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April 3, 2024

VIA FEDERAL EXPRESS AND ELECTRONIC MAIL

(pb@kingstonnh.org)

Planning Board
Town of Kingston
163 Main Street
PO Box 716
Kingston, NH 03848

RE: Cellco Partnership, d/b/a Verizon Wireless' application to the Town of Kingston for the necessary Conditional Use Permit and Site Plan Approval to construct and operate a 140' wireless telecommunications facility off Hunt Road (Tax Map # R-1, Lot # 1) in the Town of Kingston, Rockingham County, New Hampshire (Verizon Wireless' "Kingston 4 NH" Site).

Dear Members of the Planning Board:

On November 28, 2023, Cellco Partnership, d/b/a Verizon Wireless ("**Verizon Wireless**") submitted an application (the "**Initial Application**") for Site Plan Approval and a Conditional Use Permit for the above-referenced project (the "**Project**"). Thereafter, on February 6, 2024, Verizon Wireless representatives attended the Kingston Planning Board Hearing and received verbal and written comments and requests for additional information from the Planning Board Chair, Fire Chief, as well as the Planning Staff and the Department of Public Works (collectively, the "**February 6 Planning Board Comments**"). In response to the Planning Board's requests for additional information and other comments (i) on February 17, 2024 Verizon Wireless conducted a "ballon float" and hosted a Planning Board site walk, and (ii) on March 13, 2024, Verizon Wireless submitted a supplemental application (the "**First Supplemental Application**"; together with the Initial Application, the "**Application**") for site approval for its Kingston site. Thereafter, on March 19, 2024, Verizon Wireless representatives attended the Town Planning Board Hearing and received verbal and written comments and requests for additional information from the Planning Board Chair and Kingston Conservation Commission (the "**March 19 Planning Board Comments**").

In response to the March 19 Planning Board Comments, Verizon Wireless has updated the proposed Site Plan to memorialize the Planning Board's requested alternative site location. As expressly requested by the Planning Board in connection with the March 19 Planning Board Comments, this alternative site location is now a distance of more than 140' away from the Hampstead Town Line, in addition to all other abutter lot lines unrelated to Verizon Wireless' "Kingston 4 NH" Site landowner. In connection with that request and others, Verizon Wireless

has enclosed the following documentation for the Planning Board's review and consideration (note that Exhibits A-P were previously submitted with the Application and First Supplemental Application):

1. Exhibit Q – Updated Site Plan;
2. Exhibit R – Sample Photograph Depicting a “Camouflaged” Tower;
 - a. Note: The equipment on the tower (antenna array) will still be visible because the panels will need to be out in front of the branches.
3. Exhibit S – Plans and Specifications of the Proposed Diesel Generator; and
 - a. Exhibits S1-S3 relate to Plans and Specifications
 - b. Exhibits S4-S5 specifically relate to sound
 - i. Note: Except for a 20-minute weekly maintenance cycle, the proposed generator will only operate during an extended power outage—during which time many other generators will very likely be in operation.
4. Exhibit T – Removal Letter Estimate.
5. Below are the Planning Board Comments in bold, italicized text, followed by Verizon Wireless' responses in regular text.

(A) Provide evidence of the tests performed in connection with the findings contained in the structural design letter from Valmort Telecommunications, Inc., dated January 22, 2024, submitted by Verizon Wireless in its First Supplemental Application.

Verizon Wireless Response: Given the new alternative location proposed by Verizon Wireless further from the Town of Hampstead boundary line, this is now a moot inquiry.

(B) Respond to the Kingston Conservation Commission comments dated April 14, 2024 related to potential turtle habitat.

Verizon Wireless Response: Verizon Wireless is required to file for an environmental assessment/screening under the National Environmental Policy Act (“NEPA”) *after* receipt of the requested Conditional Use Permit and Site Plan Approval to construct and operate the Project. This timing is necessary because Verizon Wireless will need to know the final height and location of the Project prior to completing the NEPA

screening. This is the process which Verizon Wireless is required to follow in connection with potential environmental impacts resulting from the proposed Project and satisfies the stated concerns of the Conservation Commission. Verizon Wireless is pleased to submit its NEPA environmental assessment along with its request for a building permit.

We respectfully request that this Second Supplemental Application, together with the Application, be placed on the agenda for the April 16, 2024 Planning Board Hearing.

In the meantime, should you have any questions or require additional information, please do not hesitate to contact me. Thank you.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mark E. Beaudoin', enclosed in a light blue rectangular border.

Mark E. Beaudoin
Partner
MEB/chc
Enclosures

cc: Chip Fredette, SAI Group
Jared Lusk, Nixon Peabody, LLP
Jeff Twitty, Nixon Peabody LLP

EXHIBIT Q

Updated Site Plan

<See attached>



KINGSTON 4 NH
OFF HUNT ROAD
KINGSTON, NH 03848

**ZONING DRAWINGS
— NOT FOR CONSTRUCTION —**



VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053

KINGSTON 4 NH

ZONING DRAWINGS		
3	04/01/24	FOR SUBMITTAL
2	02/13/24	FOR SUBMITTAL
1	10/20/23	FOR SUBMITTAL
0	03/14/23	FOR SUBMITTAL
A	02/13/23	FOR COMMENT



Dewberry Engineers Inc.
99 SUMMER STREET
SUITE 700
BOSTON, MA 02110
PHONE: 617.695.3400
FAX: 617.695.3310



DRAWN BY: JG

REVIEWED BY:	OAS
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CHECKED BY:	BBR
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PROJECT NUMBER:	50121487
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JOB NUMBER: 50150912

SITE LOCATION CODE (PSLC):

706213

SITE ADDRESS

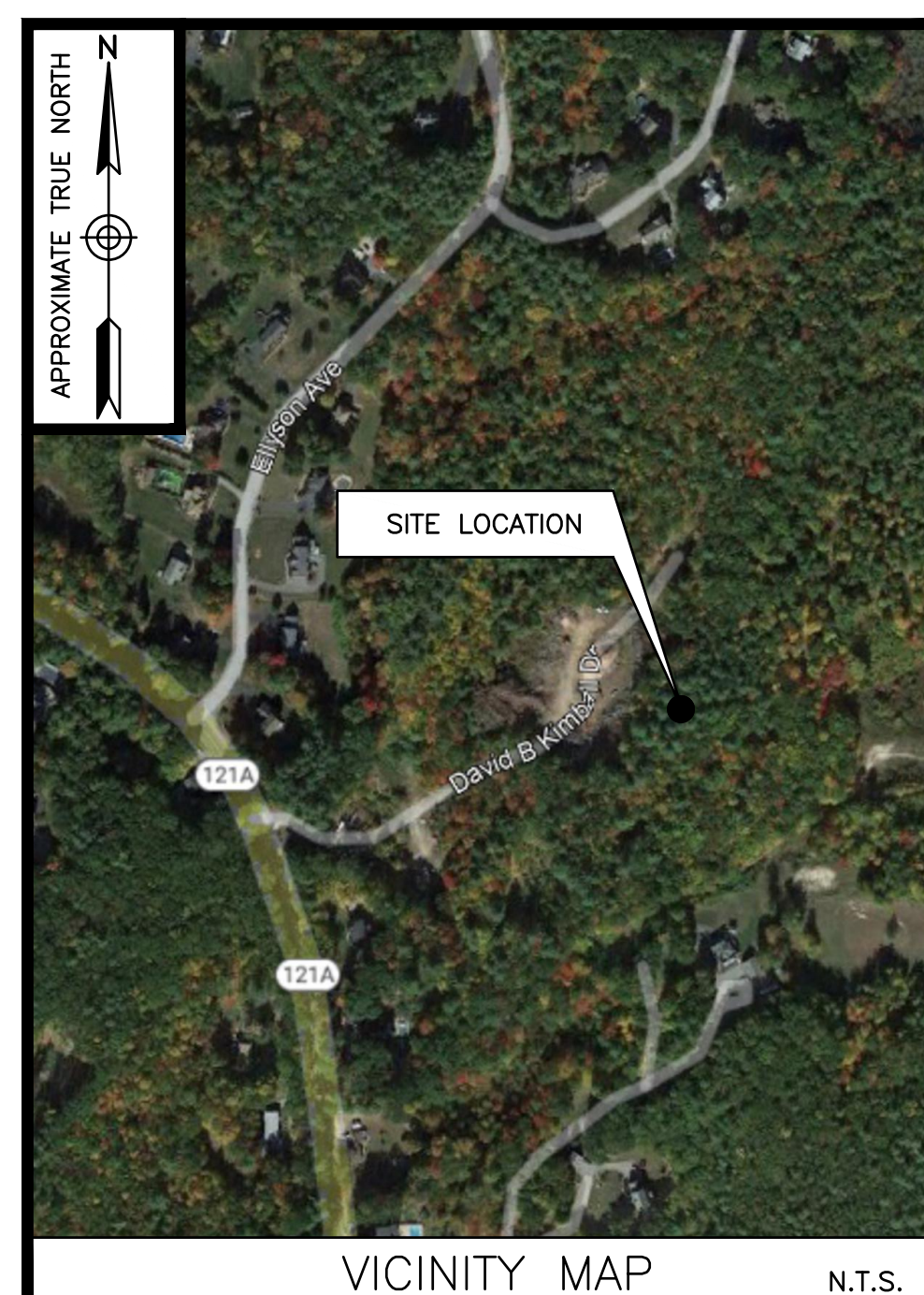
OFF HUNT ROAD
KINGSTON, NH 03848

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

[illegible]

ENGINEER

DEWBERRY ENGINEERS INC.
99 SUMMER ST.
SUITE 700
BOSTON, MA 02110

PHONE # (617) 531-0813
FAX # (617) 695-3310

CONTACT: BENJAMIN B. REVETTE

CONSTRUCTION
VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053
PHONE # (603) 505-0700
CONTACT: TODD WHITE

PROJECT TEAM

SITE NAME:
KINGSTON 4 NH

PROPERTY OWNER:
DAVID KIMBALL
43 BACK ROAD
DANVILLE, NH 03819

APPLICANT:
VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053

ELECTRIC UTILITY:
UNITIL
(888) 301-7700

TELEPHONE UTILITY:
CONSOLIDATED COMMUNICATIONS
(844) 968-7224

COORDINATES*:
LATITUDE: 42° 52' 43.28" N (42.7876885°) (NAD83)
LONGITUDE: 71° 07' 19.24" W (71.1220118)
*(NAD83)
*PER FAA-2C

PROJECT SUMMARY

SITE ADDRESS:
OFF HUNT ROAD
KINGSTON, NH 03848

PARCEL ID:
TOWN OF KINGSTON, NH: TAX MAP R-1 LOT 1
TOWN OF PLAISTOW, NH: TAX MAP 10 LOT 8

ZONING DISTRICTS:
TOWN OF KINGSTON, NH: RURAL-RESIDENTIAL (RR)
TOWN OF PLAISTOW, NH: RESIDENTIAL CONSERVATION 2 (RC2)

PROJECT DIRECTORY

A PROPOSED 140' TALL A.G.L. MONOPOLE, EQUIPMENT CABINETS AND DIESEL GENERATOR WILL BE INSTALLED AT GRADE INSIDE A PROPOSED 50'x50' FENCED COMPOUND. PANEL ANTENNAS & ASSOCIATED EQUIPMENT WILL BE INSTALLED ON THE PROPOSED MONOPOLE.

PROJECT DESCRIPTION

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

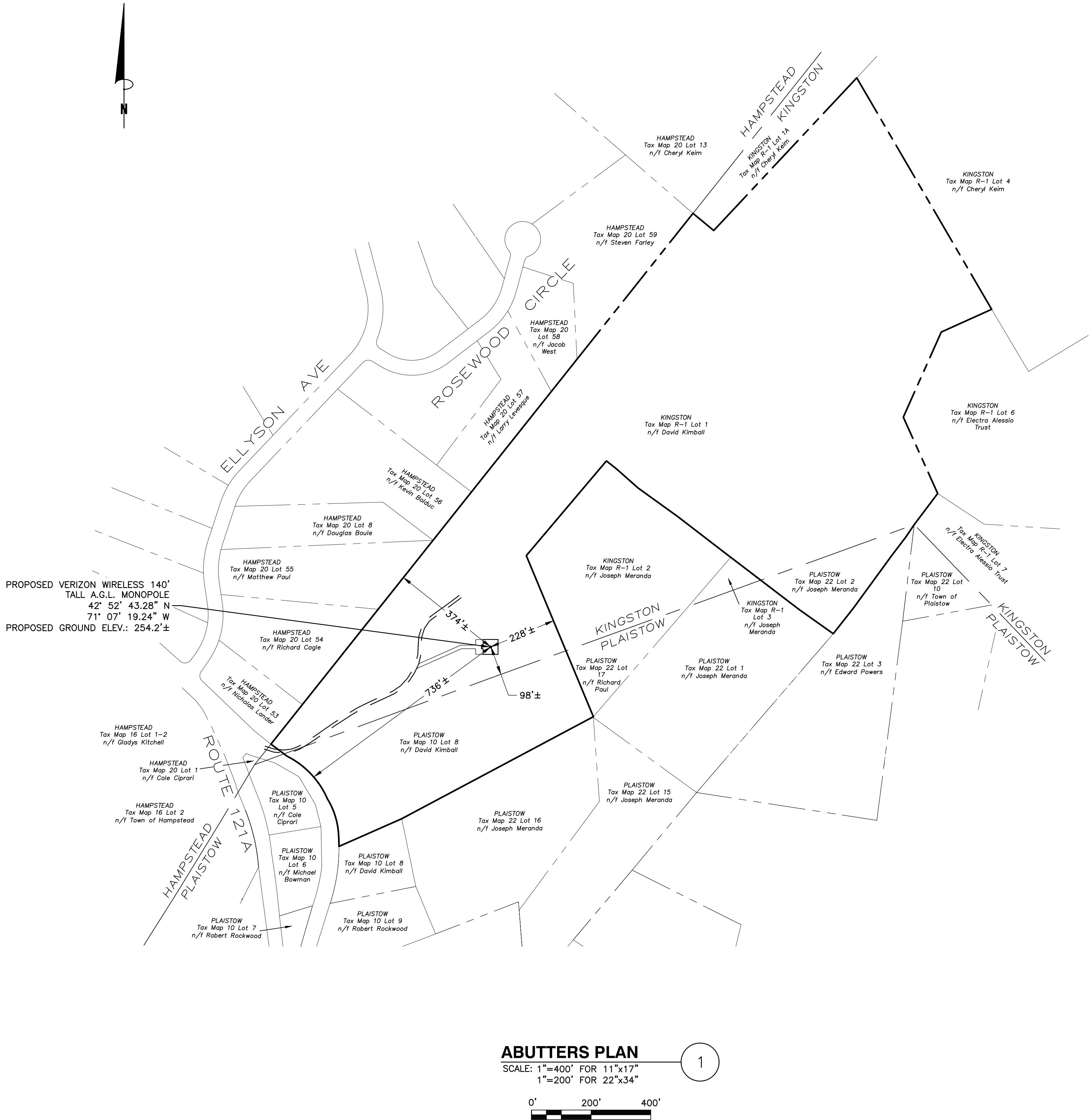
A.D.A. COMPLIANCE:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

[illegible]

ZONING INFORMATION		
PER ZONING ORDINANCE FOR THE TOWN OF KINGSTON, NH SECTION 100 ZONING DISTRICTS ARTICLE 104 RURAL RESIDENTIAL DISTRICT SECTION 104.5 STRUCTURE/DWELLING REGULATIONS.		
DISTRICT: RURAL-RESIDENTIAL (RR) (WETLANDS CONSERVATION DISTRICT)		
	REQUIRED	PROPOSED
FRONT SETBACK:	30'	736'± (a)
SIDE SETBACK:	20'	374'± (a)
REAR SETBACK:	20'	228'± (a)
MAX. HEIGHT OF BUILDING STRUCTURE:	30'	8'± (b)
MAX. TOWER HEIGHT:	140'(d)	140'± (c)
TOWER SETBACK RADIUS:	SEE NOTE (e),175'	848'±
(a) DISTANCE FROM THE NEAREST PROPERTY LINE TO CENTER OF PROPOSED VERIZON WIRELESS MONOPOLE.		
(b) TO TOP OF PROPOSED ICE BRIDGE.		
(c) 140' A.G.L. TO TOP OF MONOPOLE (SEE DETAIL 2/Z-6).		
(d) PER TOWN OF KINGSTON ARTICLE 410 TELECOMMUNICATIONS FACILITY ORDINANCE SECTION 410.4 SITTING STANDARDS.		
(e) 125% OF TOWER HEIGHT FROM ANY OFF-SITE RESIDENTIAL STRUCTURE.		
EXISTING & PROPOSED IMPERVIOUS AREA CALCULATION AND % OF LOT COVERAGE:		
APPROXIMATE LOT SIZE (BASED ON SURVEY):		53± ACRES
EXISTING IMPERVIOUS AREA:	43,953± SQ.FT.	1.01± ACRES
EXISTING LOT COVERAGE:	1.90%	
PROPOSED IMPERVIOUS AREA:	3,750± SQ. FT.	0.14± ACRES
PROPOSED LOT COVERAGE:	0.27% (INCREASE IN IMPERVIOUS)	
TOTAL NEW LOT COVERAGE:	2.17%	
PROPOSED GROUND DISTURBANCE CALCULATION:		
PROPOSED (1) UTILITY POLE WITHIN 50' WETLAND BUFFER:	4± SQ. FT.	
PROPOSED COMPOUND, PARKING AREA & ACCESS ROAD:	3,750± SQ. FT.	
PROPOSED POWER/TELCO TRENCHING*:	2,520± SQ. FT.	
(4'± WIDE x 630'± LONG)		
TOTAL DISTURBANCE:	8,777± SQ. FT.	
(*OUTSIDE 50' WETLAND BUFFER)		
LEGEND		
-----	Existing Property Line	
-----	LOCUS PROPERTY LINE	
-x-x-	FENCED COMPOUND	

NOTES:

- OWNER OF RECORD; DAVID KIMBALL
43 BACK ROAD
DANVILLE, NH 03819
- SOURCE OF TITLE; BOOK 3503 PAGE 2779
- APPROXIMATE AREA: 53 ACRES.
- BEARING SYSTEM IS BASED UPON NH STATE PLANE (NAD'83) USING U.S. SURVEY FOOT AND VERTICAL DATUM IS BASED UPON NAVD'88 (GEOID,12B) USING AN OPUS SOLUTION OF STATIC GPS DATA.
- AUDRA L. KLUMB, NH CERTIFIED WETLAND SCIENTIST #222 OF A&D KLUMB ENVIRONMENTAL, LLC, WEBSTER, NH, PERFORMED THE WETLAND MAPPING FOR THIS SITE ON DECEMBER 15, 2022 ACCORDING TO THE TECHNICAL CRITERIA OF THE US ARMY CORPS OF ENGINEERS DELINEATION MANUAL (TECHNICAL REPORT Y-87-1, JANUARY 1987), THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH CENTRAL AND NORTHEAST REGION, VERSION 2.0 (JANUARY 2012), AND NH STATUTE RSA482-A:2 X.
- BOUNDARY INFORMATION SHOWN WAS TAKEN FROM DEEDS AND PHYSICAL EVIDENCE FOUND. THIS PLAN IS NOT INTENDED TO BE A BOUNDARY SURVEY.
- NO STATUS WAS FOUND FOR THE "OLD ROAD" SHOWN ON THIS PLAN. BOTH HAMPSTEAD AND PLAISTOW SHOW THIS ROAD ON THEIR TAX MAPS. KIMBALL PROVIDES MAINTENANCE FOR THE ACCESS.
- THIS SHEET IS A TAX MAP COMPILATION AND IS NOT INTENDED TO BE A BOUNDARY SURVEY. OWNERS LISTED ON PLAISTOW TAX MAP 22 LOTS 22 AND 17 DO NOT APPEAR TO MATCH THE TITLE RECORD OWNERS BUT THIS PLANS LISTS ALL POTENTIAL ABUTTERS TO THE KIMBALL PROPERTY.



VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053

KINGSTON 4 NH

ZONING DRAWINGS

3	04/01/24	FOR SUBMITTAL
2	02/13/24	FOR SUBMITTAL
1	10/20/23	FOR SUBMITTAL
0	03/14/23	FOR SUBMITTAL
A	02/13/23	FOR COMMENT



Dewberry Engineers Inc.
99 SUMMER STREET
SUITE 700
BOSTON, MA 02110
PHONE: 617.695.3400
FAX: 617.695.3310



DRAWN BY: JG

REVIEWED BY: OAS

CHECKED BY: BBR

PROJECT NUMBER: 50121487

JOB NUMBER: 50150912

SITE LOCATION CODE (PSLC):

706213

SITE ADDRESS

OFF HUNT ROAD
KINGSTON, NH 03848

SHEET TITLE

ABUTTERS PLAN

SHEET NUMBER

Z-1

LEGEND

Existing Property Line

LOCUS PROPERTY LINE

Existing Road

FENCED COMPOUND

RADIUS FALL ZONE

Existing Skid Trail

Existing Stonewall

Existing Structure

Wetland Delineation
(SEE NOTE 5)

Approx. Wetland Area

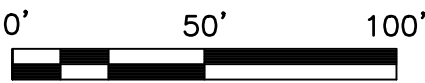


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SITE PLAN/AERIAL OVERLAY

SCALE: 1"=100' FOR 11"x17"
1"=50' FOR 22"x34"



1



VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053

KINGSTON 4 NH

ZONING DRAWINGS

3	04/01/24	FOR SUBMITTAL
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0	03/14/23	FOR SUBMITTAL
A	02/13/23	FOR COMMENT



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89 SUMMER STREET
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SITE ADDRESS

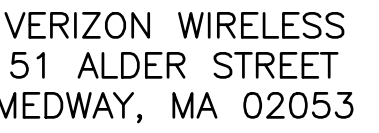
OFF HUNT ROAD
KINGSTON, NH 03848

SHEET TITLE

SITE PLAN/AERIAL OVERLAY

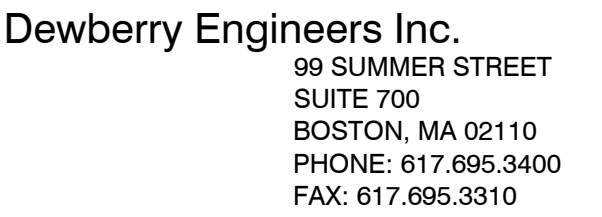
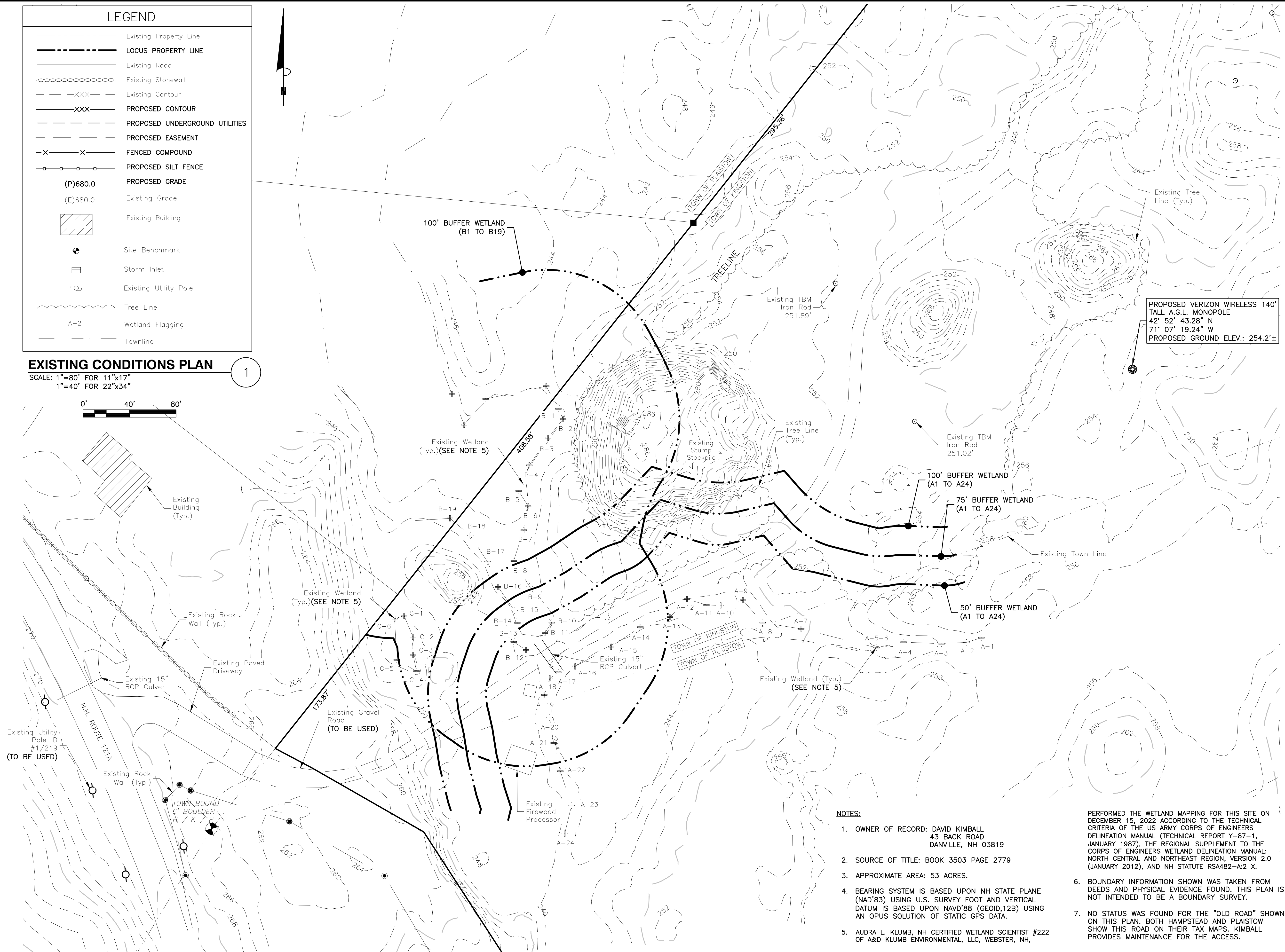
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Z-2



ZONING DRAWINGS

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A	02/13/23	FOR COMMENT

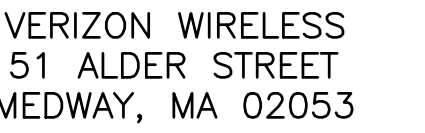

$$Z-3$$


NOTES:

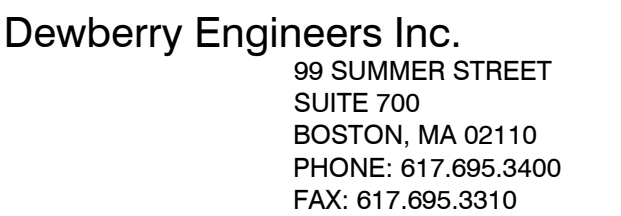
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5. AUDRA L. KLUMB, NH CERTIFIED WETLAND SCIENTIST #2222
OF A&D KLUMB ENVIRONMENTAL, LLC, WEBSTER, NH,

PERFORMED THE WETLAND MAPPING FOR THIS SITE ON
DECEMBER 15, 2022 ACCORDING TO THE TECHNICAL
CRITERIA OF THE US ARMY CORPS OF ENGINEERS
DELINEATION MANUAL (TECHNICAL REPORT Y-87-1,
JANUARY 1987), THE REGIONAL SUPPLEMENT TO THE
CORPS OF ENGINEERS WETLAND DELINEATION MANUAL:
NORTH CENTRAL AND NORTHEAST REGION, VERSION 2.0
(JANUARY 2012), AND NH STATUTE RSA482-A:2 X.

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**KINGSTON 4 NH**

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1	10/20/23	FOR SUBMITTAL
0	03/14/23	FOR SUBMITTAL
A	02/13/23	FOR COMMENT



DRAWN BY: JG

REVIEWED BY:	OAS
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CHECKED BY: BBR

PROJECT NUMBER:	50121487
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SITE LOCATION CODE (PSLC):

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SITE ADDRESS

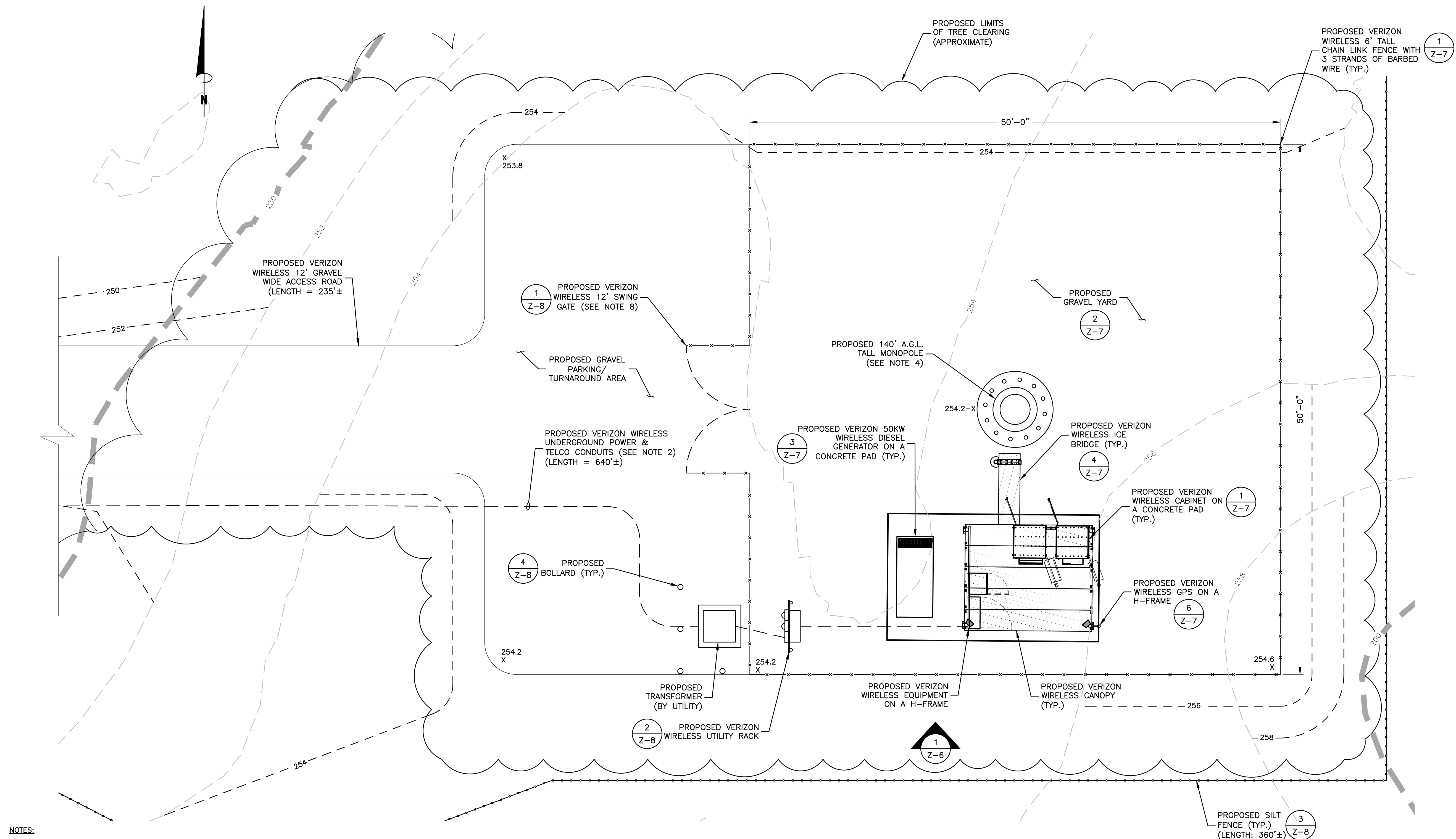
OFF HUNT ROAD
KINGSTON, NH 03848

SHEET TITLE

COMPOUND PLAN

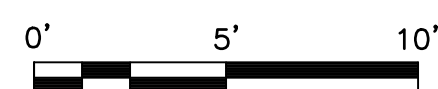
SHEET NUMBER

Z-5



COMPOUND PLAN

SCALE: 1"=10' FOR 11"x17"
1"=5' FOR 22"x34"



- NOTES:

1. FINAL TOWER HEIGHT IS DEPENDENT ON FOUNDATION ELEVATION ABOVE GROUND LEVEL. VERIZON WIRELESS CM TO REVIEW FINAL FOUNDATION HEIGHT ABOVE FINISHED GRADE & REDUCE THE MONOPOLE HEIGHT ACCORDINGLY TO ACHIEVE FINAL ABOVE GRADE ELEVATION.
2. FINAL UTILITY ROUTING PENDING FINAL UTILITY DESIGN AND LANDOWNER APPROVAL. PROVIDE SEPARATE VEHICLE RATED PULL BOXES FOR POWER AND TELCO AS REQUIRED BY THE NEC, UTILITY AND SITE CONDITIONS.
3. FOR SOIL CONDITIONS CONSTRUCTION REQUIREMENTS, SEE GEOTECHNICAL ENGINEERING REPORT BY DEWBERRY ENGINEERING, INC. DATED TBD.
4. MONOPOLE AND MONOPOLE FOUNDATION DESIGN & ANALYSIS BY OTHERS.
5. X - SPOT GRADE
A.G.L. - ABOVE GROUND LEVEL
C.L. - CENTERLINE
NAVD88 - NATIONAL VERTICAL DATUM OF 1988
6. EXISTING UNDERGROUND UTILITIES SHOWN AS APPROXIMATE. UTILITY LOCATIONS & SERVICES PENDING LOCAL UTILITY REVIEW & APPROVAL AND FIELD VERIFICATION OF EXISTING UNDERGROUND UTILITIES.
7. THIS DOCUMENT IS FOR ZONING PURPOSED ONLY AND NOT FOR CONSTRUCTION.
8. FINAL LOCATION OF PROPOSED KNOX BOX TO BE COORDINATED WITH LOCAL FIRE DEPARTMENT PRIOR TO CONSTRUCTION.



VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053

KINGSTON 4 NH

ZONING DRAWINGS

3	04/01/24	FOR SUBMITTAL
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SITE ADDRESS

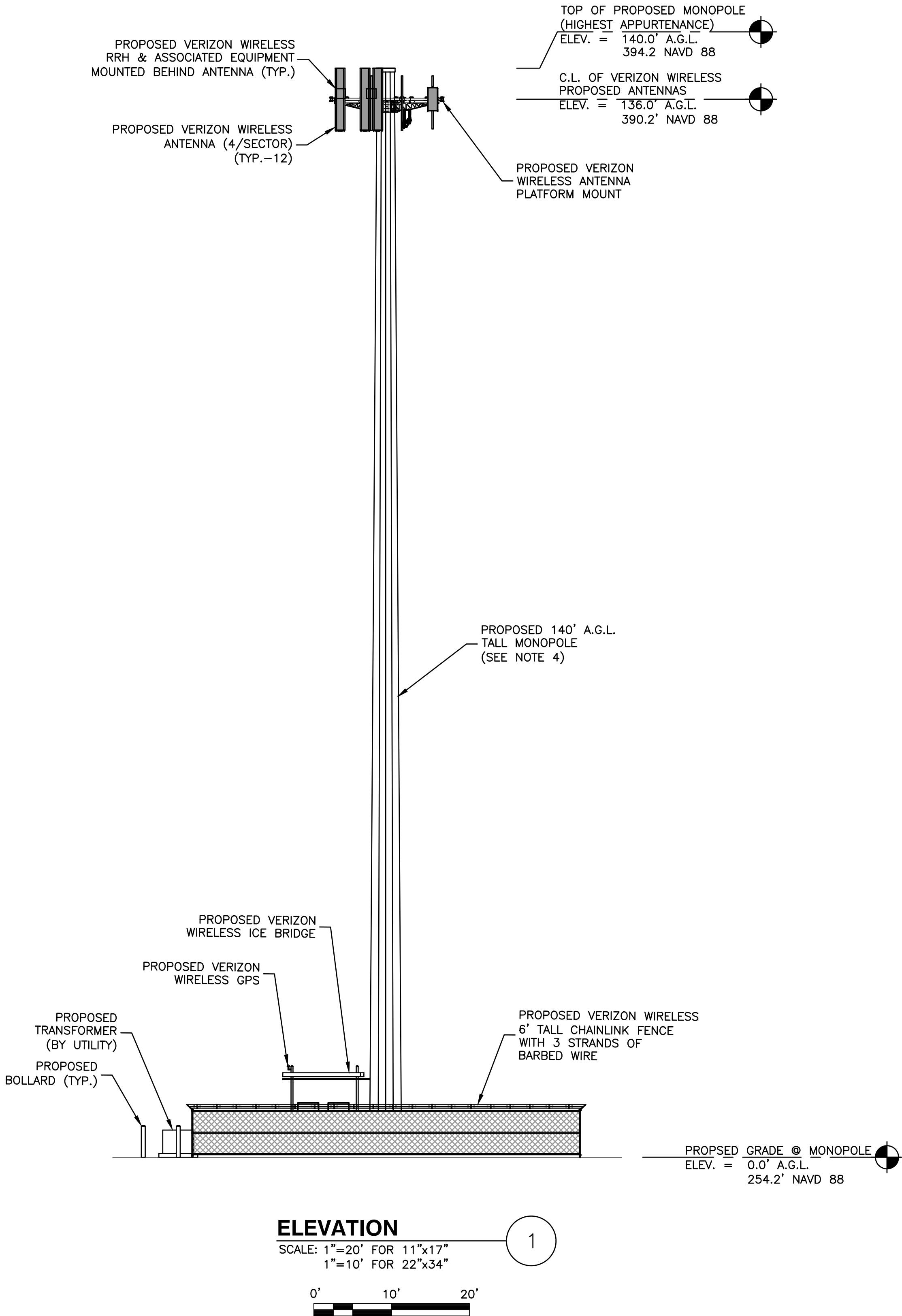
OFF HUNT ROAD
KINGSTON, NH 03848

SHEET TITLE

ELEVATION

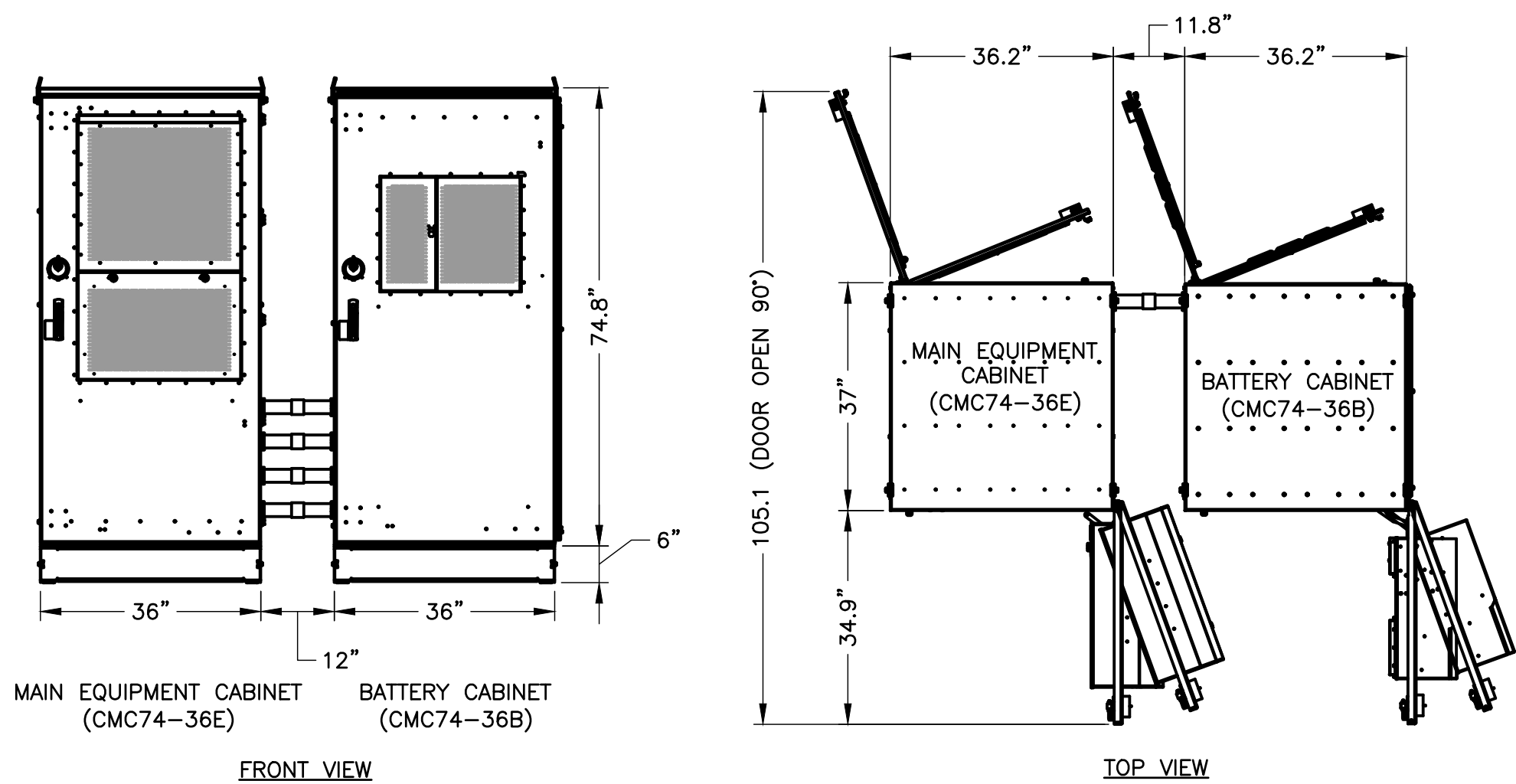
SHEET NUMBER

Z-6



NOTES:

1. FINAL TOWER HEIGHT IS DEPENDENT ON FOUNDATION ELEVATION ABOVE GROUND LEVEL. VERIZON WIRELESS CM TO REVIEW FINAL FOUNDATION HEIGHT ABOVE FINISHED GRADE & REDUCE THE MONOPOLE HEIGHT ACCORDINGLY TO ACHIEVE FINAL ABOVE GRADE ELEVATION.
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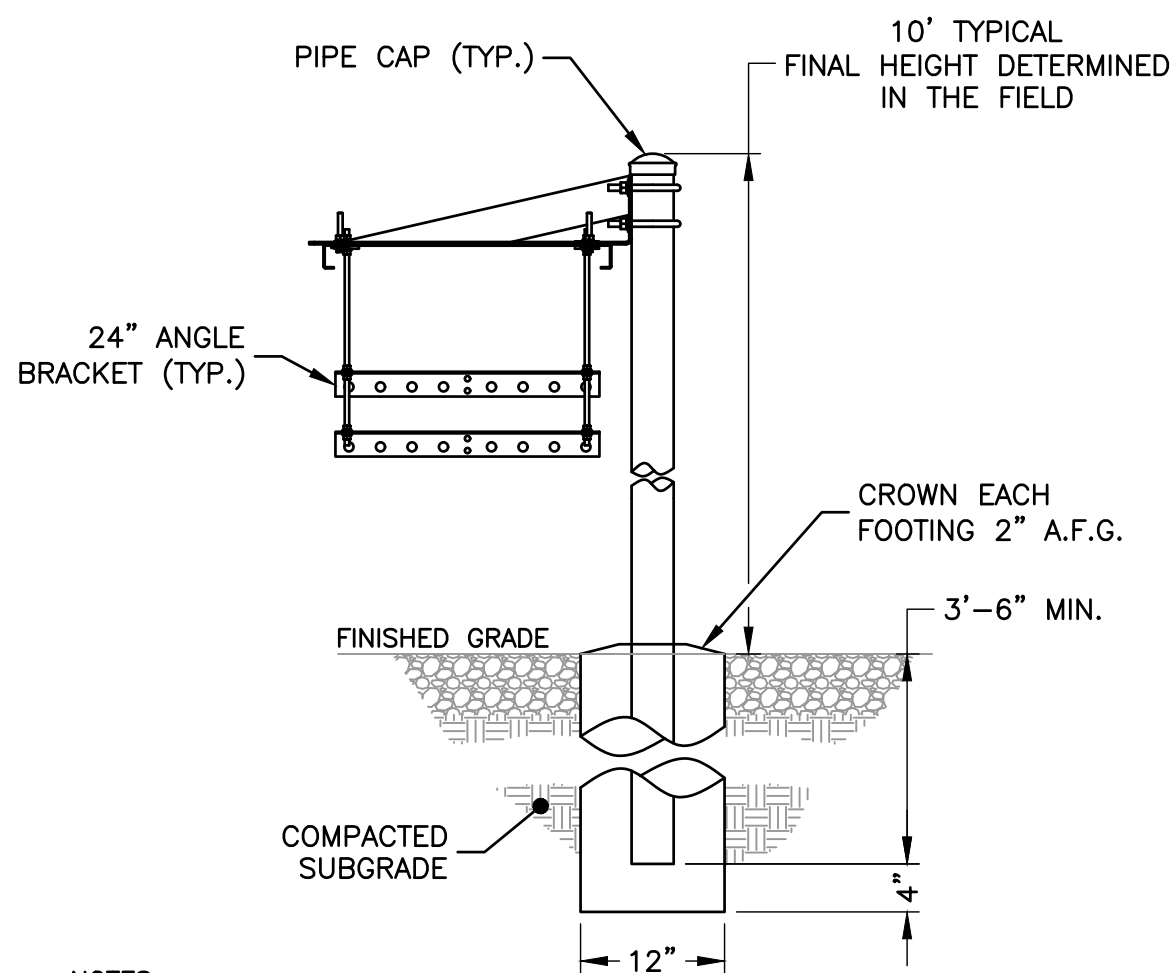


NOTE:

1. CONTRACTOR TO VERIFY WITH C.M. FOR FINAL MANUFACTURER SPECIFICATIONS PRIOR TO CONSTRUCTION.

COMMSCOPE EQUIPMENT CABINETS

SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"

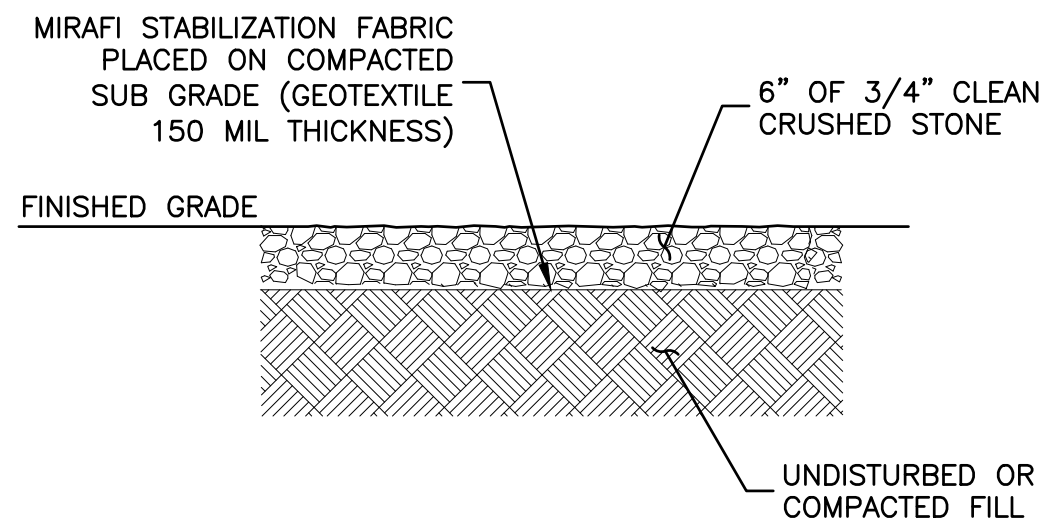


NOTES:

1. ICE BRIDGE SHALL BE SITE PRO GRIP STRUT ICE BRIDGE KIT (P/N: IB24D-A2) OR APPROVED EQUAL.
2. ALL COMPONENTS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
3. CONTRACTOR SHALL DETERMINE REQUIRED QUANTITY OF ALL ICE BRIDGE COMPONENTS.
4. SNAP-IN HANGERS, SPLICE KITS, HINGE KITS, EXTENSION KITS, STIFFENERS, AND OTHER MISCELLANEOUS HARDWARE SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
5. ICE BRIDGE SHALL BE ROUTED TO ACCOMMODATE THE MINIMUM BENDING RADIUS OF THE COAXIAL CABLE.
6. ICE BRIDGE COMPONENTS SHOWN ARE SCHEMATIC, CONSULT MANUFACTURER FOR EXACT AND CURRENT SPECIFICATIONS.

ICE BRIDGE DETAIL

SCALE: N.T.S.

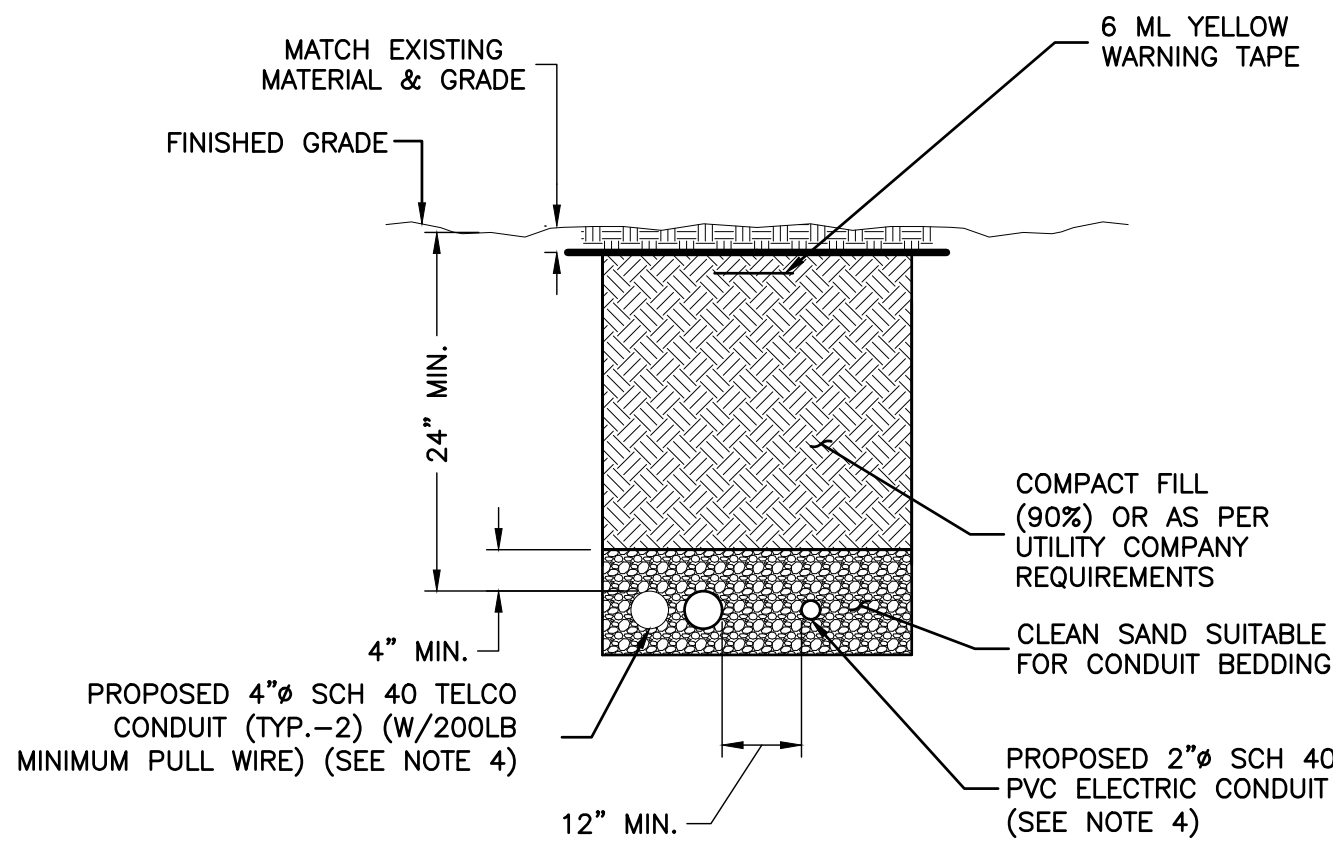


NOTE:

1. BEARING STRATA MEDIUM TO DENSE INSET GRANULAR MATERIAL OR COMPACTED GRAVEL FILL. 95% COMPACTION.
2. FILL SHALL CONSIST OF CLEAN SOIL. NO DELETERIOUS MATERIALS OR ORGANICS TO BE USED.
3. PROVIDE LANDSCAPE EDGING AROUND PERIMETER OF GRAVEL YARD.

GRAVEL YARD DETAIL

SCALE: N.T.S.

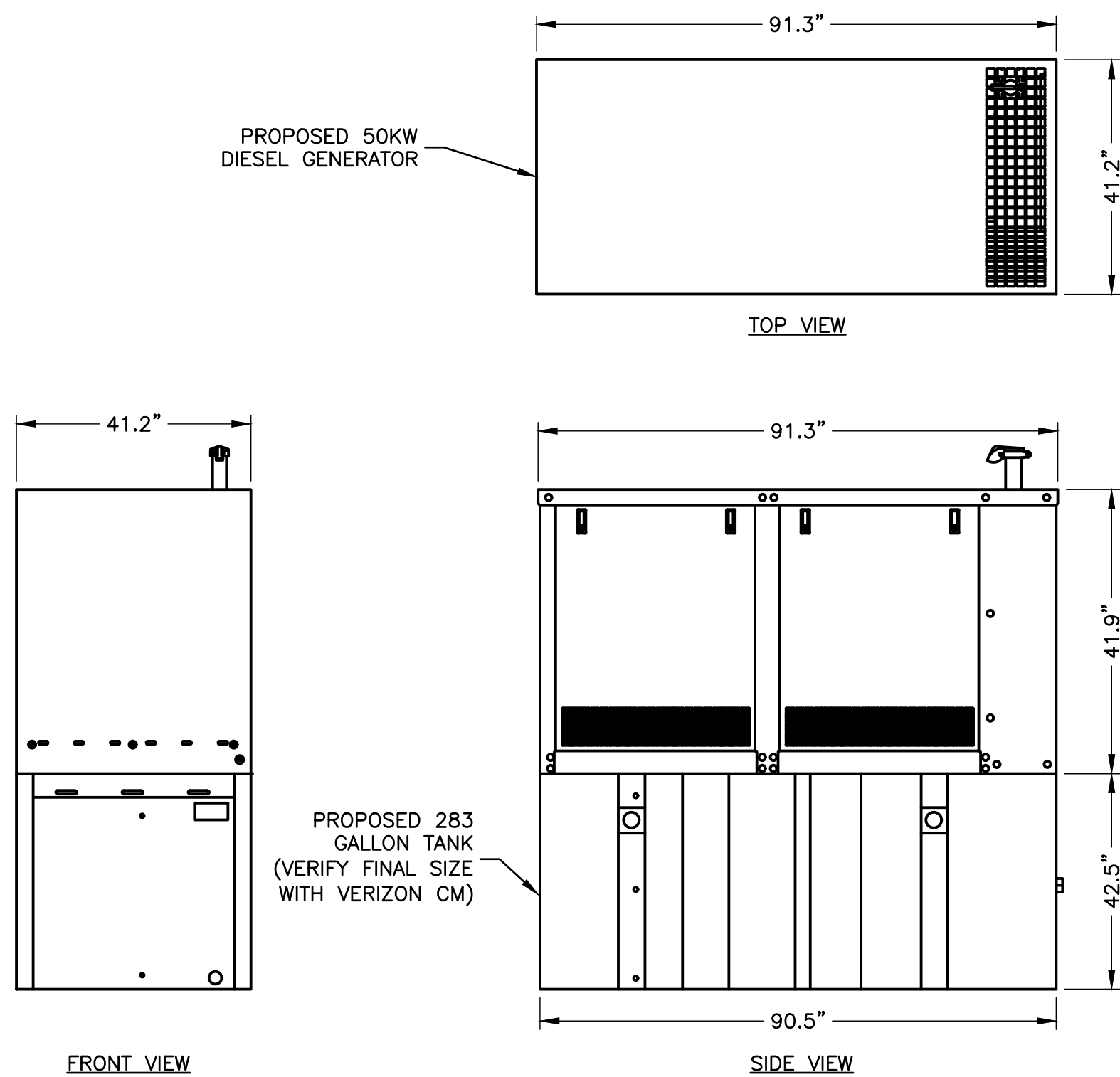


NOTES:

1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
2. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING.

JOINT SERVICE TRENCH BURIED CONDUIT (ELECTRIC/TELEPHONE)

SCALE: N.T.S.



FRONT VIEW

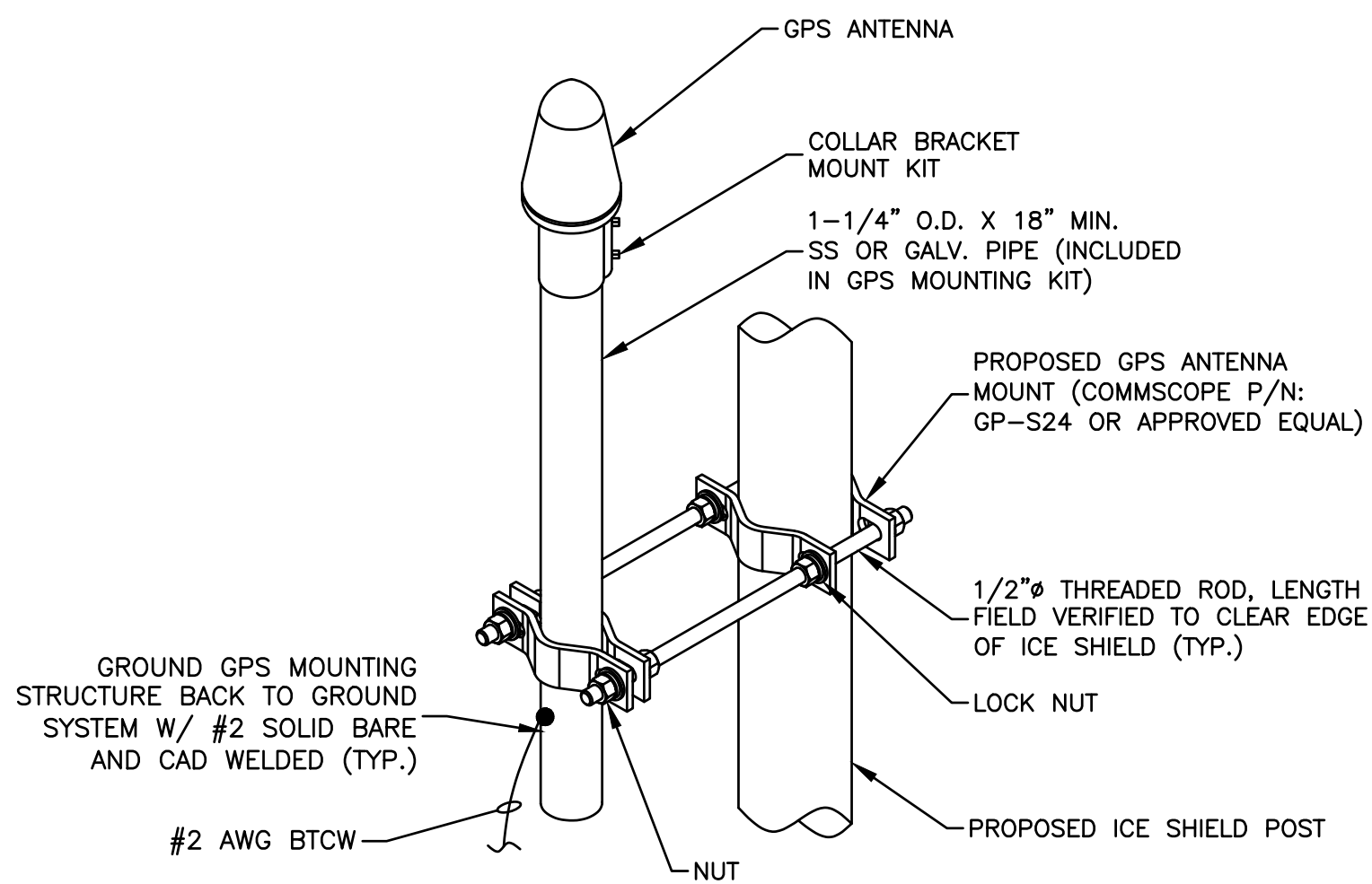
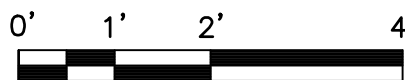
SIDE VIEW

NOTE:

1. CONTRACTOR TO INSTALL PER MANUFACTURER SPECIFICATIONS AND LOCAL & STATE REQUIREMENTS.

50KW DIESEL GENERATOR

SCALE: 1/4"=1' FOR 11"x17"
1/2"=1' FOR 22"x34"



NOTE:

1. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/2"-3-1/2" O.D. GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END.
2. GROUND ANTENNA & COAX MOUNTING FRAMES PER VERIZON WIRELESS STANDARDS.

GPS MOUNT

SCALE: N.T.S.



VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053

KINGSTON 4 NH

ZONING DRAWINGS

3	04/01/24	FOR SUBMITTAL
2	02/13/24	FOR SUBMITTAL
1	10/20/23	FOR SUBMITTAL
0	03/14/23	FOR SUBMITTAL
A	02/13/23	FOR COMMENT



Dewberry Engineers Inc.
89 SUMMER STREET
SUITE 700
BOSTON, MA 02110
PHONE: 617.695.3400
FAX: 617.695.3310



DRAWN BY: JG

REVIEWED BY: OAS

CHECKED BY: BBR

PROJECT NUMBER: 50121487

JOB NUMBER: 50150912

SITE LOCATION CODE (PSLC):

706213

SITE ADDRESS

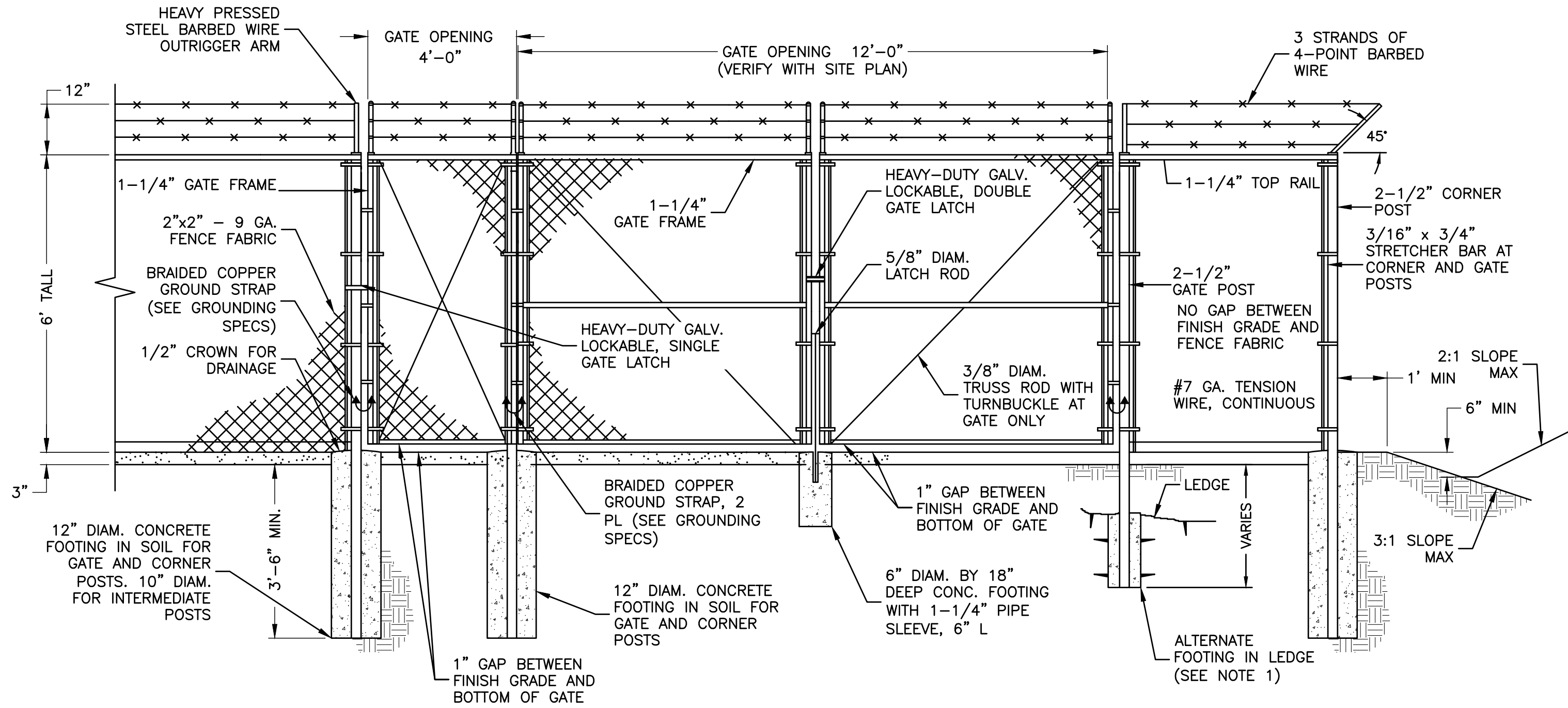
OFF HUNT ROAD
KINGSTON, NH 03848

SHEET TITLE

TYPICAL DETAILS - I

SHEET NUMBER

Z-7



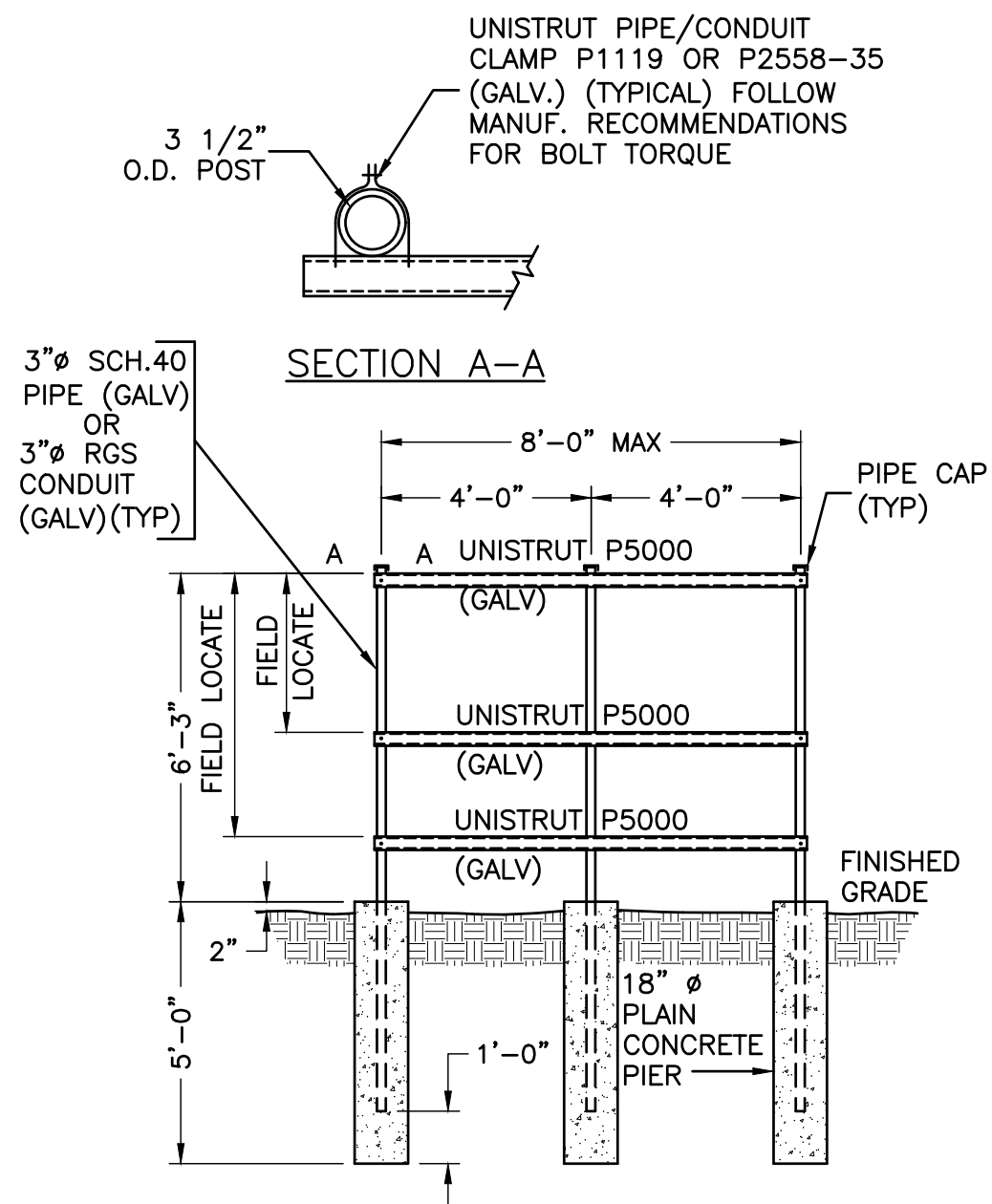
FENCE NOTES:

1. ALTERNATE FOOTINGS FOR ALL FENCE POSTS IN LEDGE: IF LEDGE IS ENCOUNTERED AT GRADE, OR AT A DEPTH SHALLOWER THAN 3'-6", CORE DRILL AN 8" DIA HOLE 18" INTO THE LEDGE. CENTER POST IN THE HOLE AND FILL WITH CONCRETE OR GROUT. IF LEDGE IS BELOW FINISH GRADE, COAT BACKFILLED SECTION OF POST WITH COAL TAR, AND BACKFILL WITH WELL-DRAINING GRAVEL.
2. ATTACH EACH GATE WITH 1-1/2 PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL.

GATE & FENCE DETAIL

SCALE: N.T.S.

1



UTILITY MOUNTING RACK DETAIL

SCALE: N.T.S.

2

EROSION AND SEDIMENT CONTROL PLAN:

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED:

1. INSTALLATION OF SILTATION FENCES AND OTHER EROSION CONTROL MEASURES SHALL BE COMPLETED PRIOR TO THE START OF SITE WORK IN ANY GIVEN AREA. PREFABRICATED SILTATION FENCES SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. SILTATION FENCES AND OTHER EROSION CONTROL MEASURES SHALL BE KEPT CLEAN DURING CONSTRUCTION AND REMOVED WHEN ALL SLOPES HAVE A VEGETATIVE COVER OF GREATER THAN 85%. EROSION CONTROL MEASURES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER RAINFALL.
3. EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEREVER POSSIBLE.
4. THE AREA OF LAND EXPOSED AND THE TIME OF EXPOSURE SHALL BE MINIMIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS AFTER FINAL GRADING.
5. ALL DISTURBED AREAS SHALL HAVE A MINIMUM OF 6" OF LOAM. ACCEPTABLE SEED MIXES ARE AS FOLLOWS:

WILDFLOWER SLOPE (NHDOT TYPE 45) MIX 3:1 OR GREATER SLOPES (MIN. 160 LBS/ACRE):

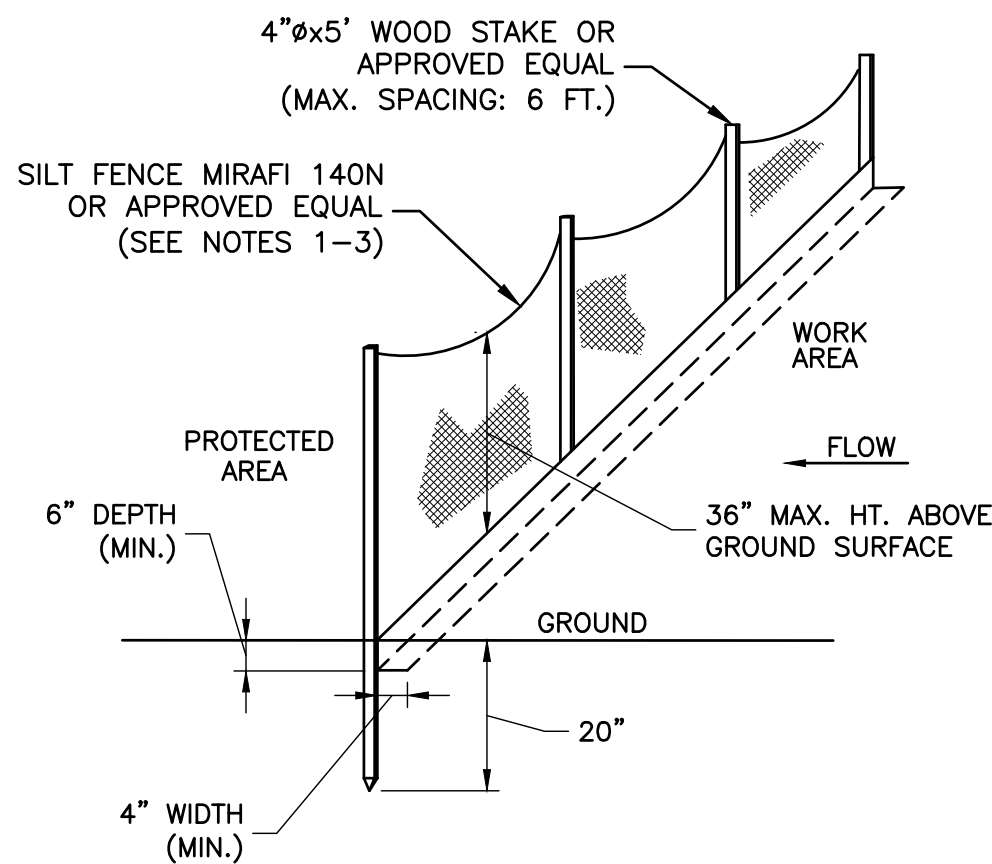
38% CREEPING RED FESCUE	(MIN. 60 LBS/CRE)
32% PERENNIAL RYEGRASS	(MIN. 51 LBS/ACRE)
5% REDTOP	(MIN. 8 LBS/ACRE)
5% ALSIKE CLOVER	(MIN. 8 LBS/ACRE)
5% BIRDSFOOT TREFOIL	(MIN. 8 LBS/ACRE)
3% LANCE-LEAF COREOPSIS	(MIN. 3 LBS/ACRE)
3% OXEYE DANSY	(MIN. 3 LBS/ACRE)
3% BUTTERFLY WEED	(MIN. 3 LBS/ACRE)
3% BLACKKEY SUSAN	(MIN. 3 LBS/ACRE)
3% WILD LUPINE	(MIN. 3 LBS/ACRE)

GENERAL SLOPE (NHDOT TYPE 44) MIX 3:1 OR GREATER SLOPES (MIN. 160 LBS/ACRE):

44% CREEPING RED FESCUE	(MIN. 70 LBS/ACRE)
38% PERENNIAL RYEGRASS	(MIN. 60 LBS/ACRE)
6% REDTOP	(MIN. 10 LBS/ACRE)

- A. PLACING LOAM ON SITE:
 - a. ALL SUBGRADE ELEVATIONS SHOULD BE UNIFORMLY GRADED TO RECEIVE LOAM AND SHALL BE INSPECTED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO PLACEMENT OF LOAM.
 - b. PLACE LOAM TO FORM A MINIMUM DEPTH OF 4" WHEN ROLLED, UNLESS OTHERWISE INDICATED.
 - c. ALL DEPRESSIONS EXPOSED DURING THE ROLLING SHALL BE FILLED WITH ADDITIONAL LOAM.
- B. SEED BED PREPARATION:

AFTER FINISH GRADING AND JUST BEFORE SEEDING, THE AREAS TO BE SEEDDED SHALL BE LOOSENEED TO PROVIDE A ROUGH, FIRM BUT FINELY PULVERIZED SEEDBED. THE INTENT IS TEXTURE CAPABLE OF RETAININ WATER. SEED SHALL BE APPLIED TO THE CONDITIONED SEEDBED NOT MORE THAN 48 HOURS AFTER THE SEEDBED HAS BEEN PREPARED.



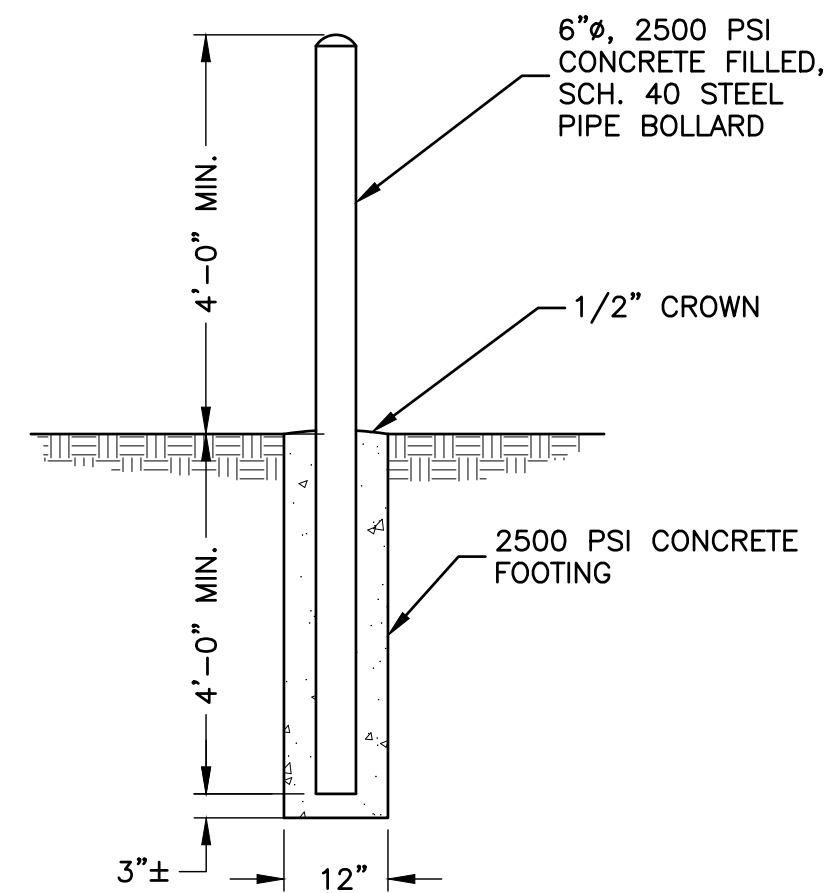
SILT FENCE NOTES:

1. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 6 INCHES IN DEPTH AND 4 INCHES IN WIDTH IN A TRENCH EXCAVATED INTO THE GROUND. IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, OR THE PRESENCE OF HEAVY ROOTS, THE BASE OF THE FABRIC SHALL BE EMBEDDED WITH A MINIMUM THICKNESS OF 8 INCHES OF 3/4-INCH STONE.
2. THE TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF POSTS AND UPGRADIENT FROM THE BARRIER.
3. THE SOIL SHALL BE COMPACTED OVER THE EMBEDDED FABRIC.
4. ADJOINING SECTIONS OF THE FENCE SHALL BE OVERLAPPED BY A MINIMUM OF 24 INCHES, FOLDED AND STAPLED TO A SUPPORT POST.

SILT FENCE BARRIER

SCALE: N.T.S.

3



BOLLARD

SCALE: N.T.S.

4



VERIZON WIRELESS
51 ALDER STREET
MEDWAY, MA 02053

KINGSTON 4 NH

ZONING DRAWINGS

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SITE ADDRESS

OFF HUNT ROAD
KINGSTON, NH 03848

SHEET TITLE

TYPICAL DETAILS - II

SHEET NUMBER

Z-8

EXHIBIT R

Sample Camouflaged Tower Photograph

<See attached>



EXHIBIT S-1

Proposed Generator Plans and Specifications

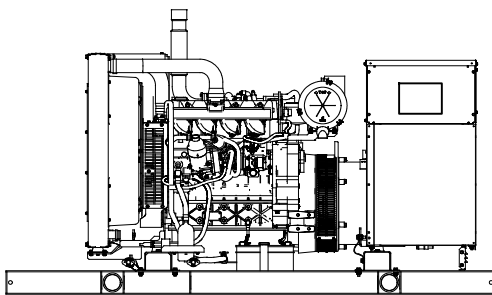
<See attached>



Tier 3 EPA-Certified for Stationary Emergency Applications

Ratings Range

		60 Hz
Standby:	kW	44- 52
	kVA	44- 65
Prime:	kW	40- 47
	kVA	40- 58



Model with TM Engine shown

Generator Set Ratings

Alternator	Voltage	Ph	Hz	130° C Rise Standby Rating		105° C Rise Prime Rating	
				kW/kVA	Amps	kW/kVA	Amps
4P7BX	120/208	3	60	51/63	176	46/57	159
	127/220	3	60	51/63	167	46/57	150
	120/240	3	60	49/61	147	44/55	132
	120/240	1	60	44/44	183	40/40	166
	139/240	3	60	51/63	153	46/57	138
	220/380	3	60	49/61	93	45/56	85
	277/480	3	60	51/63	76	46/57	69
4P8X	347/600	3	60	51/63	61	46/57	55
	120/208	3	60	52/65	180	47/58	163
	127/220	3	60	52/65	170	47/58	154
	120/240	3	60	50/62	150	45/56	135
	120/240	1	60	50/50	208	45/45	187
	139/240	3	60	52/65	156	47/58	141
	220/380	3	60	52/65	98	47/58	89
4P10X	277/480	3	60	52/65	78	47/58	70
	347/600	3	60	52/65	62	47/58	56
	120/208	3	60	52/65	180	47/58	163
	127/220	3	60	52/65	170	47/58	154
	120/240	3	60	50/62	150	45/56	135
	120/240	1	60	50/50	208	45/45	187
	139/240	3	60	52/65	156	47/58	141
4Q7BX	220/380	3	60	52/65	98	47/58	89
	277/480	3	60	52/65	78	47/58	70
	347/600	3	60	52/65	62	47/58	56
	120/208	3	60	52/65	180	47/58	163
	127/220	3	60	52/65	170	47/58	154
	120/240	3	60	50/62	150	45/56	135
	120/240	1	60	50/50	208	45/45	187
4Q8X	139/240	3	60	52/65	156	47/58	141
	220/380	3	60	52/65	98	47/58	89
	277/480	3	60	52/65	78	47/58	70
4Q10X	347/600	3	60	52/65	62	47/58	56
	120/208	3	60	52/65	180	47/58	163
	127/220	3	60	52/65	170	47/58	154
4Q10X	120/240	3	60	50/62	150	45/56	135
	120/240	1	60	50/50	208	45/45	187
	139/240	3	60	52/65	156	47/58	141

Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- Approved for use with certified renewable Hydrotreated Vegetable Oil (HVO) / Renewable Diesel (RD) fuels compliant with EN15940 / ASTM D975.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- The generator set engine is certified to meet the Environmental Protection Agency (EPA) emergency stationary emissions requirements.
- A one-year limited warranty covers all generator set systems and components. Two- and five-year extended limited warranties are also available.
- Alternator features:
 - The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
 - The brushless, rotating-field alternator has broadrange reconnectability.
- Other features:
 - Kohler designed controllers for one-source system integration and remote communication. See Controllers on page 3.
 - The low coolant level shutdown prevents overheating (standard on radiator models only).
 - Integral vibration isolation eliminates the need for under-unit vibration spring isolators.
 - The generator set for 49-state applications is equipped with the KDI 3404 TM engine. The generator set that is CARB compliant/California South Coast Air Quality Management District (SCAQMD) pre-certified is equipped with the KDI 3404 TCR engine.

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. **Standby Ratings:** Standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. **Prime Power Ratings:** At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory. Obtain the technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Rare-Earth Permanent Magnet
Leads: quantity, type	12, Reconnectable
	4, 110- 120/220- 240 V
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Temperature rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	Controller Dependent
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.

Specifications	Alternator
Peak motor starting kVA:	(35% dip for voltages below)
480 V 4P7BX (12 lead)	180
480 V 4P8X (12 lead)	261
480 V 4P10X (12 lead)	275
240 V 4Q7BX (4 lead)	113
240 V 4Q8X (4 lead)	121
240 V 4Q10X (4 lead)	144

Application Data

Engine

Engine Specifications	49-State Engine	California SCAQMD
Manufacturer	Kohler Diesel	
	KDI	KDI
Engine model	3404TM	3404TCR
Engine type	4-Cycle, Turbocharged	
Cylinder arrangement	4 Inline	
Displacement, L (cu. in.)	3.4 (207)	
Bore and stroke, mm (in.)	96 x 116 (3.28 x 4.57)	
Compression ratio	18.5:1	17.0:1
Piston speed, m/min. (ft./min.)	418 (1371)	510 (1673)
Main bearings: quantity, type	5, Replaceable Insert	
Rated rpm	1800	
Max. power at rated rpm, kWm (BHP)	64 (86)	70 (94)
Cylinder head material	Cast Iron	
Crankshaft material	Cast Iron	
Valve material:		
Intake	Chromium-Silicon Steel	
Exhaust	Chromium Steel	
Governor: type, make/model	Mech. (or Electronic *)	Electronic
	Droop, 5%	
	(or Isochr. *)	Isochronous
Frequency regulation, no-load to full-load	±0.5%	±0.28%
Frequency regulation, steady state		
Frequency	Fixed	
Air cleaner type, all models	Dry	

* Requires available electronic governor option

Exhaust

Exhaust System	49-State Engine	California SCAQMD
Exhaust manifold type	Dry	
Exhaust flow at rated kW, m³/min. (cfm)	8.8 (310)	
Exhaust temperature at rated kW, dry exhaust, °C (°F)	490 (914)	471 (880)
Minimum/maximum allowable back pressure, kPa (in. Hg)	6 (1.8)/9 (2.7)	8 (2.4)/13.5 (4.0)
Exhaust outlet size at engine hookup, mm (in.)	63.5 (2.5)	

Engine Electrical

Engine Electrical System	49-State Engine	California SCAQMD
Battery charging alternator:		
Ground (negative/positive)	Negative	
Volts (DC)	12	
Ampere rating	90	
Starter motor rated voltage (DC)	12	
Battery, recommended cold cranking amps (CCA):		
Quantity, CCA rating	One, 650	
Battery voltage (DC)	12	

Fuel

Fuel System	49-State Engine	California SCAQMD
Fuel supply line, min. ID, mm (in.)	8.0 (0.31)	
Fuel return line, min. ID, mm (in.)	6.0 (0.25)	
Max. lift, engine-driven fuel pump, m (ft.)	6.0 (20.0)	3.7 (12.1)
Max. fuel flow, Lph (gph)	46 (12.2)	87.4 (23.1)
Max. return line restriction, kPa (in. Hg)	20 (5.9)	17.7 (5.2)
Fuel filter		
Prefilter	74 Microns	
Primary/Water Separator	5 Microns @ 98% Efficiency	5 Microns @ 95% Efficiency
Recommended fuel	#2 Ultra Low Sulfur Diesel / HVO / RD	

Lubrication

Lubricating System	49-State Engine	California SCAQMD
Type	Full Pressure	
Oil pan capacity, L (qt.) §	15.3 (16.2)	
Oil pan capacity with filter, L (qt.) §	15.6 (16.5)	
Oil filter: quantity, type §	1, Cartridge	
Oil cooler	Water-Cooled	
§ Kohler recommends the use of Kohler Genuine oil and filters.		

Application Data

Cooling

Radiator System	49-State Engine	California SCAQMD
Ambient temperature, °C (°F) *	50 (122)	
Engine jacket water capacity, L (gal.)	4.5 (1.19)	
Radiator system capacity, including engine, L (gal.)	12.3 (3.2)	
Engine jacket water flow, Lpm (gpm)	125 (33)	120 (32)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	37.8 (2207)	41.3 (2352)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	12 (682)	8.4 (477)
Water pump type	Centrifugal	
Fan diameter, including blades, mm (in.)	597 (23.5)	
Fan, kWm (HP)	1.8 (2.3)	
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H ₂ O)	0.125 (0.5)	

* Enclosure reduces ambient temperature capability by 5°C (9°F).

Operation Requirements

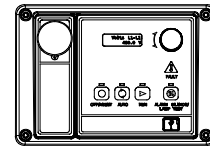
Air Requirements	49-State Engine	California SCAQMD
Radiator-cooled cooling air, m ³ /min. (scfm) †	96.3 (3400)	
Combustion air, m ³ /min. (cfm)	4.8 (170)	4.0 (140)
Heat rejected to ambient air:		
Engine, kW (Btu/min.)	13.2 (750)	
Alternator, kW (Btu/min.)	7.6 (435)	
Max. air intake restriction, kPa (in. Hg)	5.2 (1.54)	4.2 (1.24)

† Air density = 1.20 kg/m³ (0.075 lbm/ft³)

Fuel Consumption**	49-State Engine	
Diesel, Lph (gph) at % load	Standby Rating	
100%	17.4	(4.6)
75%	13.2	(3.5)
50%	9.1	(2.4)
25%	5.3	(1.4)
Diesel, Lph (gph) at % load	Prime Rating	
100%	16.1	(4.2)
75%	12.1	(3.2)
50%	8.3	(2.2)
25%	4.9	(1.3)
Fuel Consumption**	Calif. SCAQMD Engine	
Diesel, Lph (gph) at % load	Standby Rating	
100%	15.2	(4.0)
75%	11.6	(3.1)
50%	8.0	(2.1)
25%	4.6	(1.2)
Diesel, Lph (gph) at % load	Prime Rating	
100%	12.3	(3.2)
75%	10.6	(2.8)
50%	6.6	(1.7)
25%	4.1	(1.1)

** Volumetric Fuel consumption is up to 4% higher when using HVO/RD than #2 ULSD.

Controllers

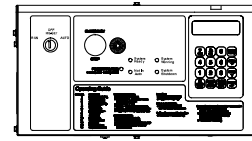


APM402 Controller

Provides advanced control, system monitoring, and system diagnostics for optimum performance and compatibility.

- Digital display and menu control provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or serial configuration
- Controller supports Modbus® protocol
- Integrated hybrid voltage regulator with ±0.5% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-161 for additional controller features and accessories.



(Available with the 49-State generator set only.)

Decision-Maker® 550 Controller

Provides advanced control, system monitoring, and system diagnostics with remote monitoring capabilities.

- Digital display and keypad provide easy local data access
- Measurements are selectable in metric or English units
- Remote communication thru a PC via network or modem configuration
- Controller supports Modbus® protocol
- Integrated voltage regulator with ±0.25% regulation
- Built-in alternator thermal overload protection
- NFPA 110 Level 1 capability

Refer to G6-46 for additional controller features and accessories.

Modbus® is a registered trademark of Schneider Electric.

Additional Standard Features

- Air Cleaner, Heavy Duty
- Alternator Protection
- Battery Rack and Cables
- Open Crankcase Ventilation
- Oil Drain and Coolant Drain with Hose Barb
- Oil Drain Extension (with narrow skid and enclosure models only)
- Operation and Installation Literature
- Radiator Drain Extension (with enclosure models only)
- Stainless Steel Fasteners on Enclosure (with enclosure models only)

Available Options

Approvals and Listings

- ☐ CSA Certified
- ☐ IBC Seismic Certification
- ☐ UL2200 Listing

Enclosed Unit

- ☐ Sound Enclosure (with enclosed critical silencer)
- ☐ Weather Enclosure (with enclosed critical silencer)
- ☐ Stainless Steel Latches and Hinges

Open Unit

- ☐ Exhaust Silencer, Critical (kit: PA-324470)
- ☐ Flexible Exhaust Connector, Stainless Steel

Fuel System

- ☐ Flexible Fuel Lines
- ☐ Fuel Pressure Gauge (Available with 49-state engine only)
- ☐ Subbase Fuel Tanks

Controller

- ☐ 15-Relay Dry Contact (SCAQMD engine with APM402 controller only)
- ☐ Common Failure Relay (550 controller only)
- ☐ Communication Products and PC Software (550 controller only)
- ☐ Customer Connection (550 controller only)
- ☐ Dry Contact (isolated alarm) (550 controller only)
- ☐ Two Input/Five Output Module (49-state engine with APM402 controller only)
- ☐ Key Switch (SCAQMD engine with APM402 controller only)
- ☐ Manual Speed Adjust (requires Electronic Governor or SCAQMD engine)
- ☐ Remote Annunciator Panel
- ☐ Remote Emergency Stop
- ☐ Run Relay

Cooling System

- ☐ Block Heater (1000 W, 110-120 V)
Recommended for ambient temperatures below 20°C (68°F).
- ☐ Block Heater (1400 W, 110-120 V)
Recommended for ambient temperatures below 0°C (32°F).
- ☐ Radiator Duct Flange

Electrical System

- ☐ Alternator Strip Heater
- ☐ Battery
- ☐ Battery Charger, Equalize/Float Type
- ☐ Battery Heater
- ☐ Electronic Governor
- ☐ Line Circuit Breaker (NEMA type 1 enclosure)
- ☐ Line Circuit Breaker with Shunt Trip (NEMA type 1 enclosure)

Miscellaneous

- ☐ Air Cleaner Restriction Indicator
- ☐ Engine Fluids Added
- ☐ Rated Power Factor Testing
- ☐ Rodent Guards

Literature

- ☐ General Maintenance
- ☐ NFPA 110
- ☐ Overhaul
- ☐ Production

Warranty

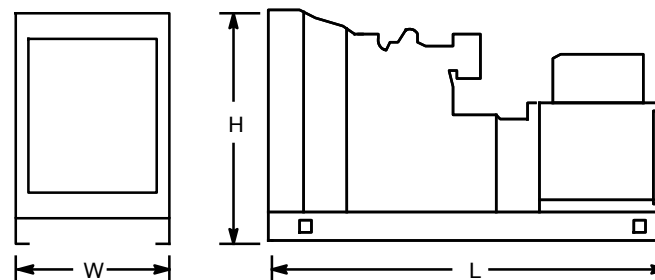
- ☐ 2-Year Basic Limited Warranty
- ☐ 5-Year Basic Limited Warranty
- ☐ 5-Year Comprehensive Limited Warranty

Other Options

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

Dimensions and Weights

Overall Size, L x W x H, mm (in.):
Wide Skid: 2300 x 1040 x 1131 (90.6 x 41.0 x 44.5)
Narrow Skid: 1871 x 780 x 1055 (73.6 x 30.7 x 41.5)
Weight (radiator model), wet, kg (lb.): 802 (1769)



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

DISTRIBUTED BY:

EXHIBIT S-2

Proposed Generator Plans and Specifications

<See attached>

MODEL	COB OPEN	GENSET WEIGHT (WET) KG [LBS]
40 4P/Q5X	52.6"	750 [1654]
40/50 4P/Q78X	53.6"	787 [1735]
50/60 4P/Q8X	54"	802 [1769]
60 4P/Q10X	55"	841 [1855]

D

D

C

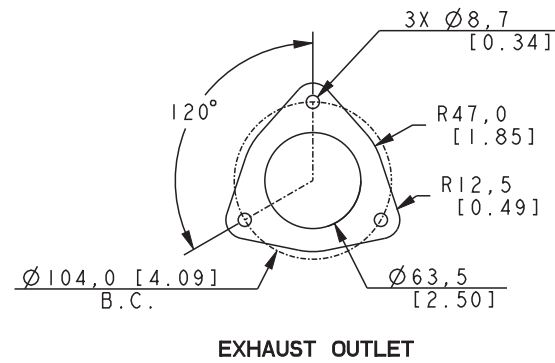
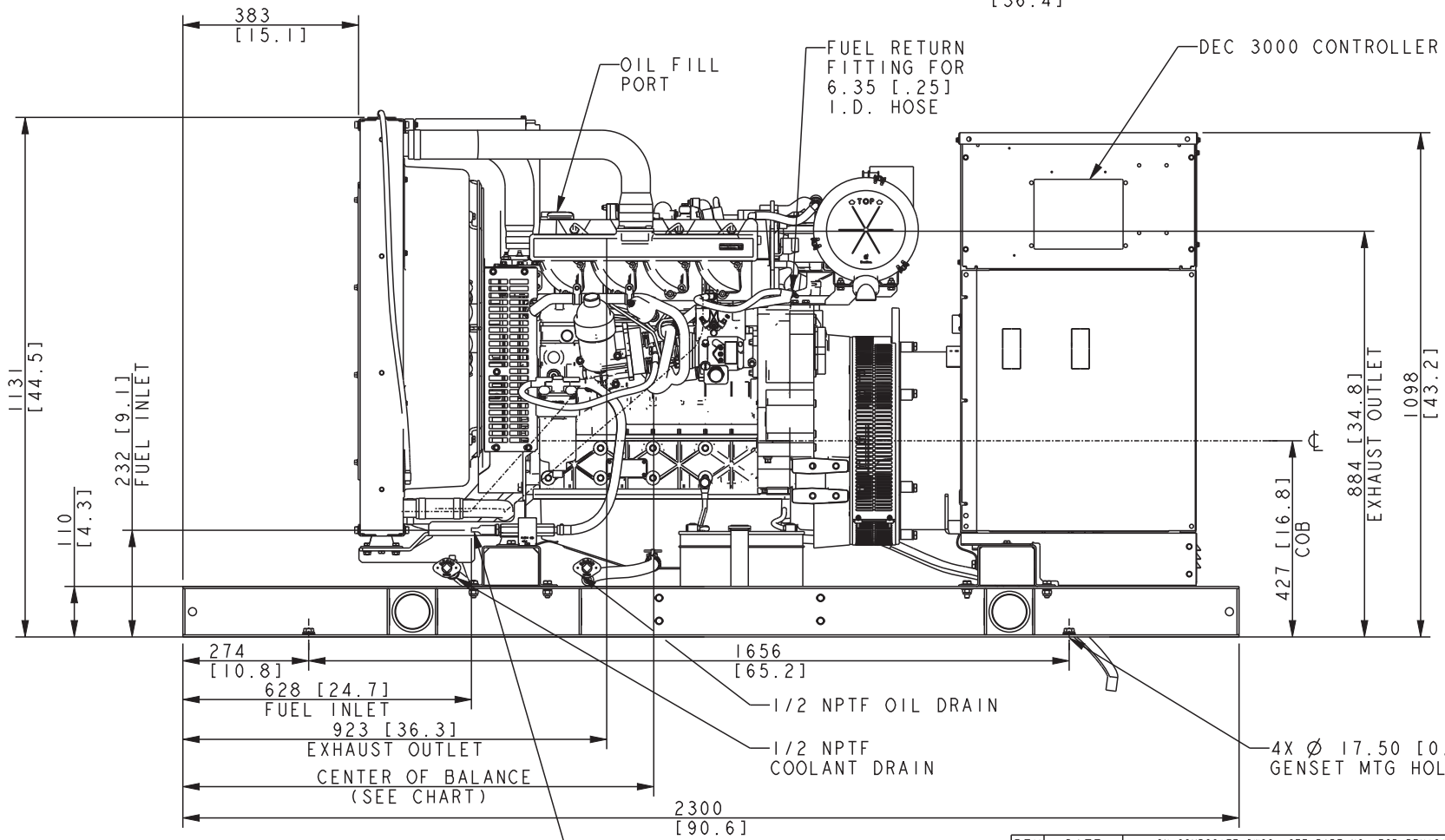
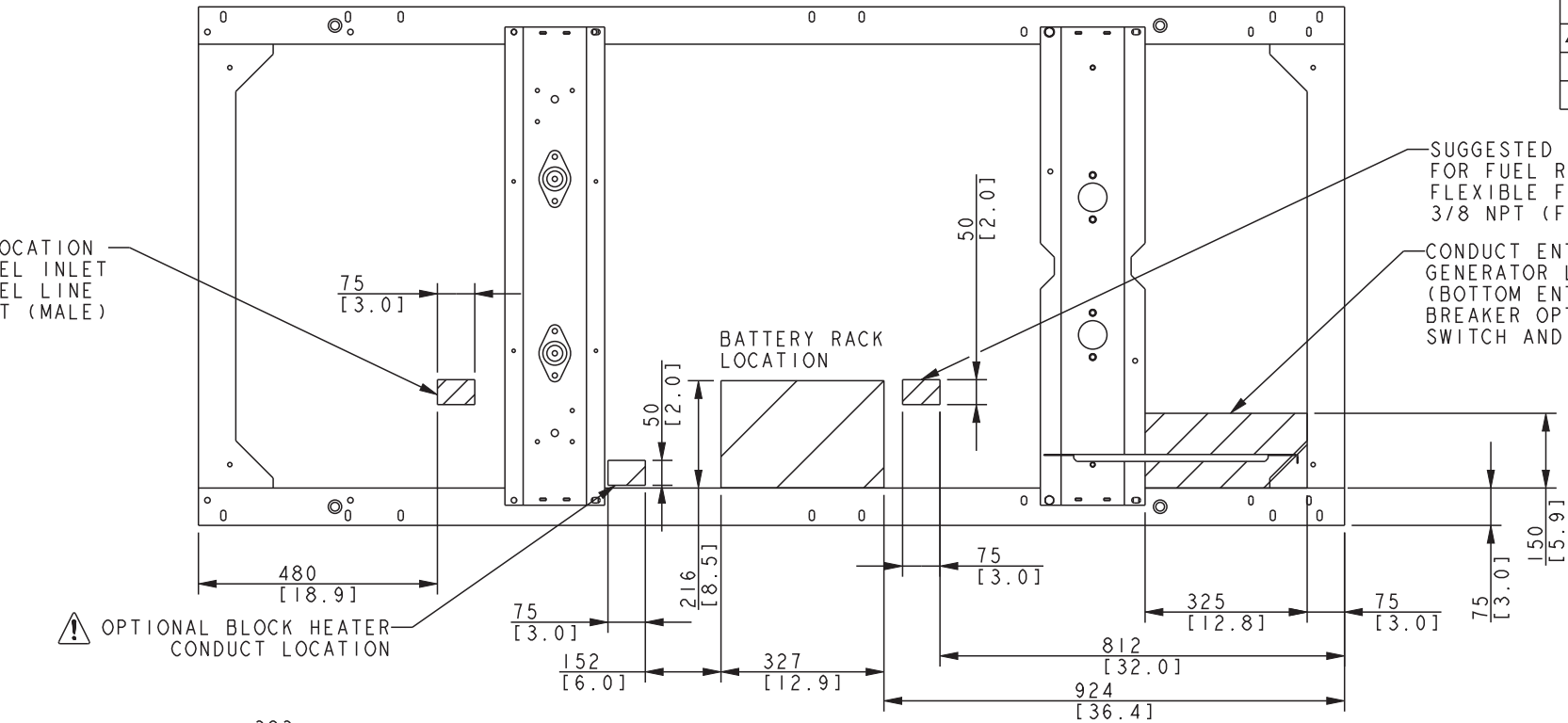
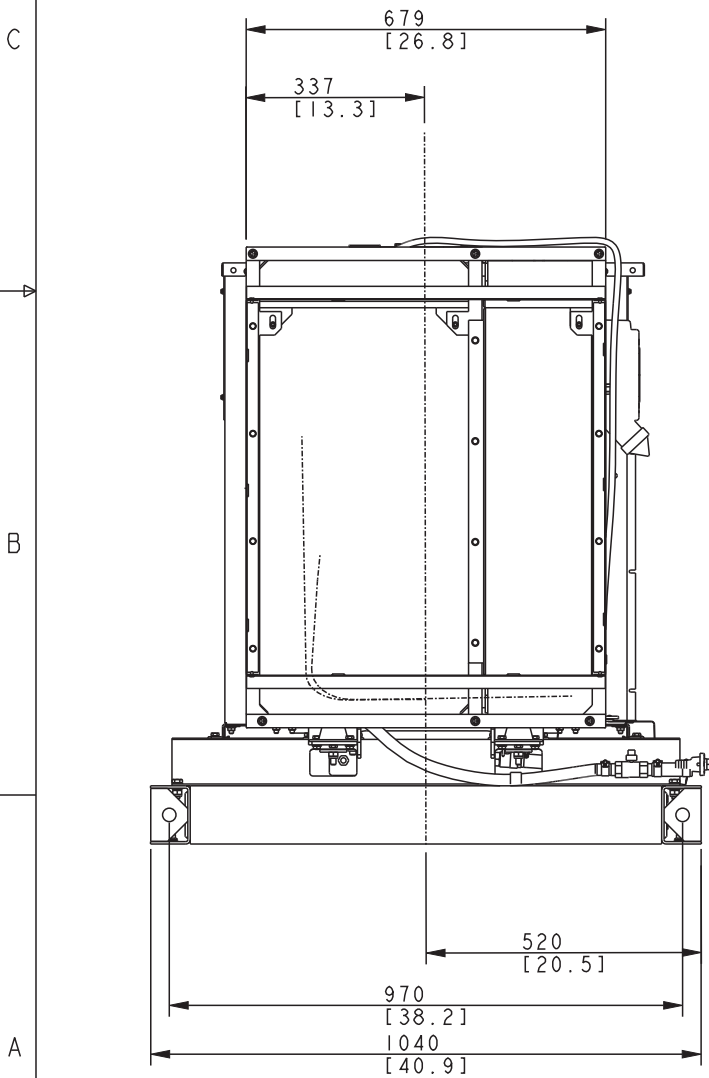
C

B

B

A

A

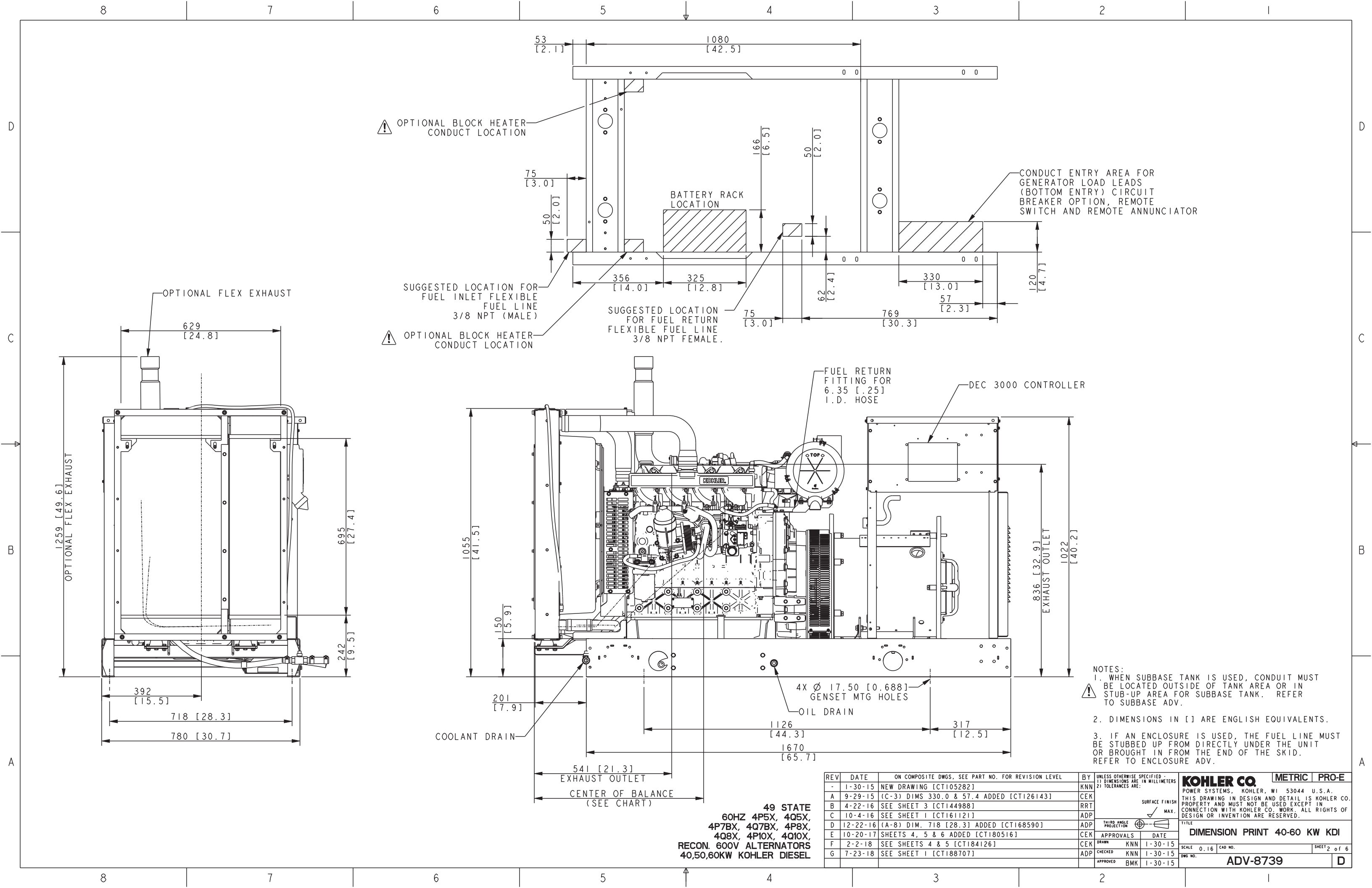


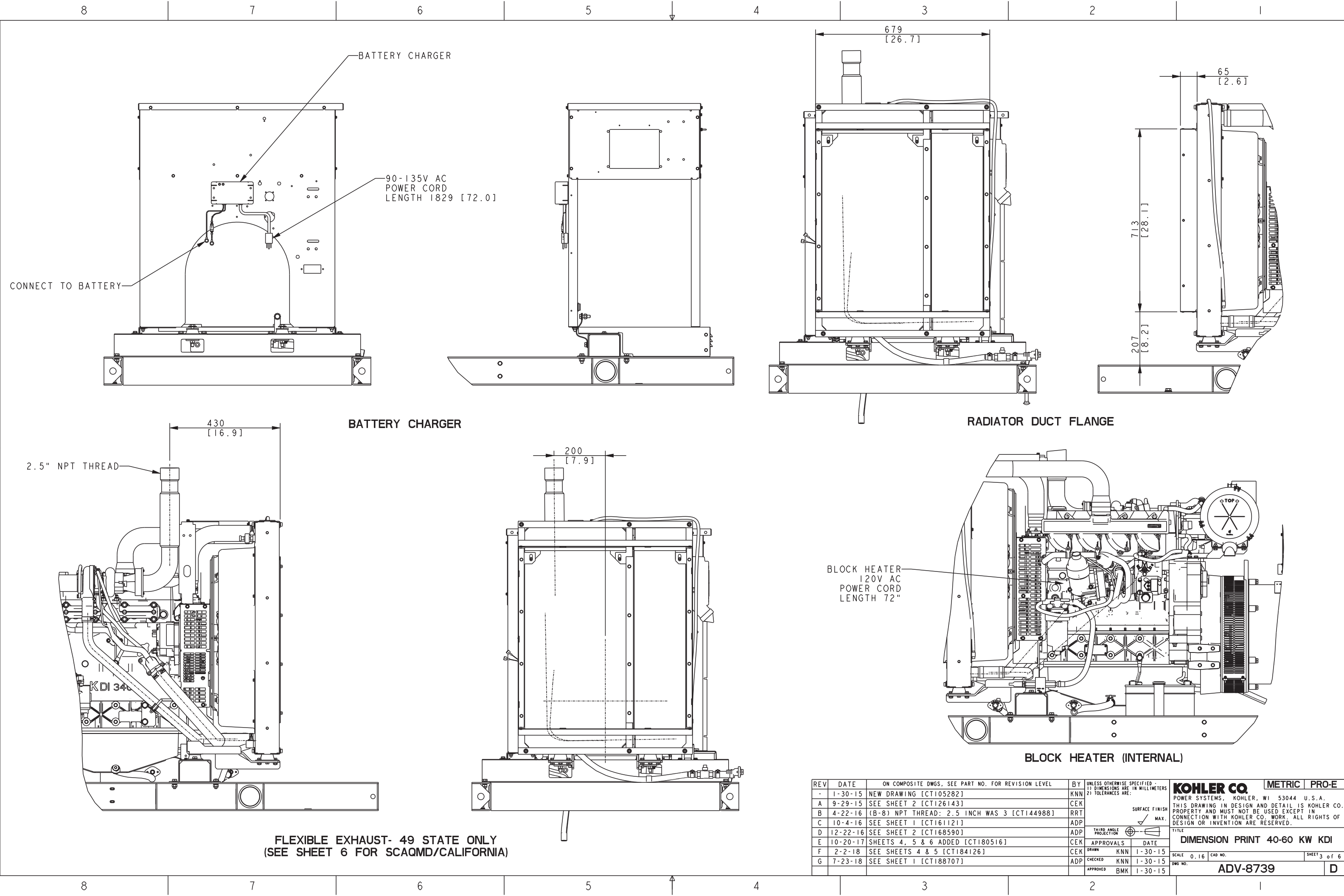
INSTALLATION NOTE:
IF A SUBBASE FUEL TANK AND/OR ENCLOSURE IS USED, REFER TO SUBBASE FUEL TANK ADV TO DETERMINE MOUNTING LOCATIONS.

- NOTES:
- WHEN SUBBASE TANK IS USED, CONDUIT MUST BE LOCATED OUTSIDE OF TANK AREA OR IN STUB-UP AREA FOR SUBBASE TANK. REFER TO SUBBASE ADV.
 - DIMENSIONS IN [] ARE ENGLISH EQUIVALENTS.
 - IF AN ENCLOSURE IS USED, THE FUEL LINE MUST BE STUBBED UP FROM DIRECTLY UNDER THE UNIT OR BROUGHT IN FROM THE END OF THE SKID. REFER TO ENCLOSURE ADV.

49 STATE
60HZ 4P5X, 4Q5X,
4P7BX, 4Q7BX, 4P8X,
4Q8X, 4P10X, 4Q10X,
RECON. 600V ALTERNATORS
40,50,60KW KOHLER DIESEL

REV	DATE	ON COMPOSITE DWGS. SEE PART NO. FOR REVISION LEVEL	BY	UNLESS OTHERWISE SPECIFIED - 1) DIMENSIONS ARE IN MILLIMETERS 2) TOLERANCES ARE:	TITLE
-	1-30-15	NEW DRAWING [CT105282]	KNN		KOHLER CO. [METRIC] [PRO-E] POWER SYSTEMS, KOHLER, WI 53044 U.S.A. THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.
A	9-29-15	SEE SHEET 2 [CT126143]	CEK		
B	4-22-16	SEE SHEET 3 [CT144988]	RRT		
C	10-4-16	(C-2) DIM. Ø104,0 [4.09] ADDED [CT161121]	ADP		
D	12-22-16	SEE SHEET 2 [CT168590]	ADP		
E	10-20-17	SHEETS 4, 5 & 6 ADDED [CT180516]	CEK		
F	2-2-18	SEE SHEETS 4 & 5 [CT184126]	CEK		
G	7-23-18	(B-3) CRANK CENTRE AXIS & DIM. 427 ADDED [CT188707]	ADP		
			APPROVED	BMK	1-30-15
			CHECKED	KNN	1-30-15
			DRAWN	KNN	1-30-15
			APPROVALS		
			DATE		
			SCALE	0.14	CAD NO.
			DWG NO.		
					SHEET 1 of 6
					ADV-8739
					D





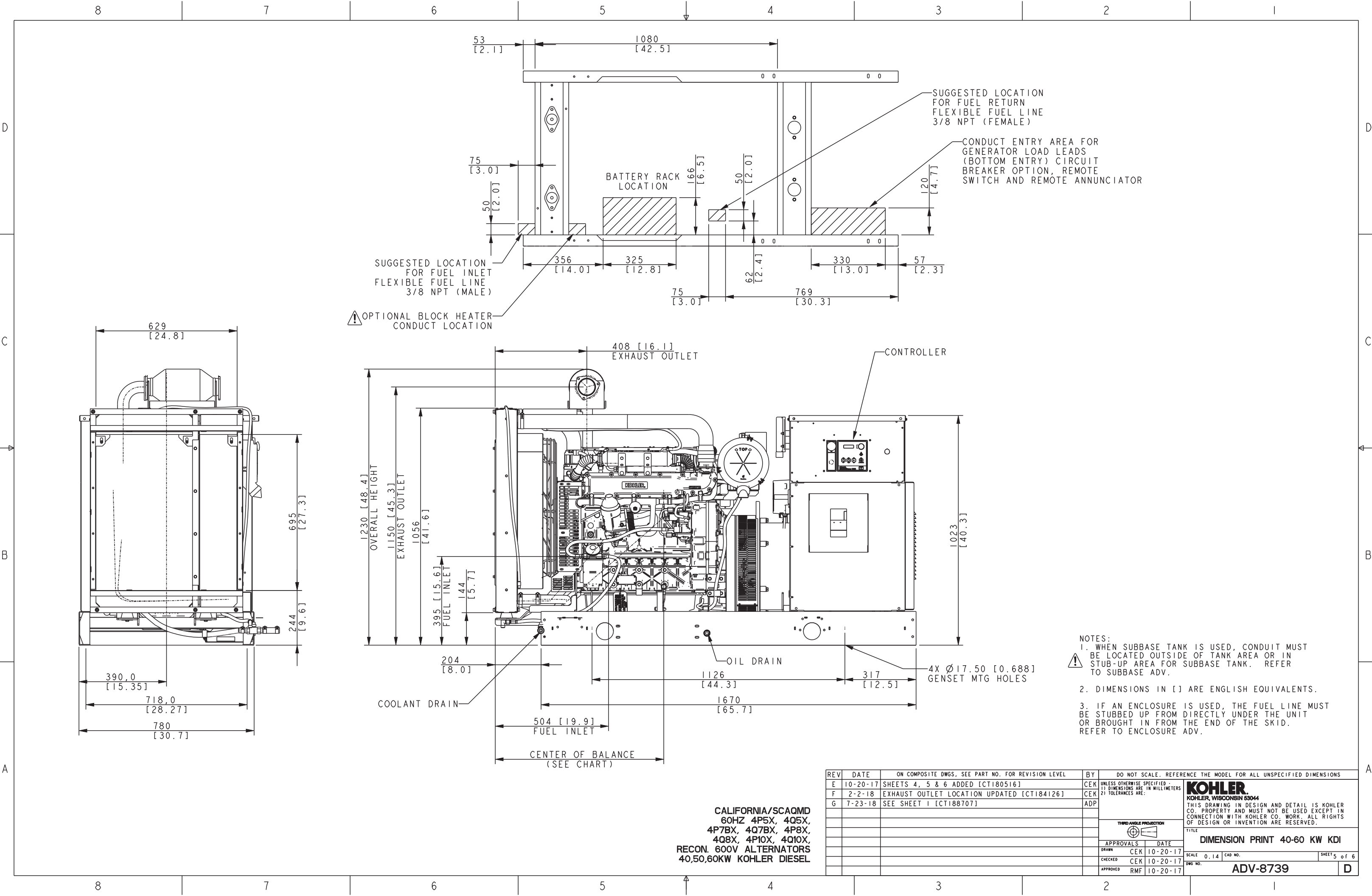


EXHIBIT S-3

Proposed Generator Plans and Specifications

<See attached>

EXHIBIT S-4

Proposed Generator Plans and Specifications

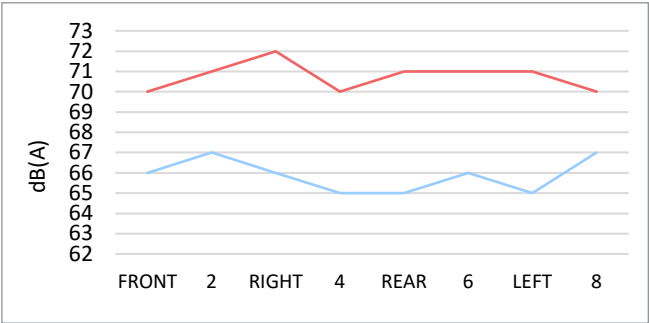
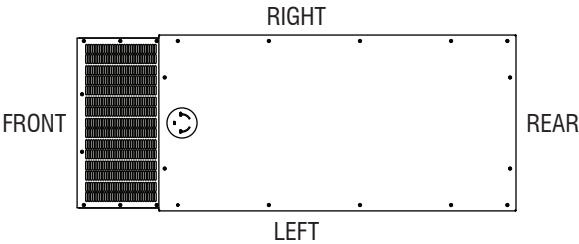
<See attached>

LEVEL 2 SOUND ATTENUATED ENCLOSURE

D3.3 Generac, SD050

60Hz NO-LOAD, dB(A)										DISTANCE: 7 METERS
MICROPHONE LOCATION	OCTAVE BAND CENTER FREQUENCY (Hz)									
	31.5	63	125	250	500	1,000	2,000	4,000	8,000	dB(A)
FRONT	30	55	55	58	63	59	57	54	43	66
2	29	55	52	60	61	62	55	56	46	67
RIGHT	32	56	53	55	63	58	56	60	47	66
4	32	56	51	57	60	61	54	51	44	65
REAR	31	58	53	56	59	61	53	49	41	65
6	31	57	50	62	60	60	55	54	45	66
LEFT	30	54	51	59	58	58	56	58	45	65
8	28	52	53	58	61	64	54	54	44	67
AVERAGE	30	55	53	58	61	61	55	54	44	66

60Hz FULL-LOAD, dB(A)										DISTANCE: 7 METERS
MICROPHONE LOCATION	OCTAVE BAND CENTER FREQUENCY (Hz)									
	31.5	63	125	250	500	1,000	2,000	4,000	8,000	dB(A)
FRONT	29	62	67	61	62	59	57	55	51	70
2	28	63	65	60	63	63	60	63	61	71
RIGHT	29	66	65	57	64	60	61	65	64	72
4	30	66	64	59	61	62	58	57	57	70
REAR	29	68	64	61	61	61	56	53	50	71
6	29	67	61	64	62	62	59	60	56	71
LEFT	29	66	62	62	61	60	60	63	58	71
8	28	61	64	60	63	65	60	59	56	70
AVERAGE	29	65	64	60	62	61	59	59	57	71



- All positions at 23 feet (7 meters) from side faces of generator set.
- Test conducted on a 100 foot diameter asphalt surface.
- Sound pressure levels are subject to instrumentation, installation and testing conditions.
- Sound levels are ±2 dB(A).

EXHIBIT S-5

Proposed Generator Plans and Specifications

<See attached>

Measuring and Understanding Sound

WITHIN GENERATOR APPLICATIONS

INTRODUCTION

When selecting a generator, there are many factors to consider so as not to negatively impact the existing environment. Today, noise is considered a pollutant and a negative health factor. This paper discusses the basics of sound, how it is measured, and defines enclosure sound levels. Those responsible for generator design and installation have to consider the local environmental impact noise will have on populated areas, and their considerations will have to consider noise regulations set by Occupational Safety and Health Administration (OSHA) and state and municipal noise ordinances.

Across North America, local, state or federal zoning ordinances limit the noise that can be measured at lot lines. Within working environments, OSHA states workers cannot be subjected to more than 80 dBA for more than a set period. This paper discusses the basics of sound, its definitions, what the human ear hears, sound measurement and solutions for reducing noise transmitted to the environment.

BASICS OF SOUND

SOUND PRESSURE VERSUS SOUND POWER

There are two common measures to quantify the level of sound: sound pressure and sound power. Both are often presented as levels using decibel (dB) units; however, there is a significant difference between sound pressure and sound power. Sound pressure is measured with a microphone. The measured sound pressure level from a generator set will depend heavily on the distance between the microphone and the source and the surrounding environment. In a free-field environment, basically no reflecting surfaces near the

generator, the sound pressure level will reduce 6 dB for every doubling of distance. Sound power is a calculated measure. Specifically, it is not measured directly but calculated from sound pressure measurements. While sound pressure levels are heavily dependent on the distance between the microphone and the generator, the calculated sound power is constant as it factors the measured distance into the calculation.

Since sound pressure is dependent on the measurement distance, one must ensure that the distance from the generator set is considered when comparing levels between various products and reviewing noise ordinances.

BASICS OF SOUND

DB SCALE

The dB scale was developed to define the effect of sound on the human ear. It is logarithmic, as the scale of sound the ear first detects 0 dB(A) to a level that is intolerable 120 dB(A), is approximately 10 million to one. A base 10 logarithmic scale as depicted in [Figure 1](#) covers the range of human hearing from 0 dB (barely audible) to 140 dB (painful on the ear).

DIFFERENCE BETWEEN DB(A) AND DBB

Loudness is the human ear's impression of the strength of a sound.

The human ear is more sensitive to sound in the 1 to 4 kHz frequency range than to sound at very low or very high frequencies. To compensate for human hearing, sound meters are normally fitted with filters that adapt the measured sound response to the human sense of sound.

[Figure 1](#)

Sound Pressure Level Chart		
Outdoor Sounds	dB(A)	Indoor sounds
	140	Threshold of pain
Gunshot	135	
	130	
Jackhammer	125	
Thunder	120	Rock Band
	115	
Chain Saw	110	
Car Horn	105	
Snowmobile	100	Hair Dryer
Gas Lawn Mower	95	Garbage Disposal
	90	Factory Noise
Street Traffic	85	Vacuum Cleaner
Busy Urban Area	80	Dog Barking
	75	Normal Speech
Commercial Area	70	Business Office
	65	Dishwasher
	60	Average Home
Quiet Urban Daytime	55	Theater
	50	Living Room
Quiet Urban Nighttime	45	Library
Raindrops	40	Quiet Conversation
Quiet Suburban, Nighttime	35	Bedroom
	30	Soft Whisper
Quiet Rural Nighttime	25	Recording Studio
Rustling Leaves	20	
	15	
	10	
	5	
	0	Threshold of hearing

The A scale and B scale were developed for different levels of sound. The most commonly used scale is the A scale with units of dB(A). When measuring generator sound on the human ear, the A scale is used.

See [Figure 2](#) with AB scales, note the A scale.

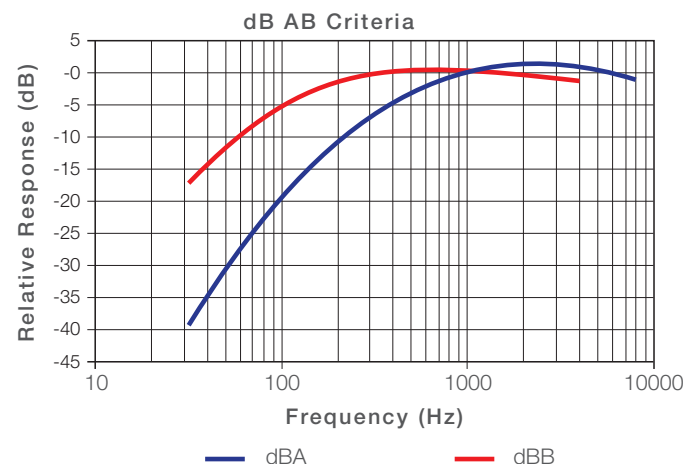
FREQUENCY OF SOUND OCTAVE BANDS

Octave Bands offer a filtering method of splitting the audible spectrum into smaller segments called octaves, allowing you to identify different noise levels across individual frequencies.

Octave Band measurements are used when the frequency composition of a sound field is needed to be determined. Octave analysis is often used in noise control, hearing protection and sometimes in environmental noise issues.

Common octave frequency bands are: 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz and 8 kHz. Their composition is made up of the Lower Band Limit, Centre Frequency and Upper Band Limit. [Figure 3](#).

[Figure 2](#)



IMPORTANCE OF SOUND FOR POWER GENERATION

WHY MEASURE SOUND

Regulatory bodies such as OSHA mandate no more than 80 dB(A) to the ear for more than 8 hours in a day. Local ordinances also set noise limits within populated areas.

Generator systems are supplied in an open configuration for inside installations and in weather-protective enclosures for outside installations. In noise-regulated areas, fully sound attenuated enclosure will keep sound emissions within given limits.

Kohler measures the sound emitted by all its generator systems, whether open or fully sound attenuated, to ensure the generator selected is within site location noise emissions.

HOW SOUND IS MEASURED

Sound measurements, to international standards, are taken for all three generator configurations:

- Weather-protective enclosure
- Level “1 to 2” sound enclosures
- Open generator set

Sound measurements can be affected by surrounding structures, humidity, topography, etc. For consistency, measurements are taken in an open area to set industry standards. *Figure 4.*

Figure 3: Sound Pressure Levels dB(A) – Enclosure Level-1 Sound

Measurement Clock Position	Octave Band Frequency (Hz)								Overall Level
	63	125	250	500	1000	2000	4000	8000	
3:00	67.8	75.4	76.3	77.6	76.0	76.1	68.5	62.7	83.6
1:30	68.1	78.5	86.4	90.9	85.7	82.6	81.9	72.7	93.9
Noon	67.8	81.6	87.8	90.8	89.3	83.2	78.6	72.0	95.3
10:30	66.0	74.8	84.6	87.7	82.2	78.7	78.8	70.6	90.9
9:00	60.6	70.7	74.2	76.2	69.9	67.0	61.6	60.8	79.9
7:30	61.5	74.0	77.2	78.8	77.0	77.9	69.9	60.3	84.4
6:00	64.7	71.7	72.8	69.2	67.7	65.2	57.0	46.3	77.4
4:30	63.8	74.7	75.9	76.3	76.1	75.0	69.1	63.9	82.9
8-pos. log avg.	65.8	76.5	82.7	86.1	82.8	78.8	76.2	68.2	90.0

Per *Figure 4* Measurements are taken in an open area with eight microphones set in clock positions indicated above.

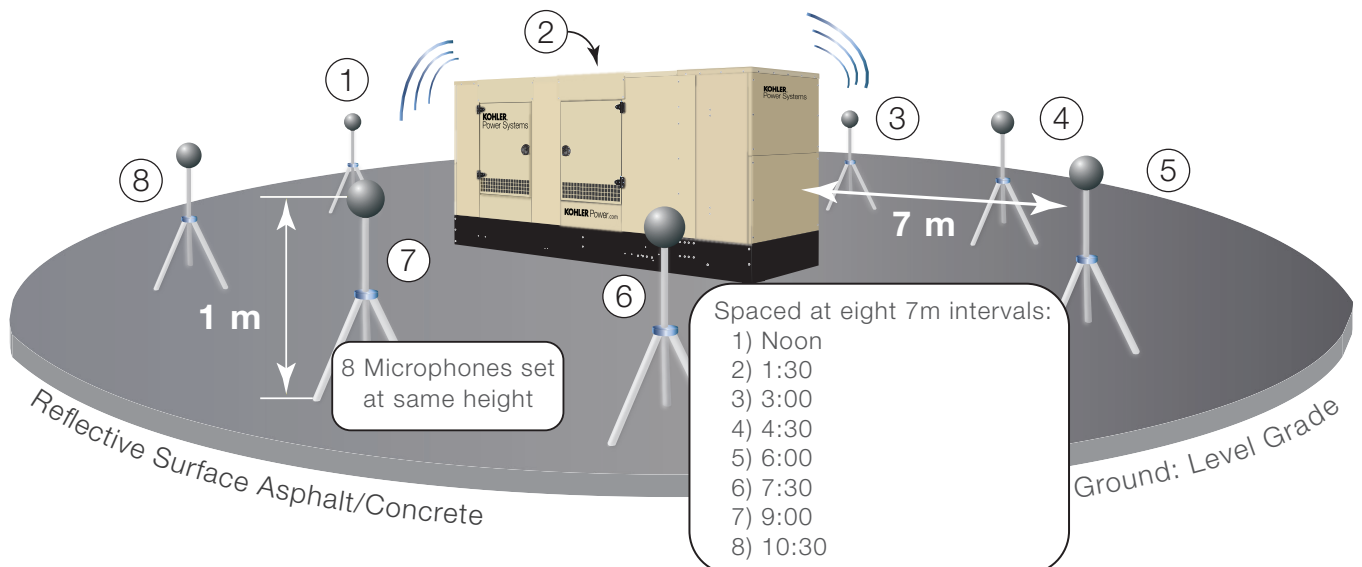
The chart depicts sound measurements with the 100% generator loaded.

MEASURING SOUND OF ENCLOSED SET

Fully enclosed generator sets, whether in a weather protective canopy or fully sound attenuated enclosure, are tested unloaded and loaded up to 100% of rated load. The measurements will include all sound sources including the exhaust. Sound readings, with an approved decibel meter set to the “A” weighted scale, are taken at eight equidistant measurement locations 7 meters (23 feet) from the profile. The microphones are set at 1 meter high as detailed in *Figure 4.*

Figure 4

HEMISPHERICAL FREE — FIELD SOUND ENVIRONMENT



MEASURING SOUND OF OPEN SET

Open generator sets with a mounted silencer are tested similar to enclosed generators. *Figure 4.*

MEASURING OPEN SET SOUND & ISOLATED EXHAUST

As many interior installations are an open generator set with the exhaust piped to an externally mounted muffler, sound measurements of an open set, per *Figure 4*, are taken, but with the muffler remotely mounted to ensure negligible exhaust noise emission within the test area.

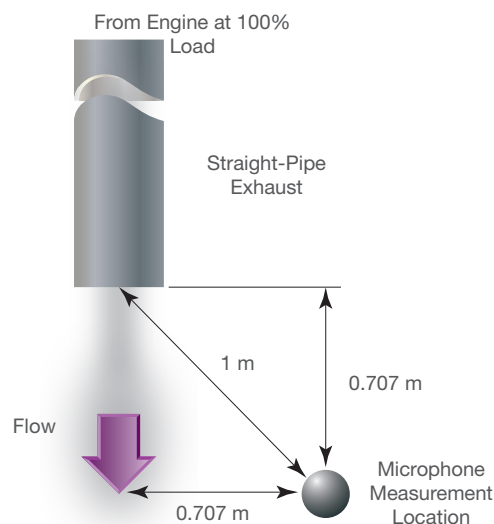
Customers purchasing open units for installation within a building use these noise measurements to determine if additional attenuation is required. In some cases, even with a remotely mounted silencer, additional engine room attenuation is required to be within the specified noise limit.

MEASURING RAW EXHAUST SOUND

Raw exhaust refers specifically, and only, to the noise emitted by the engine exhaust system when no silencer is present. It does not include noise from other sources on the generator set.

Sound data, at one location, is collected at the end of a straight pipe connected directly to the engine exhaust as indicated in *Figure 5*. The measurement is taken at a close distance of 1 meter (3.3 ft.) to ensure only the exhaust noise is significant in the noise measured.

Figure 5 Raw Exhaust Sound Test



Close proximity raw exhaust measurements are equally useful in determining silencers for mounting to, or remotely from, the generator. The raw exhaust sound data per *Figure 6* is provided as engineering data for use in silencer design or selection.

Figure 6

Sound Pressure Levels dB(A) – Raw Exhaust (No Silencer)									
Measurement Position	Octave Band Frequency (Hz)								Overall Level
	63	125	250	500	1000	2000	4000	8000	
Pipe End	93.1	106.6	116.8	120.4	121.5	122.4	122.4	123.0	129.7

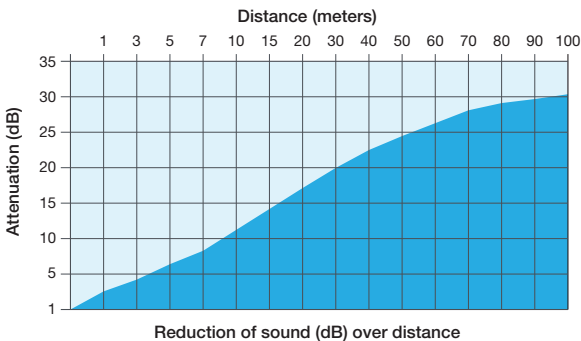
IMPORTANCE OF SOUND FOR POWER GENERATION

CALCULATING THE SOUND AT VARYING DISTANCES FROM SOURCE

While standardized sound measurements taken by the manufacturer are set at 7 meters (23 ft), frequently, to meet sound ordinances at any particular location, sound readings have to be taken at varying distances.

When there are no reflecting surfaces to amplify the noise of the generator set, the lot line sound (distance from noise source) reduces by 6 dB(A) each time the distance is doubled, or the square of the distance from the source *Figure 7*. This formula assumes the space to the lot line sound source is free and clear.

Figure 7



MECHANICAL NOISE VERSUS EXHAUST NOISE

A generator system is a complex piece of equipment made up of many moving parts. Movement of each part creates vibration, which then interacts with the air to create sound at various frequencies. *Figure 6* details various noise sources generated by mechanical vibration measured in dB(A) at 1 meter.

AMBIENT NOISE AND OTHER STRUCTURES AROUND A GENERATOR ENCLOSURE

While testing enclosed generator systems in a free-field environment away from surrounding structures provides an accurate measurement of sound pressure received at a set distance, the actual sound pressure perceived by the ear will vary from location to location.

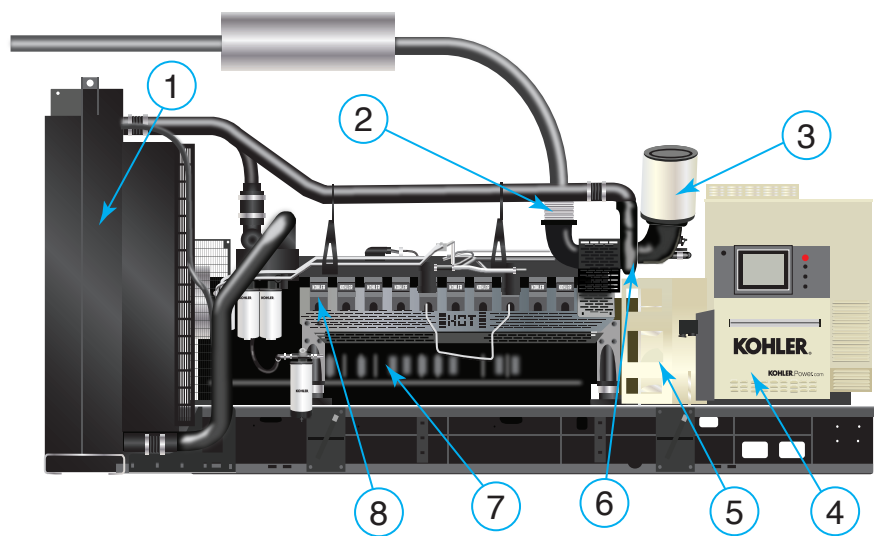
Many locations will be in a reverberant field where sound pressure can be amplified as it is reflected from a building or other obstacle.

To meet local ordinances, sound measurements may also have to be taken at the final location.

Figure 6

Sources of noise within a generator system.

- 1 - Fan
- 2 - Raw Open Exhaust
- 3 - Air Inlet
- 4 - Alternator
- 5 - Generator Fan
- 6 - Turbochargers
- 7 - Engine Block
- 8 - Valve Covers



DEFINING ENCLOSURE SOUND LEVELS

TYPES OF ENCLOSURE

The majority of generator systems installed and/or used in an outdoor location, whether mobile or fixed, are enclosed. All types of enclosures will limit the noise sources to some degree, but the final degree of audible sound permitted will dictate the type of enclosure. Enclosures usually fall into three categories:

- Weather-protective enclosure
- Sound attenuated enclosure to level 1 and 2 (dB(A) reduction)
- Custom enclosures – level 3 and above

WEATHER-PROTECTIVE ENCLOSURES

A weather protective enclosure, usually sheet steel or aluminum, provides some limited reduction in noise. Vibration isolators between major components provide further attenuation by reducing operational vibration that creates noise. Redirection of air before it exits the sound enclosure also helps reduce sound levels.

When the applicable installation noise ordinances are no lower than 80 dB(A) at 7 meters, consideration should be given to the exhaust silencer before adding further sound attenuation material.

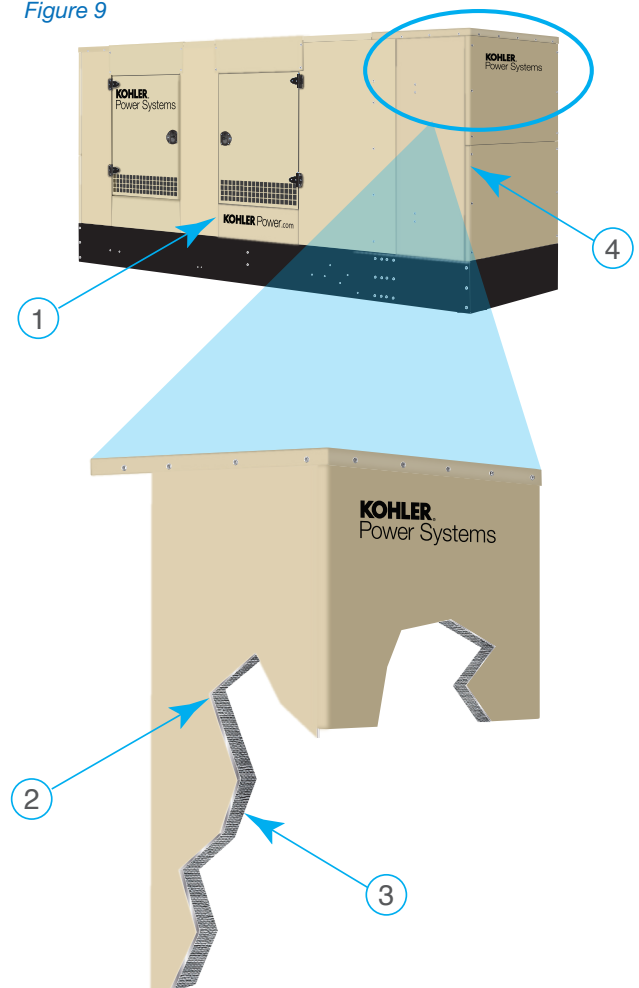
See [Figure 8](#). This chart details the comparative reductions in exhaust noise for each silencer type. However, final ambient noise will be influenced by the characteristics of the engine and silencer placement.

Figure 8

Generator Silencer Grades		
Silencer Type	Exhaust Noise Reduction, dB(A)*	Site Attenuation Requirement
Hospital	32 – 42	Very High
Critical	25 – 35	High
Residential	18 – 25	Medium
Industrial	12 – 18	Low – Medium

*Listed exhaust noise reductions are typical; actual performance may vary.

Figure 9



ENCLOSURES LEVEL-1 AND LEVEL-2 ATTENUATION

- 1 - Typical sheet metal level-1 enclosure provides limited noise reduction
- 2 - Sheet metal enclosure
- 3 - To attain level-2, sides are lined with sound absorbing material
- 4 - Silencer in enclosure will be critical grade for level 2

SOUND ATTENUATED ENCLOSURE LEVEL 1 AND 2

When a basic weather-protective enclosure has insufficient attenuation to meet site noise ordinances, the next stage is to line the inside panels of the enclosure sides with sound absorbing material. A level 1 enclosure will reduce noise in the order of 3 dB(A). See [Figure 9](#) for details.

Additional absorbing material over louvers through which air flows in and out will achieve level 2 noise reduction of around 10 dB(A). It is common to apply this type of enclosure in critical environments such as healthcare facilities and populated work areas. Also, levels 1 and 2 enclosures are usually fitted with residential or critical exhaust silencers.

CUSTOM ENCLOSURES LEVEL 3 AND ABOVE

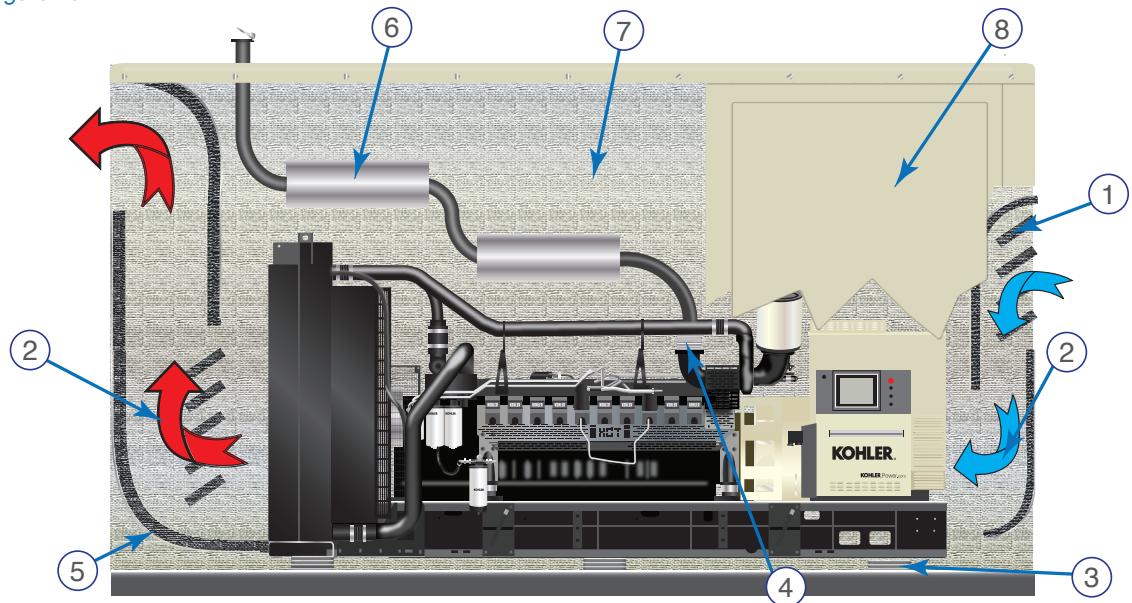
Some generator systems, such as those supplying power for film production, live concerts, or nighttime use, have to meet significantly lower

noise levels. In these applications, the enclosure will be to level 3 and above reduction, with at least a 14 dB(A) drop in measured sound. (Note: Sound is measured on a logarithmic scale, this is significant attenuation.)

Sound pressure is transmitted through air. The further the air travels through outlets lined with noise-absorbing material, the greater the attenuation before air leaves the enclosure. However, air is used for combustion and cooling, any redirecting has to avoid restriction to avoid overheating. The solution in a level 3 type of enclosure is not to restrict cooling but redirect air via sound outlets covered in sound absorbent material before it exits the enclosure.

With this technology, when applied with increased vibration isolation and a higher-grade exhaust silencer, it is possible to reduce noise emitted from the enclosure to a level that one can have a discussion next to the generator running on full load. See [Figure 10](#). The same type of technology can be applied to open sets installed within a building.

Figure 10



SAMPLE DESIGN FEATURES TO ATTAIN LEVEL-3 SOUND ATTENUATION

- | | |
|---|---|
| 1 - Sound attenuated louvers | 5 - Noise absorbent lining on ducting |
| 2 - Ducted air redirected at right angles reduces noise | 6 - Secondary silencer |
| 3 - Spring vibration isolators with rubber pads | 7 - Noise absorbent lining on internal siding |
| 4 - Flexible exhaust bellows | 8 - Sheet metal enclosure |

ABOUT KOHLER

A global force in power solutions since 1920, Kohler is committed to reliable, intelligent products; purposeful engineering and responsive after-sale support. Kohler and SDMO are among the world's largest manufacturers of industrial generators. The companies have a combined 150 years experience in industrial power and benefit from global R&D, manufacturing, sales, service and distribution integration.

EXHIBIT T

Removal Letter Estimate

<See attached>

April 1, 2024

Town of Kingston NH
163 Main Street
Kingston, MA 03848

RE:	Verizon Wireless Project Name:	Kingston 4 NH
	Site Address:	Off Hunt Road
		Kingston, NH 03848

To Whom It May Concern,

Dewberry Engineers Inc. has prepared the engineering zoning drawings for the proposed Verizon Wireless telecommunications facility at the above referenced location. The proposed facility includes a 140 ft. tall A.G.L. monopole with three sectors of antennas. The proposed monopole will be located within a 50 ft. x 50 ft. enclosed compound with a 6 ft. tall A.G.L. chain link fence. Equipment cabinets, diesel generator, ice canopy, concrete pad meter bank, and telephone cabinet installed at grade inside the enclosed compound. Utilities will be brought to the facility overhead by utility poles and underground conduit from existing sources located on Route 121A.

The current cost to remove the Verizon Wireless installation, including the monopole, equipment foundation to 12" below grade, fence, antennas, coax, equipment cabinets, conduits, and power/telephone equipment is estimated to be **\$27,656**. This cost assumes that the monopole foundation, utility poles and access road will remain. The breakdown of costs was estimated using the year 2024 edition of *RS Means Building Construction Cost Data Labor Rates* & the RS City Cost Index adjust for location.

(10) days labor, (8) hours per day		
(2) laborers at \$54.80/hour*	=	\$ 8,768
(1) foreman/operator at \$75.40/hour*	=	\$ 6,032
*includes overhead & profit		
Freight transport for equipment		
(2) days at \$1,700/day	=	\$ 3,400
Crane Rental		
(1) days at \$1,975/day	=	\$ 1,975
Dumpster Rental (two weeks)	=	\$ 1,720
Backhoe Rental (two weeks)	=	\$ 1,910
Labor & Equipment Subtotal	=	\$ 23,805
Permits:		
10% Performance Bond	=	\$ 2,381
12.4% Worker's Comp. Insurance	=	\$ 1,834
Subtotal	=	\$ 28,021
RS Means City Cost Index (Manchester NH 2024)	=	\$ (364)
<u>TOTAL</u>	=	<u>\$ 27,656</u>

Please do not hesitate to contact us should you have any questions or comments, or require any further information regarding this matter.

Sincerely,
Dewberry Engineers Inc.

Benjamin B. Revette, PE
Associate Vice President

