Appendix A: Site Plan

PROJECT OWNER/DEVELOPER

ALGONQUIN POWER (MI ENERGY DEVELOPMENTS) LLC 354 DAVIS ROAD, SUITE 100 OAKVILLE, ON L6J 2X1 PHONE: 905.465.6717 ATTN: GABRIELLA KOVACS

PROJECT ENGINEER/SURVEYOR

ATWELL, LLC
TWO TOWNE SQUARE, SUITE 700
SOUTHFIELD, MI 48076
PHONE: 248.447.2000
FAX: 248.447.2001
ATTN: JEFF WILLIAMS

FREMONT TOWNSHIP

2512 EAST GALBRAITH LINE ROAD YALE, MI 48097 PHONE: 810.304.5653 ATTN: RICHARD MEE

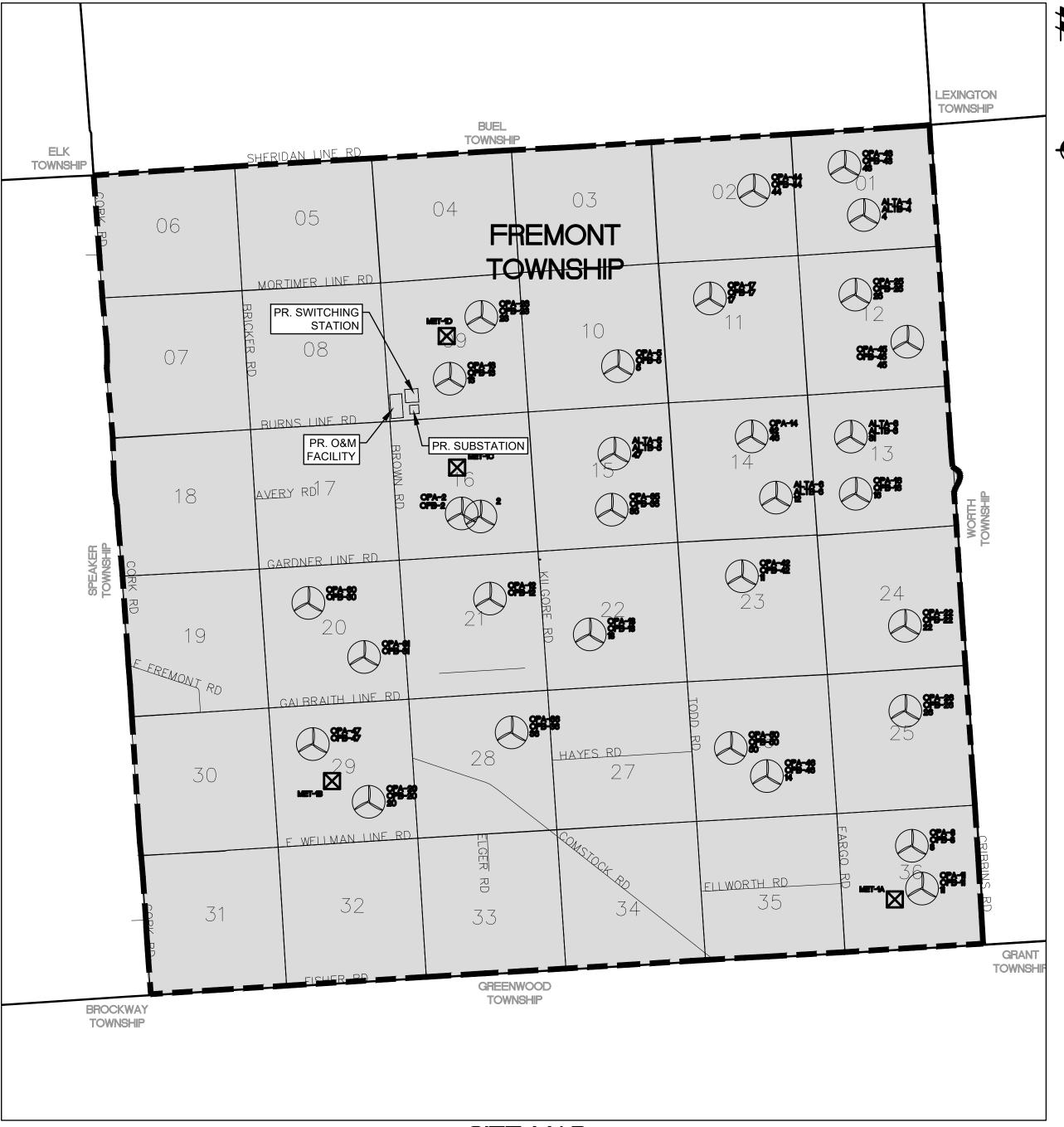
PROJECT NOTE

PROPOSED NUMBER OF WIND TURBINE GENERATORS:

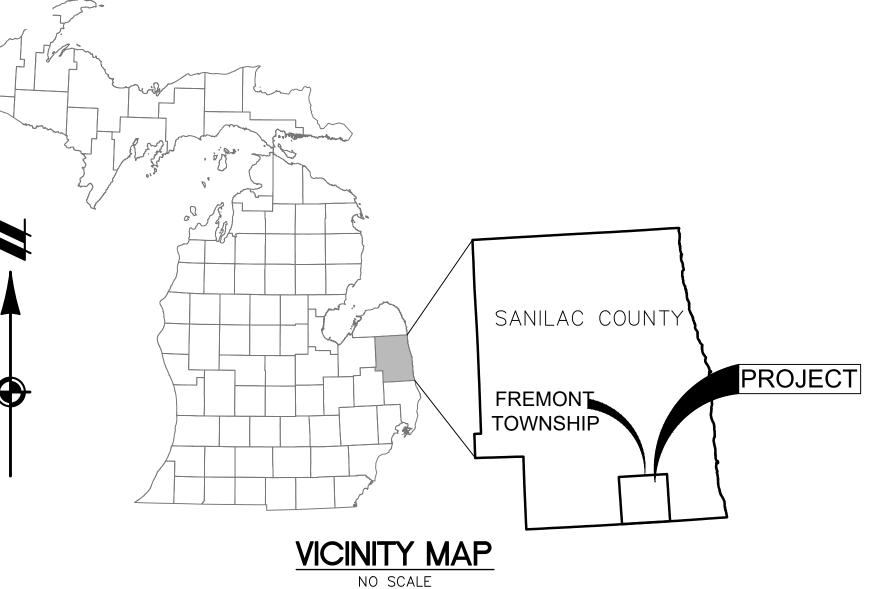
- FREMONT TOWNSHIP:
- LAYOUT 25 26LAYOUT 16 30
- LAYOUT 16a 30

RIVERBEND WIND PROJECT

SANILAC COUNTY, MICHIGAN FREMONT TOWNSHIP SPECIAL LAND USE PERMIT PLAN



SITE MAP
SCALE 1"=3,000"



SI	HEET INDEX
SHEET NO.	SHEET TITLE
00	COVER SHEET
01	PROJECT OVERALL
FRE-01	FREMONT TWP-SEC 01
FRE-02	FREMONT TWP-SEC 02
FRE-06	FREMONT TWP-SEC 06
FRE-07	FREMONT TWP-SEC 07
FRE-09	FREMONT TWP-SEC 09
FRE-10	FREMONT TWP-SEC 10
FRE-11	FREMONT TWP-SEC 11
FRE-12	FREMONT TWP-SEC 12
FRE-13	FREMONT TWP-SEC 13
FRE-14	FREMONT TWP-SEC 14
FRE-15	FREMONT TWP-SEC 15
FRE-16A	FREMONT TWP-SEC 16A
FRE-16B	FREMONT TWP-SEC 16E
FRE-18	FREMONT TWP-SEC 18
FRE-19	FREMONT TWP-SEC 19
FRE-20	FREMONT TWP-SEC 20
FRE-21	FREMONT TWP-SEC 21
FRE-22	FREMONT TWP-SEC 22
FRE-23	FREMONT TWP-SEC 23
FRE-24	FREMONT TWP-SEC 24
FRE-25	FREMONT TWP-SEC 25
FRE-26	FREMONT TWP-SEC 26
FRE-27	FREMONT TWP-SEC 27
FRE-28	FREMONT TWP-SEC 28
FRE-29	FREMONT TWP-SEC 29
FRE-30	FREMONT TWP-SEC 30
FRE-31	FREMONT TWP-SEC 31
FRE-35	FREMONT TWP-SEC 35
FRE-36	FREMONT TWP-SEC 36
FRE-DET	STANDARD DETAILS

DATA SOURCES

TOPOGRAPHICAL INFORMATION USGS NATIONAL ELEVATION DATASET (NED), 3 METER DEM

DRAIN MAPS PER COUNTY RECORDS

PROPERTY BOUNDARY INFORMATION GIS PARCEL BOUNDARIES PER CORELOGIC PARCEL DATA (2022)

SURVEYED PARCEL BOUNDARIES PROVIDED BY ATWELL (AUGUST 2022)

HABITABLE STRUCTURE LOCATIONS PROVIDED BY LIBERTY (NOVEMBER 2020)

FIELD VERIFIED BY ATWELL (AUGUST 2022)

TURBINE LOCATIONS (ARRAY) PROVIDED BY LIBERTY (ARRAY AUGUST 28, 2022)

TURBINE ACCESS ROADS PROVIDED BY ATWELL (AUGUST 2022)

ELECTRICAL COLLECTION LINE PROVIDED BY LIBERTY (AUGUST 2022)

PROJECT SUMMARY

- THE PROPOSED RIVERBEND WIND ENERGY PROJECT IS LOCATED IN SPEAKER & FREMONT TOWNSHIPS, SANILAC COUNTY, MICHIGAN.
- THE PROJECT WILL BE BUILT. OWNED, AND OPERATED BY ALGONQUIN POWER (MI ENERGY DEVELOPMENTS) LLC.
- THE PROJECT WILL CONTAIN AN UNDERGROUND ELECTRICAL COLLECTION SYSTEM.
- THE PROJECT'S COLLECTION LINES WILL TIE INTO THE NEW SUBSTATION TO BE
- BUILT IN FREMONT TOWNSHIP.

 THE PROJECT WILL INCLUDE MORE THAN 13,746 ACRES OF PARTICIPATING PARCELS WITHIN FREMONT TOWNSHIP.

Know what's below.

Call before you di

THE LOCATIONS OF EXISTING
UNDERGROUND UTILITIES ARE SHOWN IN
AN APPROXIMATE WAY ONLY AND HAVE
NOT BEEN INDEPENDENTLY VERIFIED BY
THE OWNER OR ITS REPRESENTATIVE.
THE CONTRACTOR SHALL DETERMINE THI
EXACT LOCATION OF ALL EXISTING
UTILITIES BEFORE COMMENCING WORK,
AND AGREES TO BE FULLY
RESPONSIBLE FOR ANY AND ALL
DAMAGES WHICH MIGHT BE OCCASIONE
BY THE CONTRACTOR'S FAILURE TO
EXACTLY LOCATE AND PRESERVE ANY
AND ALL UNDERGROUND UTILITIES.

NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOL
RESPONSIBILITY OF THE CONTRACTOR;
NEITHER THE OWNER NOR THE ENGINEE
SHALL BE EXPECTED TO ASSUME ANY
RESPONSIBILITY FOR SAFETY OF THE
WORK, OF PERSONS ENGAGED IN THE
WORK, OF ANY NEARBY STRUCTURES, O
OF ANY OTHER PERSONS.

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SOUTHFIELD, MI 48076
248.447.2000



CLIENT ALGONQUIN POWER (MI ENERGY SECTION: RE
DEVELOPMENTS) LLC

RIVERBEND WIND PROJECT

SPECIAL LAND USE SITE PLANS

COVER SHEET

COVER SHEET

AUG. 30, 2

REVISIONS

SCALE 0

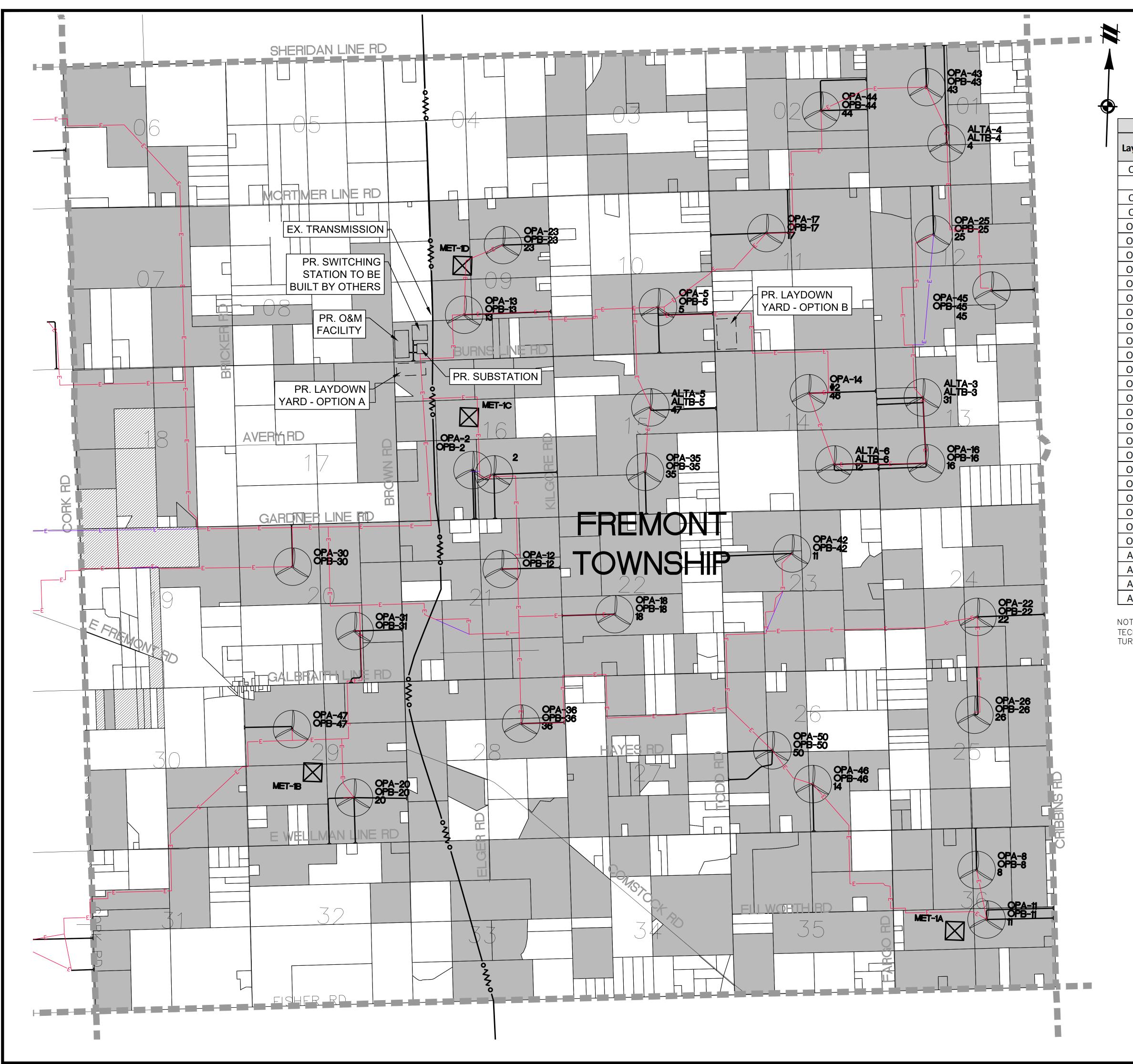
DR. MB CH. BS

P.M. JW

BOOK ——

JOB 21003645

SHEET NO.

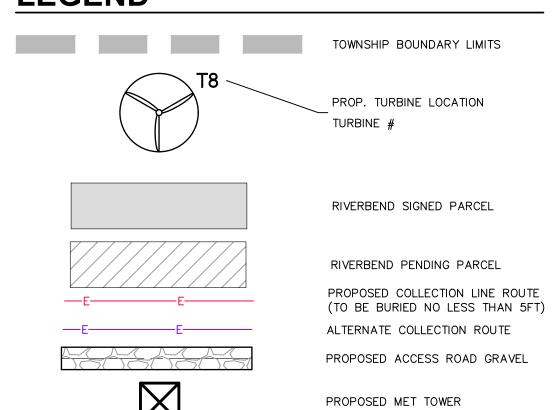


TURBINE LOCATION DATA

Turbine ID			Turbine Locations (UTM83-17)			
Loveut 16	Loveut 16a	Layout 25	Northing	Easting	Elevation	
Layout 16	Layout 16a		(Meters)	(Meters)	(ASL Meters	
OPA-2	OPB-2		4785528	360615	230.0	
		2	4785484	360829	230.0	
OPA-5	OPB-5	5	4787146	362476	230.0	
OPA-8	OPB-8	8	4781507	365628	230.0	
OPA-11	OPB-11	11	4781012	365725	228.4	
OPA-12	OPB-12		4784538	360901	230.0	
OPA-13	OPB-13	13	4787080	360540	230.0	
OPA-46	OPB-46	14	4782374	363996	227.6	
OPA-16	OPB-16	16	4785573	365145	230.0	
OPA-17	OPB-17	17	4787881	363562	230.0	
OPA-18	OPB-18	18	4784081	362028	230.0	
OPA-20	OPB-20*	20	4782262	359415	230.0	
OPA-22	OPB-22	22	4784035	365649	230.0	
OPA-23	OPB-23	23	4787774	360931	230.0	
OPA-25	OPB-25	25	4787858	365232	230.0	
OPA-26	OPB-26	26	4783058	365614	230.0	
OPA-30	OPB-30		4784572	358814	230.0	
OPA-31	OPB-31		4783926	359429	230.0	
OPA-35	OPB-35	35	4785502	362338	230.0	
OPA-36	OPB-36	36	4782993	361087	230.0	
OPA-42	OPB-42*	42	4784679	363801	229.2	
OPA-43	OPB-43*	43	4789330	365168	230.0	
OPA-44	OPB-44	44	4789101	364114	230.0	
OPA-45	OPB-45	45	4787294	365807	224.1	
OPA-14	OPB-14	46	4786278	363977	230.0	
OPA-47	OPB-47*		4782950	358800	230.0	
OPA-50	OPB-50	50	4782713	363595	230.0	
ALTA-3	ALTB-3	31	4786230	365116	229.9	
ALTA-4	ALTB-4	4	4788768	365366	230.0	
ALTA-5	ALTB-5	47	4786145	362394	230.0	
ALTA-6	ALTB-6	12	4785565	364228	226.5	

NOTE: * INDICATES A TURBINE LOCATION CONSIDERING AN ALTERNATE TECHNOLOGY WITH A ROTOR DIAMETER OF 163M (535 FT). REFER TO TURBINE SPECIFICATIONS ON SHEET FRE-DET FOR ADDITIONAL DETAILS.

LEGEND



NOTE: O&M FACILITY, SUBSTATION, SWITCHING STATION & LAYDOWN YARDS ARE REPRESENTATIVE LOCATIONS. DIMENSIONS AND LAYOUT WILL BE DETERMINED DURING FINAL DESIGN.

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248.447.2000

T TOWN 09 NORTH, RANGE 15 EAST

ALGONQUIN POWER (MI ENERGY
DEVELOPMENTS) LLC
RIVERBEND WIND PROJECT
SPECIAL LAND USE SITE PLANS
PROJECT OVERALL

TE AUG. 30, 2022

JG. 30, 2022

REVISIONS

REVISIONS

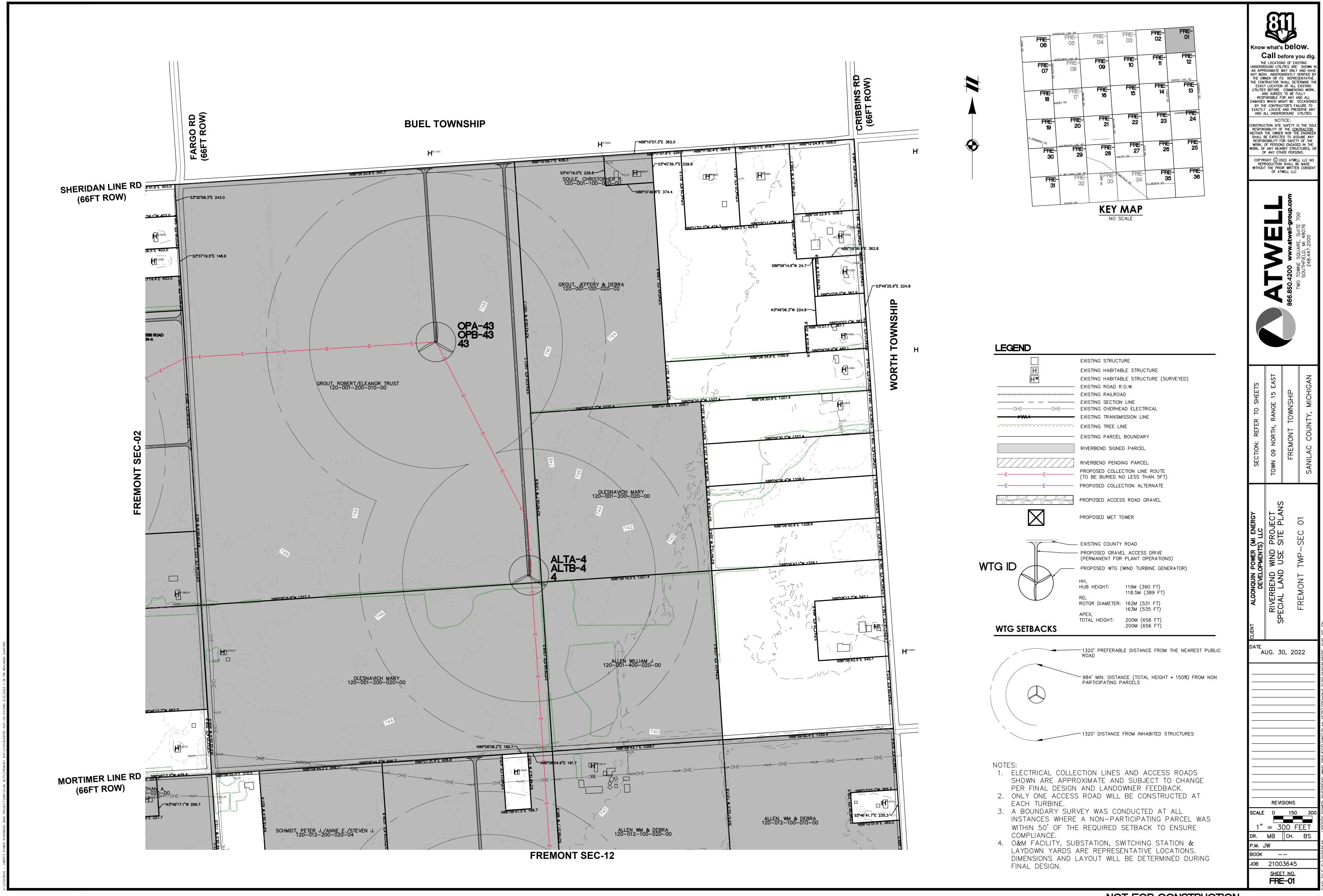
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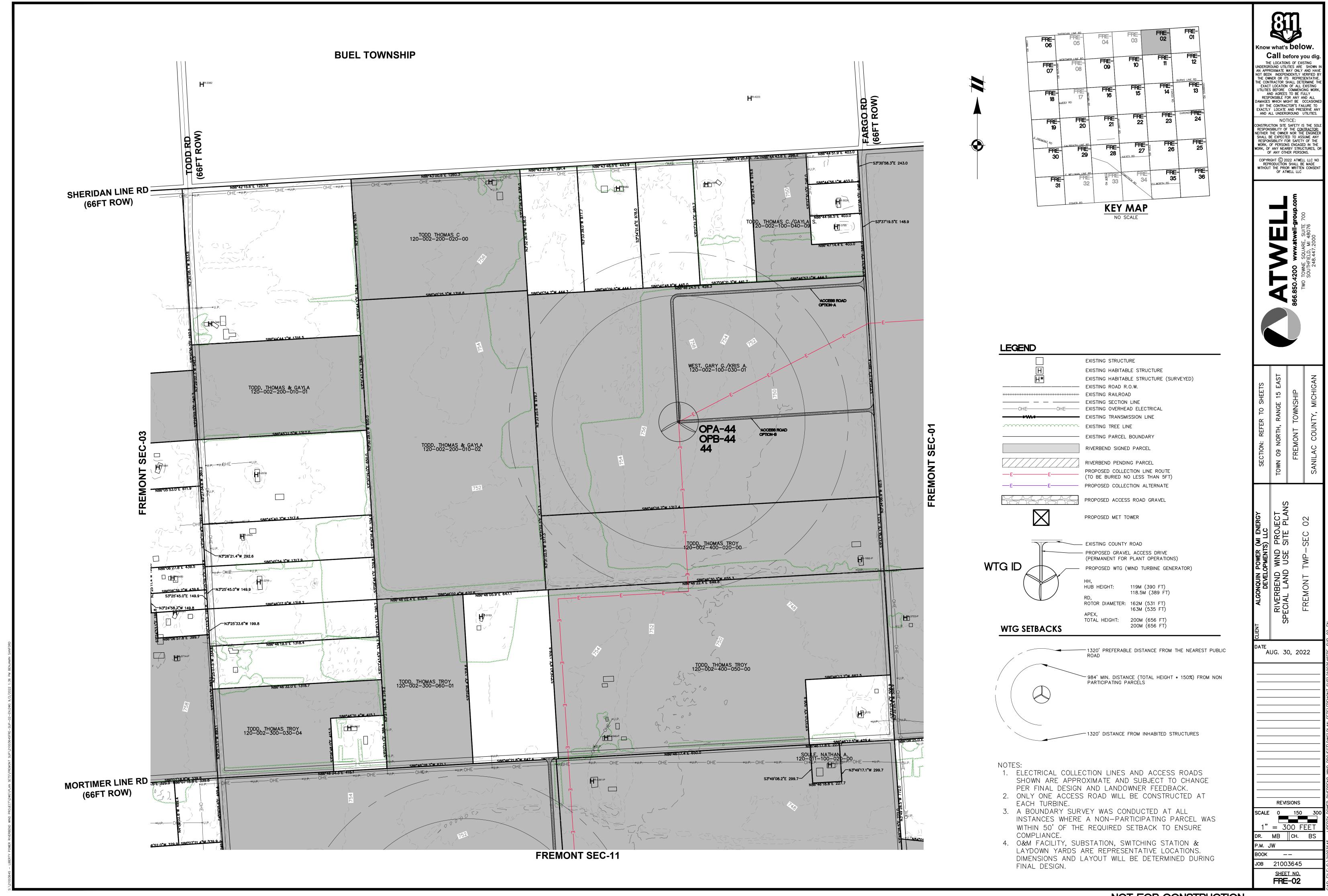
1" = 1500 FEET

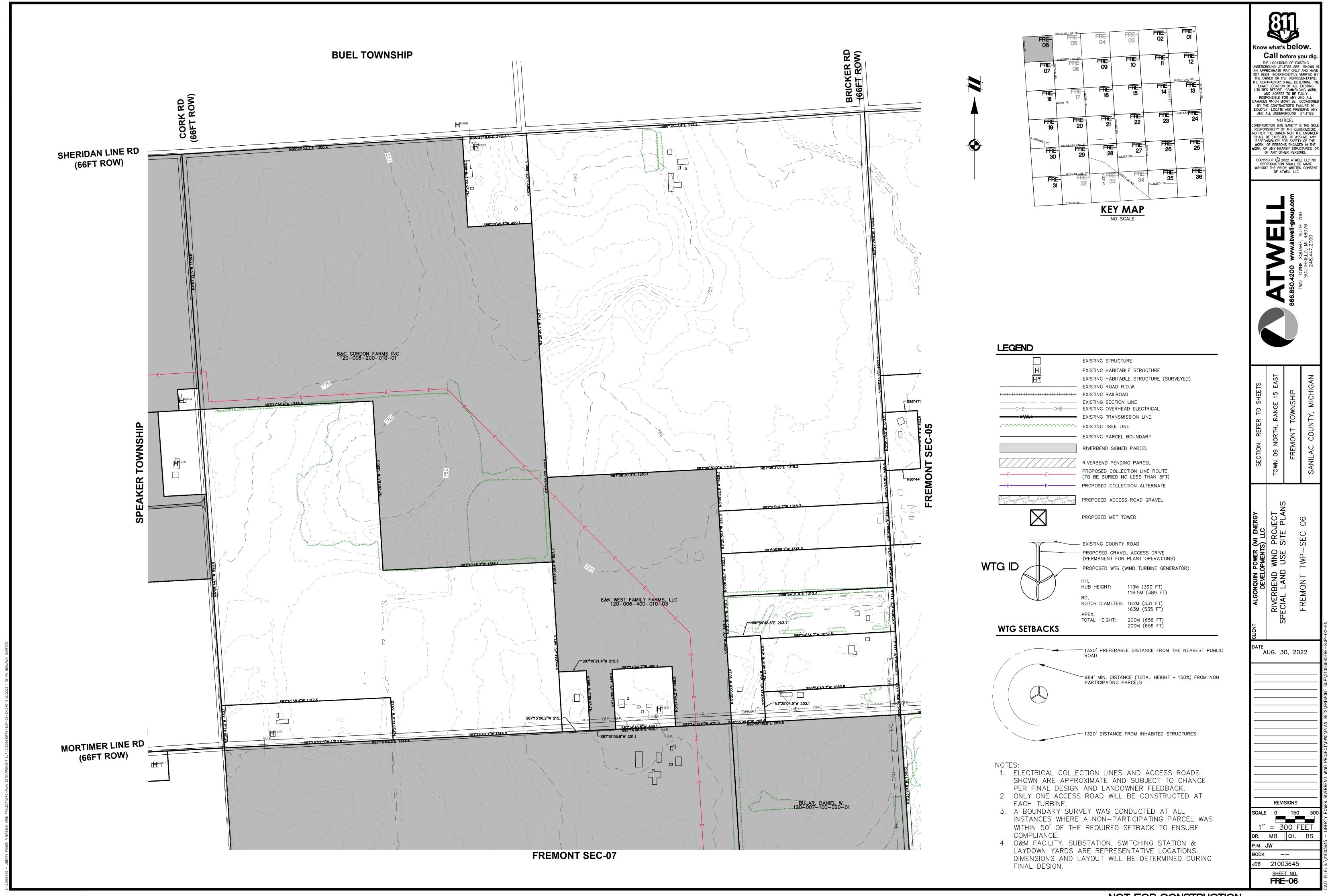
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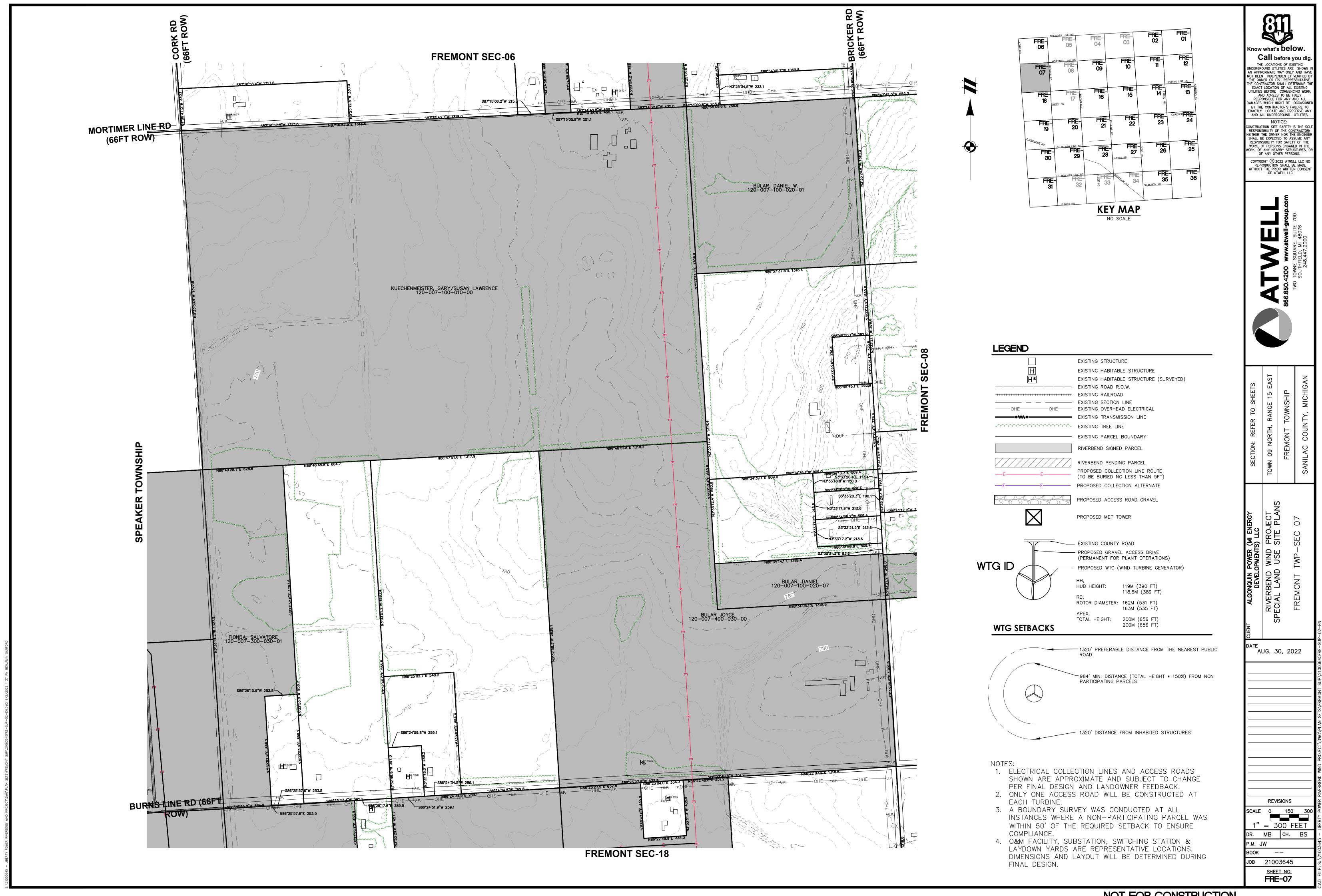
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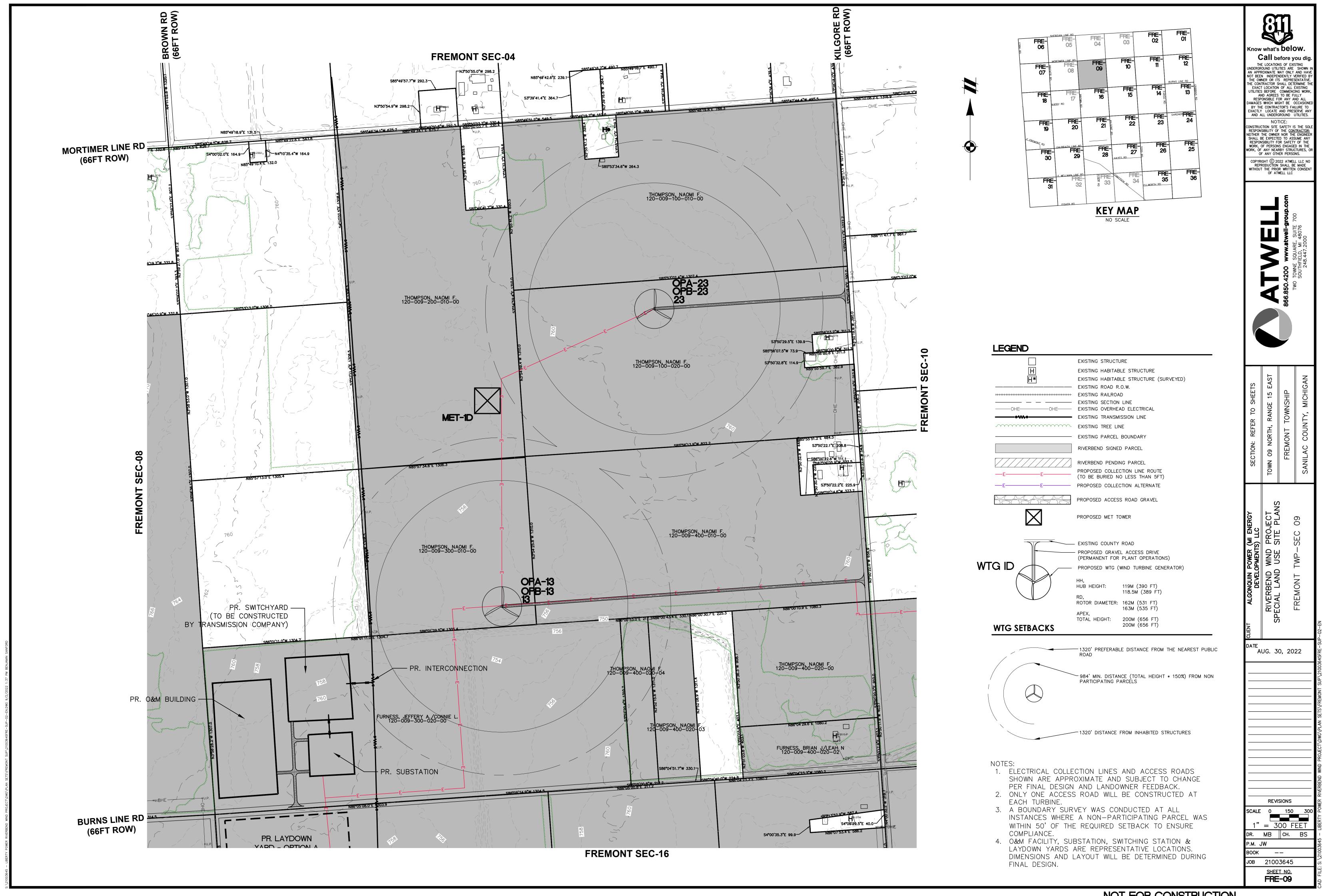
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BOOK -JOB 21003645
SHEET NO.

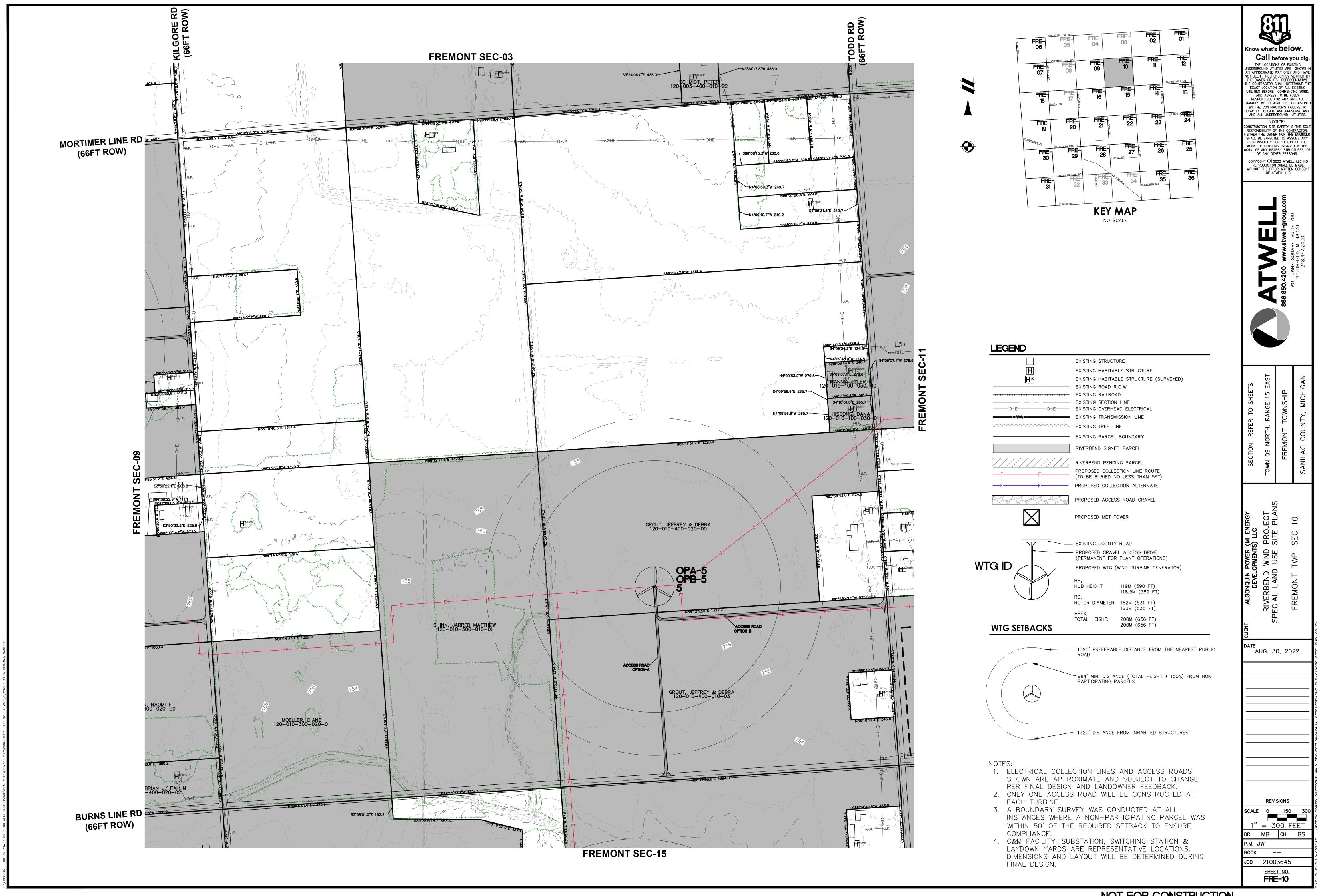


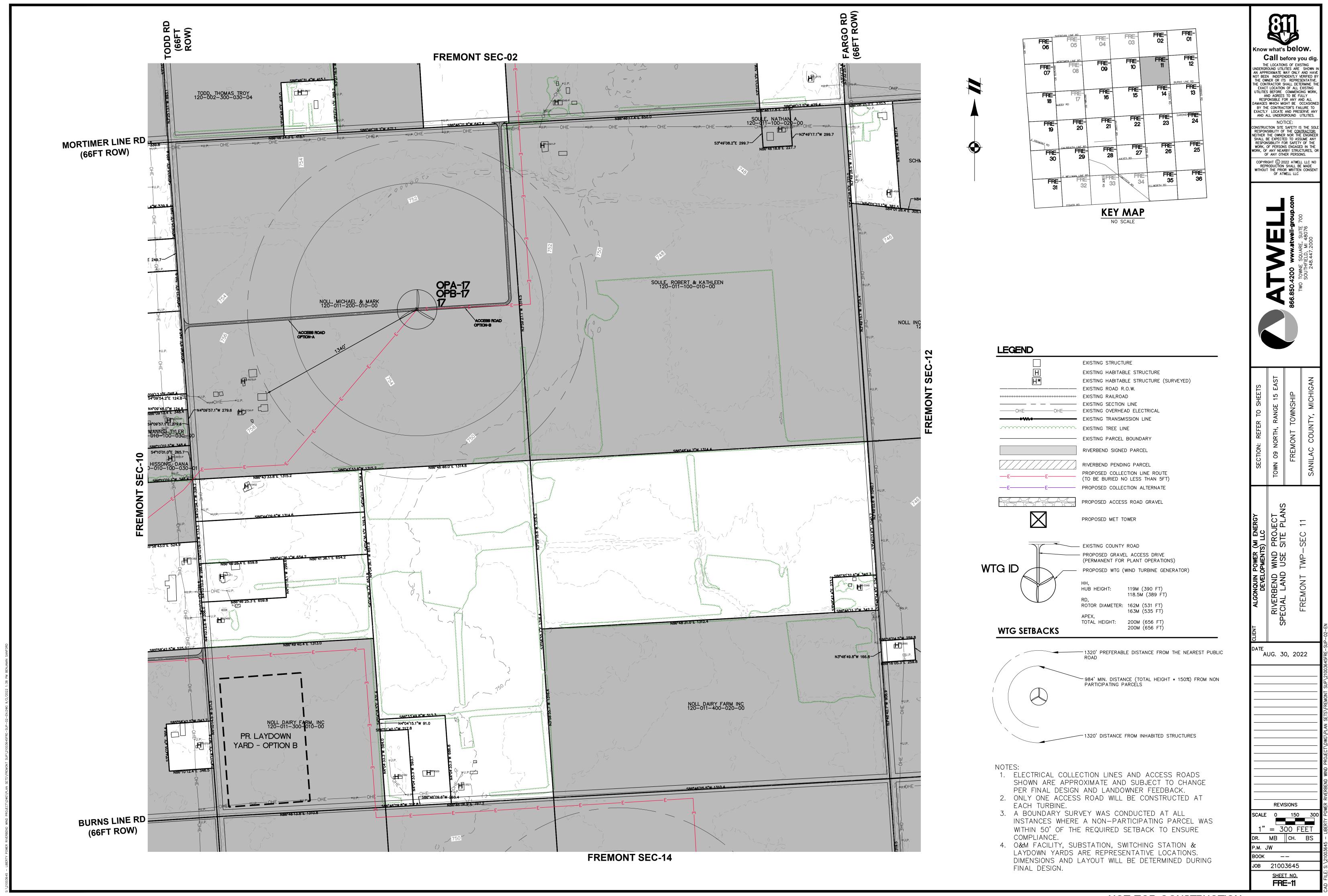


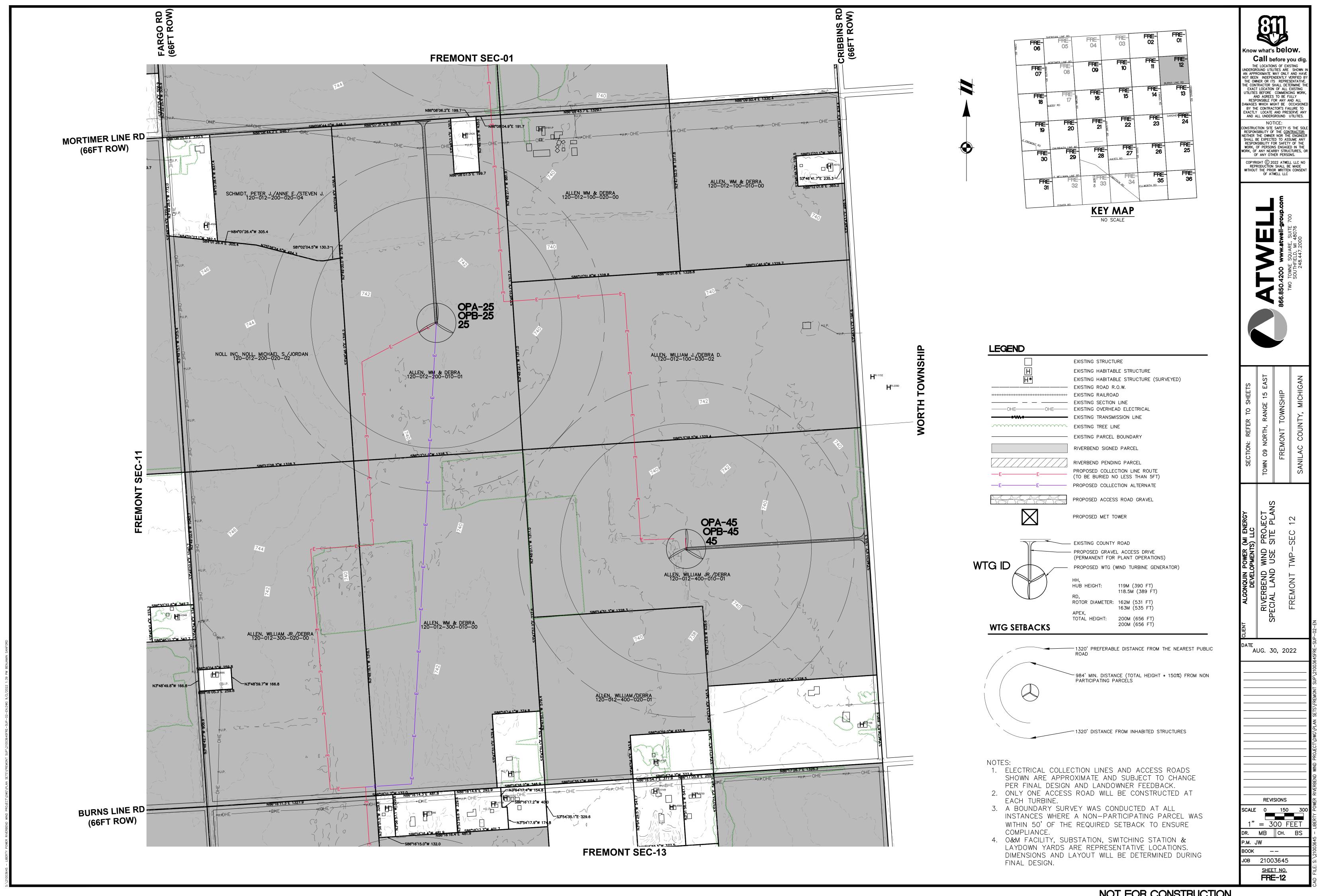




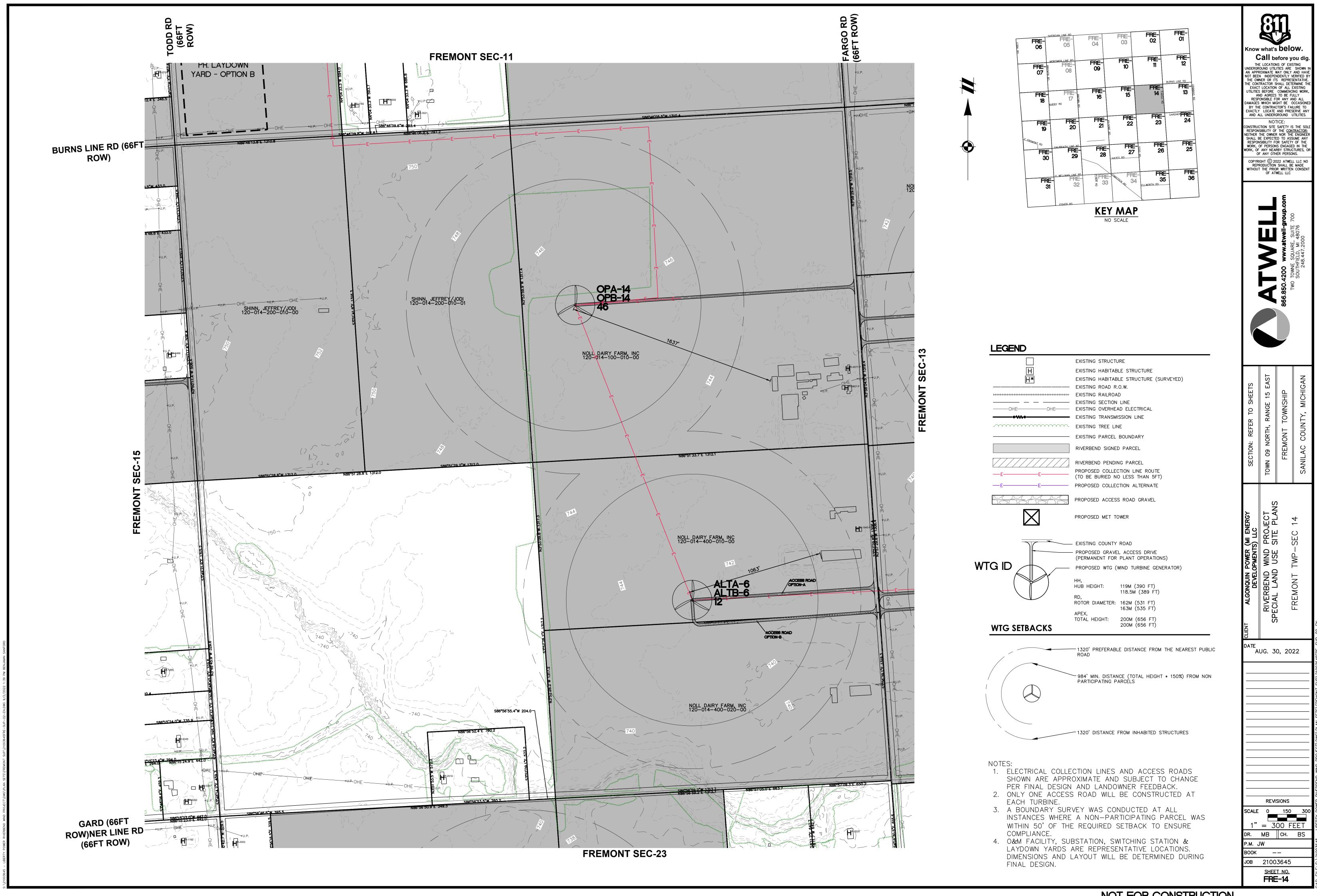


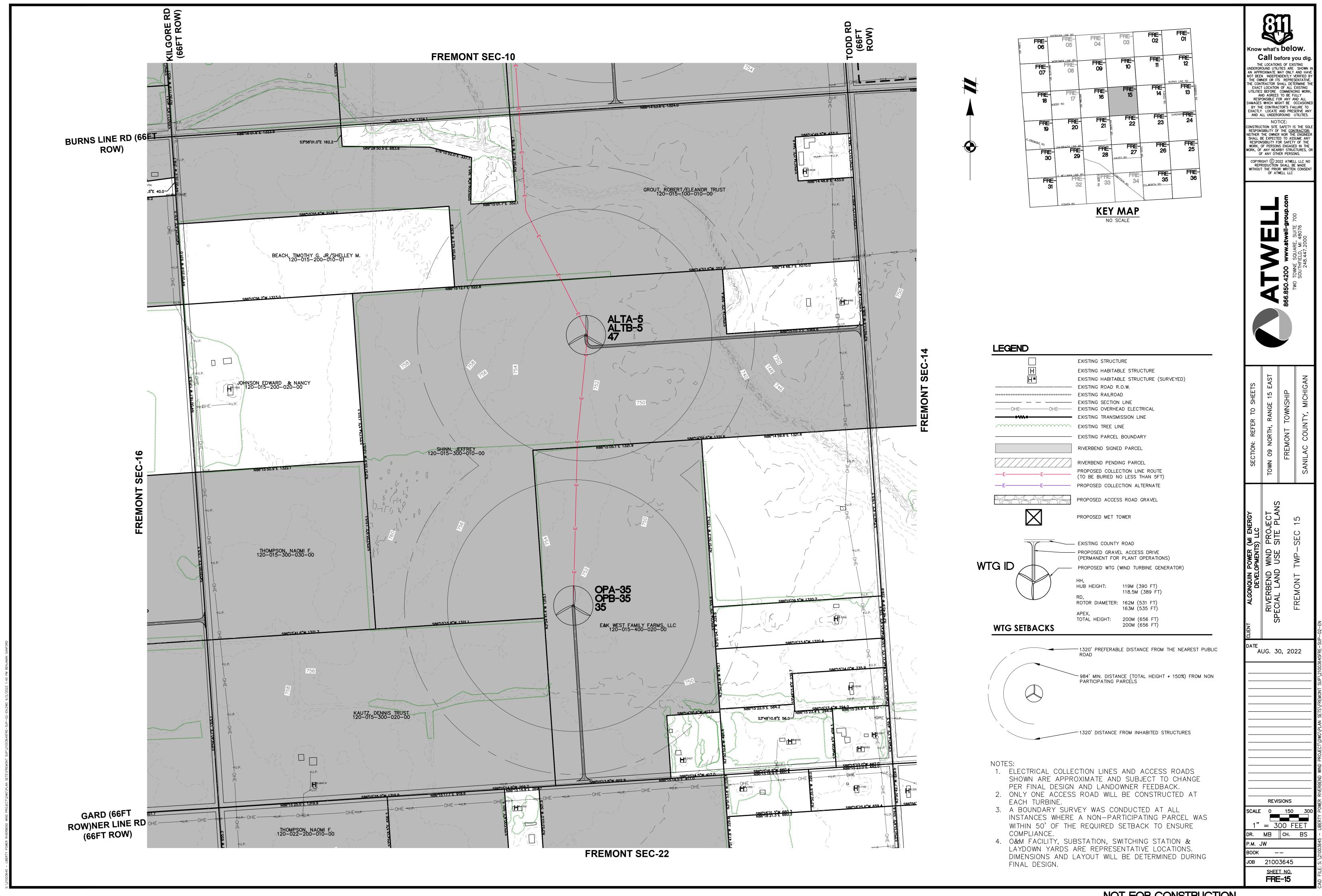


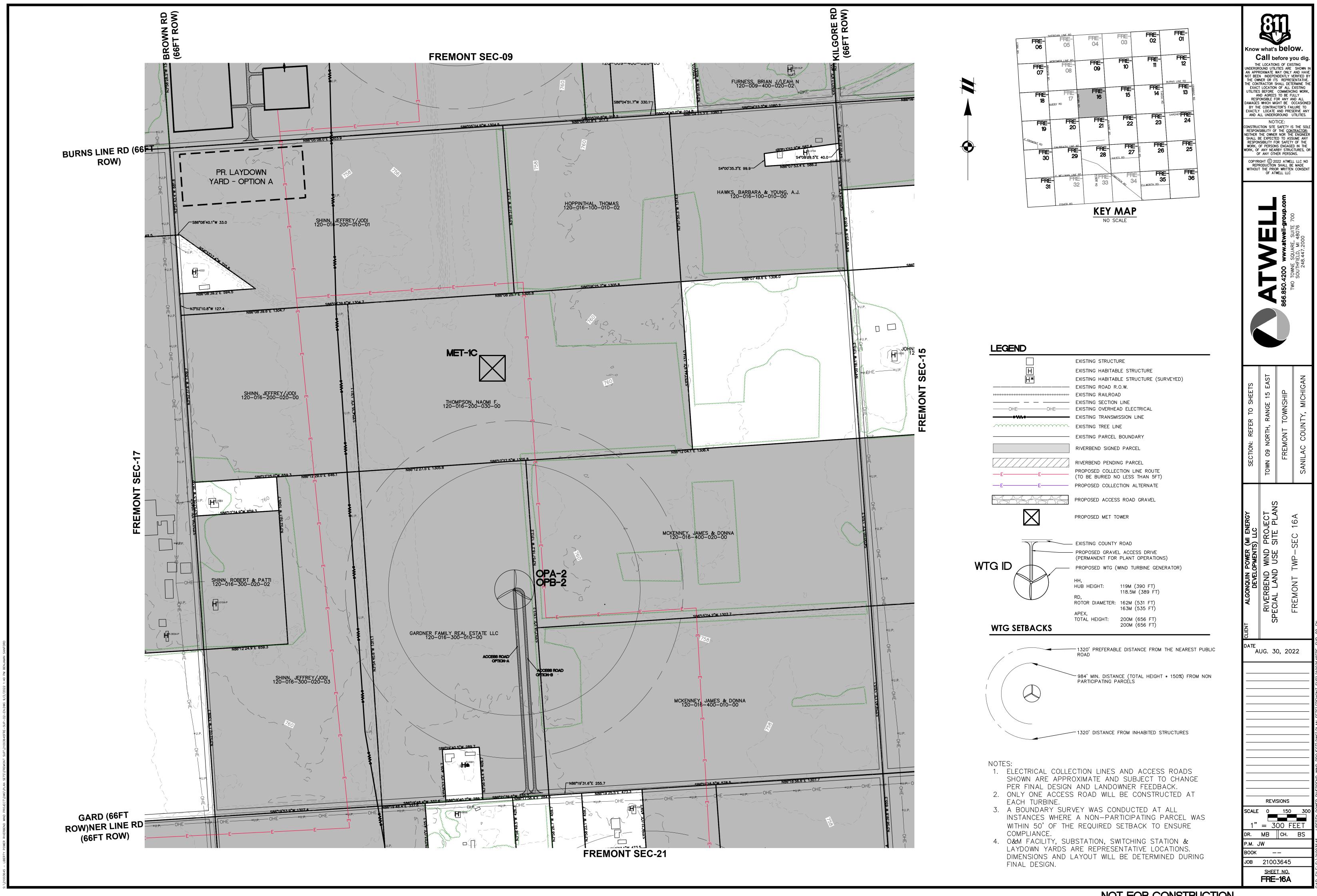


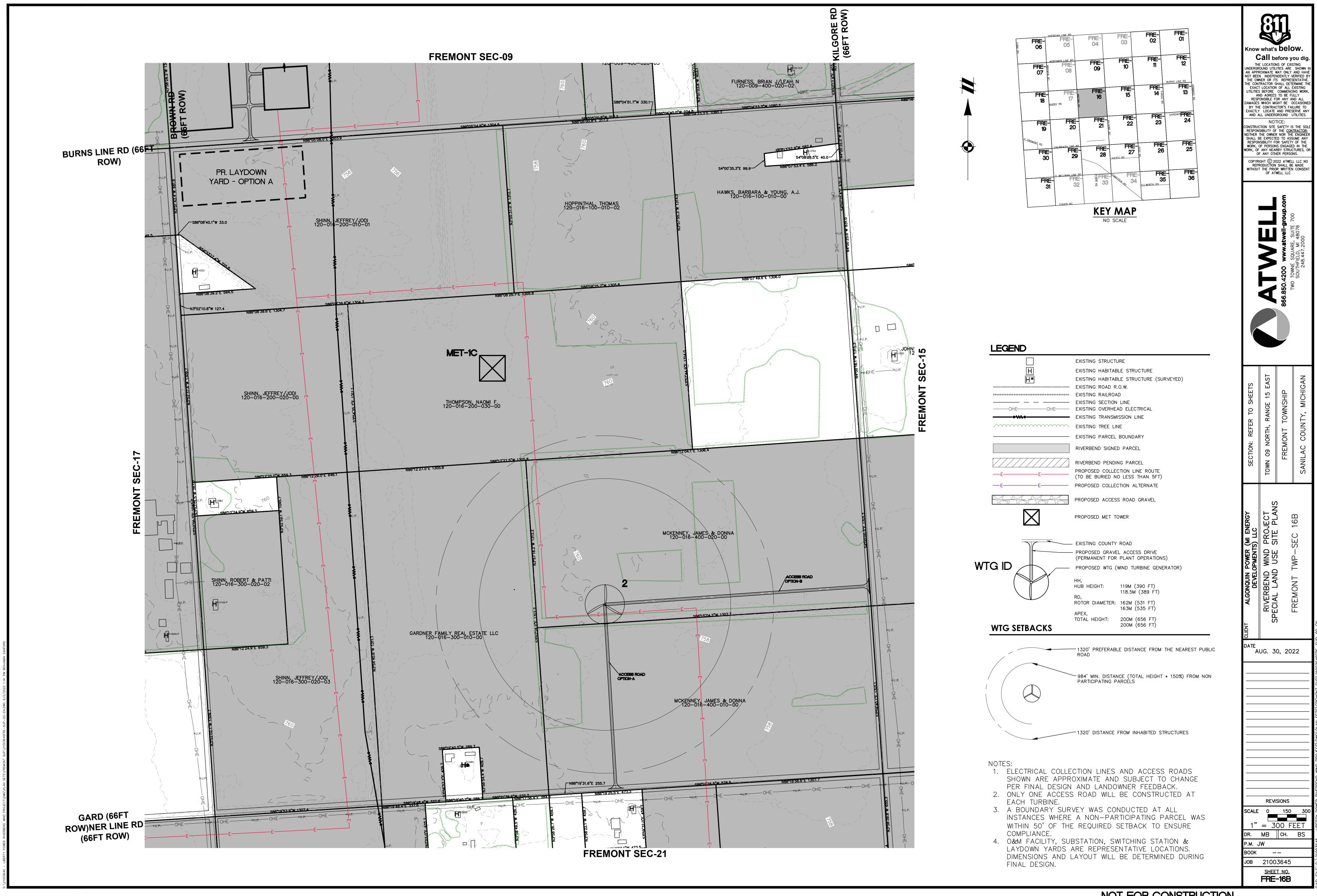


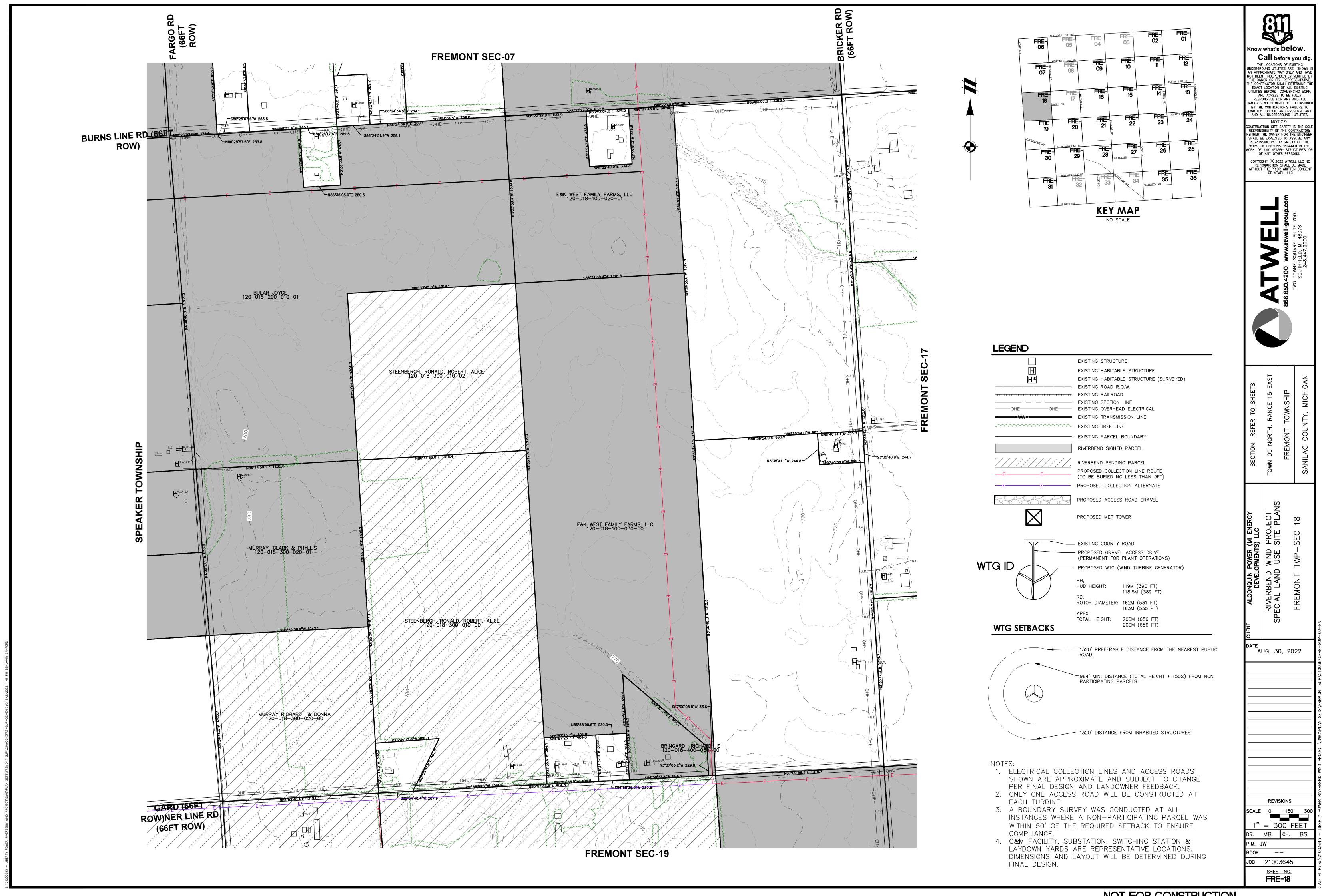


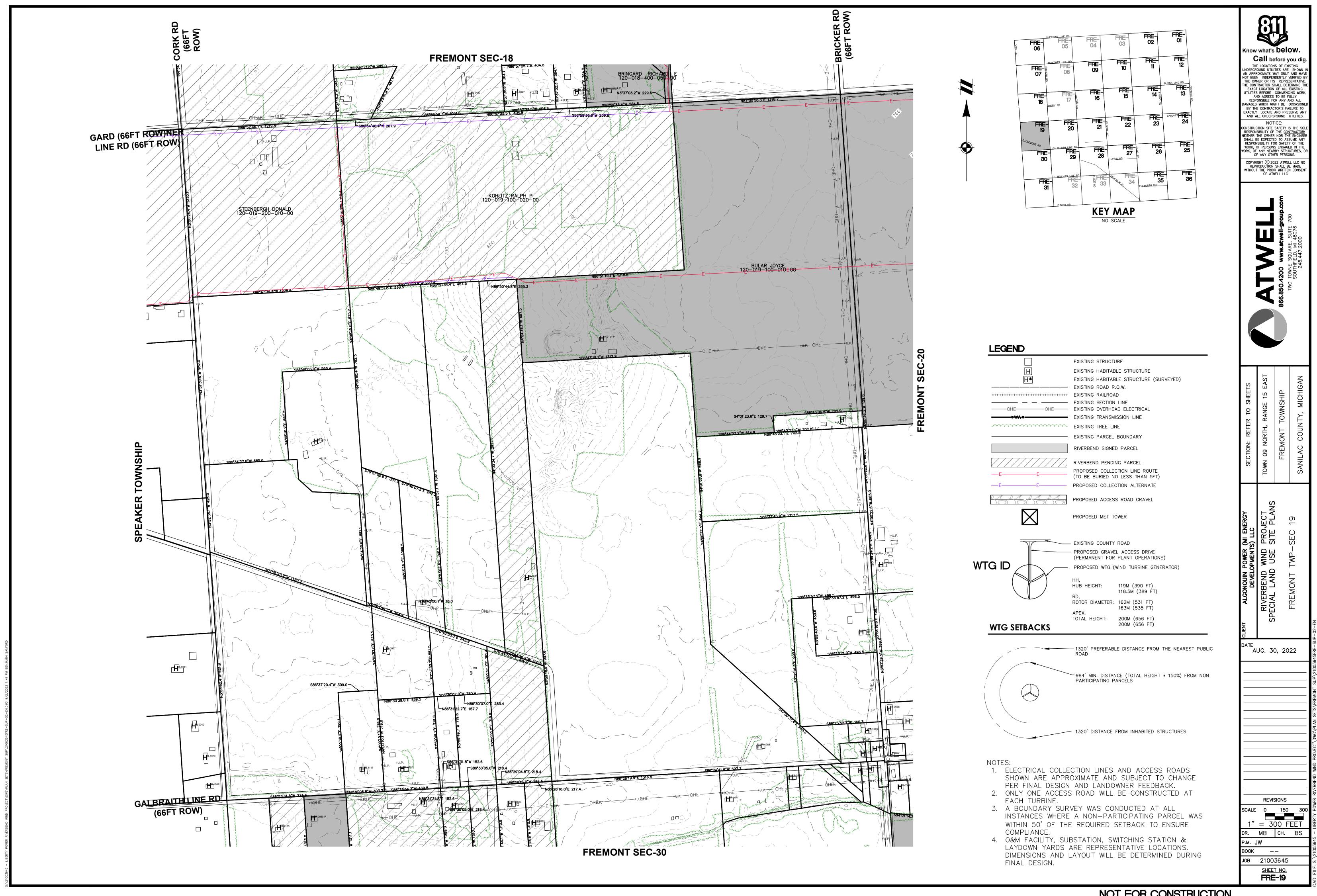




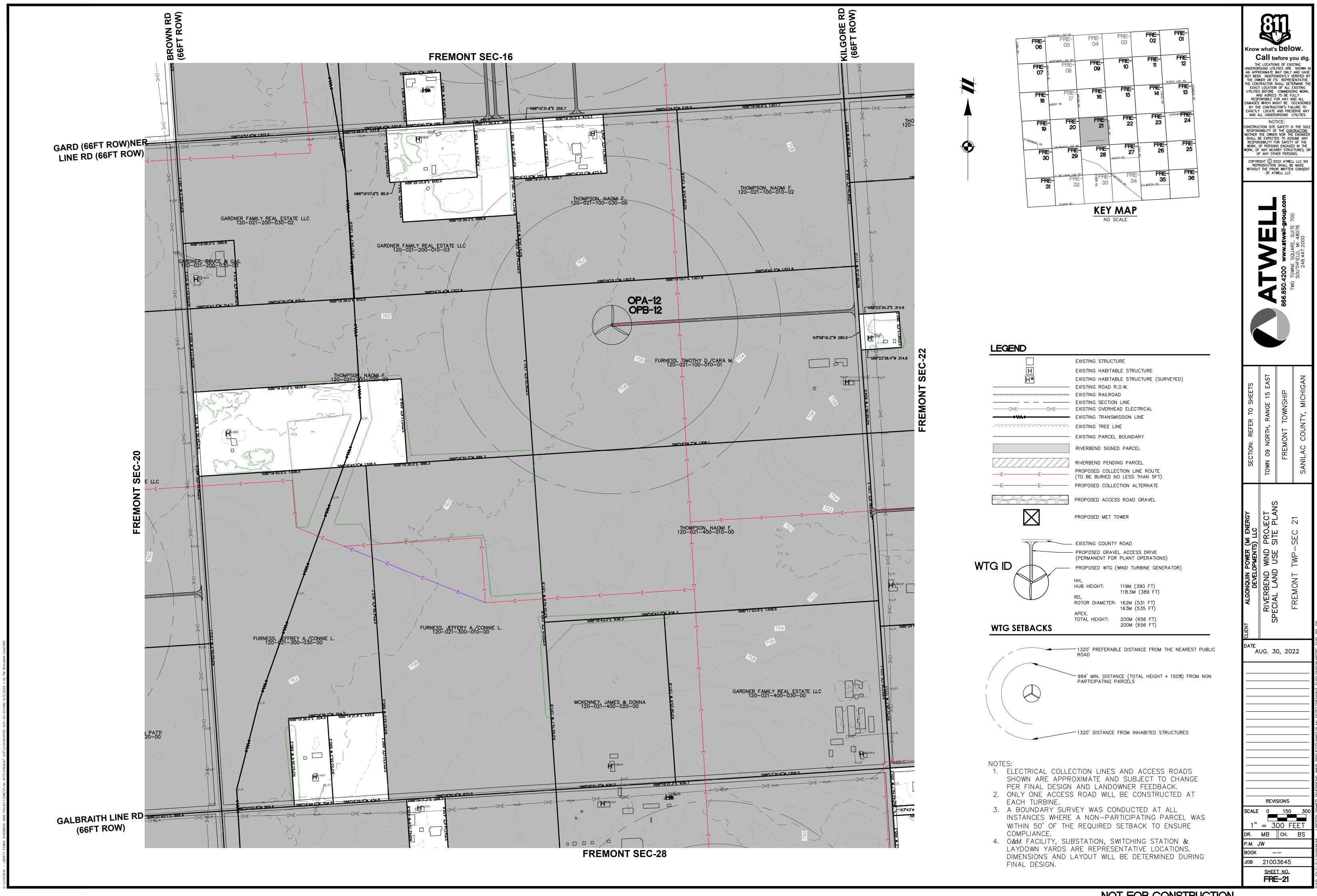


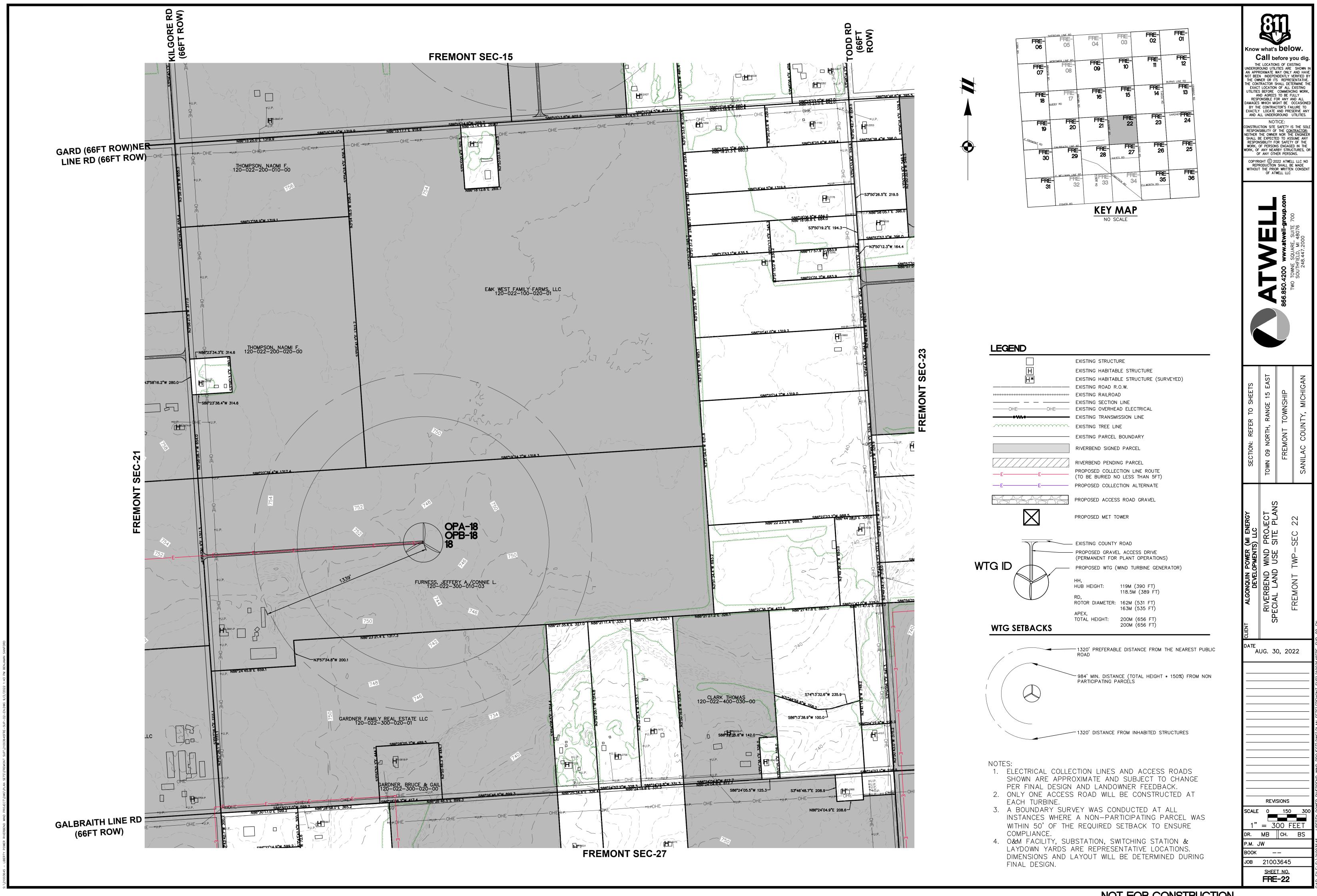




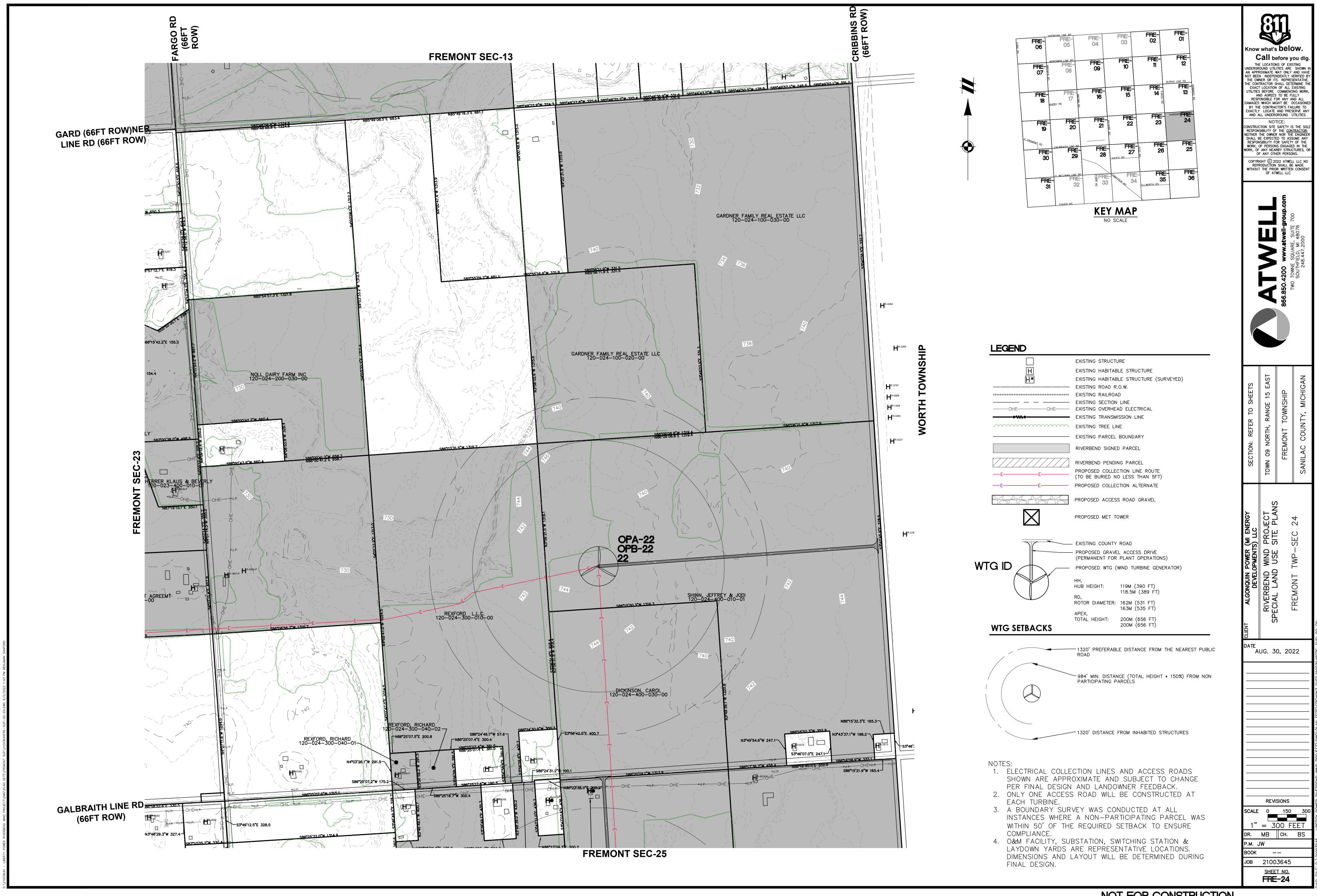




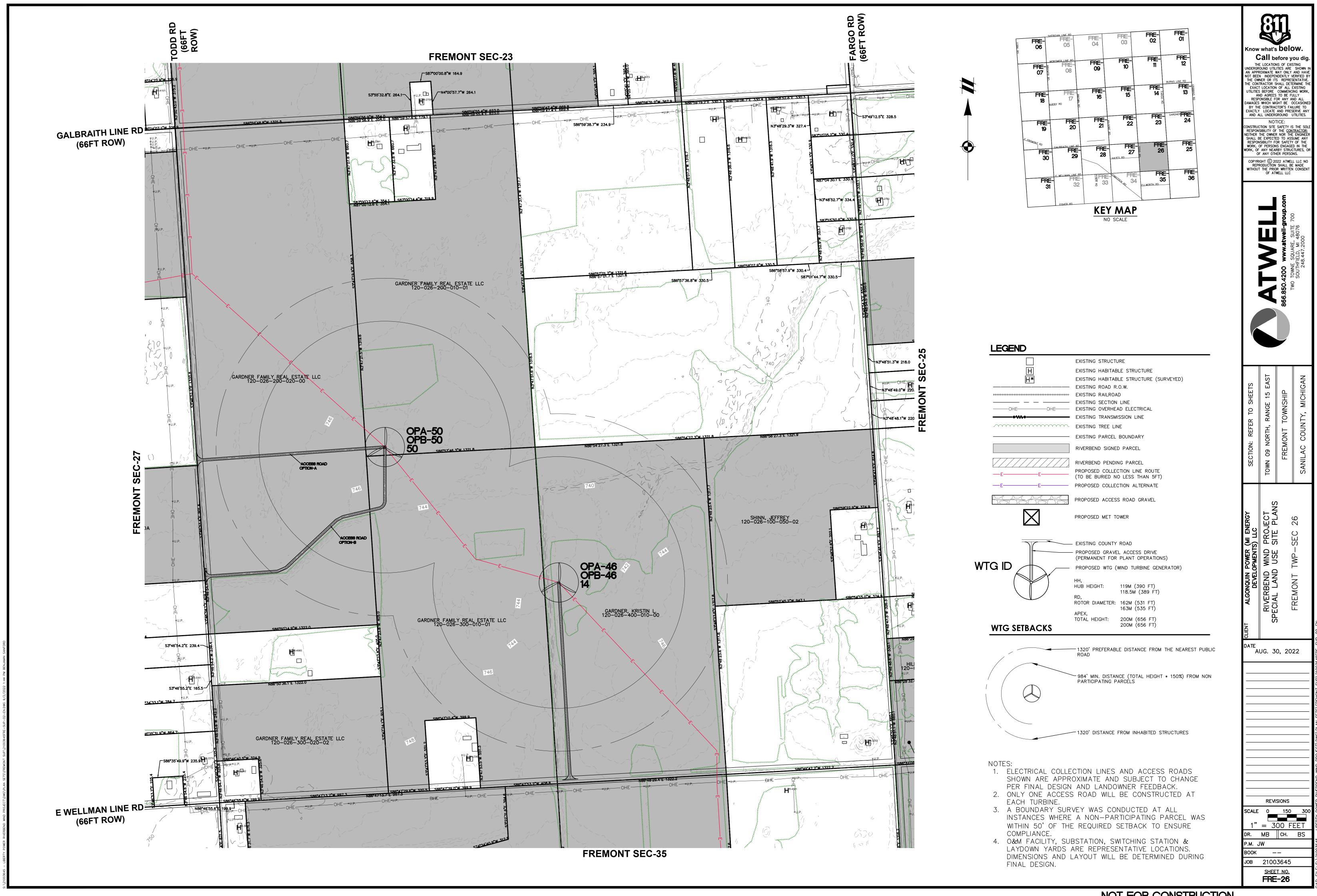


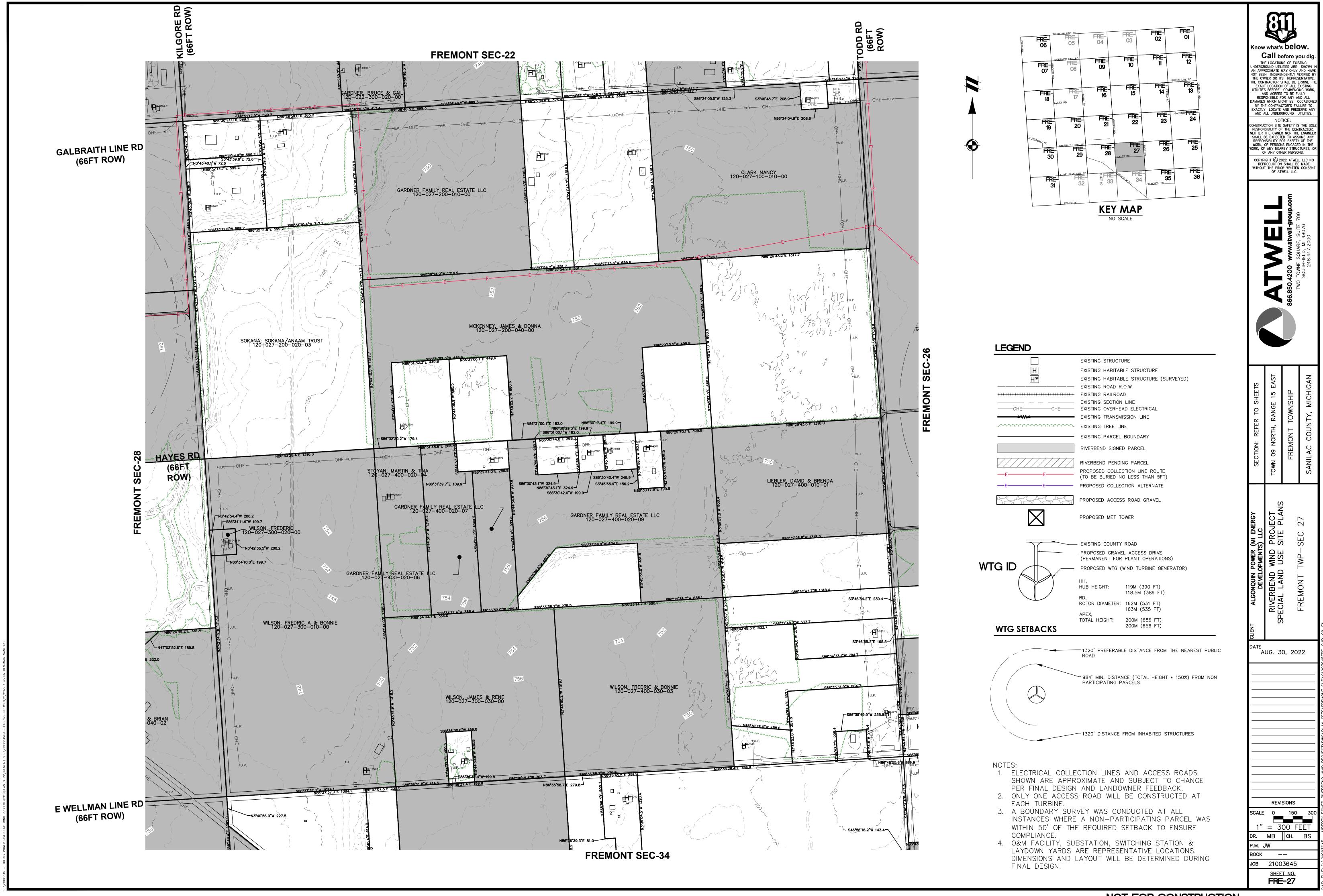


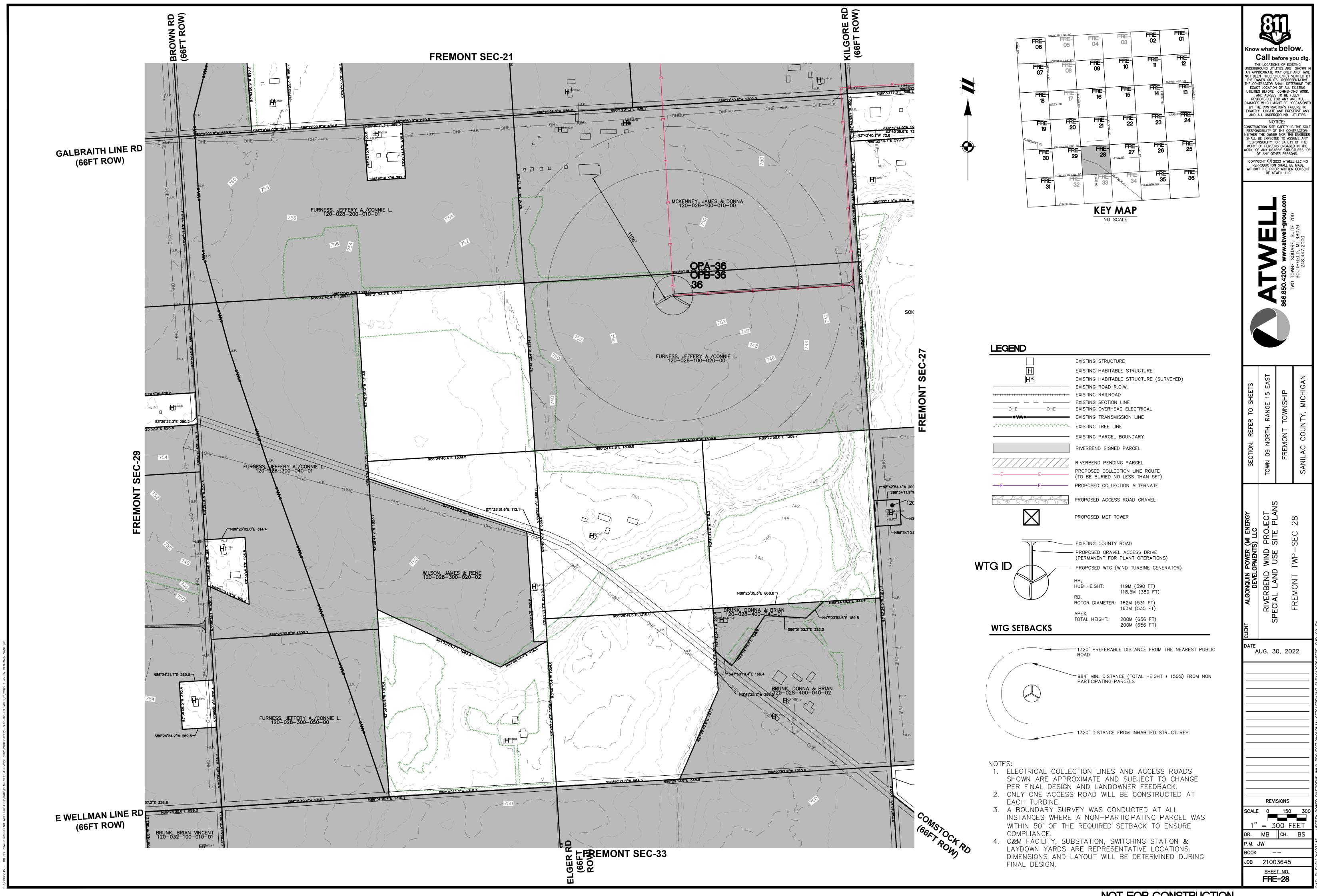


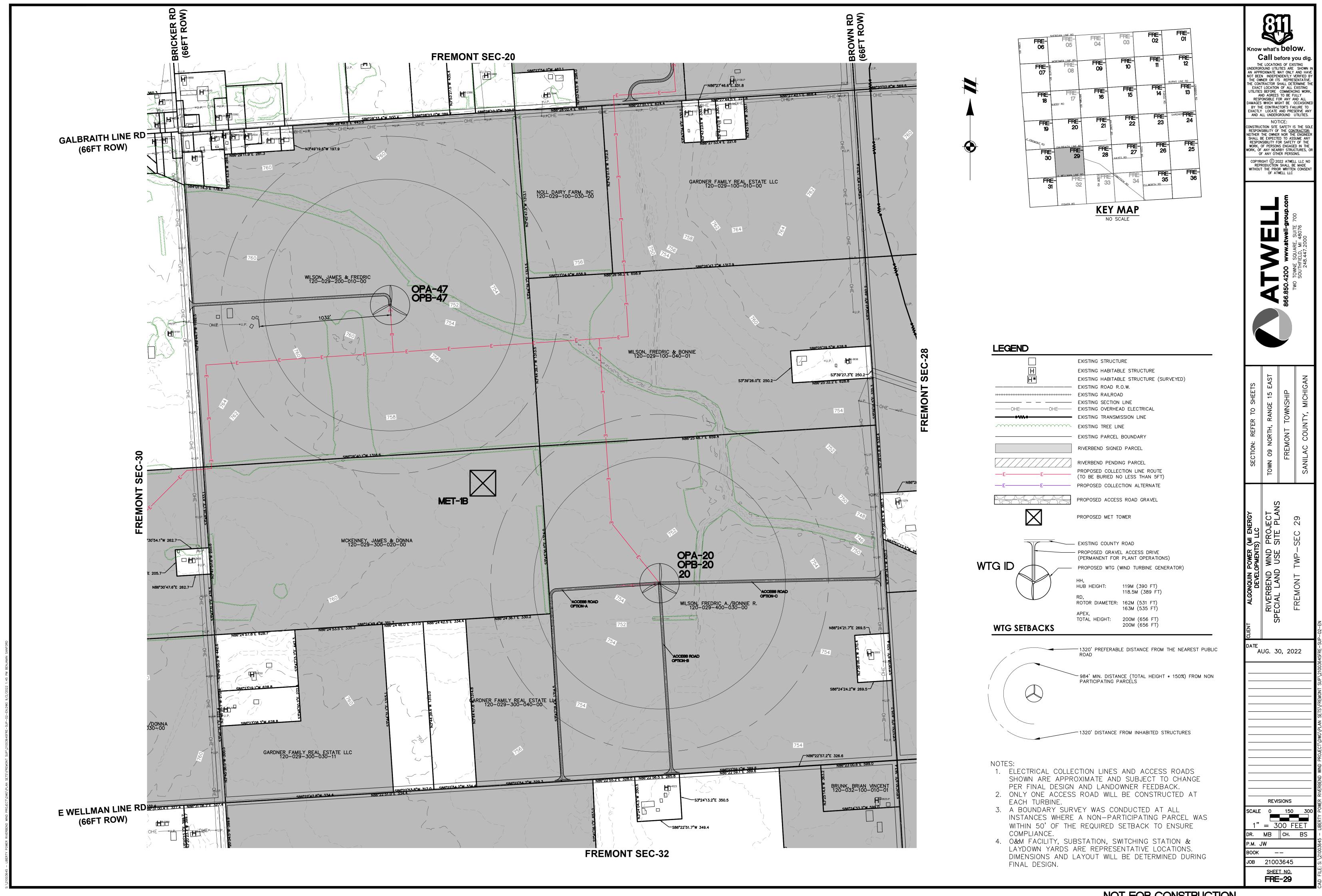






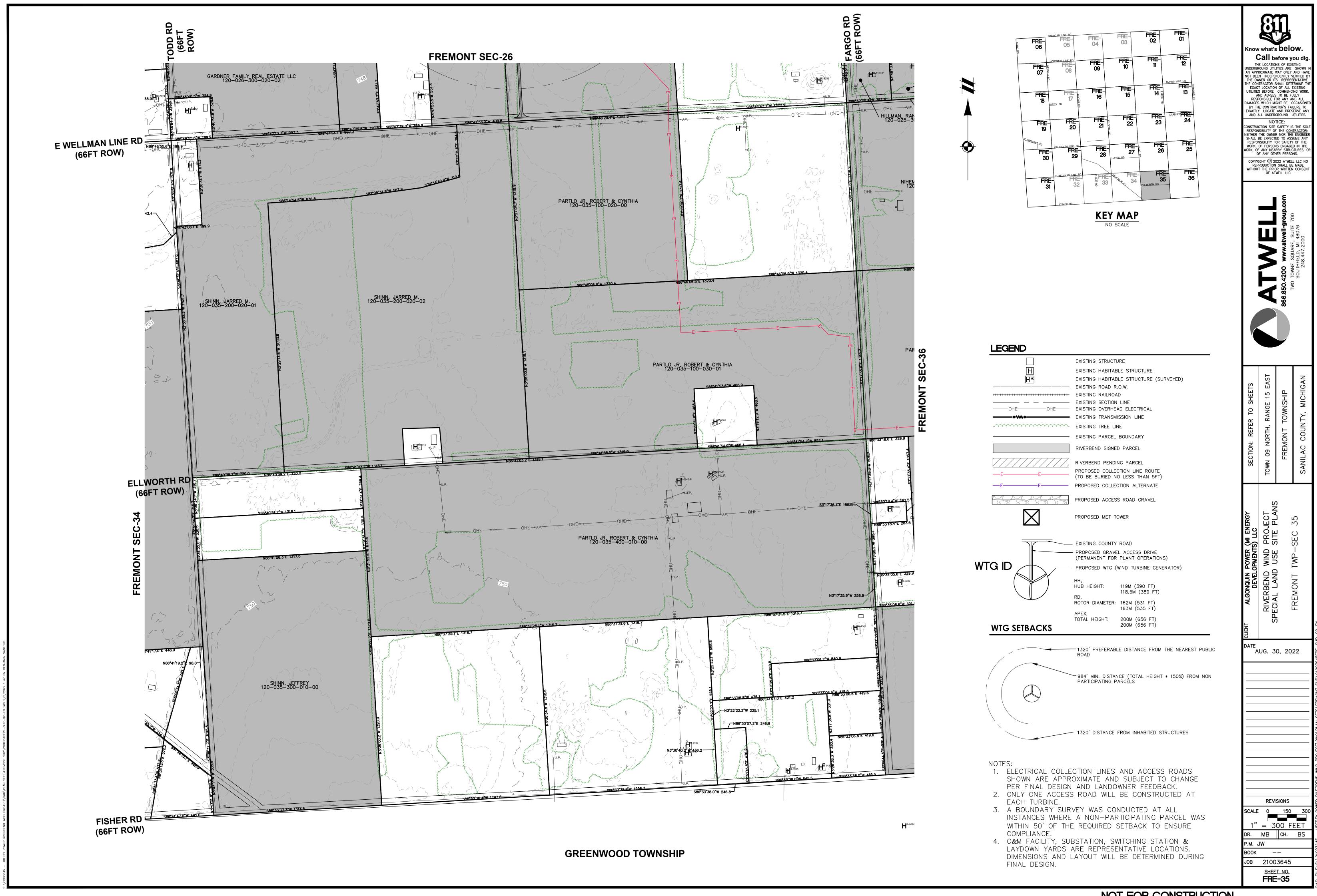


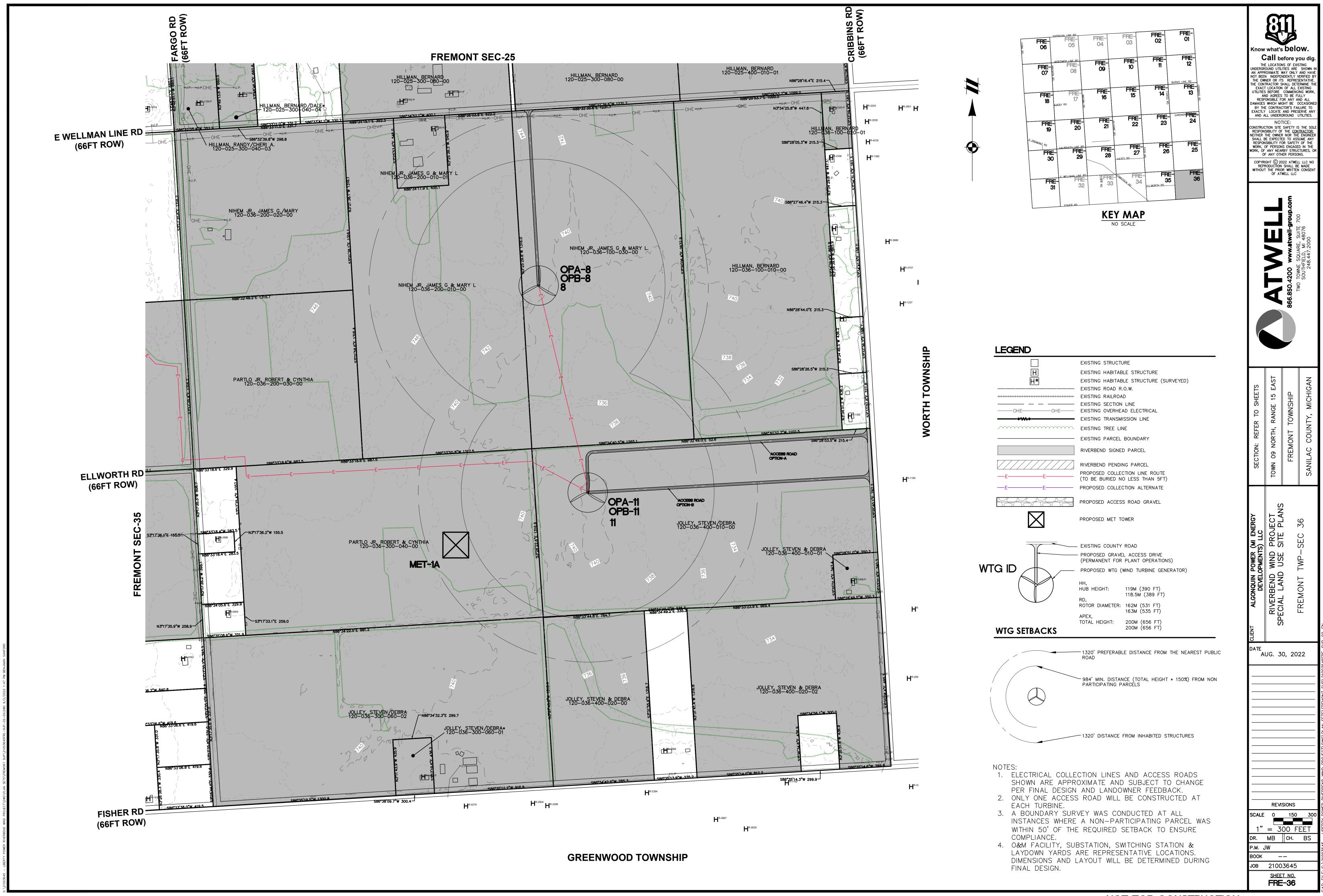








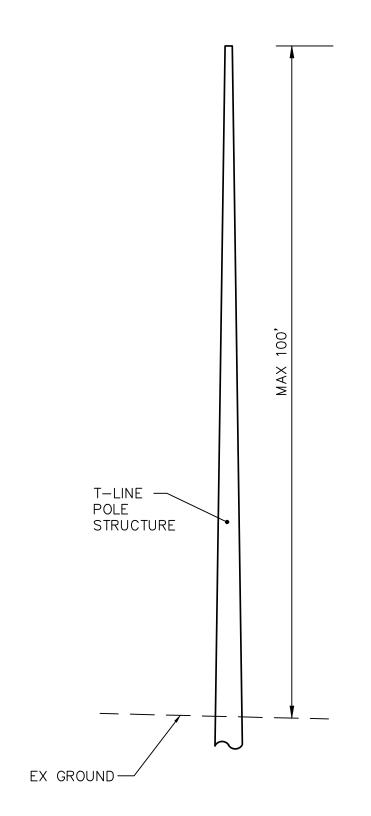




CONSTRUCTION NOTES

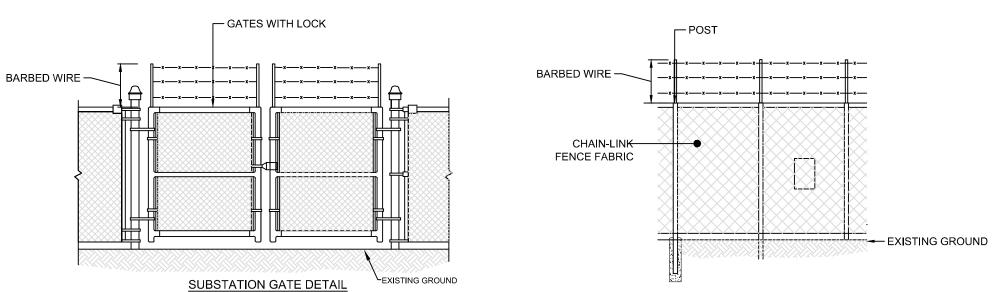
PLACEMENT LOCATIONS.

- 1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL MICHIGAN ONE-CALL (811) AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE
- UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. 2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONSTRUCTION ACTIVITIES SHALL NOT BLOCK NATURAL OR MANMADE
- DRAINAGE SWALES CAUSING RAINWATER TO POND. 3. THE CONTRACTOR SHALL INSTALL DRIVE CULVERTS AS NECESSARY TO INSURE POSITIVE DRAINAGE
- AROUND THE PROPOSED ACCESS ROADS. 4. EXISTING CULVERTS AND DRAIN TILES SHALL BE EXTENDED, REROUTED, OR DIRECTLY CONNECTED TO PROPOSED ACCESS ROAD CULVERTS AS NECESSARY TO ENSURE POSITIVE DRAINAGE. AN
- ANIMAL GRATE SHALL BE PROVIDED AT THE OUTLET OF EVERY MODIFIED DRAIN TILE. 5. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO BE FAMILIAR WITH THE POSTED WEIGHT LIMITATIONS ON PUBLIC ROADS AND BRIDGES WITHIN THE PROJECT AREA. IT WILL ALSO BE THE CONTRACTORS RESPONSIBILITY TO SECURE THE NECESSARY PERMITS FROM THE TOWNSHIPS,
- COUNTY, OR STATE AGENCIES BEFORE UTILIZING THESE PUBLIC ROADS AND BRIDGES FOR HAULING. 6. EXISTING FEATURES REMOVED AS A RESULT OF CONSTRUCTION ACTIVITIES (MAILBOXES, FENCES,
- ETC.) SHALL BE REPLACED BY THE CONTRACTOR IN A CONDITION AS GOOD AS EXISTING. 7. CONTRACTOR TO CONTACT THE SANILAC COUNTY ROAD COMMISSION FOR ALL NECESSARY SIGN REMOVALS/RELOCATIONS.
- 8. SOIL EROSÍON CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE SOIL EROSION CONTROL PLAN SHALL BE IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE USEPA "STORM WATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES." THE EXISTING SITE SLOPES ARE INSIGNIFICANT, PRODUCING VERY LITTLE SURFACE RUN-OFF WHICH FLOWS TO EXISTING FARM LAND. CONTRACTOR TO DISTURB AS LITTLE AS POSSIBLE DURING CONSTRUCTION. ALL STOCKPILES ARE TO BE TAPERED FOR FARMLAND PLACEMENT. TOPSOIL SHOULD BE PLACED ADJACENT TO FARM FIELD TO BE TILLED AND USED AS FARMLAND.
- 9. EACH WIND TURBINE SHALL HAVE ONE SIGN NOT TO EXCEED TWO SQUARE FEET POSTED AT THE BASE OF THE TOWER, OR IF THE STRUCTURE IS FENCED, ON THE FENCE. THE SIGN SHALL
- INCLUDE THE WORDS "WARNING: HIGH VOLTAGE" AND EMERGENCY PHONE NUMBERS. 10. ALL DISTURBED BANKS WITHIN COUNTY DRAINS DUE TO CULVERT INSTALLATION MUST BE
- STABILIZED PER MDOT AND COUNTY ROAD/DRAIN COMMISSION SPECIFICATIONS. 11. THE DESIGN AND INSTALLATION OF ALL UNDERGROUND ELECTRIC CABLES SHALL MEET ALL
- NATIONAL, STATE AND LOCAL ELECTRICAL SAFETY CODES. 12. REFER TO ELECTRICAL PLANS BY OTHERS FOR SPECIFICATIONS ON ELECTRIC CABLES, CROSS BOXES, JUNCTION CABINETS, ETC. ELECTRIC CABLES AND ASSOCIATED STRUCTURES SHOWN IN THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY AND REPRESENT APPROXIMATE CABLE



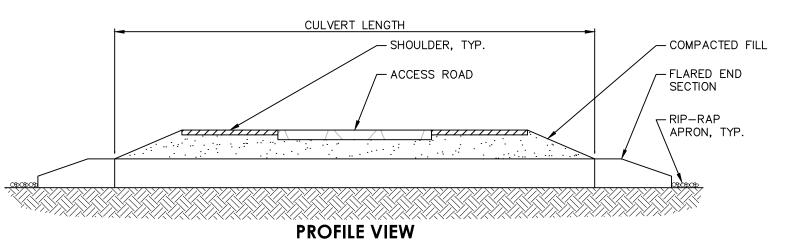
CONCEPTUAL T-LINE POLE DETAIL

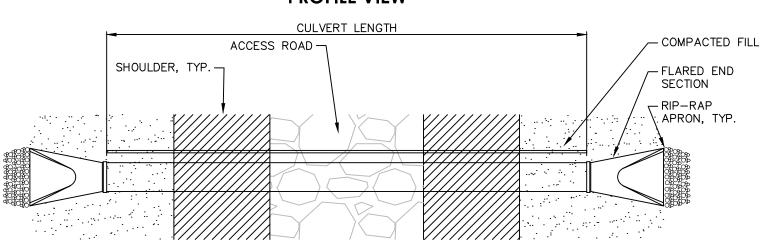
- T-LINE NOTES: 1. STRUCTURE DESIGN (MATERIALS, POST SIZE, EMBEDMENT DEPTH, SPACING, ETC.) TO BE
- DETERMINED DURING THE ENGINEERING PHASE. 2. ACTUAL HEIGHT OF POLES AND STATIC MAST TO BE DETERMINED BY OFFTAKER.



PRELIMINARY SUBSTATION FENCE DETAIL

GENERAL FENCE NOTES: 1. FENCE INSTALLATION, DIMENSIONS AND MATERIALS WILL BE DETERMINED PER FINAL SUBSTATION DESIGN &





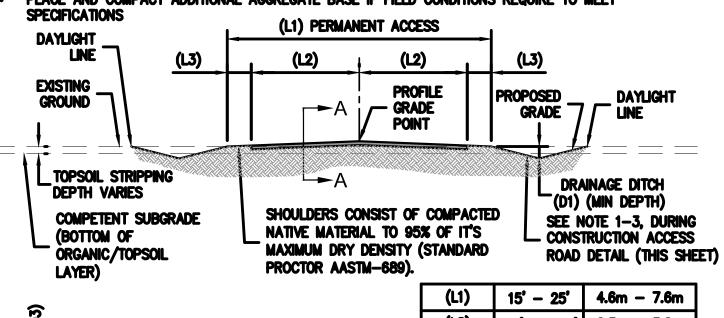
PLAN VIEW

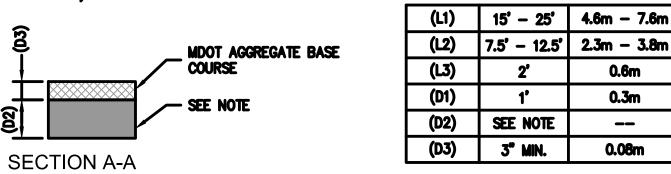
- NOTES:
 1. CULVERT DIMENSIONS AND BURIAL DEPTHS VARY. 2. CULVERTS UNDER SANILAC COUNTY JURISDICTION LARGER THAN 36" DIAMETER SHALL BE PROTECTED WITH RIP-RAP. RIP-RAP SHALL BE "MDOT PLAIN," PLACED AT EACH END OF THE CULVERT TO A HEIGHT OF ONE FOOT ABOVE THE TOP OF THE CULVERT, PROTECTING
- 3. RIP-RAP TO BE UNDERLAIN WITH NON-WOVEN GEOFABRIC FOR EROSION PROTECTION. 4. DITCH SHALL BE CLEANED OF SODS AND DEBRIS PRIOR TO PIPE INSTALLATION.

PRELIMINARY CULVERT DETAIL

ROAD CONSTRUCTION TYPICAL WORKFLOW:

- STAKE CENTERLINE AND CLEARING LIMITS.
- REMOVE AND STOCKPILE EXISTING VEGETATION AND TOPSOIL.
- FORM UNIFORM SUBGRADE FOR WIDTH OF ROAD, SHOULDERS AND SWALES. (MAY REQUIRE MILLING, HAMMERING OR RIPPING. REFER TO GEOTECHNICAL REPORT FOR CONSTRUCTION
- SUBGRADE SHALL BE CROWNED 1%-2% CROSS SLOPE (MAX 2%). MIX CEMENT AND COMPACT SUBGRADE PER GEOTECHNICAL REPORT RECOMMENDATIONS
- PROOF ROLL SUBGRADE TO SPECIFIED COMPACTION OR PROOF ROLL CRITERIA.
- PLACE AND COMPACT AGGREGATE BASE.
- CLEAR AND STOCKPILE VEGETATION AND TOPSOIL IN THE IMPROVEMENT AREAS. • FORM UNIFORM SUBGRADE FOR WIDTH OF ROAD AND SHOULDERS FOLLOWING MINIMUM CRITERIA IN
- COMPACT AND PROOF ROLL THE PREPARED ROAD BED.
- USE AGGREGATE BASE AS REQUIRED TO FILL POTHOLES, DIPS, OR UNEVEN AREAS IN THE ROAD
- AND SHOULDER LANES.
- PLACE AND COMPACT AGGREGATE BASE TO MINIMUM DEPTH. PLACE AND COMPACT ADDITIONAL AGGREGATE BASE IF FIELD CONDITIONS REQUIRE TO MEET





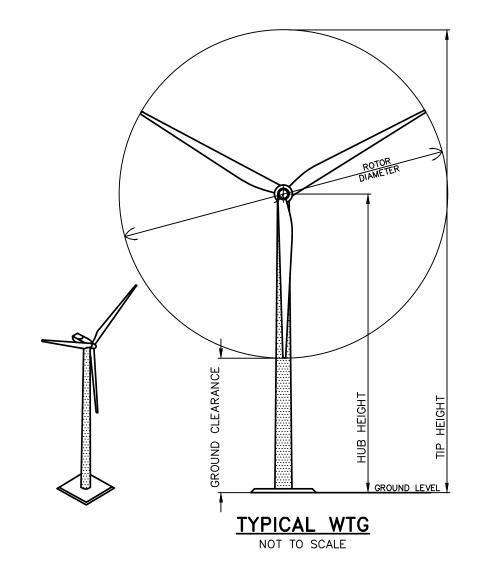
ACCESS ROAD WITHOUT CRANE WALK

0.6m 0.3m

0.08m

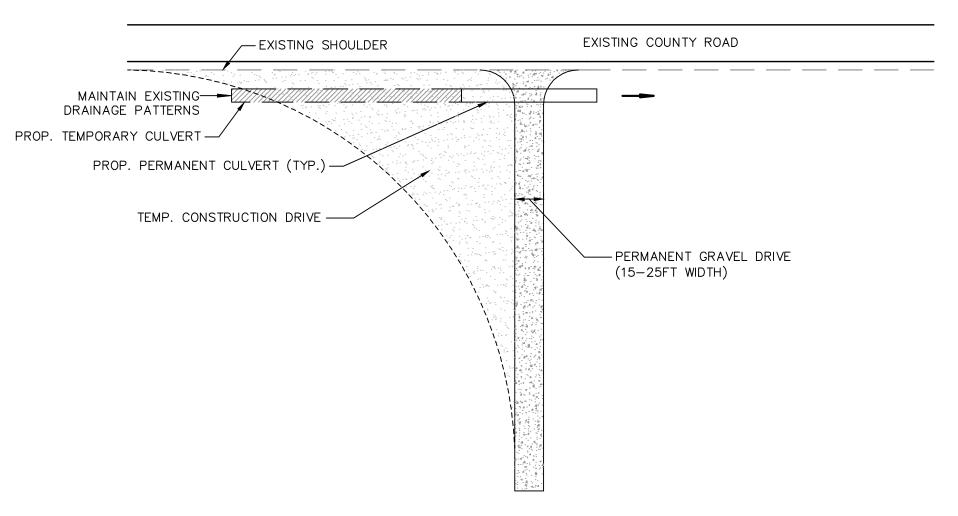
NOT TO SCALE

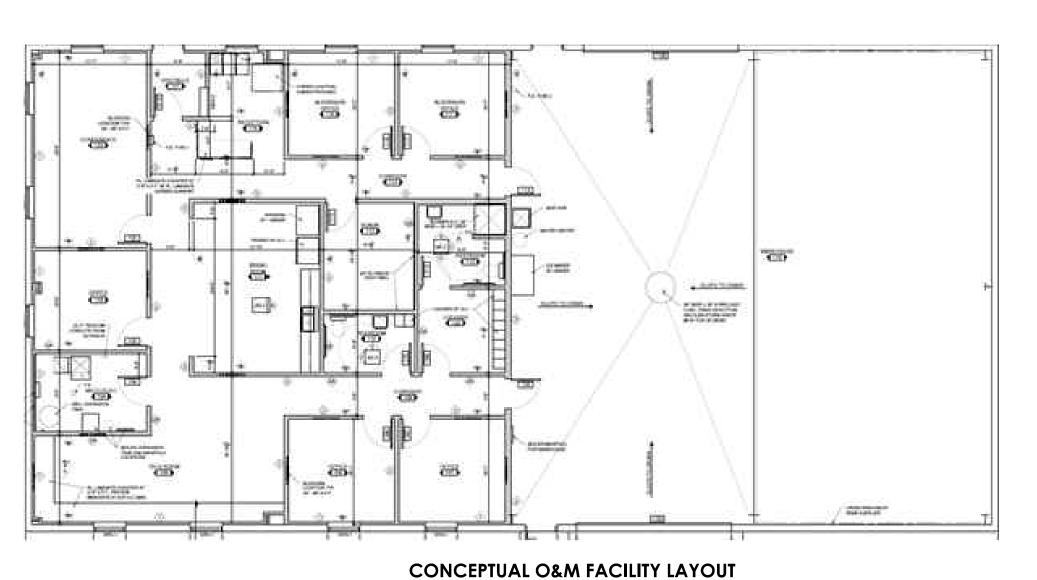
NOTE: SOIL STABILZATION SPECIFICATIONS TO BE DETERMINED BY GEO-TECHNICAL ENGINEER.



Typical Turbine Specifications										
Hub Height (m)	Hub Height (ft)	Rotor Diameter	Rotor Diameter	Tip Height (m)	Tip Height (ft)	Ground	Ground			
		(m)	(ft)			Clearance (m)	Clearance (ft)			
119	390	162	531	200	656	38	125			
118.5	389	163	535	200	656	37	121			

PRELIMINARY ACCESS ROAD DETAIL





GENERALO&M FACILITY NOTES:

1. O&M BUILDING TO BE UP TO 6'000 SF. ADDITIONAL DETAILS TO BE PROVIDED UPON FINAL DESIGN.

now what's **below** Call before you dig THE LOCATIONS OF EXISTING THE LOCATIONS OF EXISTING
UNDERGROUND UTILITIES ARE SHOWN IN
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THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE TH EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL

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> SHEET NO. FRE-DET