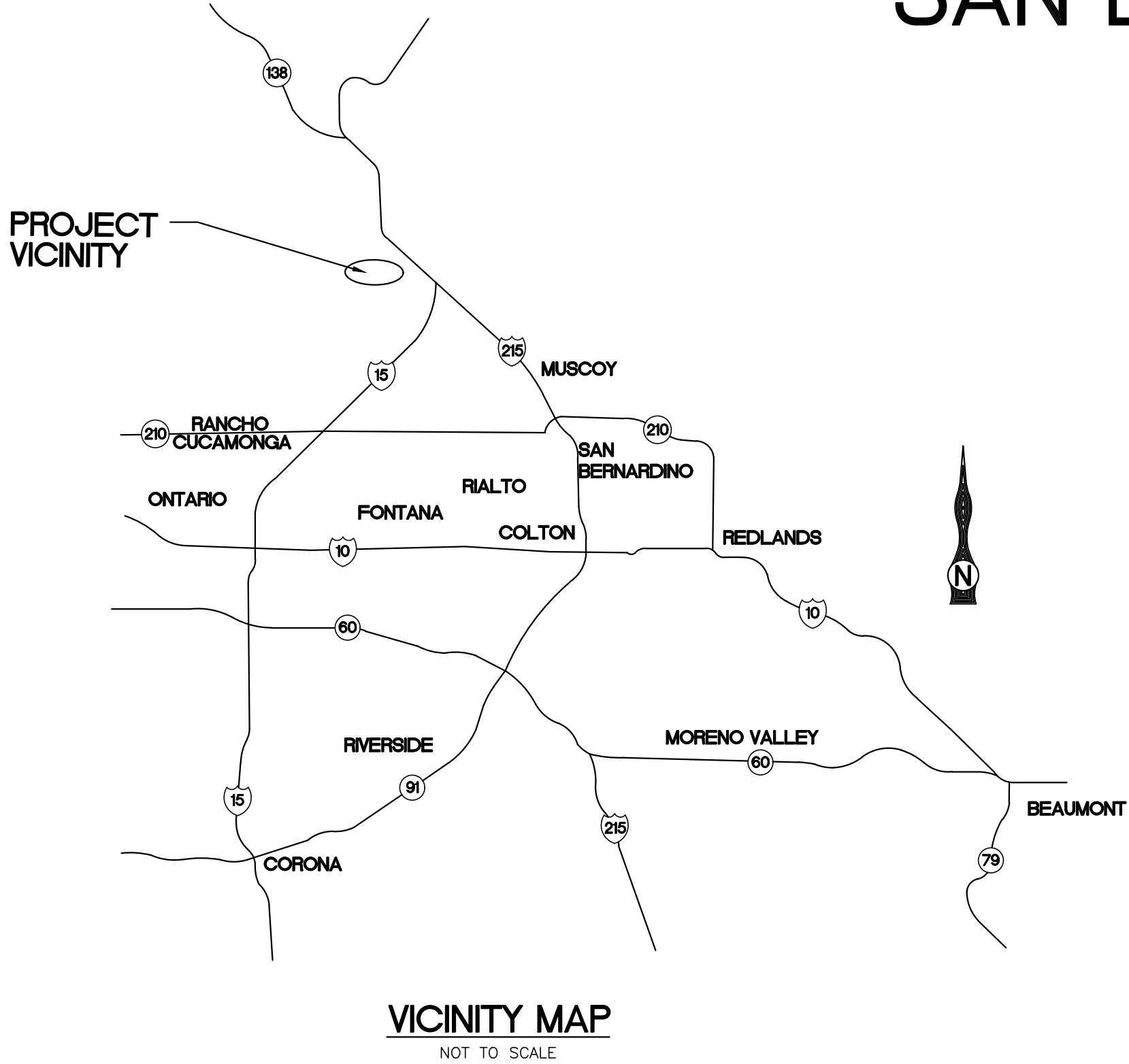
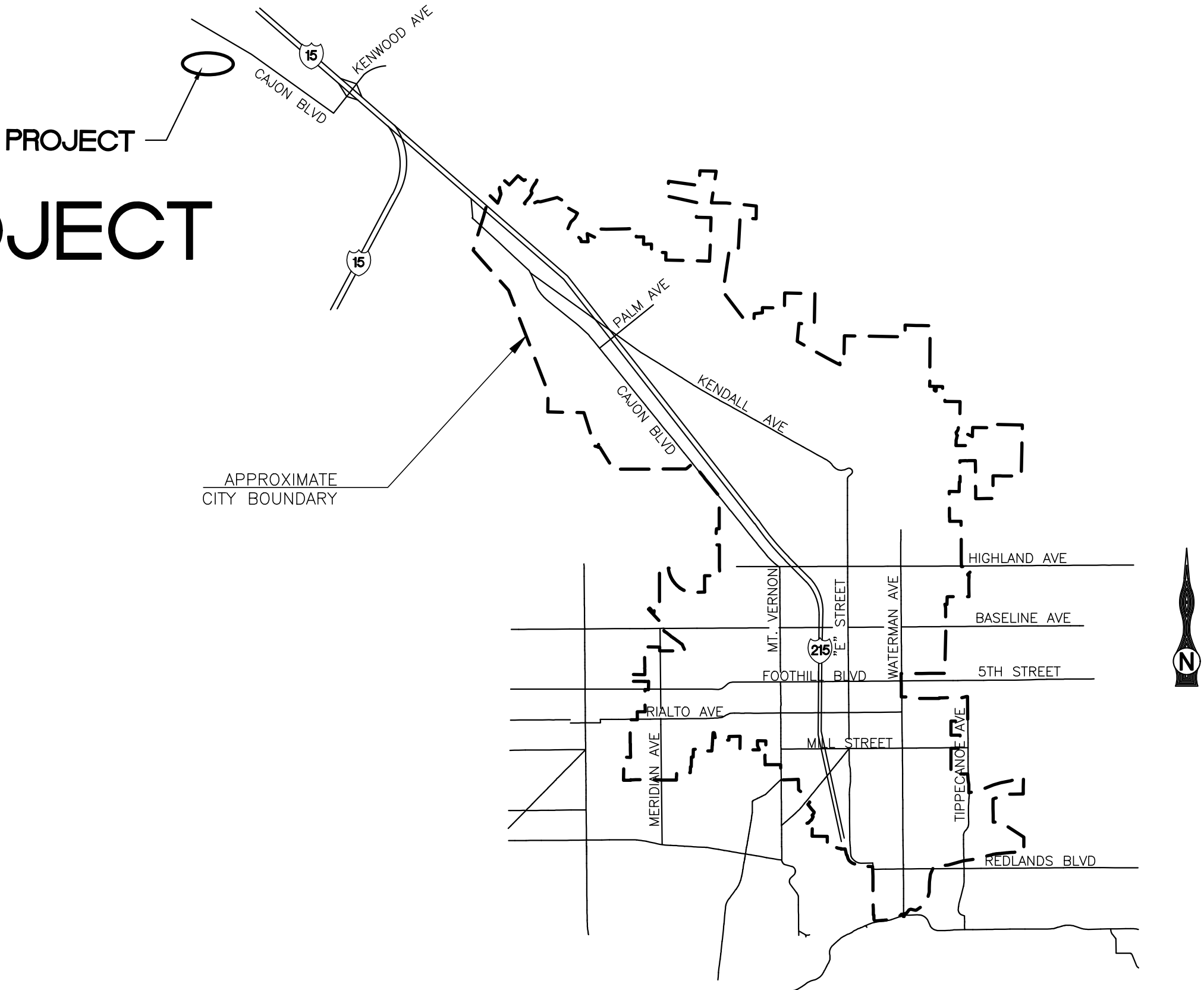


SAN BERNARDINO MUNICIPAL WATER DEPARTMENT  
SPECIFICATION NO. XXXX  
WELL NO. D-1264  
VINCENT WELL STABILIZATION PROJECT



VICINITY MAP  
NOT TO SCALE



LOCATION MAP  
NOT TO SCALE

SHEET INDEX

| SHEET NO. | DWG. | DESCRIPTION           |
|-----------|------|-----------------------|
| 1         | G1   | TITLE SHEET           |
| 2         | SV1  | SURVEY PLAN           |
| 3         | C1   | SITE AND GRADING PLAN |
| 4         | C2   | CONSTRUCTION DETAILS  |
| 5         | C3   | CONSTRUCTION DETAILS  |

CONSTRUCTION NOTES

1. PROTECT EXISTING FACILITY OR UTILITY IN PLACE
2. REMOVE EXISTING CONCRETED RIPRAP
3. CONSTRUCT GABION SLOPE PROTECTION AS SHOWN ON GABION CONSTRUCTION PLAN ON DWG C1, AND PER CONSTRUCTION DETAILS ON DWGS C2 AND C3.

ABBREVIATIONS

|        |                  |
|--------|------------------|
| AP     | ANGLE POINT      |
| BGA    | BOTTOM OF GABION |
| DWG    | DRAWING          |
| DWGS   | DRAWINGS         |
| EXIST. | EXISTING         |
| MIN.   | MINIMUM          |
| TGA    | TOP OF GABION    |

WATER DEPARTMENT'S ENGINEER CERTIFICATE

THIS CERTIFIES THAT ON \_\_\_\_\_, I REVIEWED THE PLAN FOR THE VINCENT WELL STABILIZATION PROJECT, AND FOUND THAT IT MEETS THE MINIMUM REQUIREMENTS OF THE CALIFORNIA HEALTH AND SAFETY CODE.

MIGUEL J. GUERRERO  
DIRECTOR, WATER UTILITY  
CA. R.C.E. 73239  
EXPIRATION DATE: 12/31/2018  
(909) 453-6100

DATE

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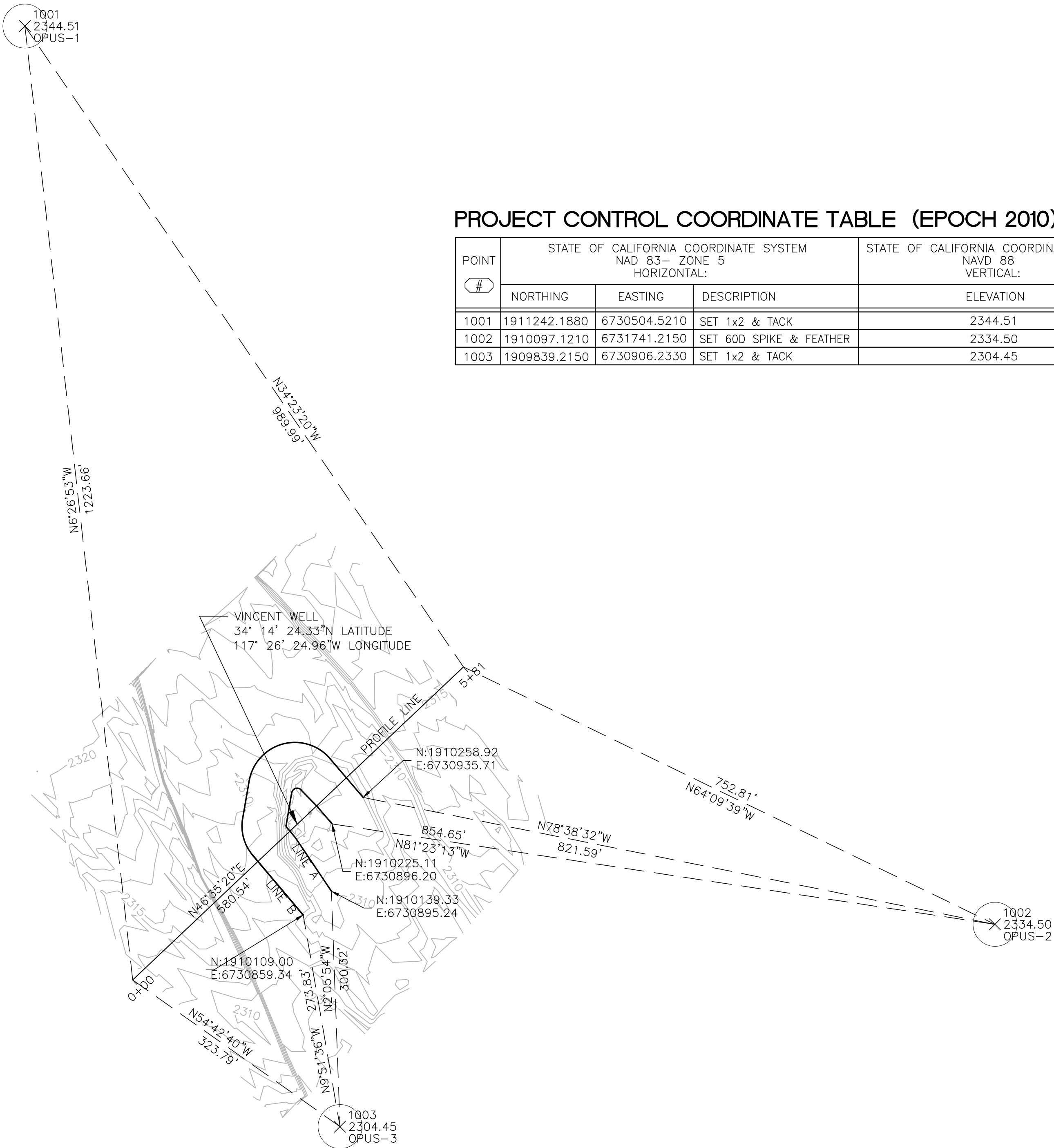
| MARK            | REVISIONS    | APPROVED       | DATE            | APPROVED       | DATE |
|-----------------|--------------|----------------|-----------------|----------------|------|
| DESIGNED BY: MG | DRAWN BY: MG | CHECKED BY: RS | DESIGN ENGINEER | SBMWD ENGINEER |      |

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MUNICIPAL WATER DEPARTMENT  
WELL NO. D-1264  
VINCENT WELL STABILIZATION PROJECT  
TITLE SHEET

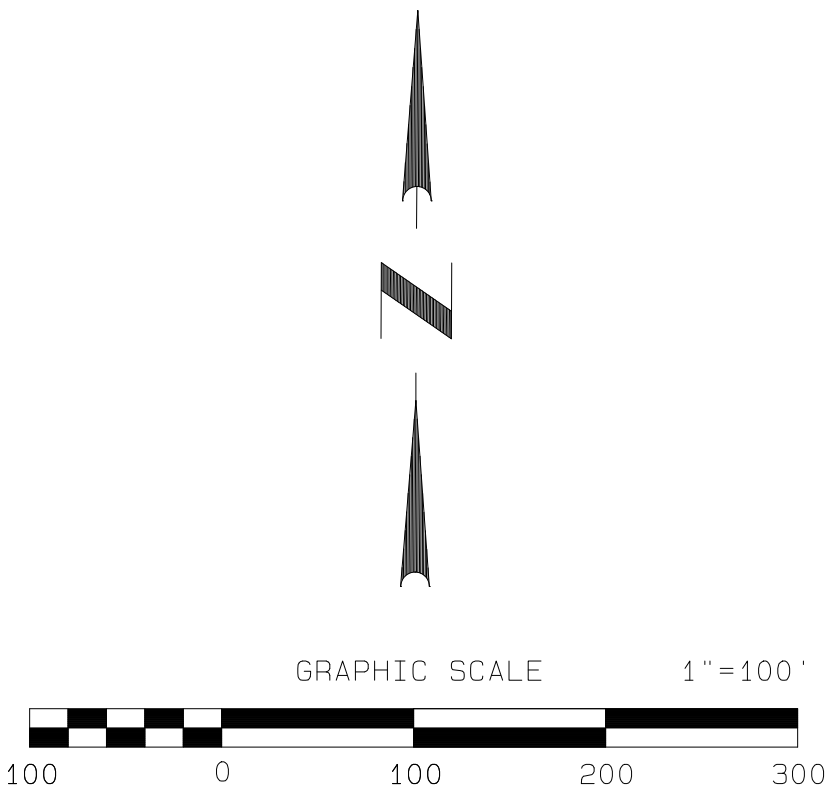
|                                                                                        |
|----------------------------------------------------------------------------------------|
| DRAWING SCALES:<br>HORIZ: N/A VERT: N/A<br>C.O. NO.:<br>1682<br>DWG G1<br>SHEET 1 OF 5 |
|----------------------------------------------------------------------------------------|





PROJECT CONTROL COORDINATE TABLE (EPOCH 2010)

| POINT<br># | STATE OF CALIFORNIA COORDINATE SYSTEM<br>NAD 83- ZONE 5<br>HORIZONTAL: |              | STATE OF CALIFORNIA COORDINATE SYSTEM<br>NAVD 88<br>VERTICAL: |           |
|------------|------------------------------------------------------------------------|--------------|---------------------------------------------------------------|-----------|
|            | NORTHING                                                               | EASTING      | DESCRIPTION                                                   | ELEVATION |
| 1001       | 1911242.1880                                                           | 6730504.5210 | SET 1x2 & TACK                                                | 2344.51   |
| 1002       | 1910097.1210                                                           | 6731741.2150 | SET 60D SPIKE & FEATHER                                       | 2334.50   |
| 1003       | 1909839.2150                                                           | 6730906.2330 | SET 1x2 & TACK                                                | 2304.45   |





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| DESIGNED BY: <u>MG</u> | DRAWN BY: <u>MG</u> | CHECKED BY: <u>RS</u> | DESIGN ENGINEER | SBMWD ENGINEER |      |

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CITY OF SAN BERNARDINO  
MUNICIPAL WATER DEPARTMENT

WELL NO. D-1264  
VINCENT WELL STABILIZATION PROJECT  
SURVEY PLAN

DRAWING SCALES:  
HORIZ: N/A VERT: N/A  
C.O. NO.:

**DWG SVI**

SHEET **2** OF **4**







NOTES:

1. INTERNAL CONNECTING WIRE (13.5-GAGE) SHALL BE INSTALLED ACROSS WIDTH OF INTERIOR GABIONS AND ACROSS WIDTH AND LENGTH OF END GABIONS AS SHOWN IN DETAIL B HEREON.

2. INTERNAL CONNECTING WIRES ARE REQUIRED ON ALL GABIONS 3'-0" HIGH.

3. PREFORMED STIFFENERS (11-GAGE OR 9-GAGE) ARE AN ACCEPTABLE ALTERNATIVE TO INTERNAL CONNECTING WIRES. INSTALL THEM AS RECOMMENDED BY MANUFACTURER AT 1/3 POINTS.

4. PLACE ROCK IN END GABION CELL FIRST, AND CONTINUE BY FILLING INTERIOR GABION CELLS.

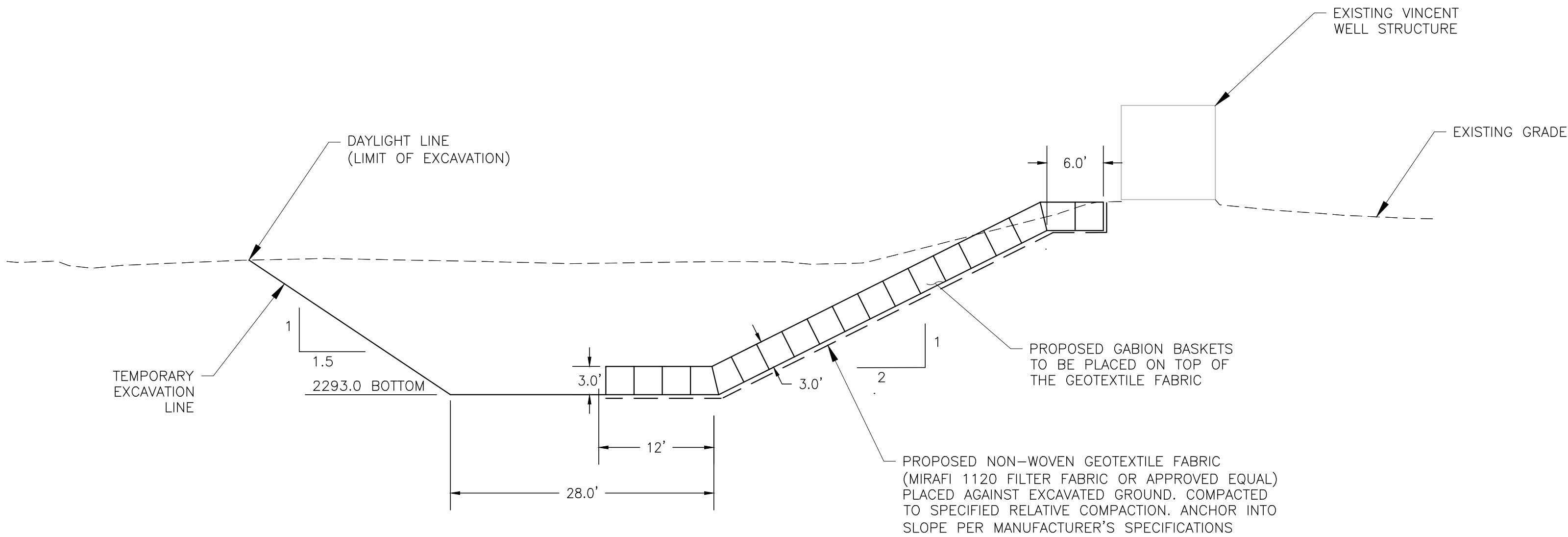
5. FOR GABION DIMENSIONS, REFER TO DETAIL E "STANDARD GABION SIZES" HEREON.

6. THE SIDE OF EXCAVATIONS AND ANY TEMPORARY EARTHWORKS PROFILES ARE TO BE REGULARLY INSPECTED AND MAINTAINED TO ENSURE THAT THEY REMAIN STABLE AND ARE NOT DETERIORATING THROUGH THE INGRESS OF WATER, DIRECT RAINFALL, OR GROUND WATER SEEPAGE OR ANY OTHER MEANS AND THE WORKS CAN BE CONSTRUCTED SAFELY AT ALL TIMES.

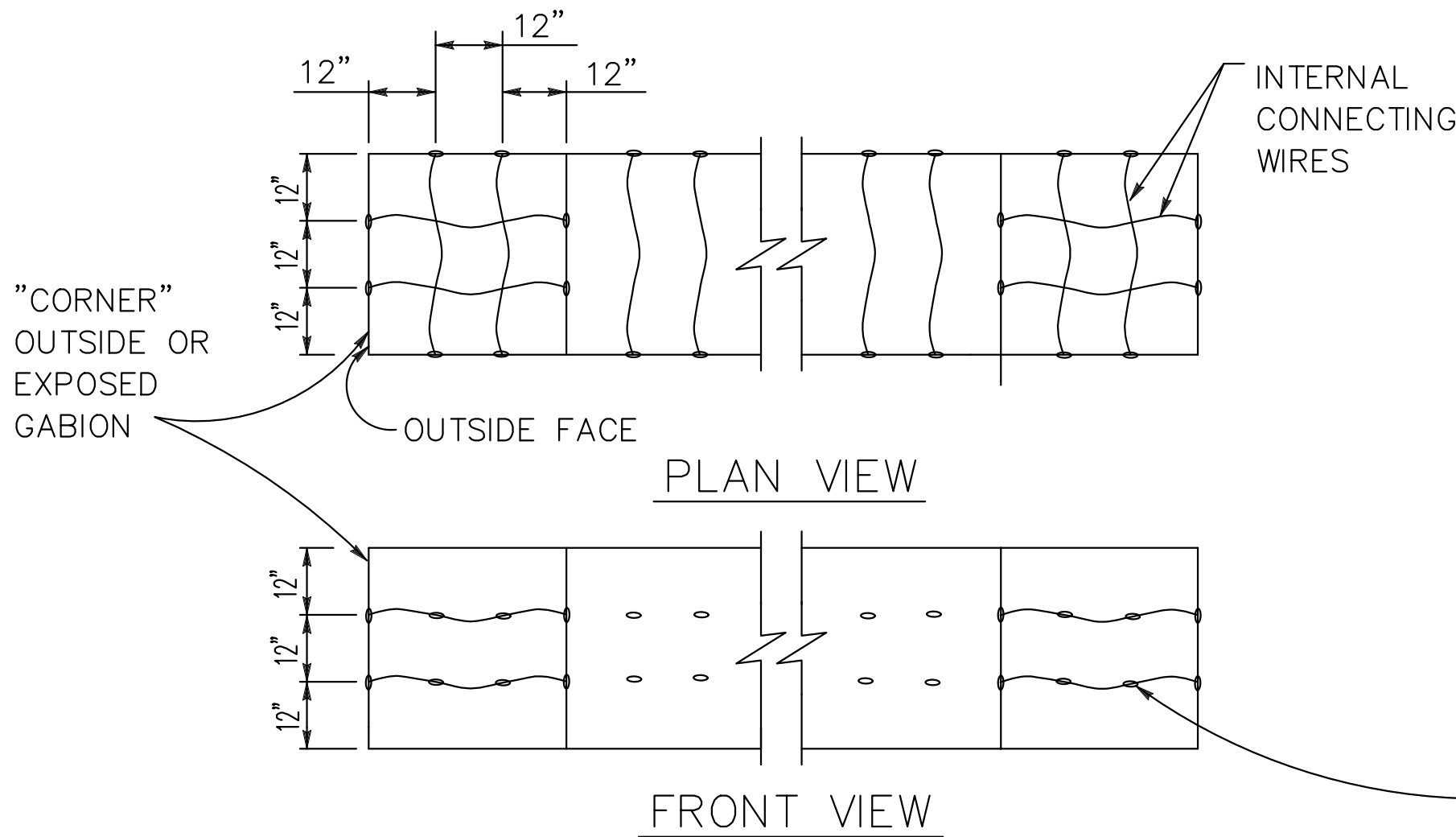
7. TEMPORARY DEWATERING MAY BE NEEDED TO KEEP THE GROUNDWATER AT LEAST FIVE (5) FEET BELOW EXCAVATED SLOPE.

8. VERTICAL EXCAVATION NEXT TO EXISTING SLAB AND NEAR EXISTING BUILDING SHOULD BE CAREFULLY MONITORED TO PREVENT DAMAGE TO THE EXISTING SLAB AND BUILDING.
9. DURING TEMPORARY EXCAVATION PROCESS, THE EXISTING SLAB SHOULD NOT BE LOADED WITH CONSTRUCTION EQUIPMENT AND WORKERS.

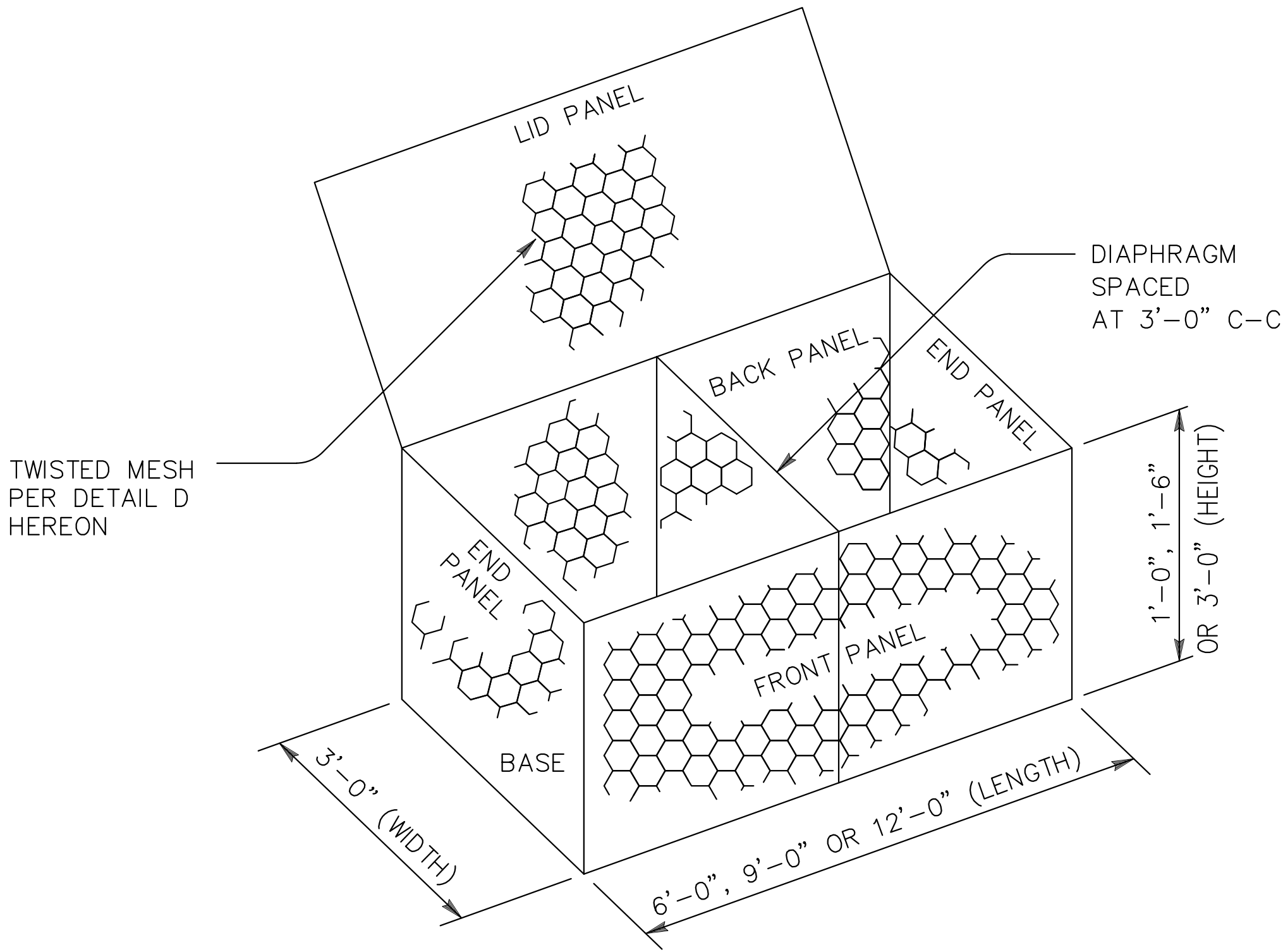
10. FILL GABIONS WITH ROCK MATERIAL AS SPECIFIED IN DETAIL F HEREON.



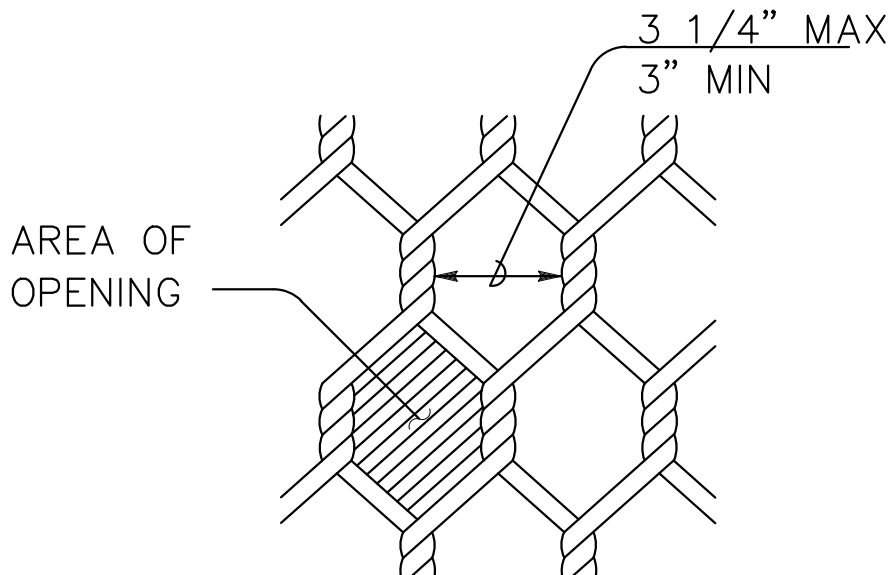
**A** TYPICAL GABION SECTION  
NOT TO SCALE



**B** 13.5-GAUGE INTERNAL CONNECTING WIRES  
NOT TO SCALE



**C** TYPICAL GABION BASKET DETAIL  
NOT TO SCALE



NOTE: AREA OF OPENING NOT TO EXCEED 10.3 SQUARE INCHES

**D** TWISTED MESH DETAIL  
NOT TO SCALE

STANDARD GABION SIZES

| LENGTH | WIDTH | HEIGHT | NUMBER OF DIAPHRAGMS | VOLUME |
|--------|-------|--------|----------------------|--------|
|        |       |        |                      | CY     |
| 6'-0"  | 3'-0" | 3'-0"  | 1                    | 2.0    |
| 9'-0"  | 3'-0" | 3'-0"  | 2                    | 3.0    |
| 12'-0" | 3'-0" | 3'-0"  | 3                    | 4.0    |

**E** TABLE OF STANDARD GABION SIZES  
NOT TO SCALE

| QUALITY CHARACTERISTIC              | TEST METHOD         | REQUIREMENT |
|-------------------------------------|---------------------|-------------|
| APPARENT SPECIFIC GRAVITY (MINIMUM) | CALIFORNIA TEST 206 | 2.5         |
| ABSORPTION (MAXIMUM %)              | CALIFORNIA TEST 206 | 4.2         |
| DURABILITY INDEX (MINIMUM)          | CALIFORNIA TEST 229 | 52          |

DURABILITY ABSORPTION RATIO (DAR) = DURABILITY INDEX/(PERCENT ABSORPTION + 1)

IF THE DAR IS GREATER THAN 10, THE ABSORPTION MAY EXCEED 4.2 PERCENT  
IF THE DAR IS GREATER THAN 24, THE DURABILITY INDEX MAY BE LESS THAN 52

| ROCK GRADATION       |                    |
|----------------------|--------------------|
| SCREEN SIZE (INCHES) | PERCENTAGE PASSING |
| 12                   | 100                |
| 4                    | 0-5                |

NOTE: SELECT ROCK SUCH THAT THE SHAPES PROVIDE A STABLE STRUCTURE FOR THE REQUIRED SECTION. ANGULAR SHAPED ROCK MAY BE USED ON ANY PLANNED SLOPE. FLAT OR NEEDLE-SHAPED ROCK MUST NOT BE USED UNLESS THE INDIVIDUAL ROCK THICKNESS IS GREATER THAN 0.33 TIMES THE LENGTH.

**F** ROCK MATERIAL REQUIREMENTS  
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SIGNATURE RCE NO. 58953 DATE

REGISTERED PROFESSIONAL ENGINEER

MICHAEL J. GENTILE

No. 58953

Exp. 06-30-19

CIVIL

STATE OF CALIFORNIA

CASC

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HORIZ: N/A VERT: N/A

C.O. NO.:

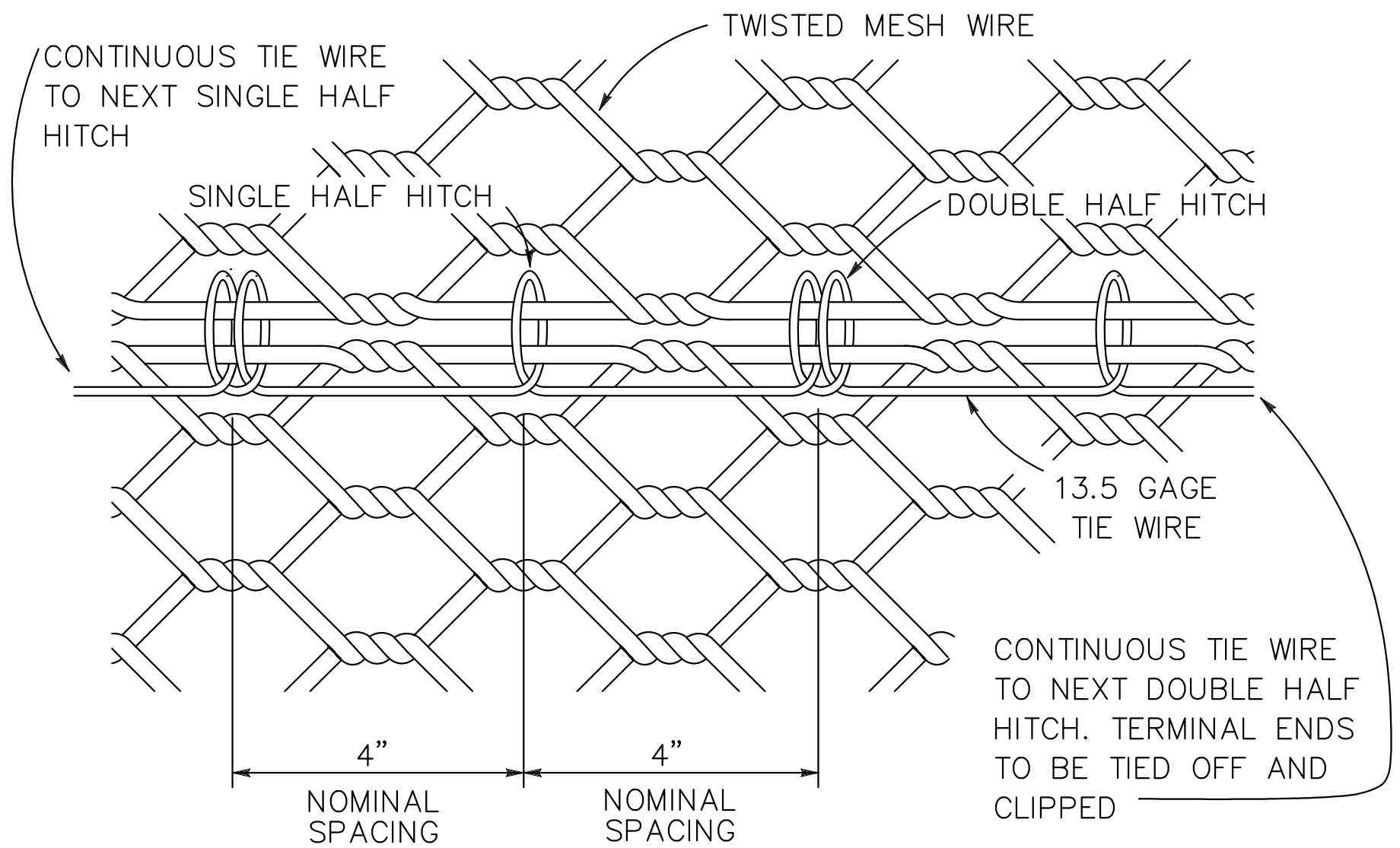
1682

DWG C2

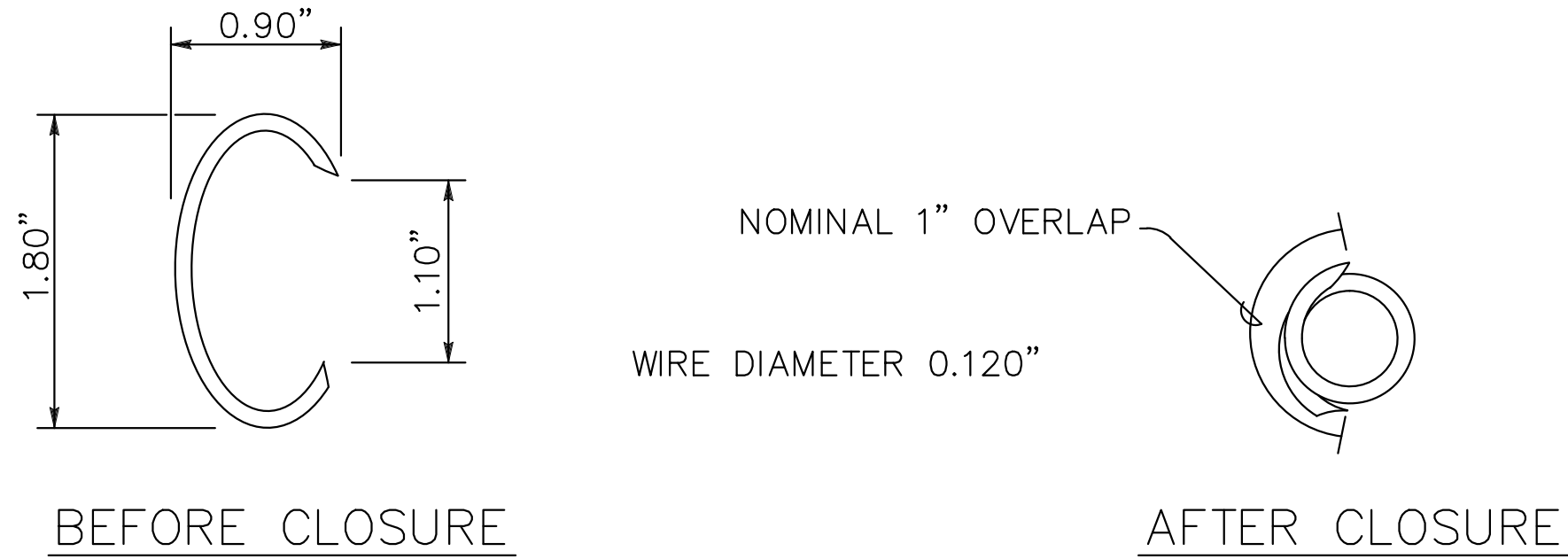
SHEET 4 OF 5



NOTES:



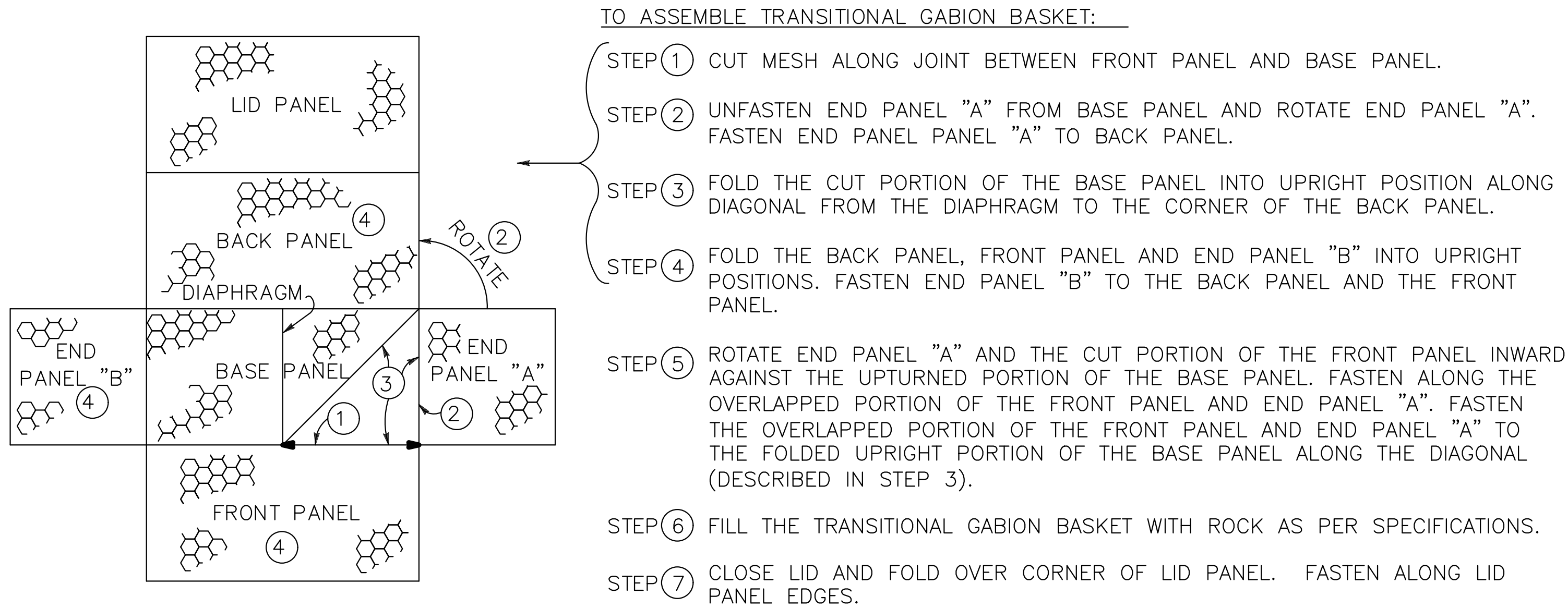
**G** STANDARD TIE WIRE DETAIL  
NOT TO SCALE



**H** ALTERNATIVE GABION JOINT MATERIAL FASTENER DETAIL  
NOT TO SCALE

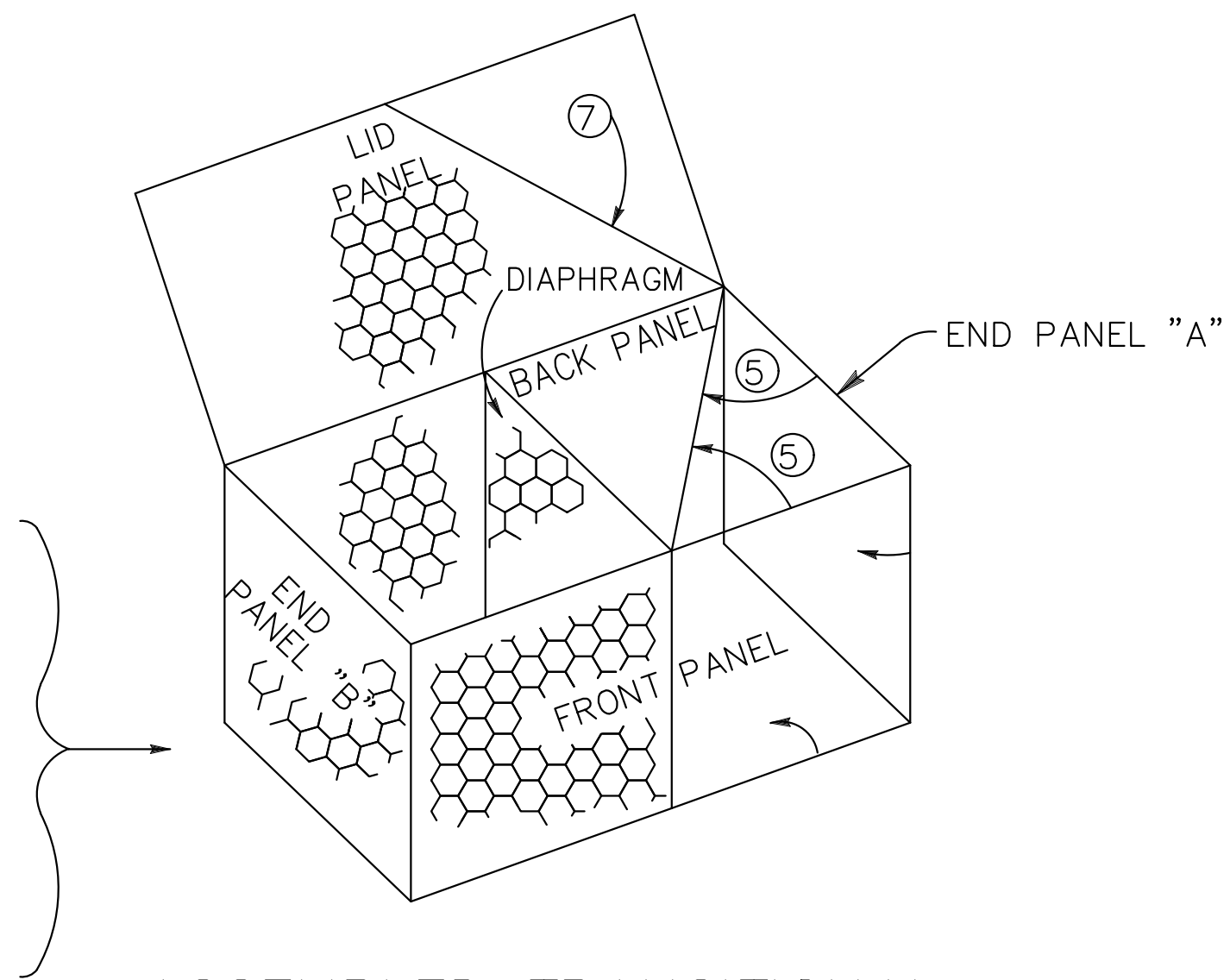
| PROPERTIES                                 | UNITS           | SPECIFIED VALUES | TEST METHOD |
|--------------------------------------------|-----------------|------------------|-------------|
| MINIMUM MASS PER UNIT AREA                 | OZ/SY           | 8                | ASTM D5261  |
| MINIMUM GRAB STRENGTH                      | LBS             | 180              | ASTM D4632  |
| MINIMUM TEAR STRENGTH                      | LBS             | 50               | ASTM D4533  |
| MINIMUM PUNCTURE STRENGTH                  | LBS             | 75               | ASTM D6241  |
| MAXIMUM APPARENT OPENING SIZE ( $O_{95}$ ) | MM              | 0.21             | ASTM D4491  |
| PERMITTIVITY                               | S <sup>-1</sup> | 0.74             | ASTM D4751  |

**I** REQUIRED PROPERTY VALUES FOR GEOTEXTILE  
NOT TO SCALE

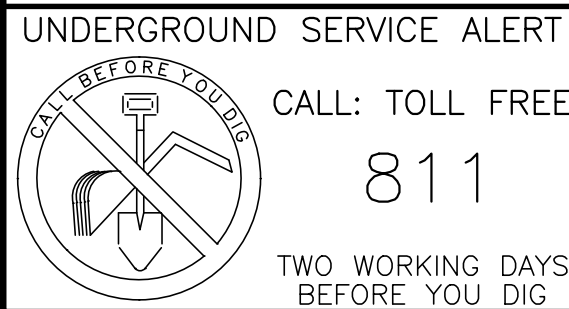


FLAT LAYOUT OF  
GABION BASKET

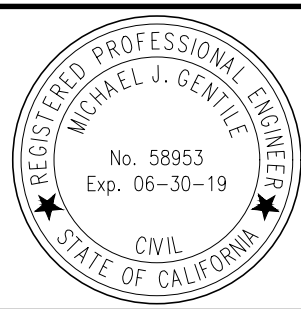
**J** TRANSITIONAL GABION BASKET  
NOT TO SCALE



ASSEMBLED TRANSITIONAL  
GABION BASKET



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|                                                      |                |
|------------------------------------------------------|----------------|
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| SHEET 5 OF 5                                         |                |