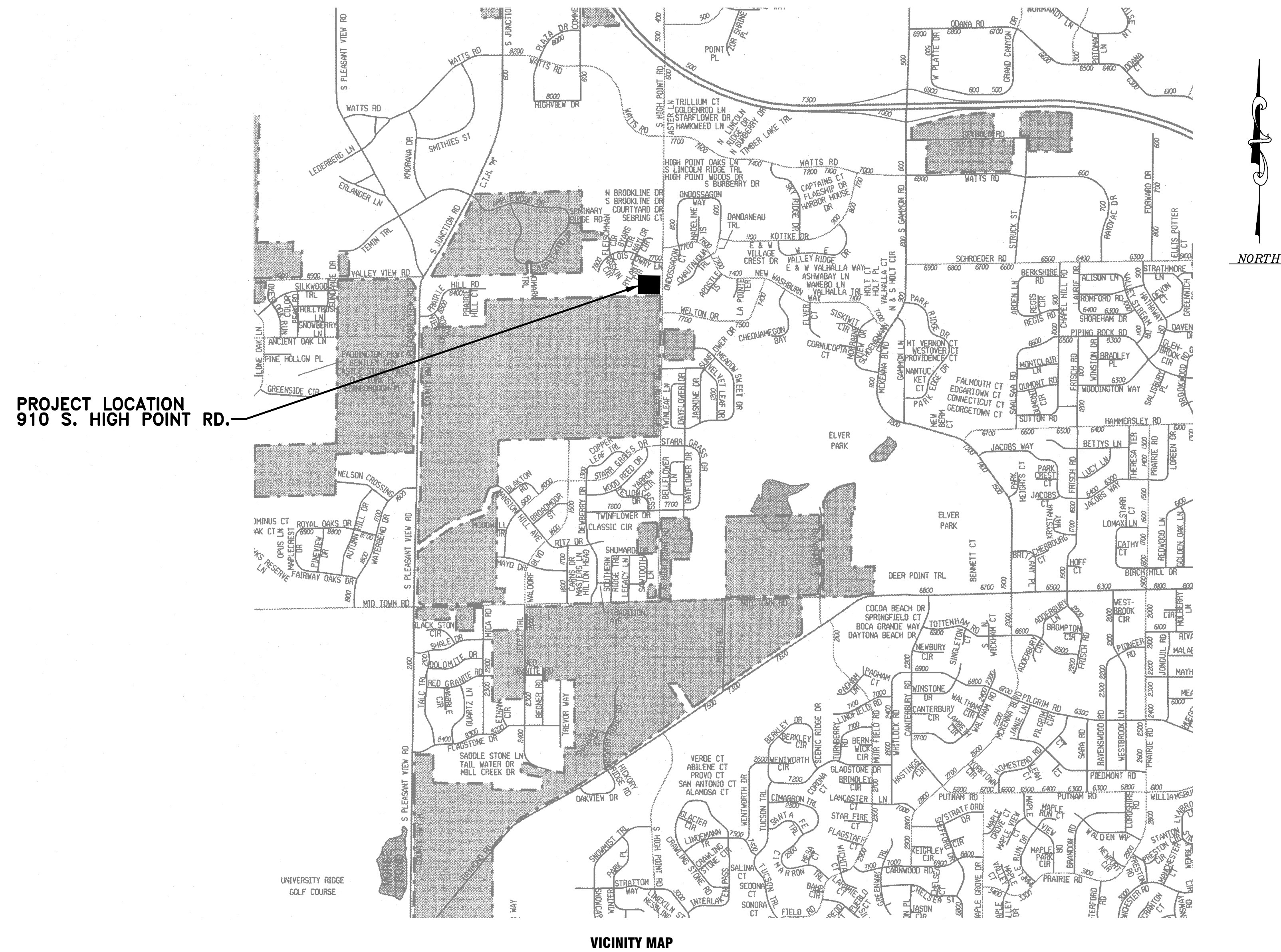


# MADISON WATER UTILITY

## MADISON, WISCONSIN

### UNIT WELL 26

### GENERATOR ADDITION AND MCC UPGRADES



Madison, Wisconsin  
608.277.1230

Burlington, Wisconsin  
262.763.7834

Crystal Lake, Illinois  
815.459.1260

Grayslake, Illinois  
847.223.5088

Plainfield, Illinois  
815.609.7425

Mokena, Illinois  
708.478.2090

DeKalb, Illinois  
815.787.3111

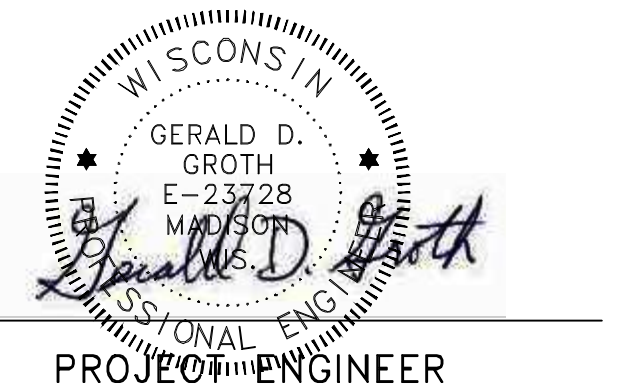
Chicago, Illinois  
312.578.0050

Itasca, Illinois  
630.773.1870



**CALL DIGGERS HOTLINE**  
**1-800-242-8511**  
**TOLL FREE**

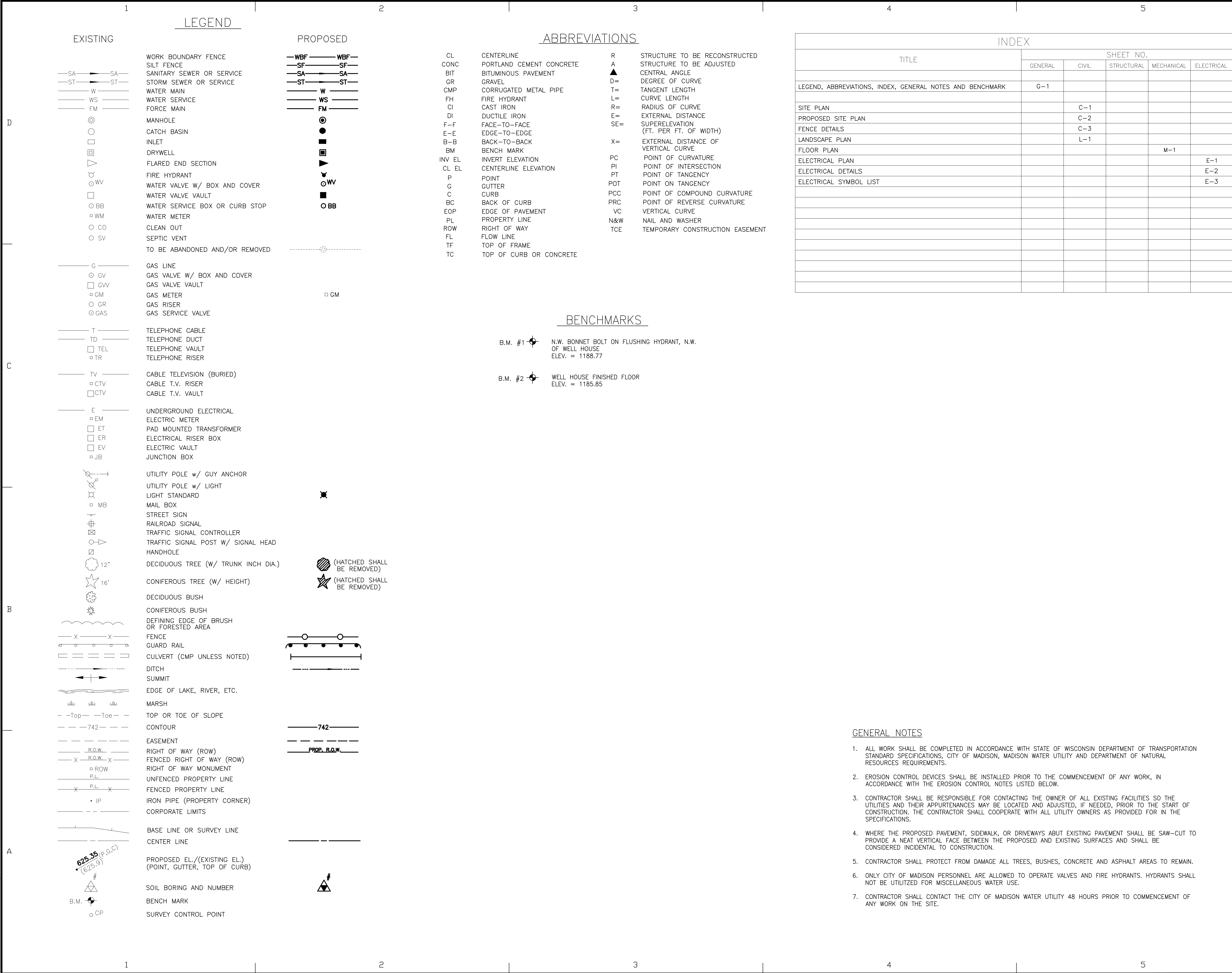
WIS. STATUTE 182.0175 (1974)  
REQUIRES MIN. OF 3 WORK DAYS  
NOTICE BEFORE YOU EXCAVATE.



BAXTER & WOODMAN, INC.  
STATE OF WISCONSIN – PROFESSIONAL DESIGN FIRM  
LICENSE NO. – 484-001 – EXPIRES 1/31/2014

PROJECT NO.: 120581.41 DATE: 10-4-13

I:\BURLINGTON\MADUD\WELL 26\CADD\DRAWINGS\DWGS\120581\_41-G1-REVISED.DWG G-1  
Plotted: 10/3/2013 10:31 AM By: 421TLB  
Copyright © 2013, By Baxter & Woodman, Inc.  
State of Wisconsin - Professional Design Firm  
License No. - 484-001 - Expires 11-31-12



BAXTER

WOODMAN

Consulting Engineers

CONSULTANTS

REVISIONS

NO.

DATE

DESCRIPTION

PLAN SHEET DESIGNATION

COVER

C - GENERAL

H - HAZARDOUS MATERIALS

C - CIVIL

L - LANDSCAPE

S - STRUCTURAL

A - ARCHITECTURAL

I - INSTRUMENTATION

Q - EQUIPMENT

F - FIRE PROTECTION

P - PLUMBING

M - MECHANICAL

E - ELECTRICAL

T - TELECOMMUNICATIONS

R - RESOURCE

PROJECT NO: 120581.41

SCALE: AS NOTED

DRAWING DATE: 10-4-13

DESIGNED BY: GDG

DRAWN BY: TLB

CHECKED BY: GDG

CLIENT

MADISON WATER UTILITY

MADISON, WISCONSIN

UNIT WELL 26

GENERATOR ADDITION

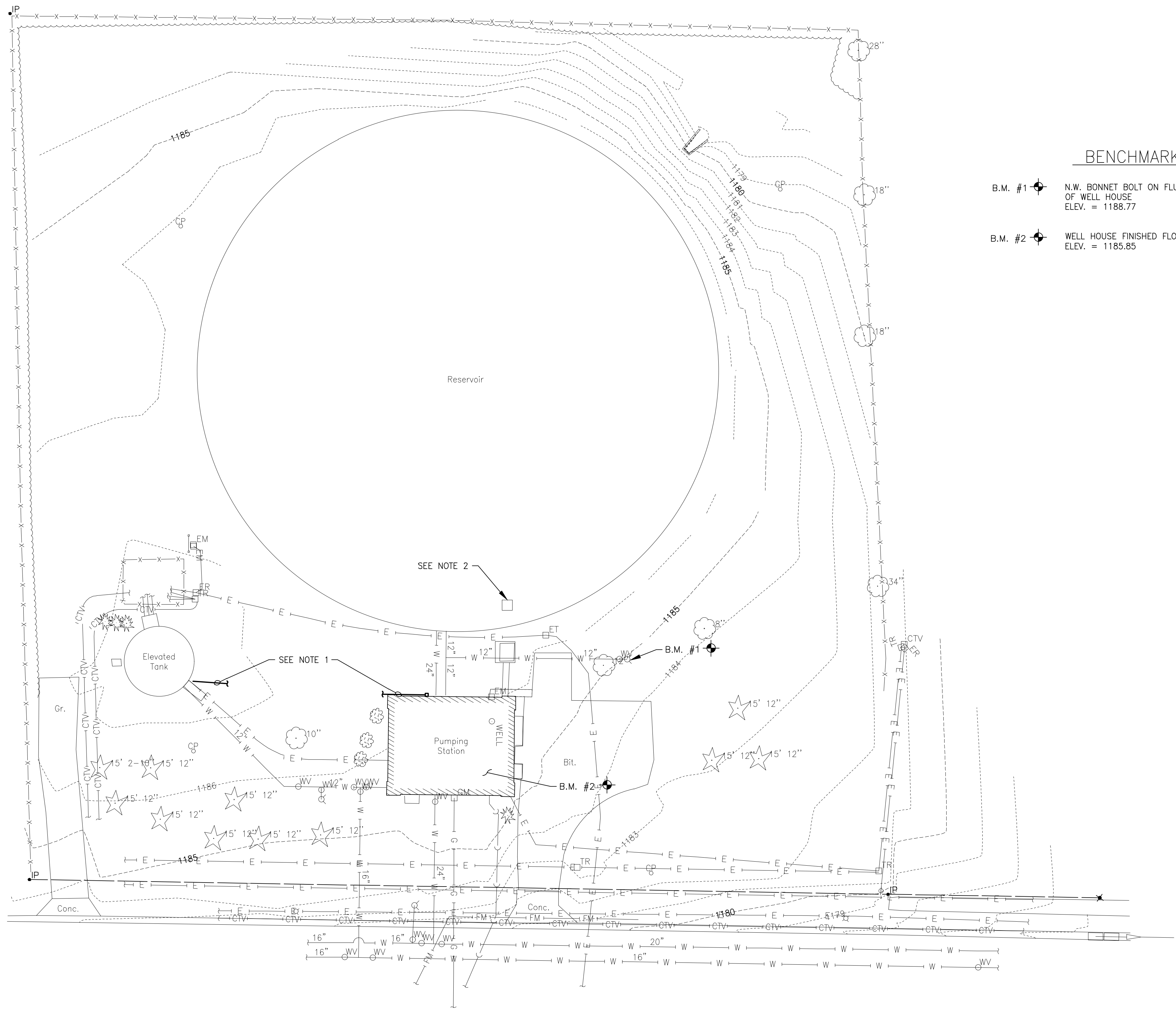
SHEET TITLE

LEGEND, ABBREVIATIONS, INDEX

GENERAL NOTES AND BENCHMARKS

G-1

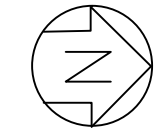
1 OF 9



## HIGH POINT ROAD


NOTES:

1. SEE ELECTRICAL NOTES 4, 7, & 10 ON SHEET E-1 FOR 2" SCHEDULE 80 PVC CONDUIT TO ELEVATED TANK.
2. SEE ELECTRICAL NOTE 10 ON SHEET E-1 FOR NEW LEVEL TRANSDUCER & FLOATS TO BE INSTALLED IN EXISTING RESERVOIR UTILIZING EXISTING CONDUITS & HATCH PENETRATIONS.



SCALE: 1" = 20'

## BENCHMARKS

B.M. #1  N.W. BONNET BOLT ON FLUSHING HYDRANT, N.W.  
OF WELL HOUSE  
ELEV. = 1188.77

B.M. #2  WELL HOUSE FINISHED FLOOR  
ELEV. = 1185.85

**B A X T E R**  
  
**W O O D M A N**  
*Consulting Engineers*

## CONSULTANTS

[illegible]

## PLAN SHEET DESIGNATION

COVER

- G — GENERAL
- H — HAZARDOUS MATERIALS
- C — CIVIL
- L — LANDSCAPE
- S — STRUCTURAL
- A — ARCHITECTURAL
- I — INSTRUMENTATION
- Q — EQUIPMENT
- F — FIRE PROTECTION
- P — PLUMBING
- M — MECHANICAL
- E — ELECTRICAL
- T — TELECOMMUNICATIONS
- R — RESOURCE

PROJECT NO:	120581.41
-------------	-----------

SCALE:	AS NOTED
DRAWING DATE:	10-4-13
DESIGNED BY:	GDG
DRAWN BY:	TLB
CHECKED BY:	GDG

CLIENT

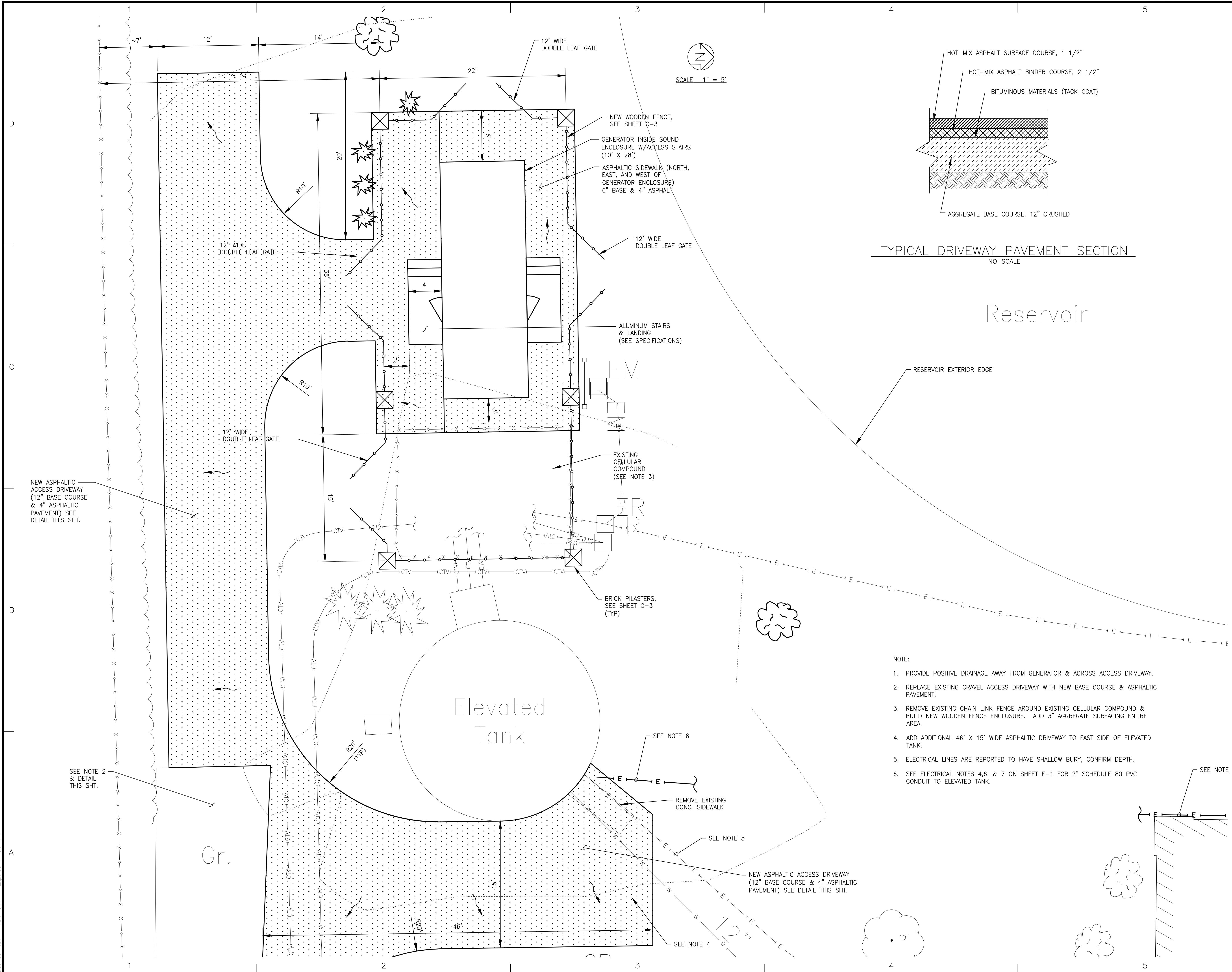
**MADISON WATER UTILITY  
MADISON, WISCONSIN**

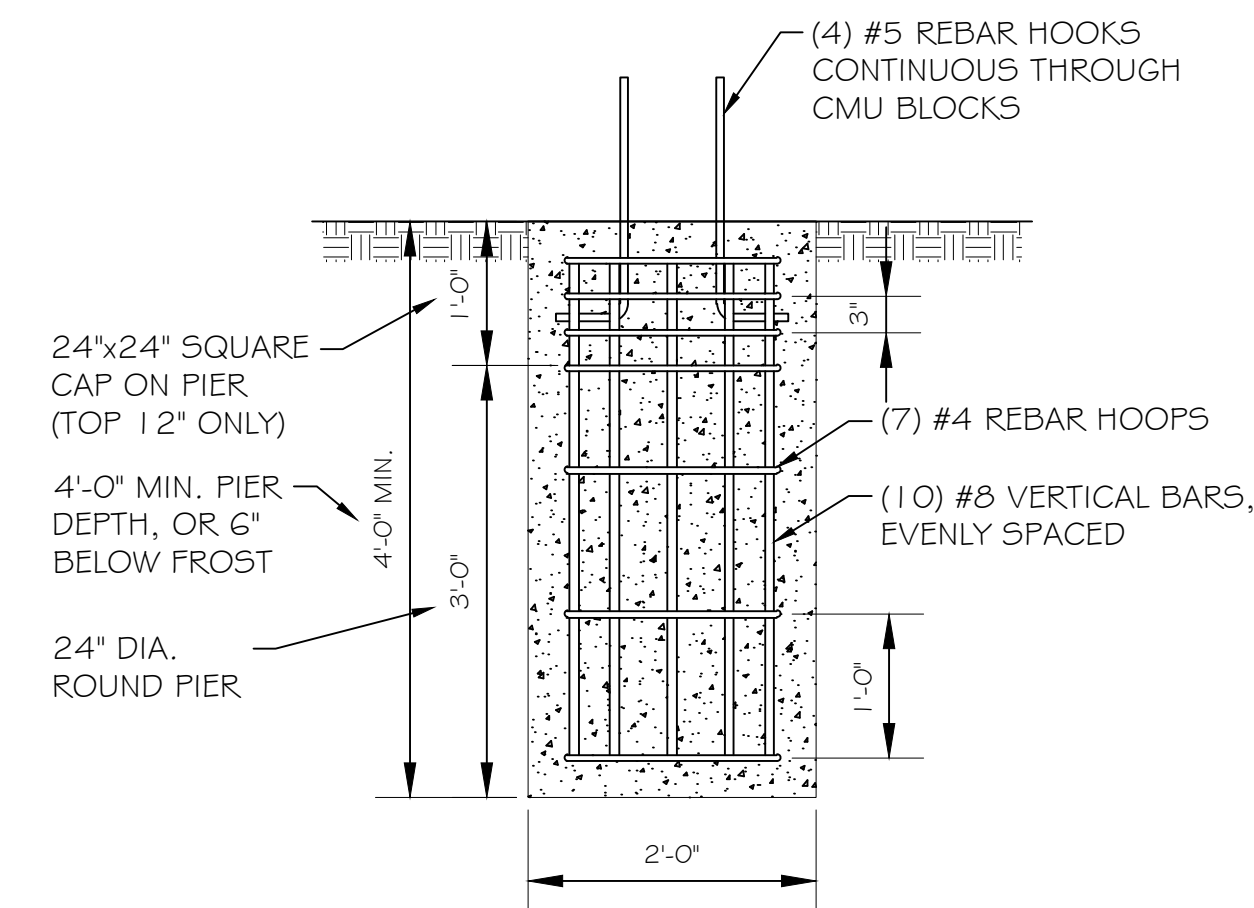
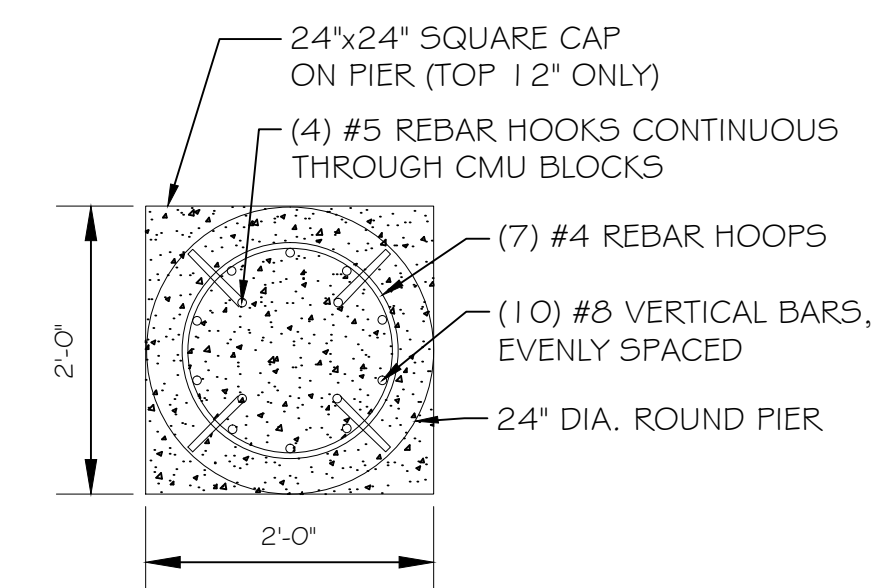
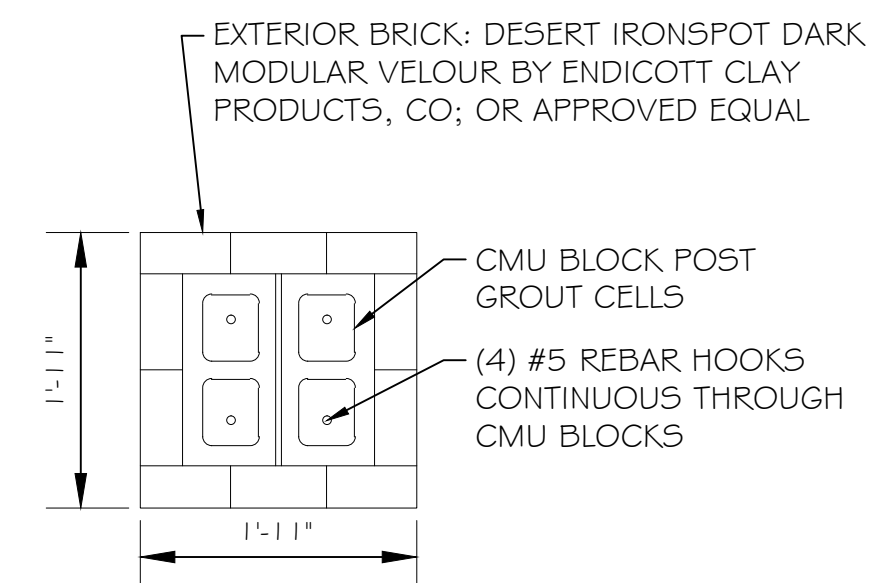
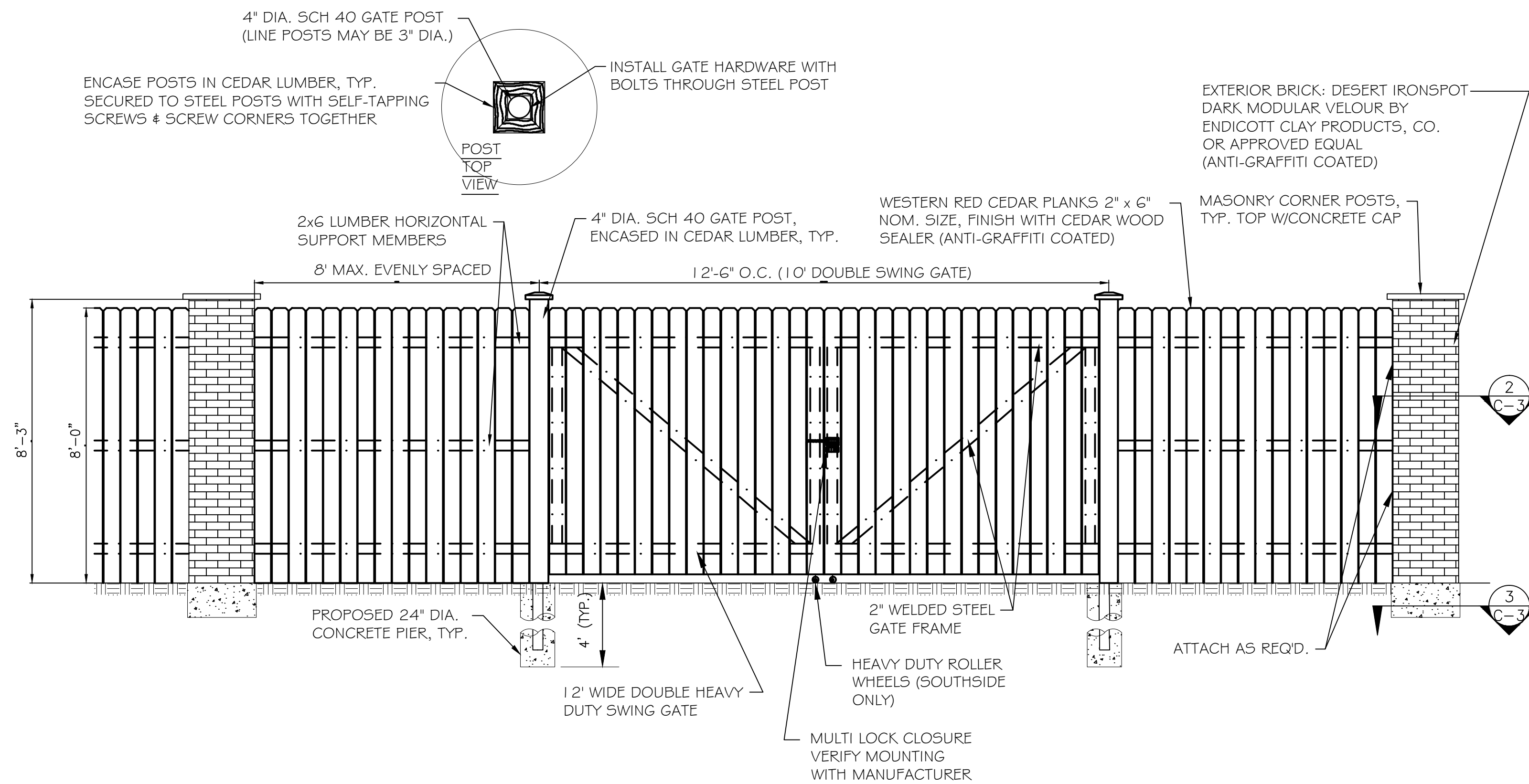
**UNIT WELL 26  
GENERATOR ADDITION**

SHEET TITLE

## SITE PLAN

**C-1**  
2 OF 9





## 1.0 SCOPE:

- 1.1 THIS SECTION COVERS THE REQUIREMENTS FOR THE MATERIALS AND THE CONSTRUCTION OF SITE FENCING.

## 2.0 SPECIAL REQUIREMENTS:

- 2.1 ALL FITTINGS, HARDWARE AND STEEL MEMBERS USED FOR SITE AREA FENCING, SHALL BE HOT DIPPED GALVANIZED (ASTM A153) OR OTHER APPROVED NON CORROSIVE MATERIAL AND CONFORM TO FEDERAL SPEC RR-F191G (1-25-74).
- 2.2 ALL NON-CORROSIVE MATERIAL SHALL BE PRE-APPROVED BY THE PROJECT MANAGER.
- 2.3 ANY DAMAGE TO GALVANIZING OR NON-CORROSIVE COATING DURING CONSTRUCTION SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S RECOMMENDED METHODS.
- 2.4 ALL WOOD TO BE WESTERN RED CEDAR WITH CLEAR WOOD SEALER FINISH (ANTI-GRAFFITI COATED).

### 3.0 FENCE POSTS:

- 3.1 LOCATION OF CORNER POSTS SHALL BE DETERMINED FROM STAKES AND PROPERTY PINS INSTALLED BY THE REGISTERED LAND SURVEYOR UNDER CONTRACT FOR THE PROJECT. IF THE STAKES ARE NOT PRESENT OR DO NOT CONFORM TO THE SITE PLAN, CONSULT WITH THE PROJECT MANAGER.
- 3.2 GATE POST FOR SITE SHALL BE 4" DIA. SCHEDULE 40 GALVANIZED PIPE. INTERMEDIARY POSTS SHALL BE 2-1/2" OR 3" DIA. SCHEDULE 40 GALVANIZED PIPE.
- 3.3 CORNER POSTS SHALL BE SET WITHIN ONE INCH (1") OF DIMENSIONS INDICATED ON THE SITE PLAN.
- 3.4 FENCE POSTS SHALL BE VERTICALLY PLUMB IN ALL PLANES WITHIN 1/2 INCH (1/2").
- 3.5 CORNER AND GATE POST FOUNDATIONS SHALL BE A MINIMUM FOUR FEET (4') DEEP OR SIX INCHES (6") BELOW THE FROST LINE, WHICHEVER IS GREATER, WITH MINIMUM THREE INCH (3") CLEARANCE BETWEEN BOTTOM OF POST AND BOTTOM OF THE HOLE.
- 3.6 GATE POST FOUNDATIONS SHALL BE TWENTY-FOUR INCHES (24") IN DIAMETER. INTERMEDIARY POSTS FOUNDATIONS SHALL BE 12 INCHES (12") IN DIAMETER.
- 3.7 LINE POSTS BETWEEN CORNER AND GATE POSTS SHALL BE EQUALLY SPACED WITH AN EIGHT FOOT (8') MAXIMUM SPACING. GATE POST LOCATIONS SHALL BE IN ACCORDANCE WITH SITE PLAN AND SHALL BE VERIFIED WITH THE PROJECT MANAGER.
- 3.8 ALL POSTS SHALL BE CAPPED.

#### 4.0 FENCE ENCLOSURE:


- 4.1 ENCLOSURE BACKING RAILS TO CONSIST OF TWO INCH (2") BY SIX INCH(6") NOMINAL CEDAR PLANKS. ALL CEDAR TO HAVE CLEAR CEDAR WOOD SEALER FINISH (ANTI-GRAFFITI COATED).
- 4.2 ENCLOSURE BOARDS TO BE HEAVY DUTY TWO INCH (2") BY SIX INCH (6") NOMINAL CEDAR PLANKS. ALL CEDAR TO HAVE CLEAR CEDAR WOOD SEALER FINISH (ANTI-GRAFFITI COATED).
- 4.3 ALL ENCLOSURE BOARDS TO BE SECURED TO FENCE POSTS WITH MANUFACTURER APPROVED HARDWARE. CONTRACTOR TO FOLLOW MANUFACTURER RECOMMENDATIONS AND SPECIFICATIONS.

5.0 GATE:

- 5.1 LOCATION OF GATE SHALL CONFORM TO THE SITE PLAN, GATE SIZE SHALL BE 12'-0" WIDE (UNLESS OTHERWISE NOTED).
- 5.2 GATE FRAME TO BE CONSTRUCTED OF TWO INCH (2") WELDED STEEL WITH HEAVY DUTY HINGES. CONTRACTOR TO FOLLOW MANUFACTURER RECOMMENDATIONS AND SPECIFICATIONS.
- 5.3 GATE HINGES SHALL PROVIDE FOR 180 DEGREE RADIUS GATE SWING. ANY HINGE NUTS SHALL BE ON THE INSIDE AND DOUBLE-NUT TO PETER UNAUTHORIZED ENTRY.
- 5.4 GATE SHALL BE INSTALLED PLUMB AND SHALL OPEN AND CLOSE FREELY.
- 5.5 GATE POSTS SHALL NOT BE SHARE AS A CORNER POST.
- 5.6 PROVIDE ADJUSTABLE HEAVY DUTY ROLLER WHEELS SUITABLE FOR EXTERIOR USE ON SOUTHSIDE GATE ONLY.

## 6.0 CONCRETE:

- G. 1 CONCRETE SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI WITH MINIMUM CEMENT CONTENT OF 6 SACKS PER CUBIC YARD AND MAXIMUM 5.5 GALLONS OF WATER PER SACK. THE SLUMP SHALL BE BETWEEN 2 TO 3.5 INCHES. UTILIZE AN AIR-ENTRAINING ADMIXTURE CONFORMING TO ASTM C280 FOR 4% TO 7% CONTENT ALONG WITH A WATER REDUCER MEETING ASTM C494 TYPE A.

**BAXTER**  
  
**WOODMAN**  
*Consulting Engineers*

## CONSULTANTS

[illegible]

## PLAN SHEET DESIGNATION

COVER

- G - GENERAL
- H - HAZARDOUS MATERIALS
- C - CIVIL
- L - LANDSCAPE
- S - STRUCTURAL
- A - ARCHITECTURAL
- I - INSTRUMENTATION
- Q - EQUIPMENT
- F - FIRE PROTECTION
- P - PLUMBING
- M - MECHANICAL
- E - ELECTRICAL
- T - TELECOMMUNICATIONS
- R - RESOURCE

PROJECT NO: 120581.41

SCALE: AS NOTED

DRAWING DATE: 10-4-13  
DESIGNED BY: GDG

DRAWN BY: TLB

CHECKED BY: GDG

---

CLIENT

---

**MADISON WATER UTILITY  
MADISON, WISCONSIN**

## UNIT WELL 26

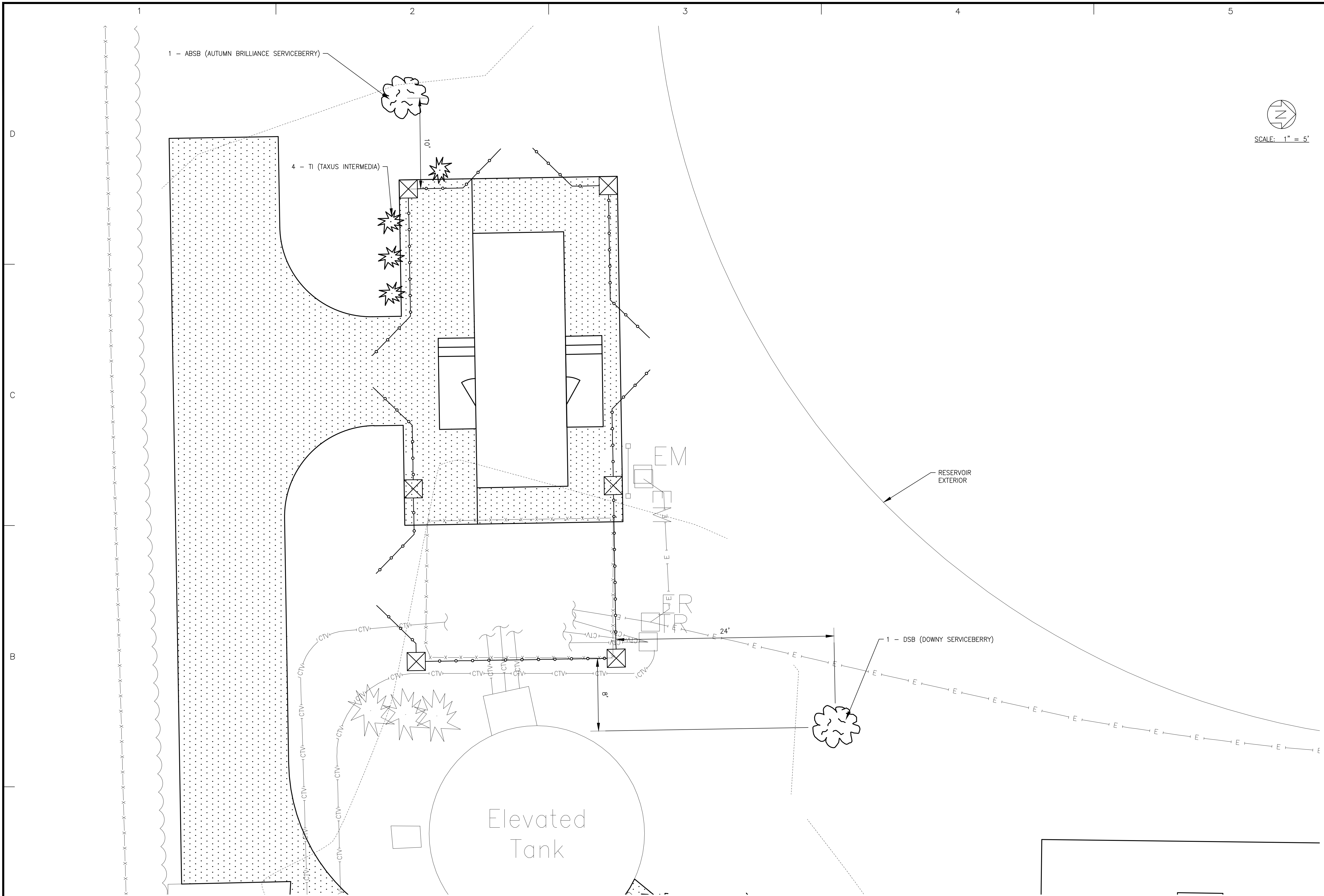
### GENERATOR ADDITION

SHEET TITLE

## FENCE DETAILS

**C-3**

4 OF 9



PLANT CODE	COMMON NAME	SCIENTIFIC NAME	AVG. MATURE HEIGHT	SIZE WHEN PLANTED	ROOT ZONE	MIN. CONT. SIZE	MIN. CONT. DEPTH	FEET PACK	TOTAL # REQ'D.
TI	TAXUS INTERMEDIA	—	3'	18" HT.	PGT	12"	12"	3	4
ABSB	AUTUMN BRILLIANCE SERVICEBERRY	AMELANCHIER X GRANDIFLORA	20'	4'	BARE ROOT	—	—	3	1
DSB	DOWNY SERVICEBERRY	AMELANCHIER ARBOREA	20'	4'	BARE ROOT	—	—	3	1



## CONSULTANTS

[illegible]

PLAN SHEET DESIGNATION

COVER

G	—	GENERAL
H	—	HAZARDOUS MATERIALS
C	—	CIVIL
L	—	LANDSCAPE
S	—	STRUCTURAL
A	—	ARCHITECTURAL
I	—	INSTRUMENTATION
Q	—	EQUIPMENT
F	—	FIRE PROTECTION
P	—	PLUMBING
M	—	MECHANICAL
E	—	ELECTRICAL
T	—	TELECOMMUNICATIONS
R	—	RESOURCE

PROJECT NO:	120581.41
-------------	-----------

SCALE:	AS NOTED
DRAWING DATE:	10-4-13
DESIGNED BY:	GDG
DRAWN BY:	TLB
CHECKED BY:	GDG

CLIENT

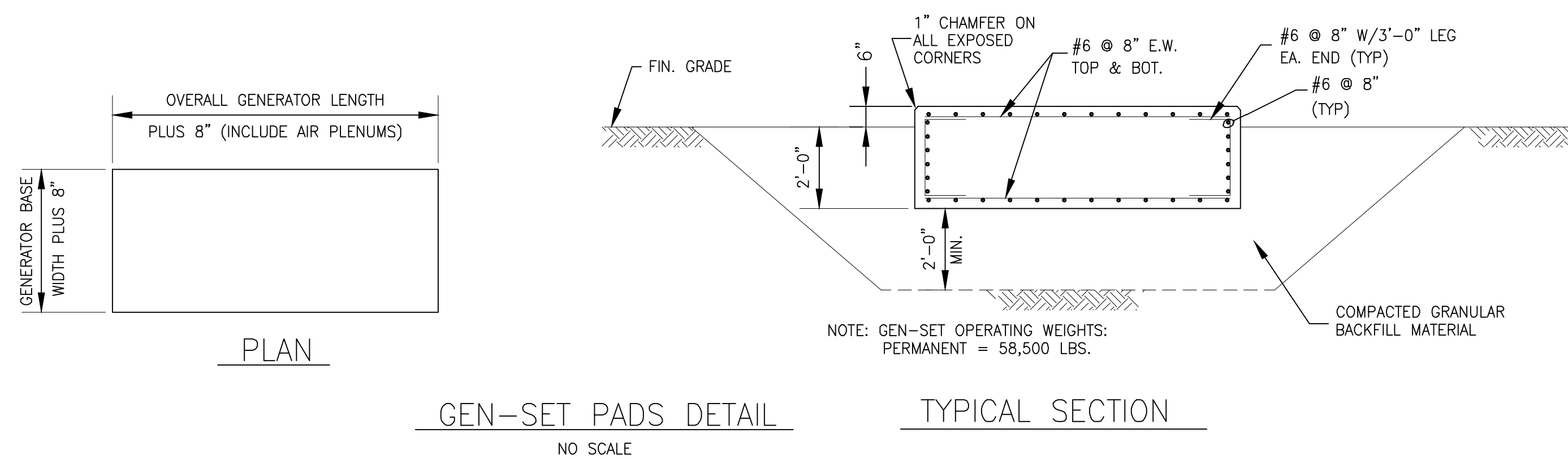
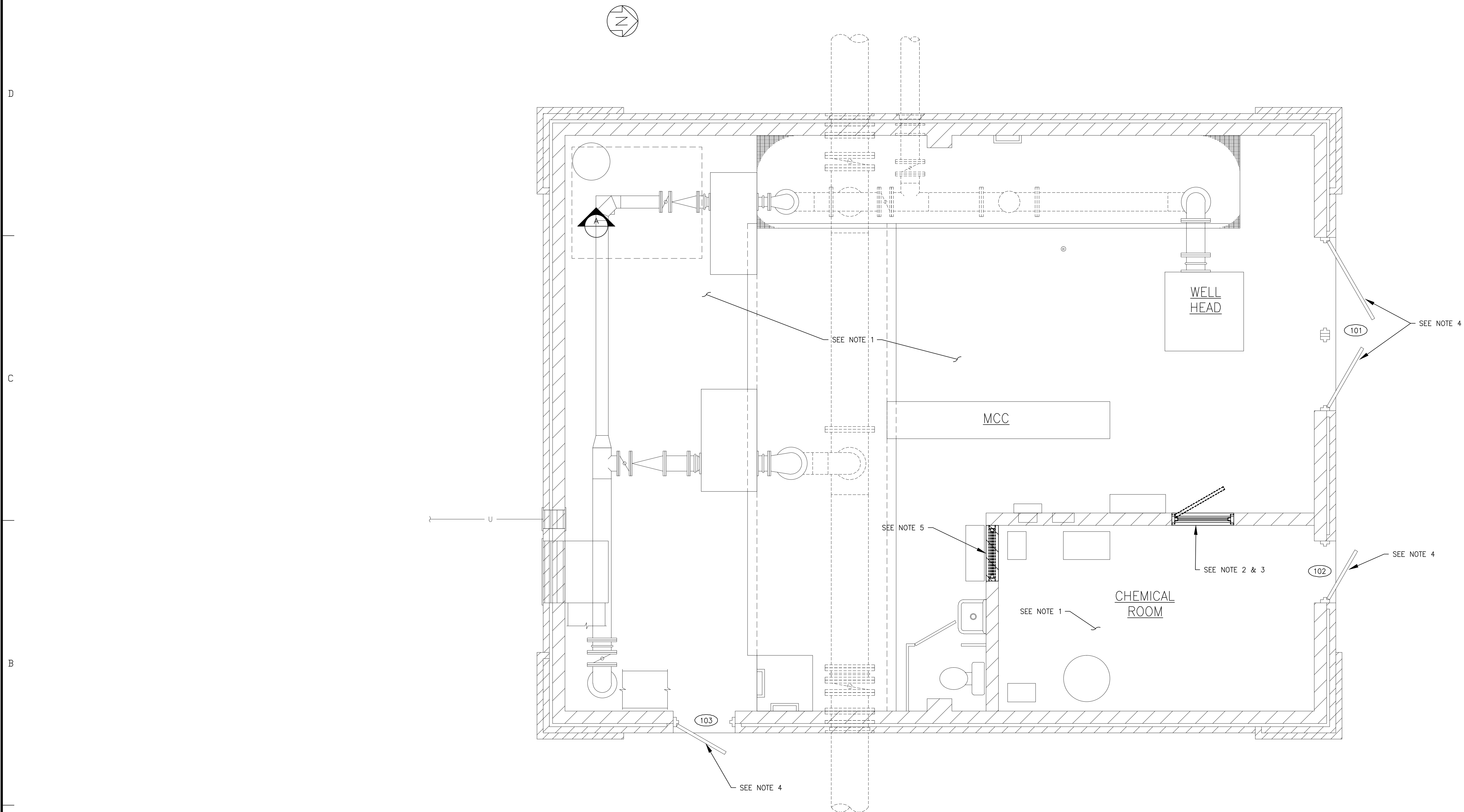
**MADISON WATER UTILITY  
MADISON, WISCONSIN**

**UNIT WELL 26  
GENERATOR ADDITION**

SHEET TITLE

## LANDSCAPE PLAN

**L-1**



- NOTES:

**BAXTER**  
  
**WOODMAN**  
*Consulting Engineers*

CONSULTANTS

REVISIONS	
NO.	DATE

\*\* - REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWING  
\*\* -

1"
.5"
0
1"
2"
3"

PLAN SHEET DESIGNATION

G - GENERAL  
H - HAZARDOUS MATERIALS  
C - CIVIL  
L - LANDSCAPE  
S - STRUCTURAL  
A - ARCHITECTURAL  
I - INSTRUMENTATION  
Q - EQUIPMENT  
F - FIRE PROTECTION  
P - PLUMBING  
M - MECHANICAL  
E - ELECTRICAL  
T - TELECOMMUNICATIONS  
R - RESOURCE

PROJECT NO: 120581.41

SCALE:	AS NOTED
DRAWING DATE:	10-1-13

DRAWING DATE: 10-4-13  
DESIGNED BY: GDG

DESIGNED BY:	SSS
DRAWN BY:	TLB
CHECKED BY:	SSS

CHECKED BY: GDG

## CLIENT

**MADISON WATER UTILITY  
MADISON, WISCONSIN**

## UNIT WELL 26

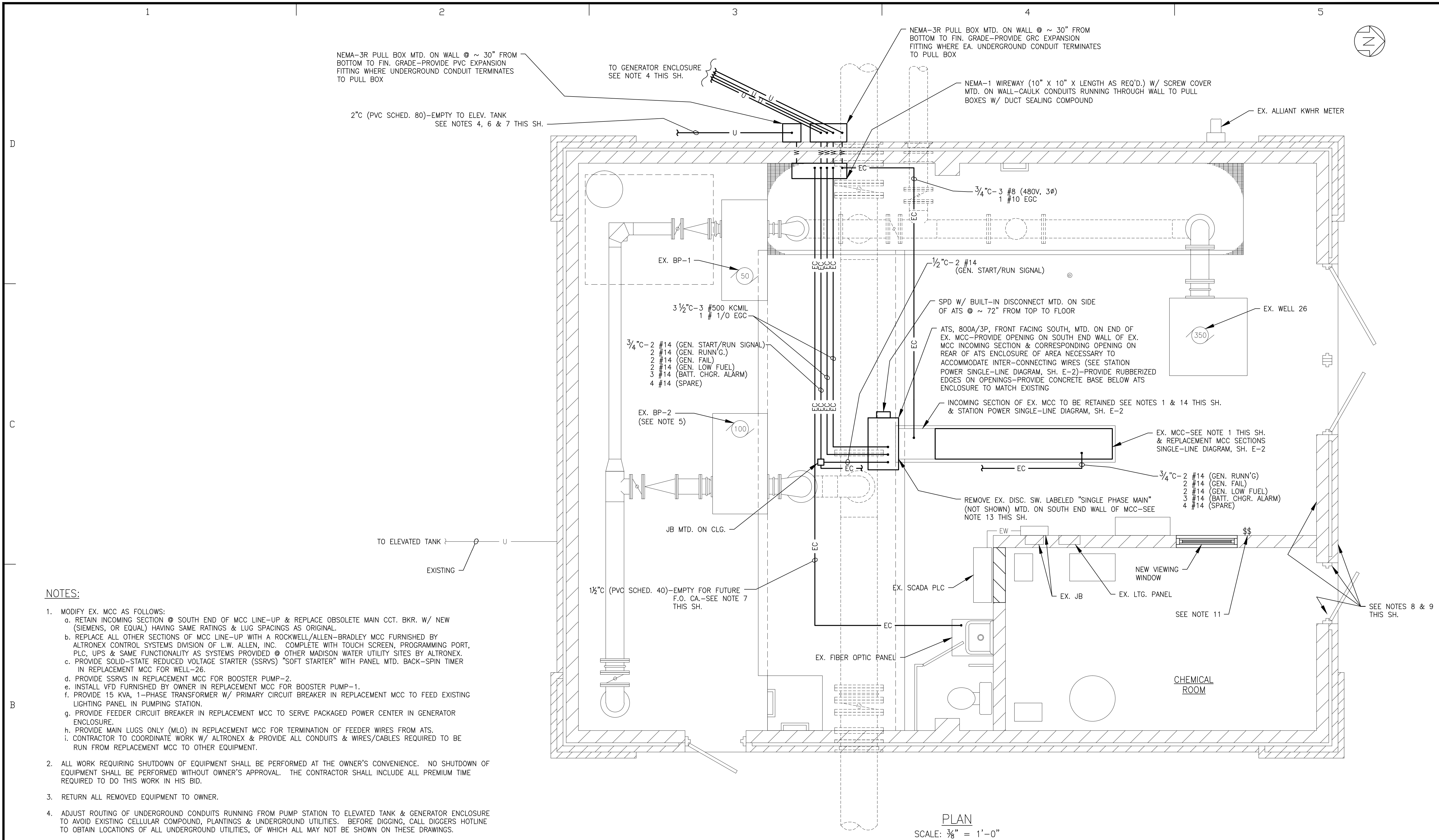
### GENERATOR ADDITION

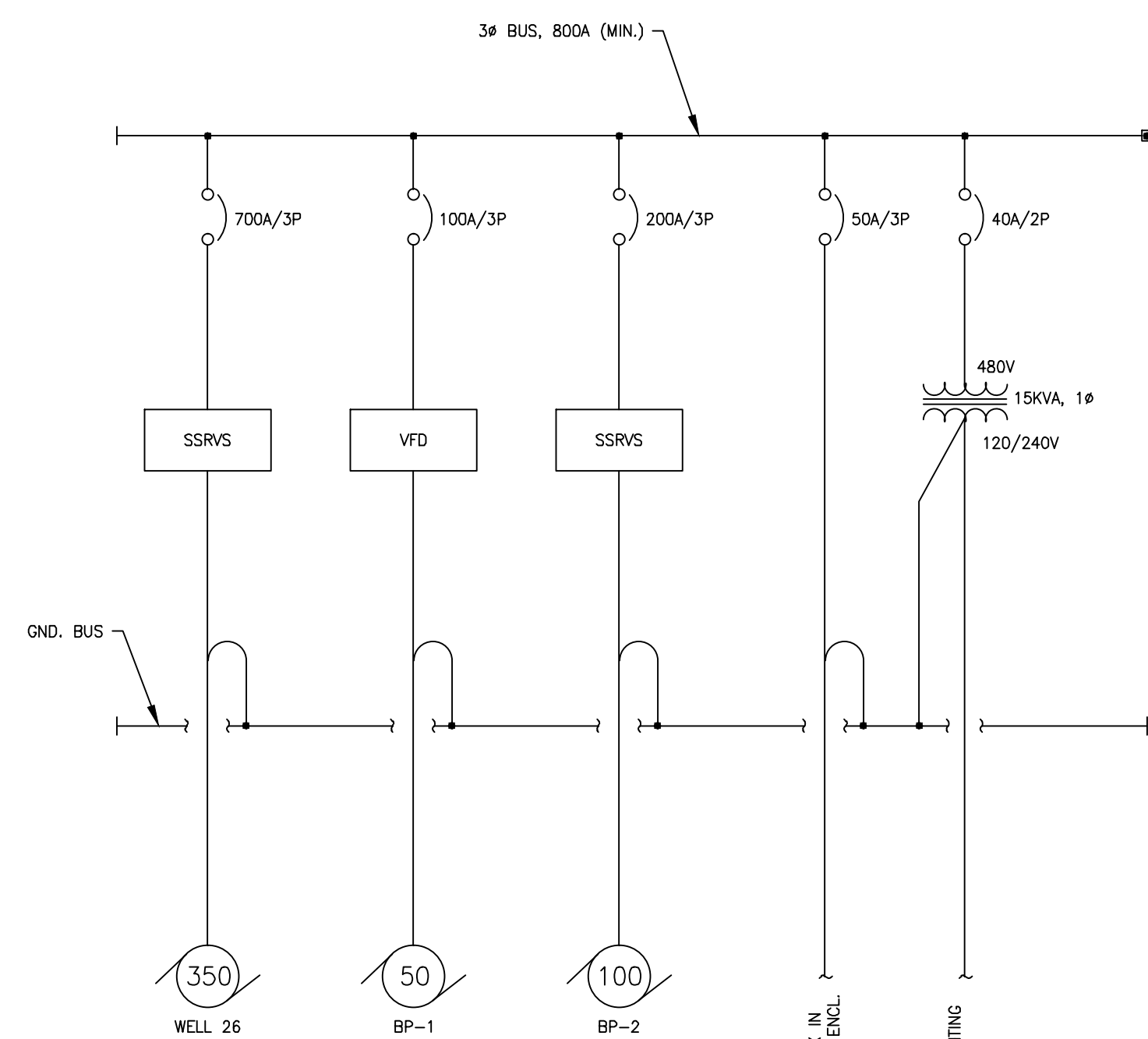
SHEET TITLE
-------------

## FLOOR PLAN

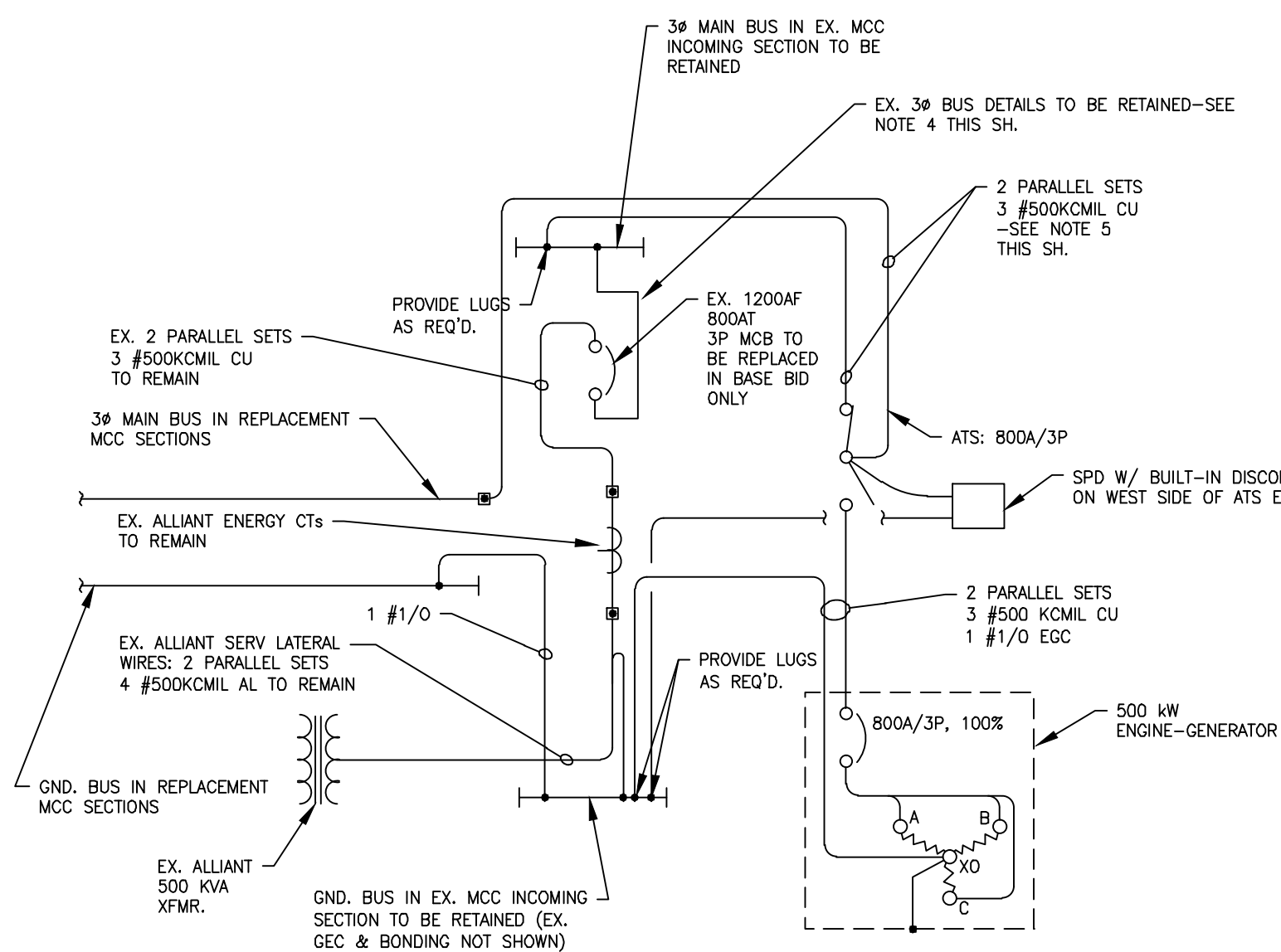
**M-1**

6 OF 9

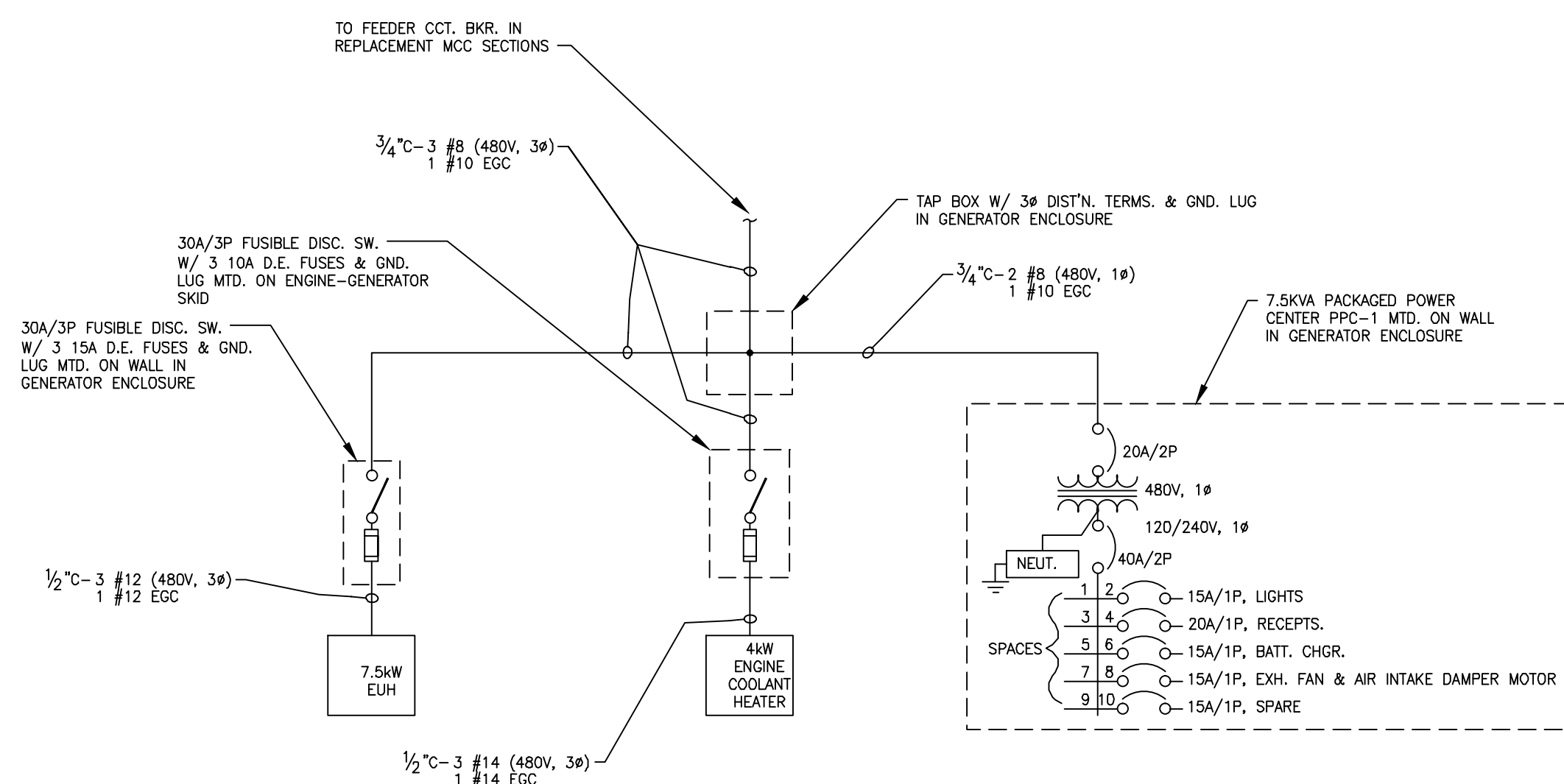
[illegible]



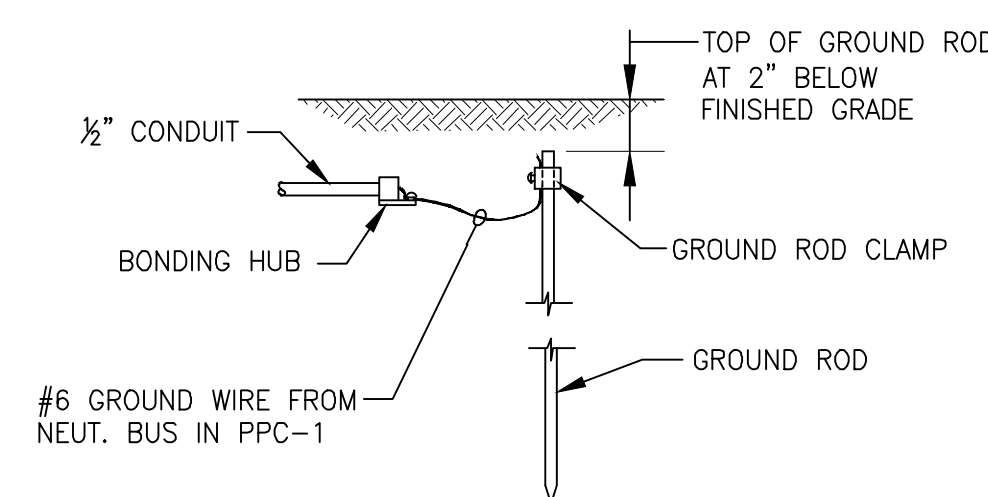
REPLACEMENT MCC SECTIONS SINGLE-LINE DIAGRAM  
NO SCALE



STATION POWER SINGLE-LINE DIAGRAM  
NO SCALE



GENERATOR ENCLOSURE SINGLE-LINE DISTRIBUTION DIAGRAM  
NO SCALE



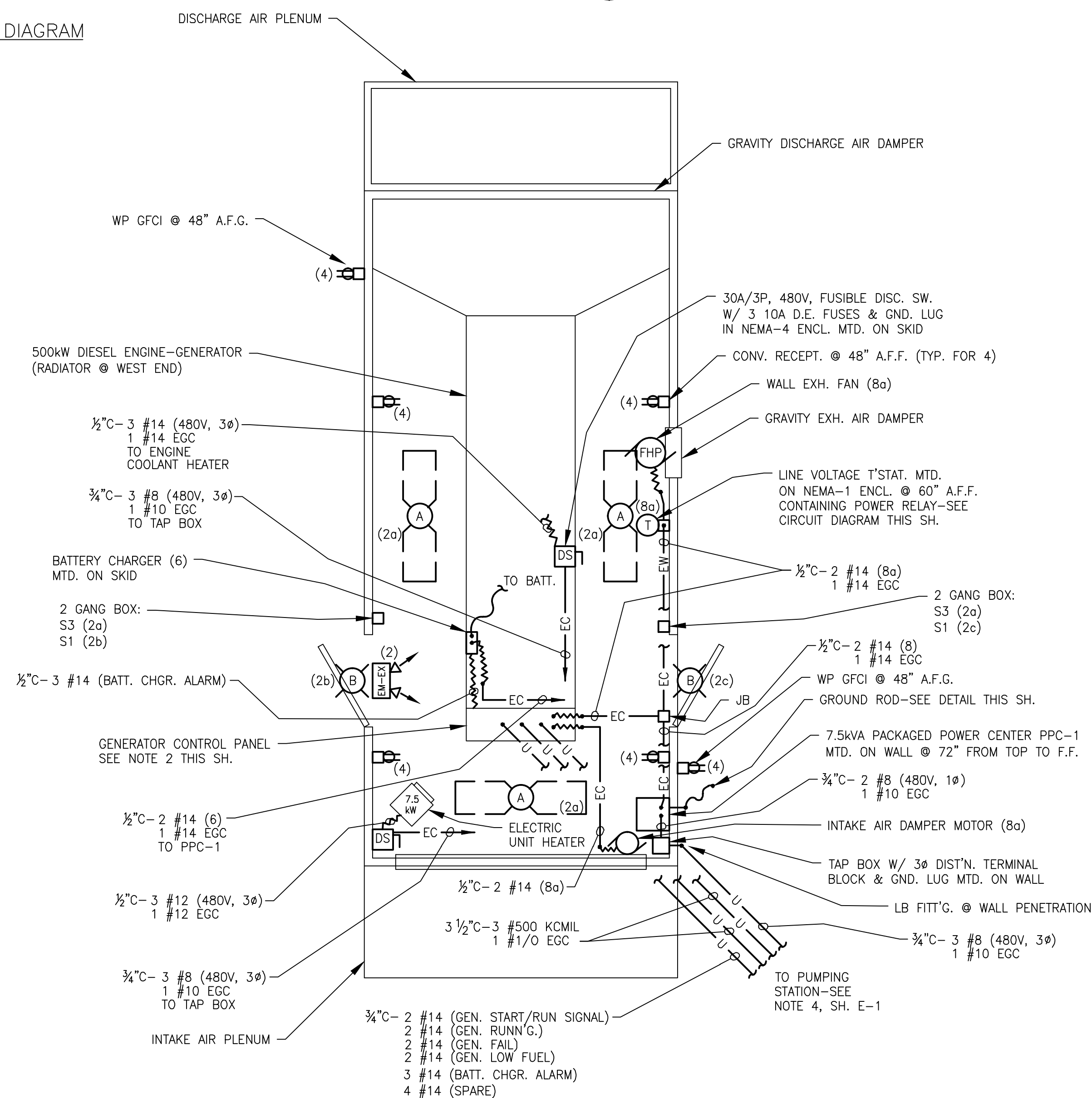
GROUND ROD DETAIL

---

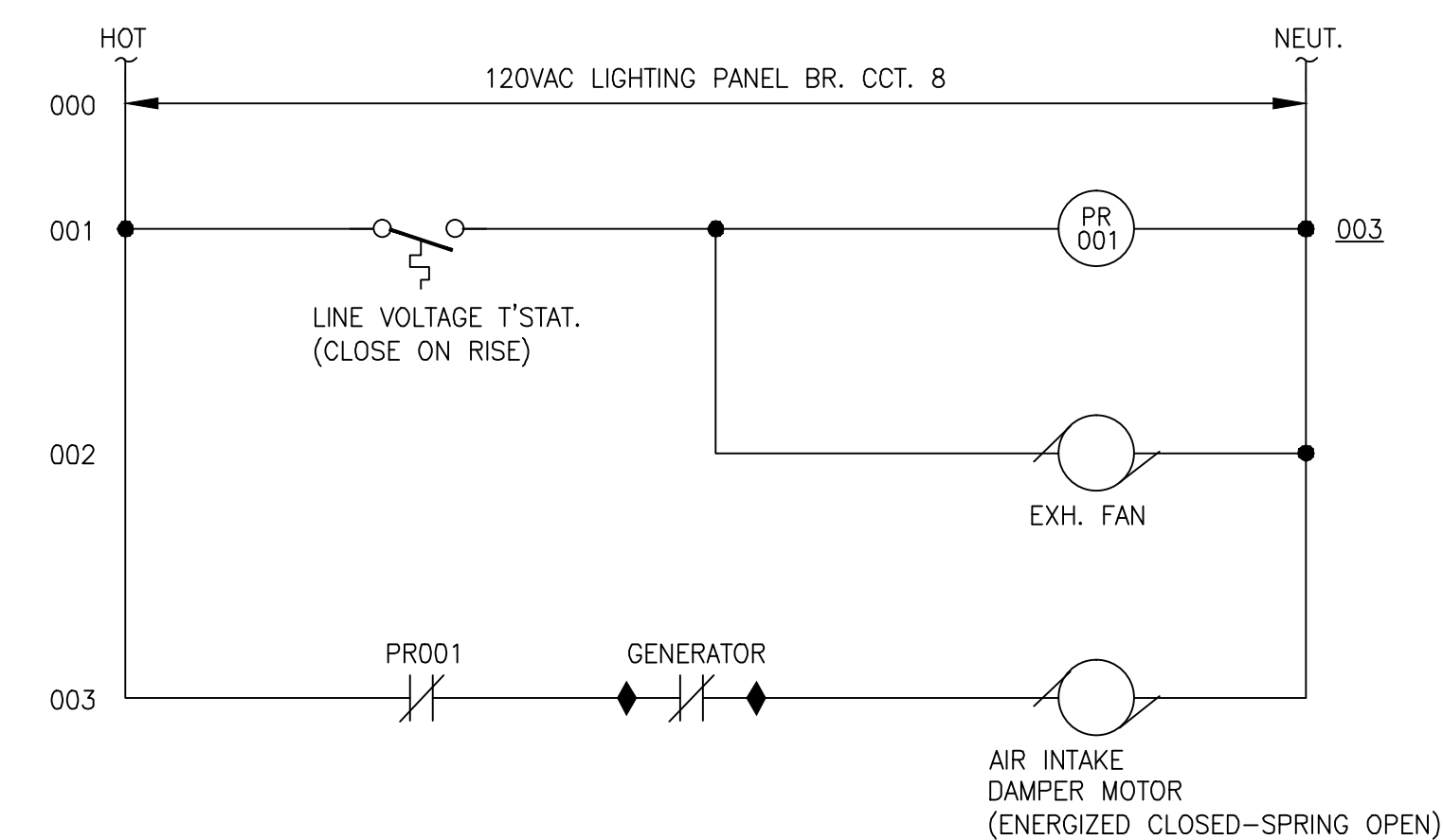
NO SCALE

- ELECTRICAL NOTES:


1. PROVIDE CONDUIT EXPOSED ON GENERATOR ENCLOSURE CEILING & WALLS (NOT SHOWN) AS REQ'D. FOR LIGHTING FIXTURES, RELATED SWITCHES & CONVENIENCE RECEPTACLES.
2. PROVIDE LIQUID-TIGHT FLEXIBLE CONDUIT (12" MIN. LENGTH) ON EACH CONDUIT TERMINATION TO ENGINE-GENERATOR.
3. SEE BID PAGES FOR ALTERNATIVE LUMP SUM BID TO INCLUDE ALL WORK EXCEPT MCC AND CONTROL WORK MODIFICATIONS NOTED IN NOTE 1 (a, b, c, d, e, f, i and j) ON SHEET E-1. INTENT WOULD BE TO INSTALL GENERATOR, ATS AND ALL OTHER ELECTRICAL WORK FOR COMPLETE SYSTEM USING THE EXISTING MCC AND CONTROLS.
4. EX. 3a BUS DETAILS FROM LOAD TERMINALS OF MCB TO MAIN BUSES IN THE INCOMING SECTION OF EX. MCC ARE TO BE RETAINED AS SHOWN ONLY IN THE BASE BID, BUT ARE TO BE REMOVED IN ALTERNATIVE LUMP SUM BID.
5. WIRES FROM ATS NORMAL LUGS & ATS LOAD LUGS ARE TO BE CONNECTED TO MAIN BUS IN EX. INCOMING SECTION & TO MAIN BUS LUGS IN REPLACEMENT MCC SECTION AS SHOWN ONLY IN THE BASE BID. IN THE ALTERNATIVE LUMP SUM BID, THE WIRES RUNNING FROM THE ATS NORMAL LUGS ARE TO BE CONNECTED TO THE LOAD TERMINALS OF THE EX. MCB, & THE WIRES RUNNING FROM THE ATS LOAD LUGS ARE TO BE CONNECTED TO THE MAIN BUSES IN THE INCOMING SECTION OF EX. MCC. PROVIDE DUAL WIRE LUGS AT TERMINALS TO MCB & MAIN BUSES.



GENERATOR ENCLOSURE PLAN  
SCALE:  $\frac{3}{8}" = 1'-0"$



GENERATOR ENCLOSURE EXH. FAN & AIR INTAKE DAMPER CIRCUIT DIAGRAM



**BAXTER**  
**WOODMAN**  
*Consulting Engineers*

## CONSULTANTS

REVISONS	
NO.	DATE DESCRIPTION

\* \* - REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWING  
 \* \* \*

PLAN SHEET DESIGNATION

COVER

- G - GENERAL
- H - HAZARDOUS MATERIALS
- C - CIVIL
- L - LANDSCAPE
- S - STRUCTURAL
- A - ARCHITECTURAL
- I - INSTRUMENTATION
- Q - EQUIPMENT
- F - FIRE PROTECTION
- P - PLUMBING
- M - MECHANICAL
- E - ELECTRICAL
- T - TELECOMMUNICATIONS
- R - RESOURCE

PROJECT NO: 120581.41

SCALE:	AS NOTED
DRAWING DATE:	10-4-13
DESIGNED BY:	DJM
DRAWN BY:	TLB
CHECKED BY:	GSW

CLIENT

**MADISON WATER UTILITY  
MADISON, WISCONSIN**

## UNIT WELL 26 GENERATOR ADDITION

SHEET TITLE

## ELECTRICAL DETAILS

E-2

8 OF 9

1	2
---	---



C



A

## 4

## ABBREVIATIONS

1

### MOTOR CONTROL CENTER SYMBOLS



### LIGHTING FIXTURE SCHEDULE



## D

1510

## PLAN SHEET DESIGNATION

PR

[illegible]

DF

DE  
DE

CH

CE

**MADISON WATER UTILITY  
MADISON, WISCONSIN**

## UNIT WELL 26 GENERATOR ADDITION

## SHEET TITLE

## ELECTRICAL SYMBOL LIST

**E-3**  
9 OF 9