUST RELY UPON THE  
ADEQUACY OF THE WORK OF THE DESIGN ENGINEER

|               |           |
|---------------|-----------|
| DESIGN BY :   | MV        |
| CHECKED BY :  | DRM       |
| APPROVED BY : | DRM       |
| DATE :        | 12/1/2017 |

**SHEET 68**  
**OF 139**



| PROP. DET. POND C |        |              |                          |                         |
|-------------------|--------|--------------|--------------------------|-------------------------|
| CONTOUR           | AREA   | AVERAGE AREA | INCREMENTAL STORAGE (CF) | CUMULATIVE STORAGE (CF) |
| 1082              | 0      | 0            | 0                        | 0                       |
| 1083              | 9.067  | 4,538.50     | 4,538.50                 | 4,538.50                |
| 1084              | 20.152 | 14,609.50    | 14,609.50                | 19,148.00               |
| 1085              | 30.320 | 25,236.00    | 25,236.00                | 44,384.00               |
| 1086              | 32.809 | 31,564.50    | 31,564.50                | 75,948.50               |
| 1087              | 35.436 | 34,122.50    | 34,122.50                | 110,071.00              |
| 1088              | 38.240 | 36,838.00    | 36,838.00                | 146,909.00              |
| 1089              | 40.993 | 39,616.50    | 39,616.50                | 186,525.50              |
| 1090              | 43.802 | 42,397.50    | 42,397.50                | 228,923.00              |
| 1091              | 46.667 | 45,234.50    | 45,234.50                | 274,157.50              |

## POND "C" WEIR CALCULATIONS

75% PMF OVERFLOW

### BROAD-CRESTED RECTANGULAR WEIR:

$$Q = C \cdot L \cdot H^{3/2}$$

**WHERE:**

- Q= WEIR DISCHARGE (cfs)
- C= WEIR COEFFICIENT
- L= HORIZ. LENGTH IN FEET
- H= HEAD OVER WEIR IN FEET

**GIVEN:**  
 $Q_{100} = 431$   
 $C = 2.7$   
 $H = 0.95$   
 $L = 175$

**CALCULATIONS:**

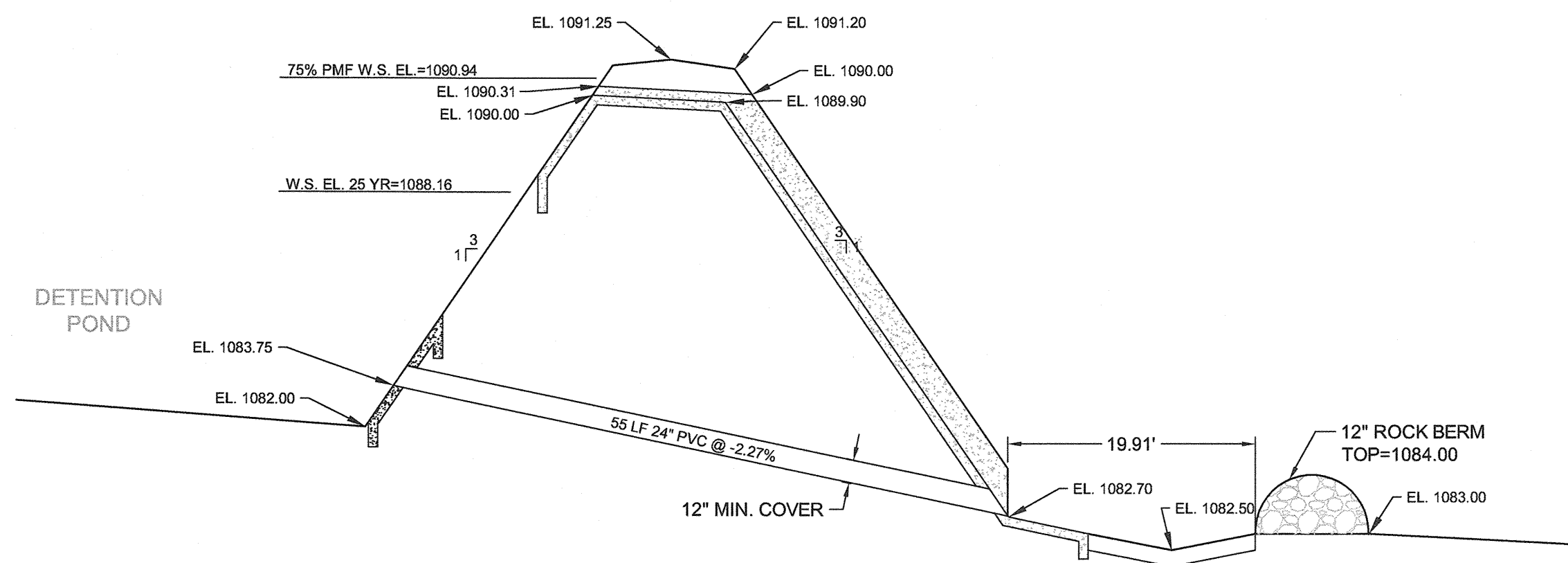
**SOLVE FOR LENGTH**

$$L = \frac{431}{2.7 * .95} = \frac{431}{2.50053} = 172.4$$

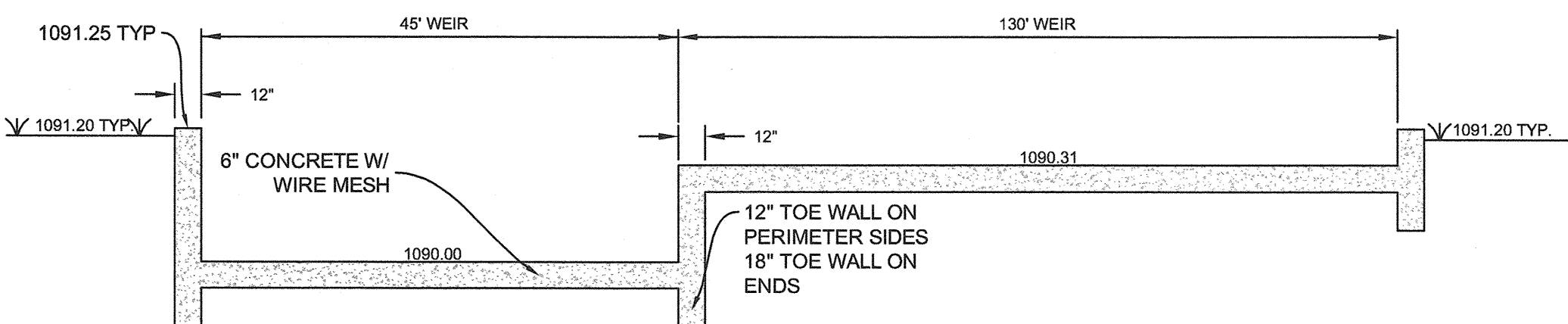
SOLVE FOR HEAD  $H = (Q/(C^*L))^{2/3}$

$$H = \frac{431}{2.7^{*22}} = \frac{431}{472.5} = 0.91217 \quad \mathbf{0.9406}$$

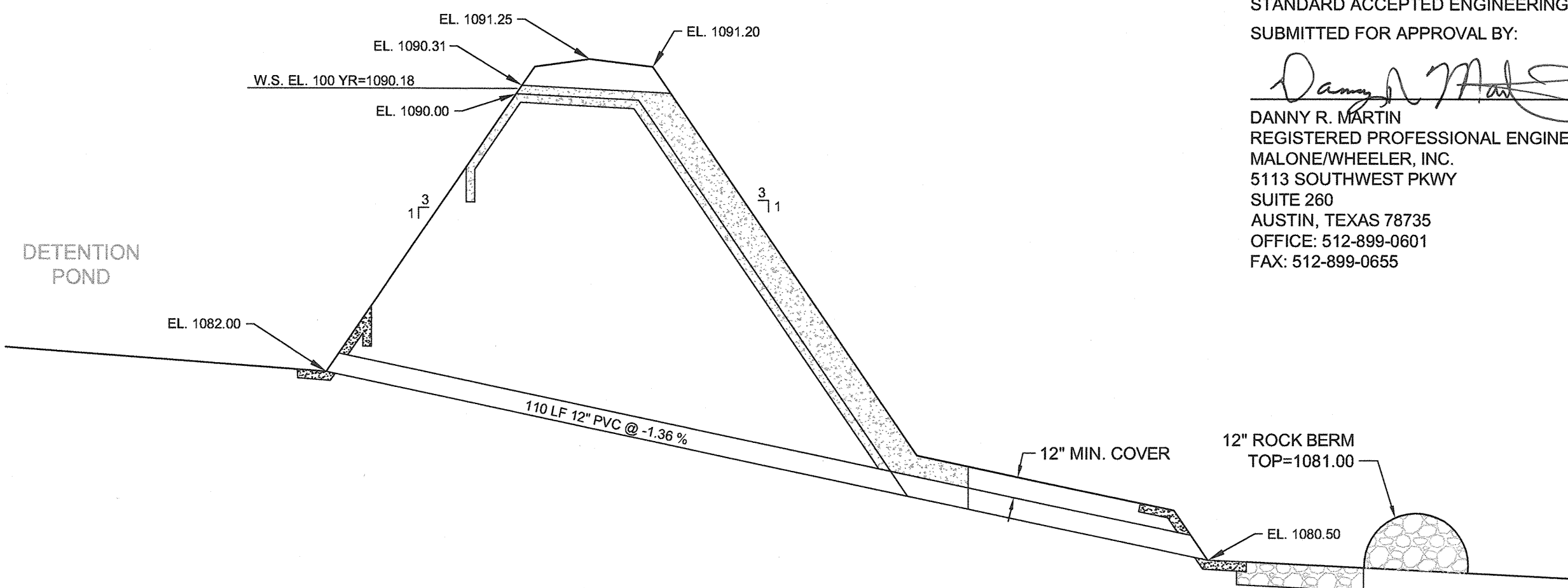
USE 175' WEIR AT 0.94' OF HEAD



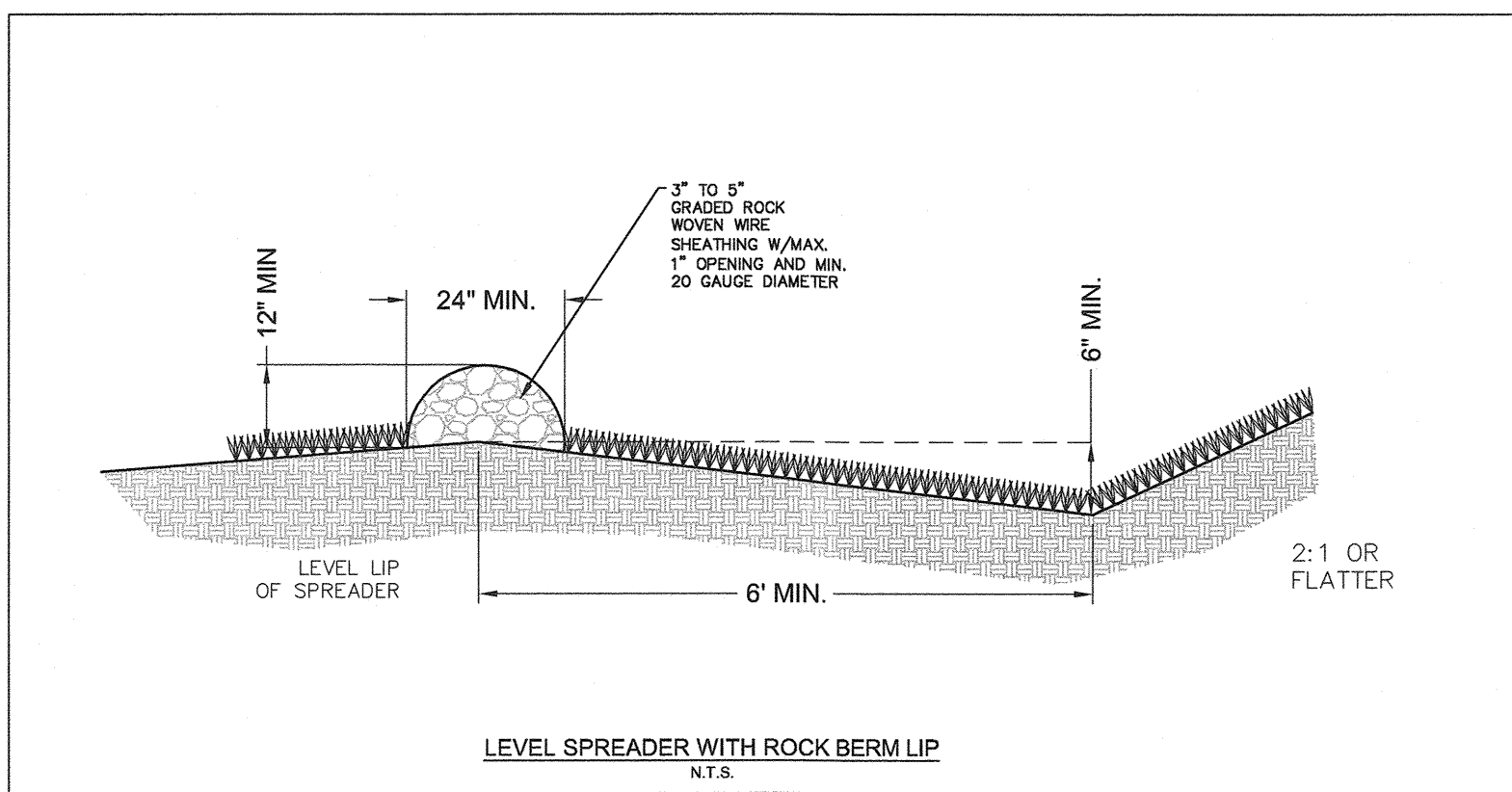
**SECTION A-A**  
NTS



SECTION B-B  
N.T.S.



SECTION C-C  
NTS



I, DANNY R. MARTIN, P.E., TEXAS LICENCE NUMBER 44960, CERTIFY THAT THE DESIGN OF THE DAM FOR DETENTION POND "C" IN THIS SET OF PLANS CAN SAFELY PASS 75-PERCENT OF THE PROBABLE MAXIMUM FLOOD BASED ON THE HYDROLOGIC, HYDRAULIC, STRUCTURAL AND GEOTECHNICAL ANALYSIS USING STANDARD ACCEPTED ENGINEERING PRACTICES.

SUBMITTED FOR APPROVAL BY:

  
DANNY R. MARTIN  
REGISTERED PROFESSIONAL ENGINEER NO. 44960  
MALONE/WHEELER, INC.  
5113 SOUTHWEST PKWY  
SUITE 260  
AUSTIN, TEXAS 78735  
OFFICE: 512-899-0601  
FAX: 512-899-0655

60

STATE OF TEXAS

DANNY R. MARTIN

44960

LICENSED

PROFESSIONAL ENGINEER

12/01/17  
DATE

**MALONE★WHEELER**  
SINCE 1905 INC.

CIVIL ENGINEERING ★ DEVELOPMENT CONSULTING ★ PROJECT MANAGEMENT

Austin, Texas / 8/35  
Phone: (512) 899-0601 Fax: (512) 899-0655  
Firm Registration No. F-786

LTISD Overall Projects 15-015 LTISD Middle School 3 Design Drawings Planset 66 WATER QUALITY & DETENTION POND A.dwg, 12/1/2017 7:32:08 AM, MWV, MWV

A circular professional engineer seal for the State of Texas. The outer ring contains the text "STATE OF TEXAS" at the top and "PROFESSIONAL ENGINEER" at the bottom. Inside the ring is a five-pointed star. Below the star, the name "DANNY R. MARTIN" is printed, followed by the license number "44960". A handwritten signature, "Danny R. Martin", is written across the seal.

12/01/17

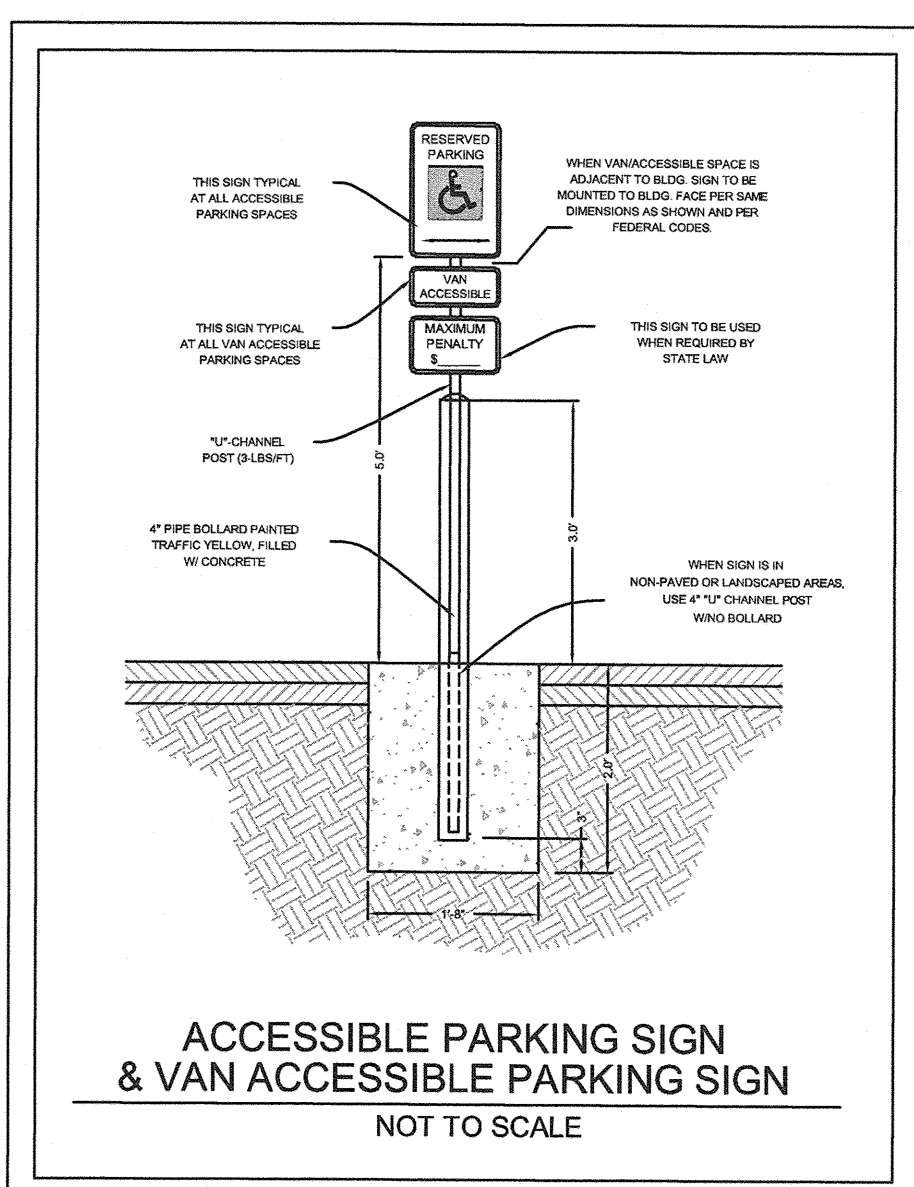
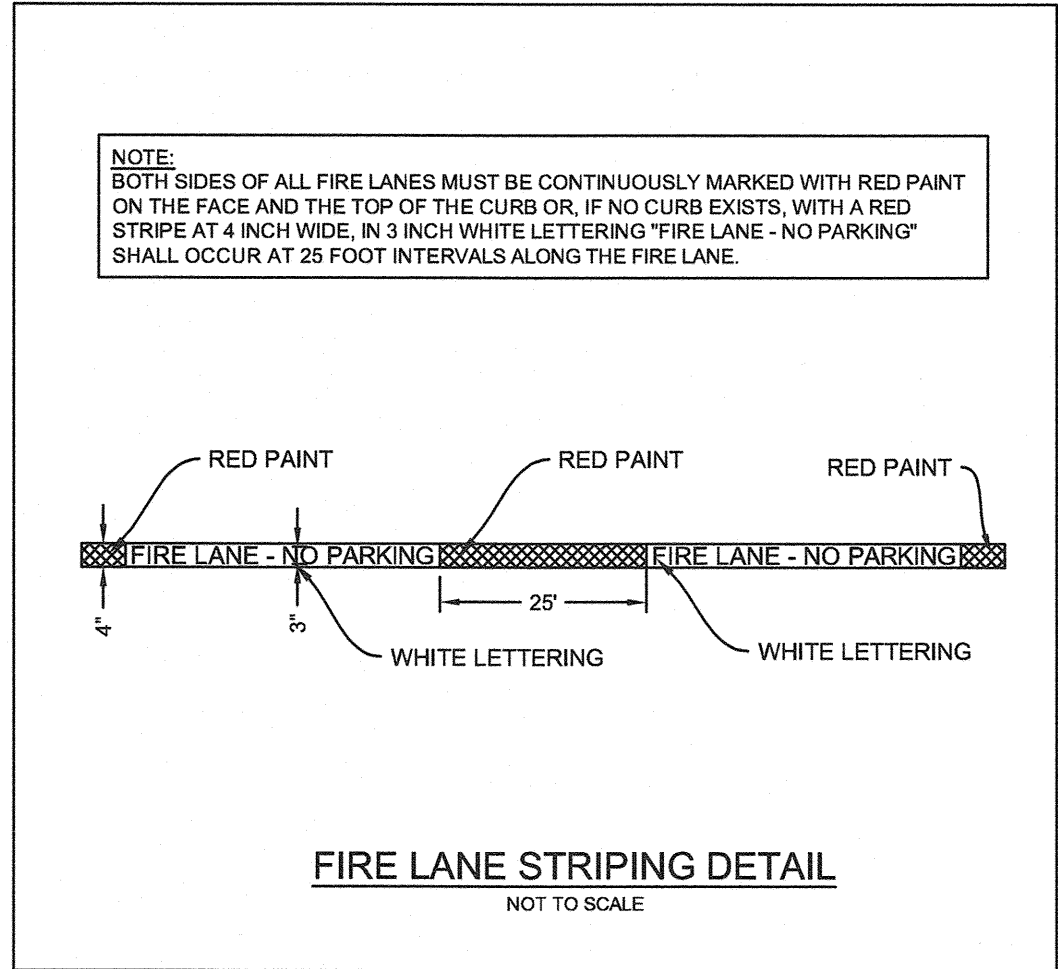
**WARNING !!!**

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|               |           |
|---------------|-----------|
| DESIGN BY :   | MV        |
| CHECKED BY :  | DRM       |
| APPROVED BY : | DRM       |
| DATE :        | 12/1/2017 |

SHEET 70  
OF 139



| <u>LEGEND</u>                                                                         |                                   |
|---------------------------------------------------------------------------------------|-----------------------------------|
|  | PROPERTY BOUNDARY                 |
|  | PROPOSED 4" WHITE BROKEN STRIPING |
|  | PROPOSED 4" WHITE SOLID STRIPING  |
|  | PROPOSED 4" YELLOW SOLID STRIPING |
|  | NOT IN THIS CONTRACT              |

**WARNING !!!!**  
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|               |            |
|---------------|------------|
| DESIGN BY :   | MV         |
| CHECKED BY :  | DRM        |
| APPROVED BY : | DRM        |
| DATE :        | 11/30/2017 |

**SHEET 71**  
**OF 139**