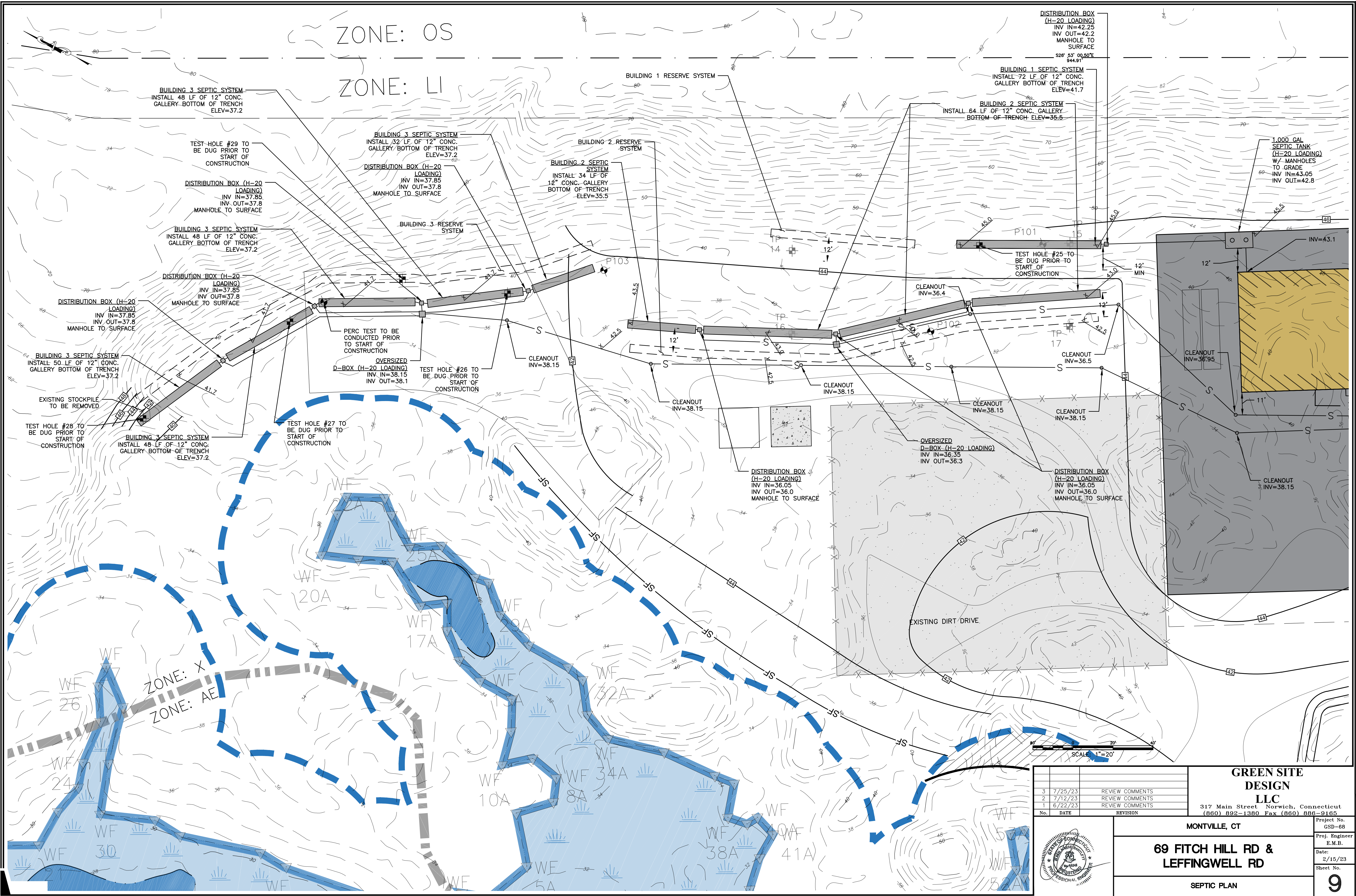
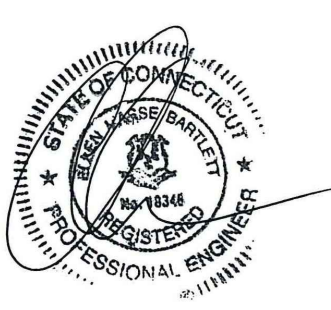
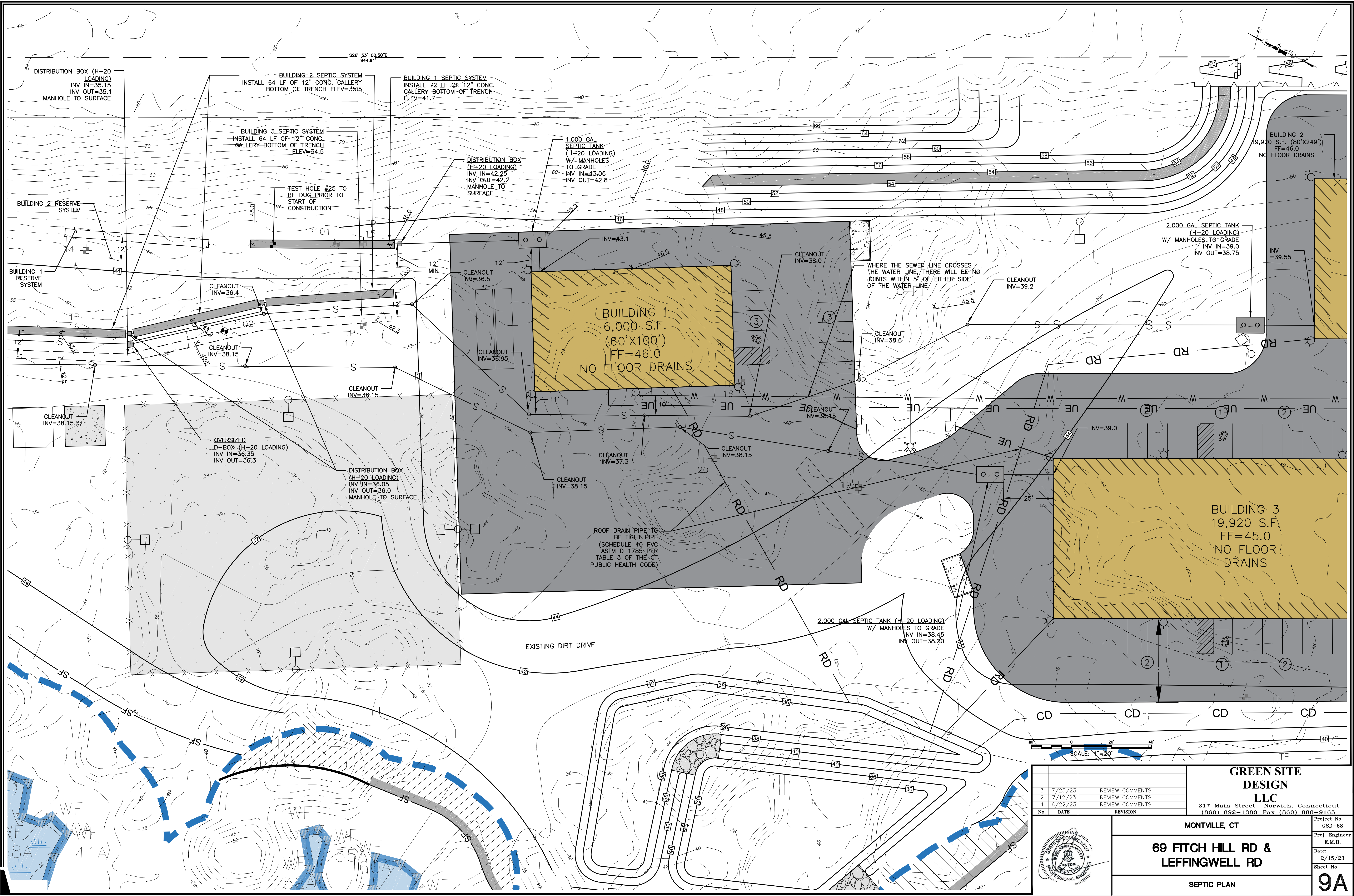




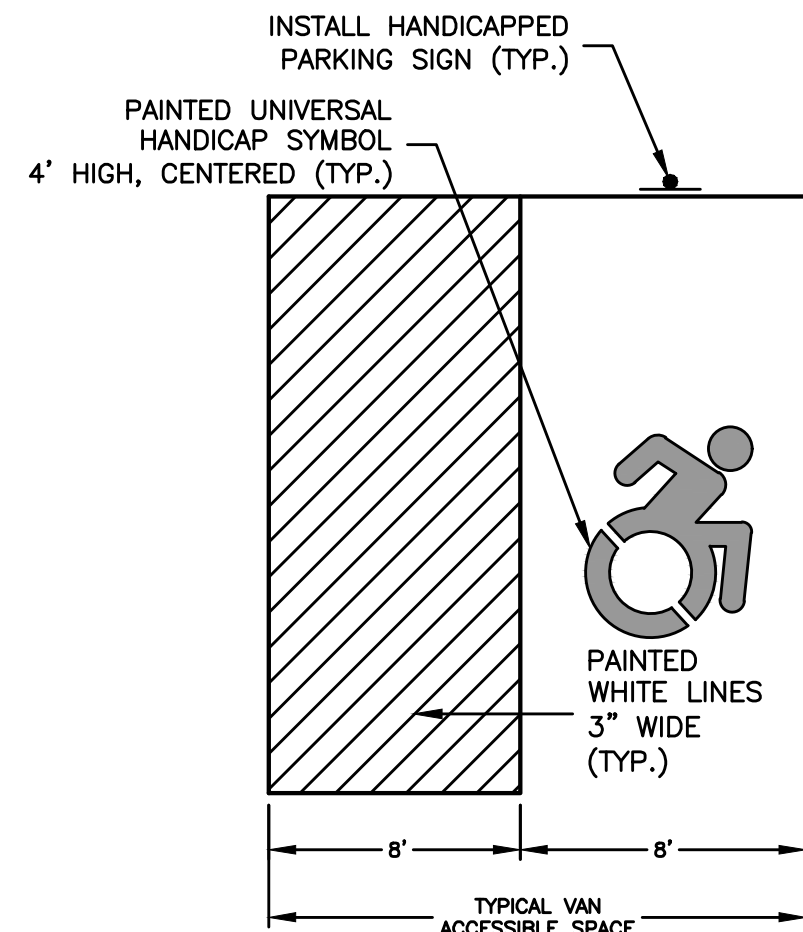
|                                                                                       |         |                 |                                      |                                                                                                                   |                          |
|---------------------------------------------------------------------------------------|---------|-----------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------|
|                                                                                       |         |                 |                                      | <b>GREEN SITE<br/>DESIGN<br/>LLC</b><br>317 Main Street Norwich, Connecticut<br>(860) 892-1380 Fax (860) 886-9165 |                          |
|                                                                                       |         |                 |                                      |                                                                                                                   |                          |
| 3                                                                                     | 7/25/23 | REVIEW COMMENTS |                                      |                                                                                                                   |                          |
| 2                                                                                     | 7/12/23 | REVIEW COMMENTS |                                      |                                                                                                                   |                          |
| 1                                                                                     | 6/22/23 | REVIEW COMMENTS |                                      |                                                                                                                   |                          |
| No.                                                                                   | DATE    | REVISION        |                                      |                                                                                                                   |                          |
|  |         |                 | MONTVILLE, CT                        |                                                                                                                   | Project No.<br>GSD-68    |
|                                                                                       |         |                 | 69 FITCH HILL RD &<br>LEFFINGWELL RD |                                                                                                                   | Proj. Engineer<br>E.M.B. |
|                                                                                       |         |                 |                                      |                                                                                                                   | Date:<br>2/15/23         |
|                                                                                       |         |                 | SEPTIC PLAN                          |                                                                                                                   | Sheet No.<br><b>9</b>    |



| No. | DATE    | REVISION        |
|-----|---------|-----------------|
| 3   | 7/25/23 | REVIEW COMMENTS |
| 2   | 7/12/23 | REVIEW COMMENTS |
| 1   | 6/22/23 | REVIEW COMMENTS |

| GREEN SITE DESIGN LLC                                                     |  |
|---------------------------------------------------------------------------|--|
| 317 Main Street Norwich, Connecticut<br>(860) 892-1380 Fax (860) 886-9165 |  |
| MONTVILLE, CT                                                             |  |
| 69 FITCH HILL RD & LEFFINGWELL RD                                         |  |
| SEPTIC PLAN                                                               |  |

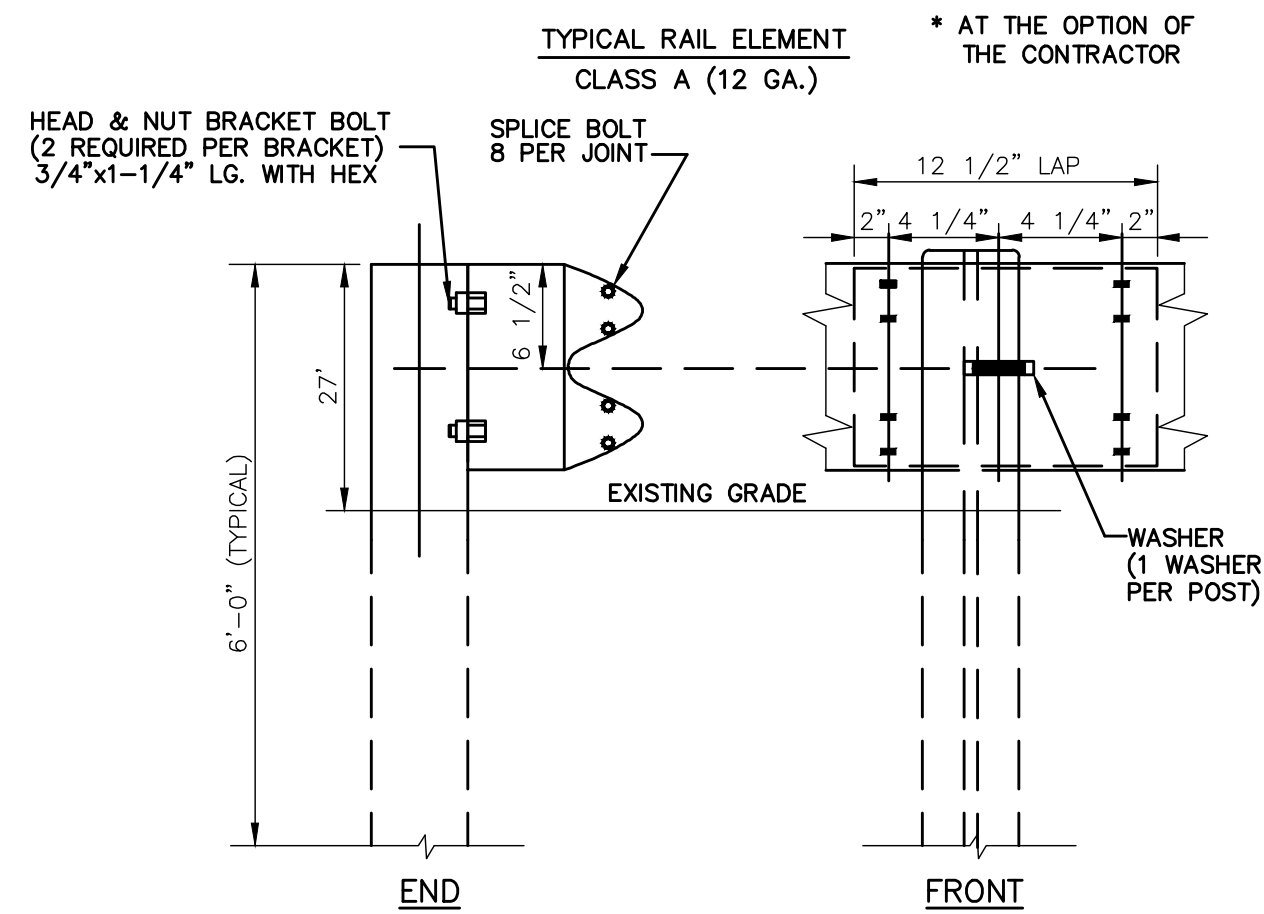
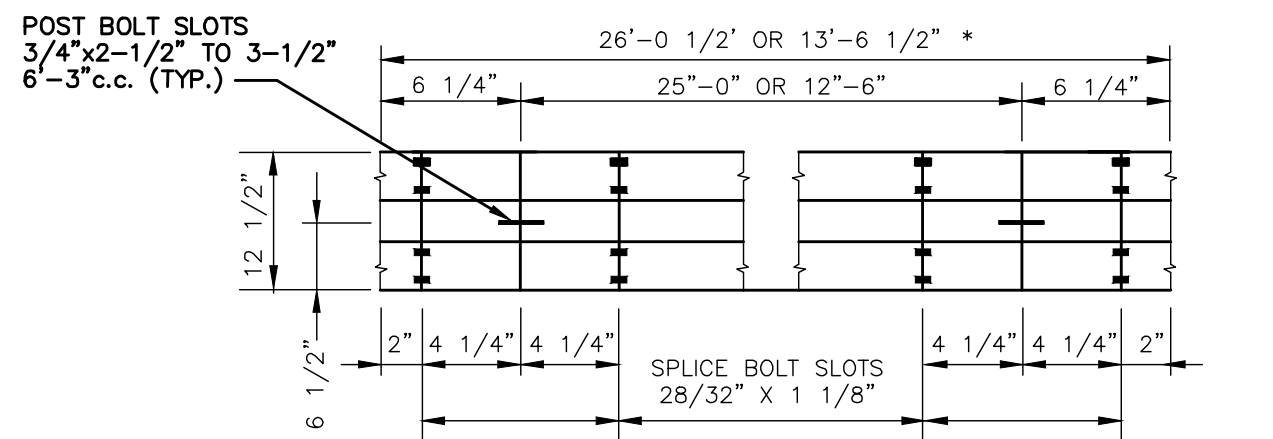
|                          |
|--------------------------|
| Project No.<br>GSD-68    |
| Proj. Engineer<br>E.M.B. |
| Date:<br>2/15/23         |
| Sheet No.<br><b>9A</b>   |



NOTES:  
1. ALL ADA ACCESSIBLE SIGNING, DIMENSIONS AND SPACE MARKINGS SHALL BE IN ACCORDANCE WITH CGS 14-253a(h) AND THE 2003 PORTION OF THE STATE BUILDING CODE

### TYPICAL HANDICAP VAN PARKING SPACE

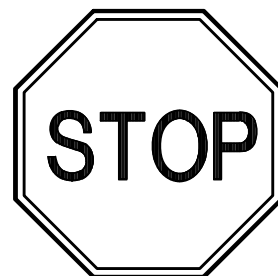
NOT TO SCALE



INSTALLATION TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF CT. D.O.T.

### METAL BEAM RAIL

NOT TO SCALE

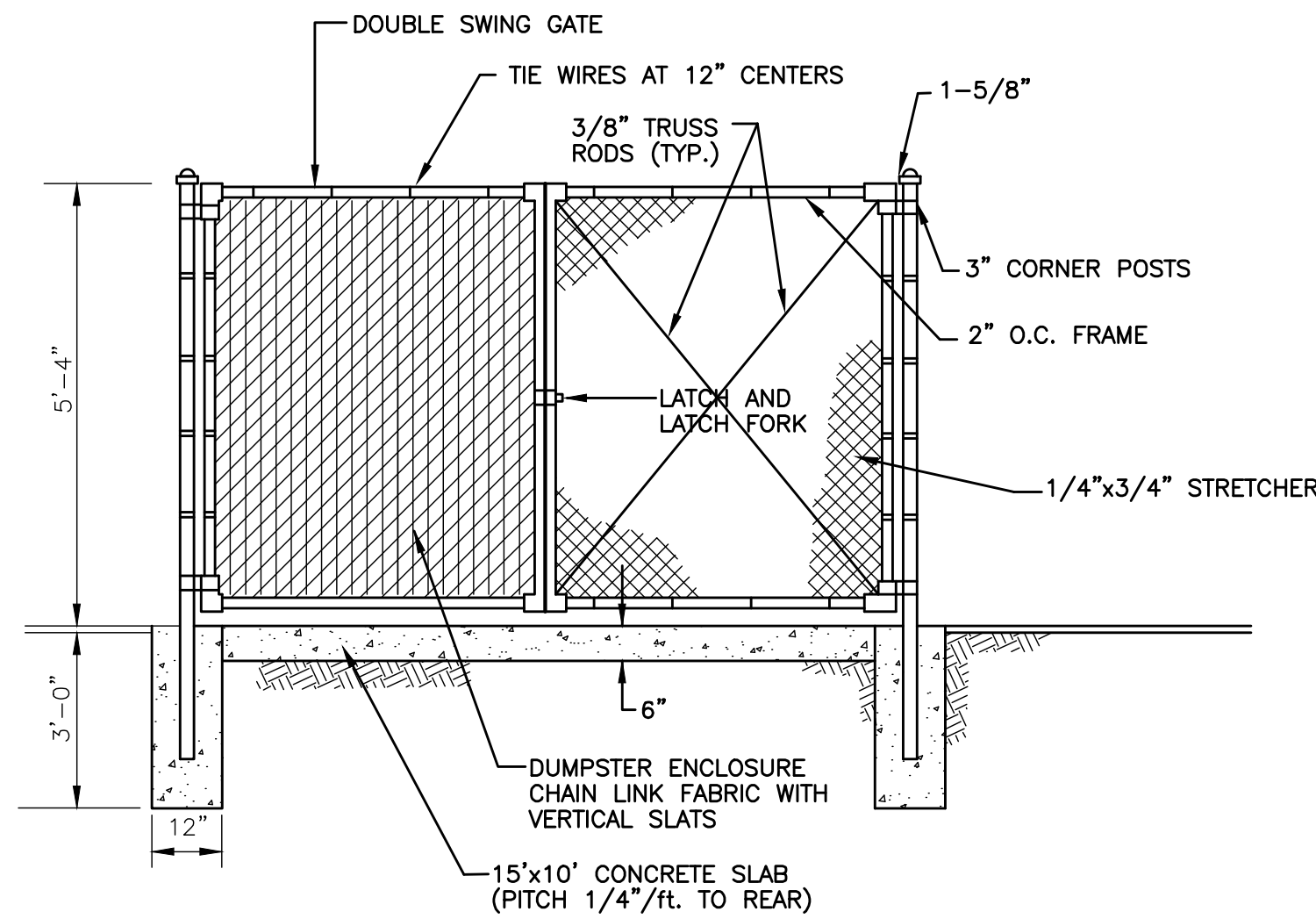


NOTE:  
SIGNS TO BE INSTALLED IN ACCORDANCE WITH STATE OF CONNECTICUT D.O.T. STANDARDS

SECURE ALL SIGNS TO 1/2" DIA. GALVANIZED STEEL POST WITH (2) 1/4" DIA. GALVANIZED BOLTS (1 TOP, 1 BOTTOM) (TYP)

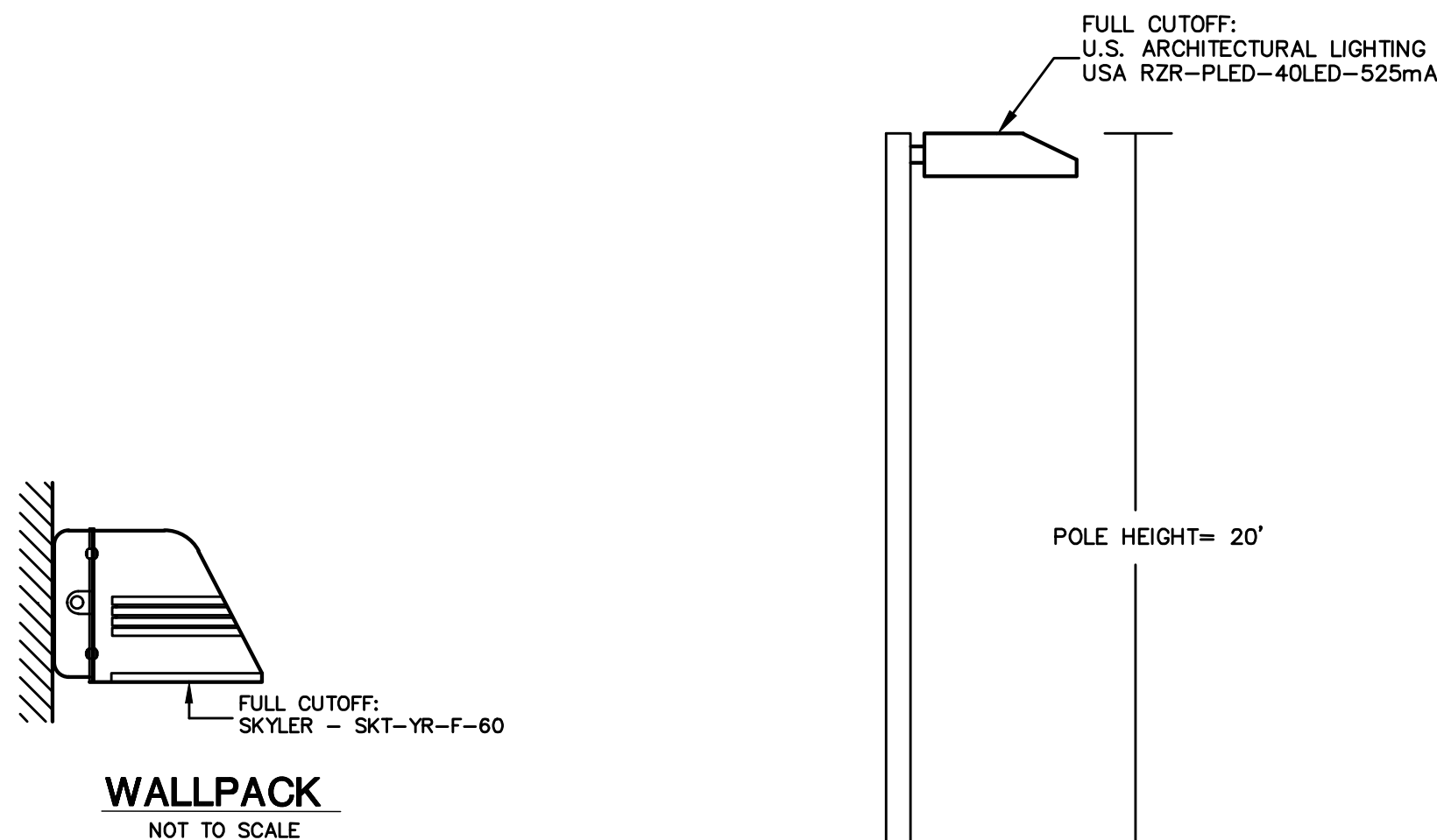
### TRAFFIC SIGNAGE

NOT TO SCALE



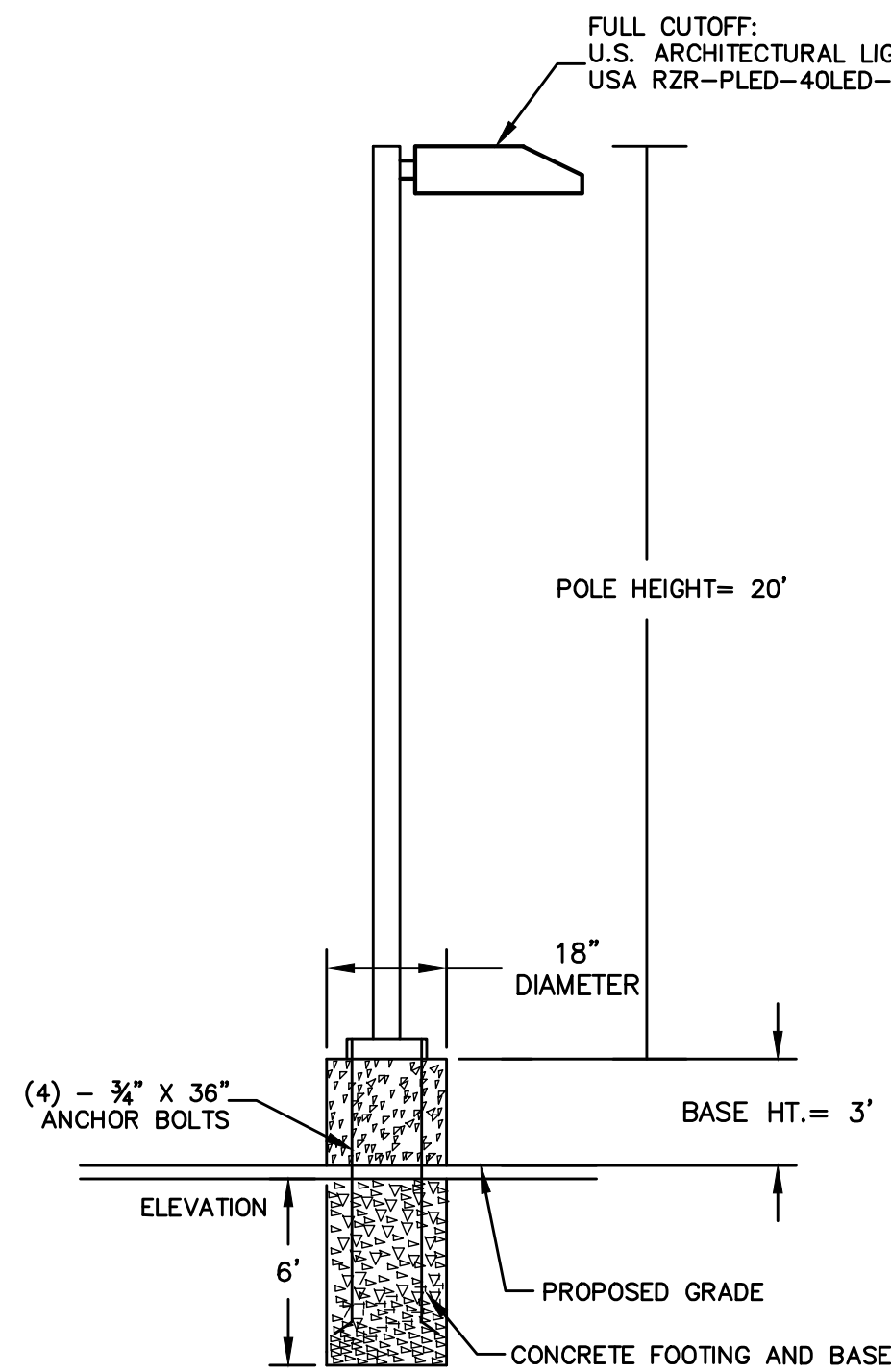
### CHAIN LINK FENCE/DUMPSTER ENCLOSURE

NOT TO SCALE



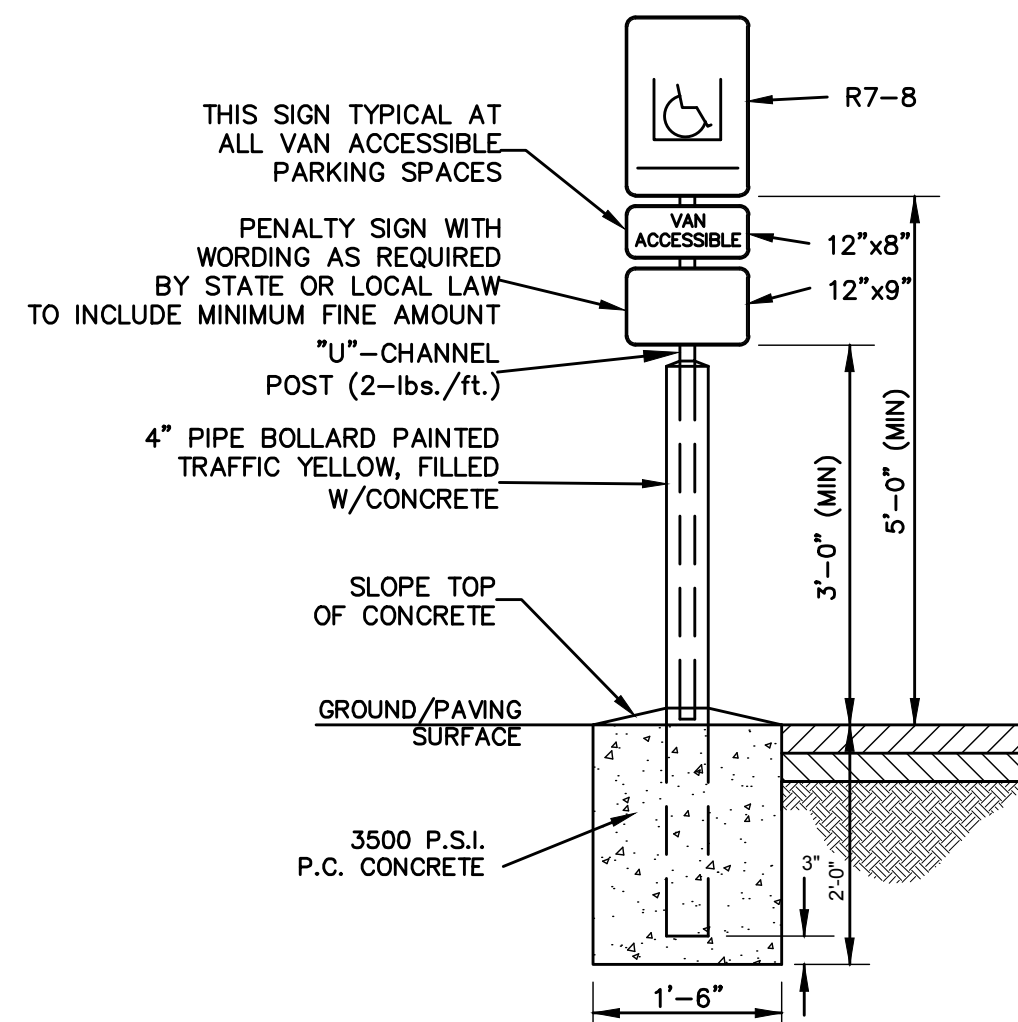
### WALLPACK

NOT TO SCALE



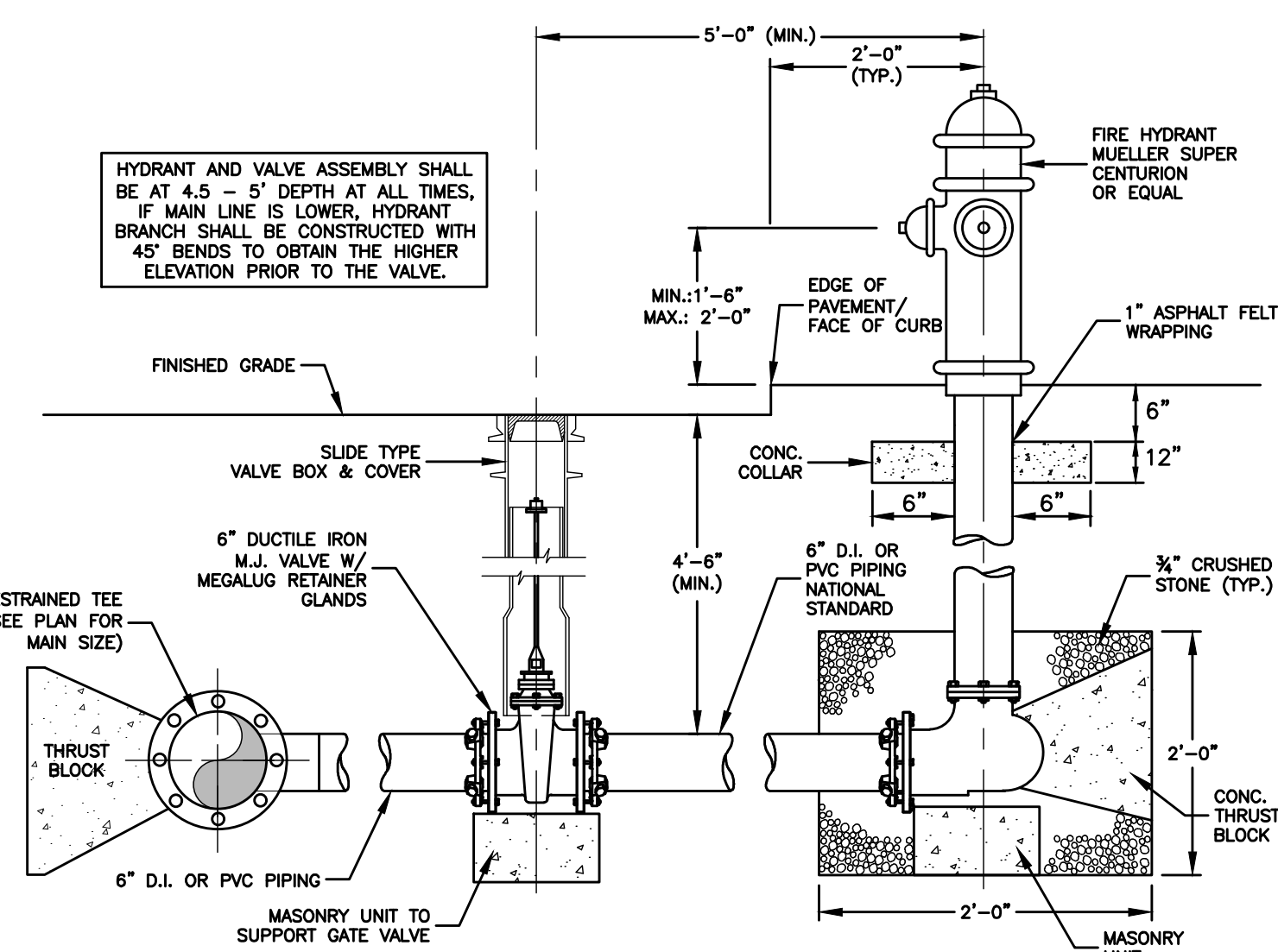
### LIGHTING STANDARD

NOT TO SCALE



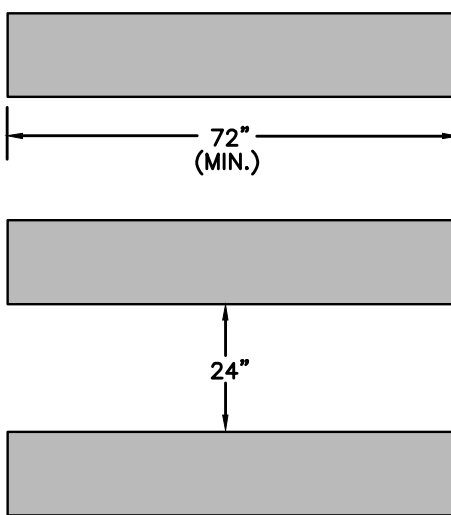
### VAN ACCESSIBLE PARKING SIGN

NOT TO SCALE



### FIRE HYDRANT ASSEMBLY DETAIL

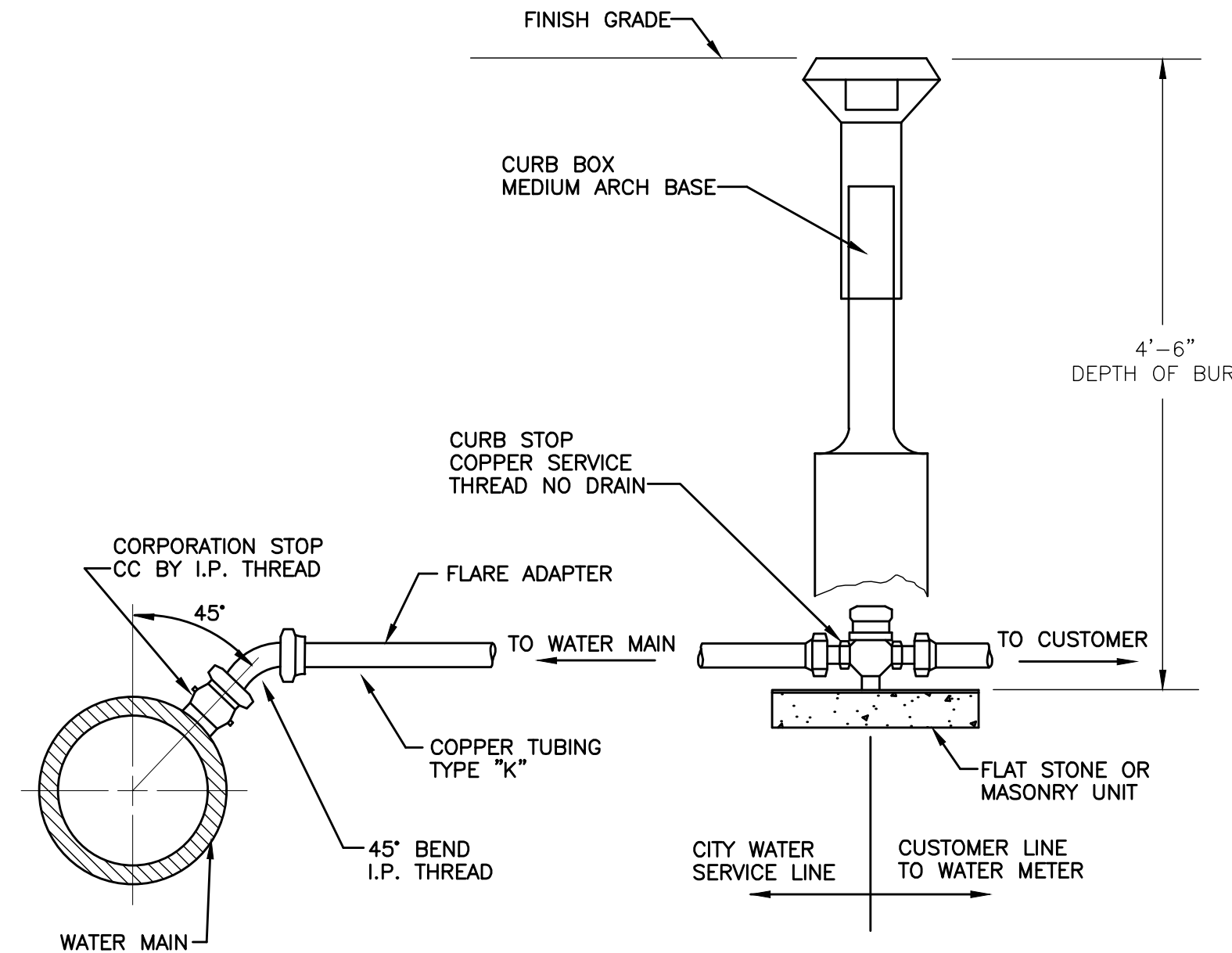
NOT TO SCALE



- NOTES:
1. BAR WIDTH AS SHOWN ON THE PLANS (72" MIN.)
  2. AT LOCATIONS WHERE THE CROSSWALK IS SKEWED, BARS TO BE PARALLEL TO C AND ENDS OF BARS TO BE PARALLEL TO THE LENGTH OF THE BARS WILL VARY DEPENDING ON THE ANGLE OF SKEW.
  3. BARS SHALL NORMALLY BE NO CLOSER THAN 2'-0" FROM CURB LINE/EDGE OF ROAD. WHERE EXCESS SPACE MAY DEVELOP THIS DISTANCE MAY BE DECREASED TO 1'-0".

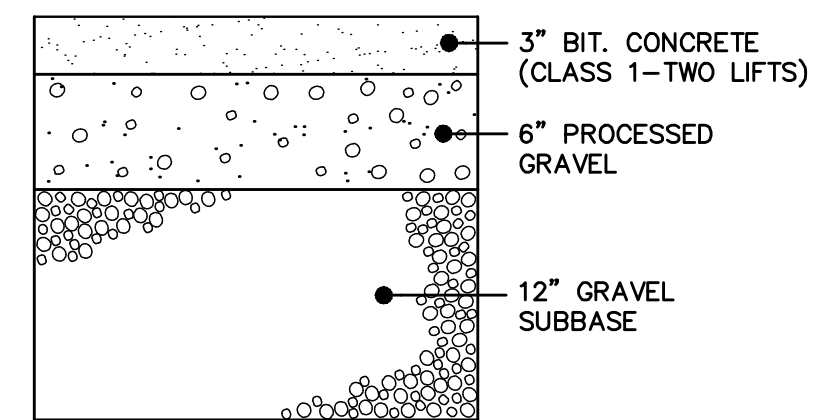
### CROSSWALK DETAIL

NOT TO SCALE



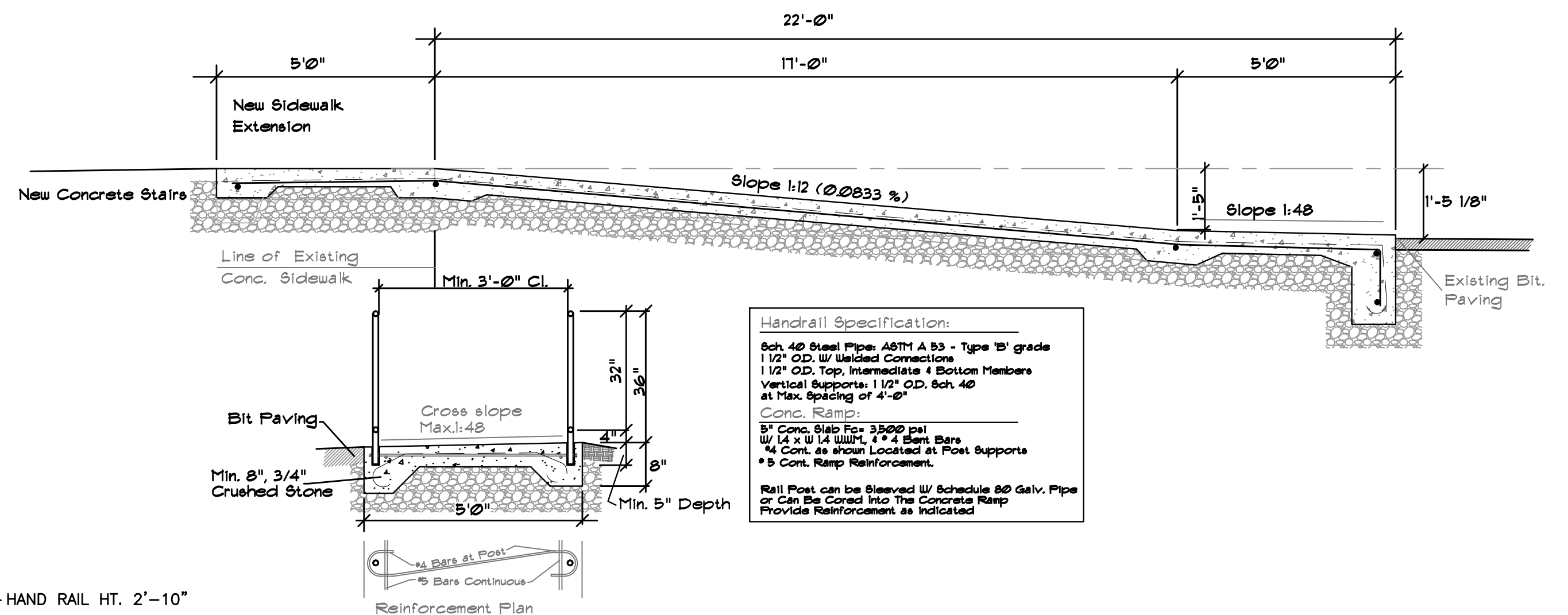
### WATER SERVICE CONNECTION DETAIL

NOT TO SCALE



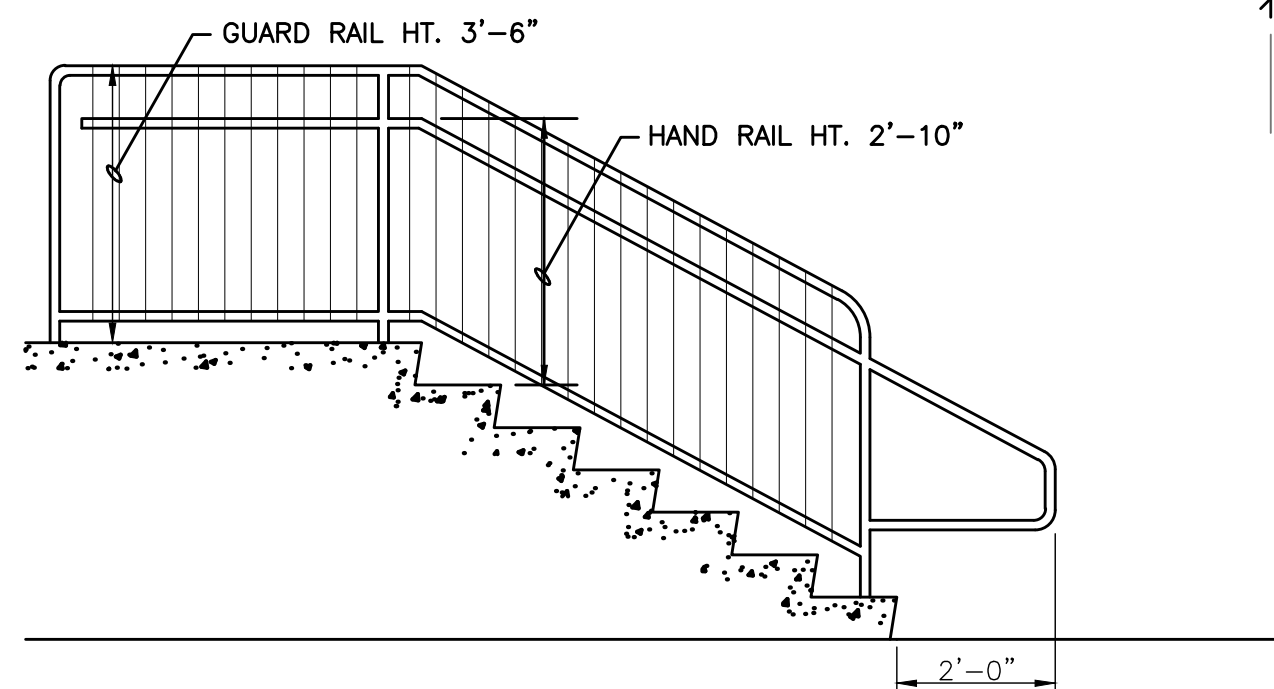
### PAVING SECTION

NOT TO SCALE



### CONCRETE HANDICAPPED RAMP CAST IN RAILINGS

NOT TO SCALE



### TYPICAL NEW CONCRETE STAIRS & RAIL

NOT TO SCALE

| GREEN SITE DESIGN LLC |         |                 |  | 317 Main Street Norwich, Connecticut (860) 892-1380 Fax (860) 886-9165 |                       |
|-----------------------|---------|-----------------|--|------------------------------------------------------------------------|-----------------------|
| 2                     | 7/25/23 | REVIEW COMMENTS |  | Project No. GSD-68                                                     | Proj. Engineer E.M.B. |
| 1                     | 7/12/23 | REVIEW COMMENTS |  | Date: 2/15/23                                                          | Sheet No. 10          |
| No.                   | DATE    | REVISION        |  | MONTVILLE, CT                                                          |                       |
|                       |         |                 |  | 69 FITCH HILL RD & LEFFINGWELL RD                                      |                       |
|                       |         |                 |  | SITE DETAILS                                                           |                       |

PERC TEST DATA

PERC #101 4/19/2023

PRE-SOAK, 10:54:00-10:54:55 AM

BOTTOM OF HOLE AT 24"

INTERVAL: 12-24"

TEST 1

| TIME     | DEPTH (IN) | CHANGE (IN) |
|----------|------------|-------------|
| 12:59:00 | 12"        | -0.0        |
| 12:59:54 | 24"        | -12.0       |

END OF TEST 1

TEST 2

| TIME     | DEPTH (IN) | CHANGE (IN) |
|----------|------------|-------------|
| 13:04:00 | 12"        | -0.0        |
| 13:04:54 | 24"        | -12.0       |

END OF TEST 2

TEST 3

| TIME     | DEPTH (IN) | CHANGE (IN) |
|----------|------------|-------------|
| 13:06:00 | 12"        | -0.0        |
| 13:06:58 | 24"        | -12.0       |

END OF TEST 3

TEST 4

| TIME     | DEPTH (IN) | CHANGE (IN) |
|----------|------------|-------------|
| 13:10:00 | 12"        | -0.0        |
| 13:10:55 | 24"        | -12.0       |

END OF TEST 4

TEST 5

| TIME     | DEPTH (IN) | CHANGE (IN) |
|----------|------------|-------------|
| 13:13:00 | 12"        | -0.0        |
| 13:13:58 | 24"        | -12.0       |

END OF TEST 5

AVERAGE OF TESTS 1-5 =

$$\frac{(0.90+0.90+0.97+0.92+0.97)\text{MIN}}{5}$$

= 0.93 MPI

IN=12" TO 24" = 12"

$$0.93 \text{ MIN}/12" = 0.08 \text{ MPI}$$

PERC #102 4/19/2023

PRE-SOAK, 9:33-9:36 AM

BOTTOM OF HOLE AT 26"

INTERVAL: 14-26"

TIME

| DEPTH (IN)    | CHANGE (IN) |
|---------------|-------------|
| 9:43:00 10.5" | -1.0        |
| 9:43:30 11.5" | -1.0        |
| 9:44:00 12.5" | -1.0        |
| 9:44:30 13"   | -0.5        |
| 9:45:00 13.5" | -0.5        |
| 9:45:30 14"   | -0.5        |

\*CAVED IN AT 19"

END OF TEST 1

MIN=9:43:00-9:45:30 = 2.5 MIN

IN=12" TO 19" = 7"

$$2.5 \text{ MIN}/7" = 0.36 \text{ MPI}$$

9:50:00 12"

-0.0

9:50:30 14"

-2.0

9:51:00 16"

-2.0

9:51:30 17"

-1.0

9:52:00 18"

-1.0

9:52:30 19"

-1.0

\*CAVED IN AT 19"

END OF TEST 2

MIN=9:50:00-9:52:30 = 2.5 MIN

IN=12" TO 19" = 7"

$$2.5 \text{ MIN}/7" = 0.36 \text{ MPI}$$

NEW INTERVAL DUE TO CAVE IN

BOTTOM OF HOLE AT 29"

INTERVAL: 17-29"

9:55:00 17"

-0.0

9:55:30 19"

-2.0

9:56:00 20"

-1.0

9:56:30 21"

-1.0

9:57:00 22"

-1.0

9:57:30 23"

-1.0

\*CAVED IN AT 23"

END OF TEST 3

MIN=9:55:00 TO 9:57:30 = 2.5 MIN

IN=17" TO 23" = 6"

$$2.5 \text{ MIN}/6" = 0.42 \text{ MPI}$$

AVERAGE OF TESTS 1-3 =

$$\frac{(0.36+0.36+0.36)\text{MIN}}{3}$$

= 0.38 MPI

TEST HOLE DATA

|                                                          |                                                     |  |
|----------------------------------------------------------|-----------------------------------------------------|--|
| TEST HOLES RECORDED BY CHRISTOPHER MADDEN, MARCH 03 2023 |                                                     |  |
| <b>TH #14</b>                                            | 0-14" BROWN LOAMY SAND TOPSOIL                      |  |
|                                                          | 14-96" LIGHT BROWN FINE SAND                        |  |
|                                                          | NO BEDROCK                                          |  |
|                                                          | NO WATER                                            |  |
|                                                          | NO MOTTLING                                         |  |
|                                                          | NO ROOTS                                            |  |
|                                                          | NO RESTRICTIVE                                      |  |
| <b>TH #15</b>                                            | 0-16" BROWN LOAMY SAND TOPSOIL                      |  |
|                                                          | 16-98" STRATIFIED GREY BROWN SAND AND GRAVEL        |  |
|                                                          | NO BEDROCK                                          |  |
|                                                          | NO WATER                                            |  |
|                                                          | NO MOTTLING                                         |  |
|                                                          | NO ROOTS                                            |  |
|                                                          | NO RESTRICTIVE                                      |  |
| <b>TH #16</b>                                            | 0-12" BROWN LOAM SAND TOPSOIL                       |  |
|                                                          | 12-96" LIGHT BROWN FINE SAND                        |  |
|                                                          | NO BEDROCK                                          |  |
|                                                          | WATER 44"                                           |  |
|                                                          | MOTTLING 40"                                        |  |
|                                                          | NO ROOTS                                            |  |
|                                                          | RESTRICTIVE 40"                                     |  |
| <b>TH #17</b>                                            | 0-96" STRATIFIED SAND AND GRAVEL, NO TOPSOIL        |  |
|                                                          | NO BEDROCK                                          |  |
|                                                          | WATER 48"                                           |  |
|                                                          | MOTTLING 29"                                        |  |
|                                                          | NO ROOTS                                            |  |
|                                                          | RESTRICTIVE 29"                                     |  |
| <b>TH #18</b>                                            | NO TOPSOIL                                          |  |
|                                                          | 0-70" GREY AND BROWN CLAY                           |  |
|                                                          | 70-89" COARSE SAND AND GRAVEL                       |  |
|                                                          | NO BEDROCK                                          |  |
|                                                          | NO WATER                                            |  |
|                                                          | MOTTLING 11"                                        |  |
|                                                          | NO ROOTS                                            |  |
|                                                          | RESTRICTIVE 11"                                     |  |
| <b>TH #19</b>                                            | 0-10" BROWN LOAMY SAND TOPSOIL                      |  |
|                                                          | 10-84" STRATIFIED BROWN AND LIGHT BROWN SAND W/SILT |  |
|                                                          | NO BEDROCK                                          |  |
|                                                          | NO WATER                                            |  |
|                                                          | NO MOTTLING                                         |  |
|                                                          | NO ROOTS                                            |  |
|                                                          | NO RESTRICTIVE                                      |  |

SEPTIC SYSTEMS DESIGN

**BUILDING #1: A&B EXCAVATION**  
6,000 SF A&B EXCAVATION (20% OFFICE & 80% INDUSTRIAL)  
1,200 SF OFFICE = (1,200/200)(20) = 120 GPD  
4,800 SF INDUSTRIAL = (4,800\*0.1) = 480 GPD  
TOTAL = 600 GPD

**BUILDINGS #2 & 3: FLEX SPACE**  
19,920 SF FLEX SPACE - INDUSTRIAL  
19,920 SF (0.1) = 1,992 GPD

**PRIMARY SYSTEM**  
PERCOLATION RATE: 0-10 MINUTES  
LEACHING AREA REQUIRED: 600 GPD/1.5\* = 400 S.F.  
\*NON-PROBLEMATIC SEWER SYSTEMS  
USE 12" CONC. GALLERIES  
EFFECTIVE LEACHING AREA OF TRENCH = 5.9 SF/LF  
REQUIRED LENGTH = 400/5.9 SF/LF = 68 LF  
USE 72' OF 12" CONC. GALLERIES - 1 ROW

**MLSS CALCULATION**  
NO RESTRICTIVE LAYER

**PERCOLATION RATE:** 0-10 MINUTES  
LEACHING AREA REQUIRED: 1,992 GPD/1.5\* = 1,328 SF  
\*NON-PROBLEMATIC SEWER SYSTEMS  
USE 12" CONC. GALLERIES  
EFFECTIVE LEACHING AREA OF TRENCH = 5.9 SF/LF  
REQUIRED LENGTH = 1,328 SF/5.9 SF/LF = 226 LF  
USE ONE ROW OF 226 LF

**MLSS CALCULATION**  
RESTRICTIVE LAYER = (29+40)/2 = 34"  
SLOPE = 17%  
HP=20 FF=1,992/300=6.6 PF=1.0  
MLSS = (20)(6.6)(1.0) = 132 FT

SEPTIC/SELECT FILL

SELECT FILL PLACED WITHIN AND ADJACENT TO LEACHING SYSTEM AREAS SHALL BE COMPRISED OF CLEAN SAND, OR SAND AND GRAVEL, FREE FROM ORGANIC MATTER AND FOREIGN SUBSTANCES. THE SELECT FILL SHALL MEET THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE APPROVED BY THE DESIGN ENGINEER. SELECT FILL EXCEEDING 6% PASSING THE #200 SIEVE BASED ON A WET SIEVE TEST CANNOT BE APPROVED BY THE DESIGN ENGINEER.

- THE SELECT FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THEN THREE (3) INCH SIEVE.
- UP TO 45% OF THE DRY WEIGHT OF THE REPRESENTATIVE SAMPLE MAY BE RETAINED ON THE #4 SIEVE.
- NOTE: THIS IS THE GRAVEL PORTION OF THE SAMPLE.
- THE MATERIAL THAT PASSES THE #4 SIEVE IS THEN REWEIGHED AND THE SIEVE ANALYSIS STARTED.
- THE REMAINING SAMPLE SHALL MEET THE FOLLOWING GRADATION CRITERIA.

| SIEVE SIZE | PERCENT PASSING |           |
|------------|-----------------|-----------|
|            | WET SIEVE       | DRY SIEVE |
| #4         | 100             | 100       |
| #10        | 70-100          | 70-100    |
| #40        | 10-50           | 10-75     |
| #100       | 0-20            | 0-5       |
| #200       | 0-5             | 0-2.5     |

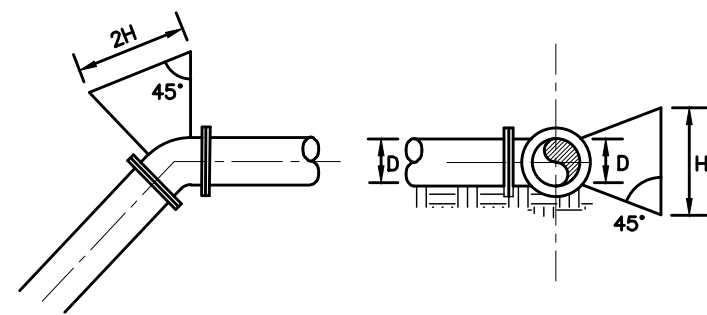
PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THEN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%. THE SELECT FILL MUST BE TESTED AFTER PLACEMENT AND MUST HAVE A PERCOLATION RATE AT LEAST AS FAST AS THE DESIGN RATE OF LESS THAN 20 MIN/INCH

SEPTIC SYSTEM GENERAL NOTES

- TOPOGRAPHIC INFORMATION ON THIS PLAN PROVIDED BY CLA ENGINEERS
- PROPOSED HOUSE AND SEPTIC SYSTEM TO BE STAKED IN THE FIELD BY A LAND SURVEYOR LICENSED IN THE STATE OF CONNECTICUT.
- ALL WORK AND MATERIAL (SEPTIC TANK, DISTRIBUTION BOX, PIPE, SELECT FILL)) SHALL CONFORM TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEM.
- AFTER THE FILL IS PLACED AND COMPACTED, IT MUST BE PERC TESTED PRIOR TO INSTALLATION OF ALL THE SEPTIC SYSTEMS.
- WHERE SEWER LINE CROSSES WATER LINE, THERE ARE TO BE NO JOINTS WITHIN 5 FEET ON EITHER SIDE OF THE WATER LINE, INCLUDING SERVICES.
- SEWER LINE FROM FOUNDATION WALL TO SEPTIC SHALL BE 4" SCHEDULE 40 PVC - ASTM D 1785 AND JOINTS PER HEALTH DEPT. CODE.
- TRENCHES SHALL BE SET LEVEL FOR ENTIRE LENGTH AND HAVE A CENTER TO CENTER SPACING OF 8 FEET.
- PIPE FROM SEPTIC TANK TO DISTRIBUTION LINES SHALL BE 4" SOLID PVC CONFORMING TO ASTM D-3034 AND SDR-35.
- IF BLASTING IS REQUIRED A PRE-BLAST SURVEY WILL BE REQUIRED. CALL BEFORE YOU DIG: 1-800-922-4455.
- THERE ARE PRESENTLY NO KNOWN WATER WELLS WITHIN 75' OF THE PROPOSED SEPTIC SYSTEM.
- A VERTICAL BENCHMARK SHALL BE PROVIDED WITHIN 50 FEET OF THE PROPOSED HOUSE LOCATION PRIOR TO THE START OF CONSTRUCTION.
- CLEAR AND GRUB THE AREA WHERE THE SEPTIC SYSTEM AND HOUSE ARE TO BE CONSTRUCTED. ALL TOPSOIL IS TO BE STRIPPED AND STOCKPILED FOR FUTURE USE.
- ALL FILL MATERIAL SHALL BE CLEAN EARTH FREE OF STUMPS, ORGANICS, CONSTRUCTION DEBRIS AND TOPSOIL.
- TOPSOIL SHALL BE RE-APPLIED OVER ALL FILL AREAS AND ALL DISTURBED AREAS TO PROVIDE A MINIMUM DEPTH OF FOUR INCHES.
- ALL EXISTING UTILITIES TO BE ACCURATELY LOCATED PRIOR TO CONSTRUCTION.
- AFTER FILL IS PLACED AND COMPACTED, IT MUST BE PERC TESTED PRIOR TO INSTALLATION OF THE SYSTEM
- PRIOR TO START OF CONSTRUCTION, THE BUILDING AND SYSTEM ARE TO BE STAKED BY A LICENSED SURVEYOR

| SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL |                                                                                                                                                                                                                                                          |     |     |      |      |      |      |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|------|------|------|------|
| AREAS SHOWN ARE BASED ON 200 PSF TEST PRESSURE (SEE NOTE BELOW)         |                                                                                                                                                                                                                                                          |     |     |      |      |      |      |
| REACTION TYPE                                                           | PIPE SIZE                                                                                                                                                                                                                                                |     |     |      |      |      |      |
|                                                                         | 4"                                                                                                                                                                                                                                                       | 6"  | 8"  | 10"  | 12"  | 16"  | 24"  |
| 90° BEND                                                                | 1.8                                                                                                                                                                                                                                                      | 4.4 | 7.8 | 11.2 | 17.2 | 30.8 | 69.2 |
| TEE OR CAP                                                              | 1.4                                                                                                                                                                                                                                                      | 3.2 | 5.6 | 8.4  | 12.2 | 21.8 | 49.5 |
| 45° BEND                                                                | 1.0                                                                                                                                                                                                                                                      | 2.4 | 4.2 | 6.0  | 9.4  | 16.6 | 37.6 |
| 22½° BEND                                                               | 0.6                                                                                                                                                                                                                                                      | 1.2 | 2.2 | 3.0  | 4.8  | 8.6  | 19.2 |
| 11¼° BEND                                                               | 0.2                                                                                                                                                                                                                                                      | 0.6 | 1.0 | 1.6  | 2.4  | 4.2  | 9.6  |
| OTHER TEST PRESSURES FOR THE ABOVE REACTIONS                            | SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 100 PSF TEST PRESSURE THE ABOVE NUMBERS ARE HALVED. THE ABOVE NUMBERS REPRESENT MINIMUM ALLOWABLE SIZES FOR THRUST BLOCKS |     |     |      |      |      |      |

- NOTES:
- FOUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
  - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
  - PLACE BOARD IN FRONT OF ALL CAPS BEFORE POURING THRUST BLOCK.
  - REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF ONE TON PER SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
  - TEST PRESSURE FOR WATER MAINS SHALL BE 200 PSF.



MINIMUM THRUST BLOCK DIMENSION REQUIREMENTS

