

DATE	1-28-2025
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PROPRIETOR:
KRAHE HEATING & COOLING, INC.
980 S. CASS LAKE RD.
WATERFORD, MI 48328
(248) 766-9355

THIS DRAWING IS THE PROPERTY OF KIEFT ENGINEERING, INC. AND MAY NOT BE USED, REPRODUCED OR PUBLISHED, IN PART OR IN WHOLE, WITHOUT EXPRESS WRITTEN PERMISSION FROM KIEFT ENGINEERING, INC.



KIEFT ENGINEERING, INC.
PROFESSIONAL ENGINEERS AND PROFESSIONAL SURVEYORS
5852 SOUTH MAIN STREET, SUITE 1, CLARKSTON, MICHIGAN 48346
PHONE (248) 625-9251 FAX (248) 625-9251
WWW.KIEFTENGINEERING.COM

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Existing Conditions Plan
Krahe Heating & Cooling
PART OF THE SW 1/4 OF SECTION 28, T5N, R7E,
HOLLY TOWNSHIP, OAKLAND COUNTY, MICHIGAN

SHEET	1 OF 2
SCALE	1" = 20'
DATE	1-28-2025

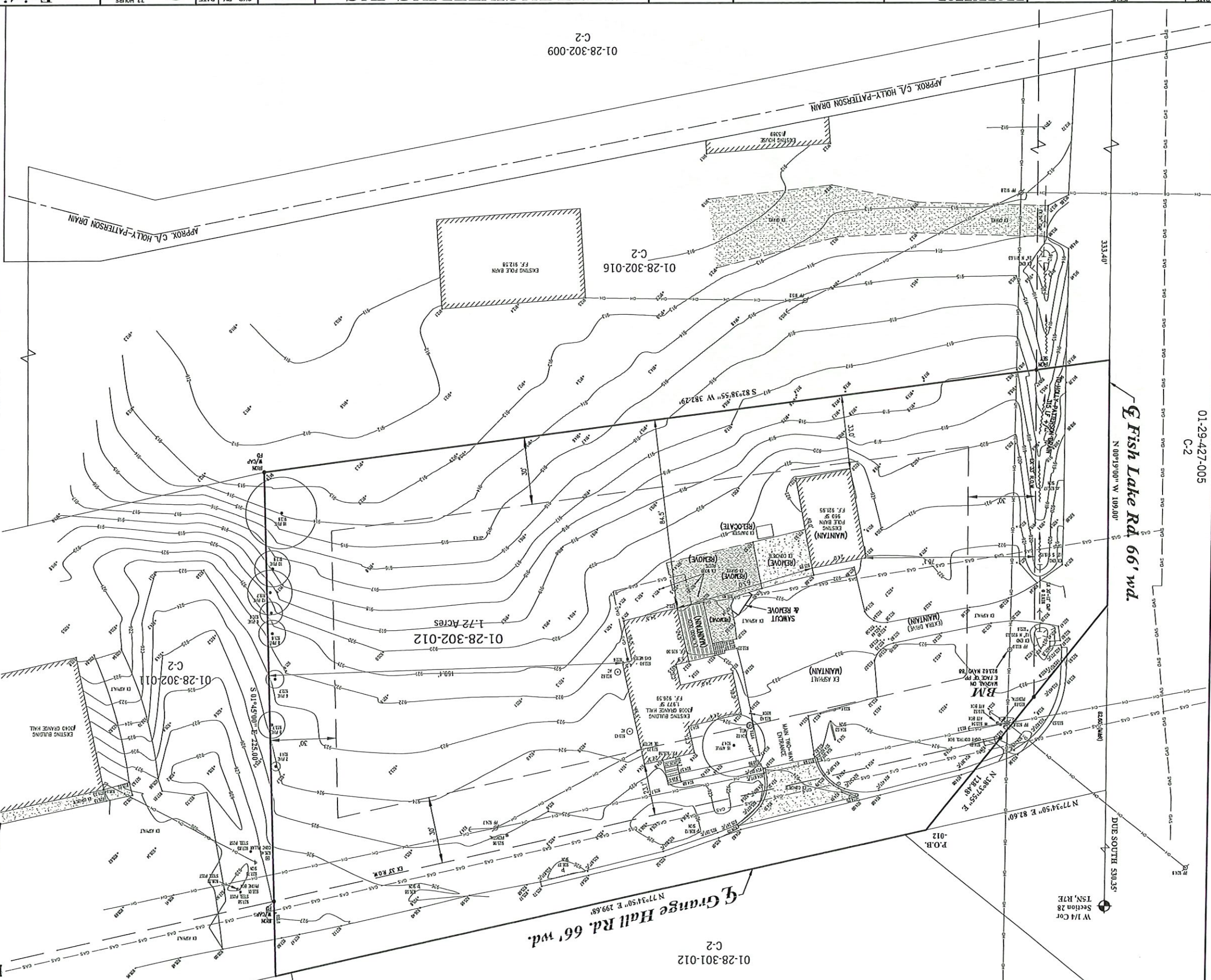
01-29-427-005
C-2

Fish Lake Rd. 66' wd.
N 00°19'00" W 109.00'

Section 28
T5N, R7E

01-28-301-012
C-2

Grange Hall Rd. 66' wd.
N 77°34'50" E 82.60'

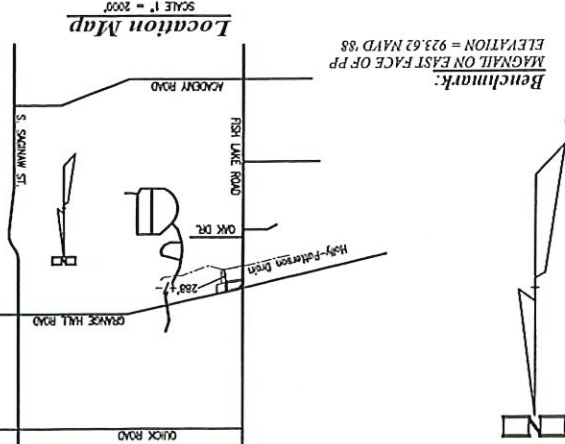


Sheet Index:
1. Existing Conditions Plan
2. Preliminary Site Plan

Parcel 01-28-302-012
PART OF THE SW 1/4 OF SECTION 28, T5N, R7E, HOLLY TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS BEGINNING AT A POINT LOCATED DUE SOUTH 530.35 FT & N 77°34'50" E 82.60 FT FROM THE W 1/4 CORNER 15N, R7E; TH N 77°34'50" E 299.68 FT; TH S 82°38'55" W 382.29 FT; TH S 82°38'55" W 382.29 FT; TH N 77°34'50" E 128.48 FT TO THE POINT OF BEGINNING, CONTAINING 1.72 ACRES, SUBJECT TO THE RIGHTS OF THE PUBLIC OVER THE WESTERLY 33 FEET FOR GRANGE HALL ROAD, ALSO SUBJECT TO EASEMENTS & RESTRICTIONS OF RECORD, IF ANY.

Notes:
1. ALL EXISTING UTILITIES SHOWN ON THIS TOPOGRAPHIC SURVEY HAVE BEEN TAKEN FROM VISUAL OBSERVATION AND RECORD MAPPING, WHERE AVAILABLE. NO GUARANTEE IS MADE, OR SHOULD BE ASSUMED, AS TO THE COMPLETENESS OR ACCURACY OF THE UTILITIES SHOWN ON THIS DRAWING. PARTIES UTILIZING THIS INFORMATION SHALL FIELD VERIFY THE ACCURACY AND COMPLETENESS OF OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION ACTIVITIES.
2. ARCHITECT/BUILDER IS RESPONSIBLE FOR CONFIRMING BUILDING SETBACKS.
Property is Zoned C-2 General Commercial.
SETBACKS:
FRONT - 30 FEET
SIDE - 10 FEET EACH SIDE
REAR - 30 FEET
MAXIMUM BUILDING COVERAGE - 25%

LEGEND
EXISTING DRAINAGE
EXISTING CONTOUR
GAS
EXISTING GAS MAIN
EXISTING STORM SEWER
EXISTING OVERHEAD UTILITIES LINE
EXISTING TREE



Preliminary Site Plan

Krane Heating & Cooling

PART OF THE SW 1/4 OF SECTION 28, T5N, R7E,
HOLLY TOWNSHIP, OAKLAND COUNTY, MICHIGAN

01-29-427-005
C-2

Fish Lake Rd. 66' wd.
N 00°19'00" W 109.10'

DOE SOUTH 530.35'

W 1/4 Cor
Section 28
T2N, R1E

PROPRIETOR:
KRAHE HEATING & COOLING, INC.
980 S. CASS LAKE RD.
WATERFORD, MI 48328
(248) 766-9355

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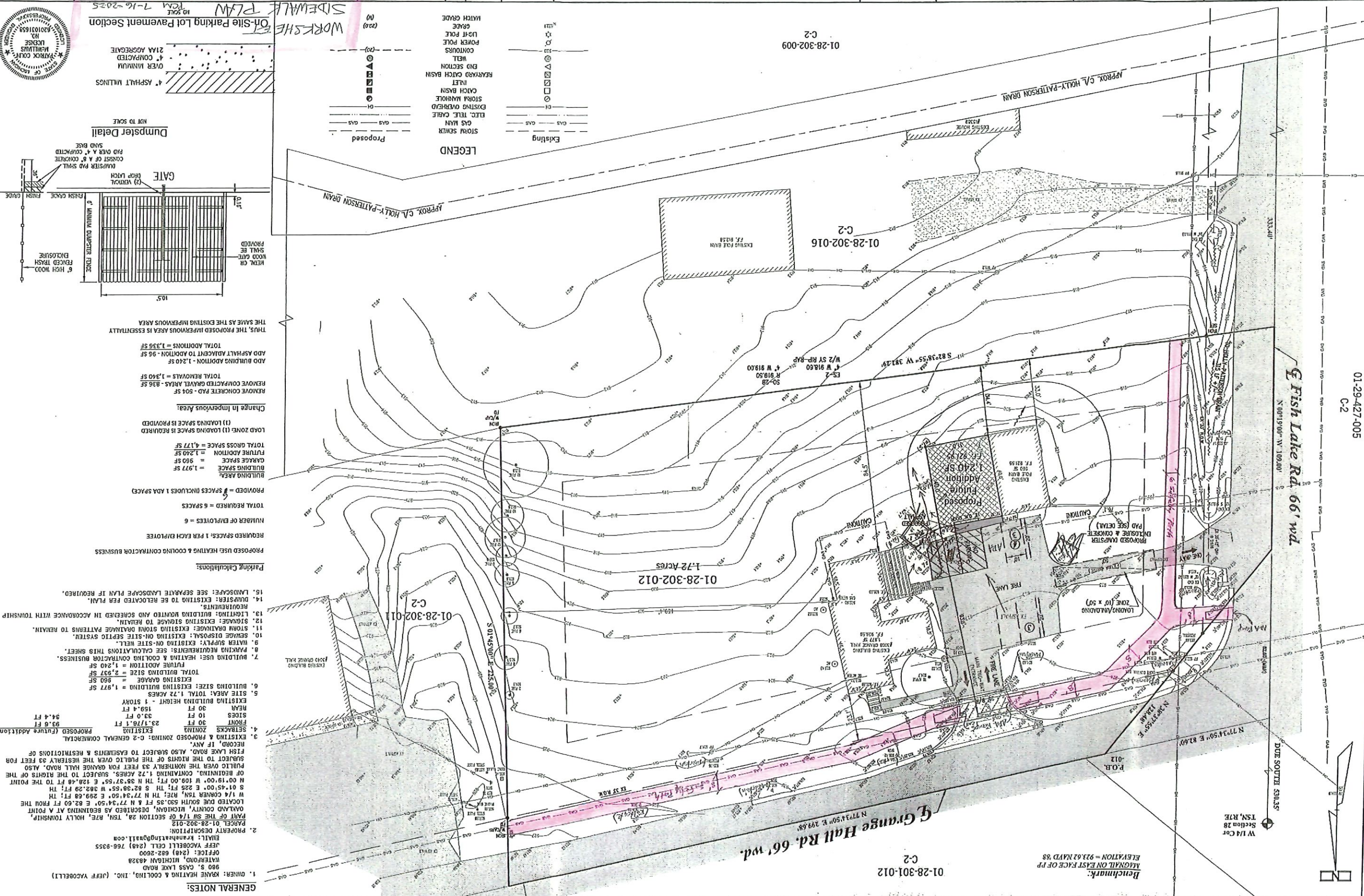
PROFESSIONAL ENGINEERS AND PROFESSIONAL SURVEYORS
KRAFT ENGINEERING, INC.
5852 SOUTH MAIN STREET, SUITE 1, CLARKSTON, MICHIGAN 48348
PHONE (248) 625-5251
FAX (248) 625-7110

DATE	1-22-2025	CKD. BY	DATE
DESIGN	PCW	DATE	
SECTION	28		
T-S-N-E-W	7-E		



Preliminary Site Plan
Krahe Heating & Cooling
PART OF THE SW 1/4 OF SECTION 28, T2N, R1E,
HOLLY TOWNSHIP, OAKLAND COUNTY, MICHIGAN

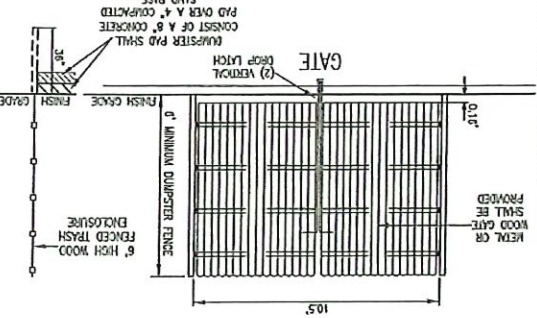
SCALE 1" = 20'
SHEET 2 OF 2
KE 2021.345



- GENERAL NOTES:
1. OWNER: KRAHE HEATING & COOLING, INC. (JEFF YACORELLI)
980 S. CASS LAKE ROAD
WATERFORD, MICHIGAN 48328
OFFICE: (248) 662-2600
JEFF YACORELLI CELL (248) 766-9355
EMAIL: krahheating@gmail.com
 2. PROPERTY DESCRIPTION:
PART OF THE SW 1/4 OF SECTION 28, T2N, R1E, HOLLY TOWNSHIP,
OAKLAND COUNTY, MICHIGAN, DESCRIBED AS BEGINNING AT A POINT
LOCATED ONE SOUTH 530.35' FT & N 77°34'50" E 82.60' FT FROM THE
W 1/4 CORNER T2N, R1E; TH N 77°34'50" E 299.68' FT; TH
S 01°45'00" E 225' FT; TH S 82°30'55" E 382.29' FT; TH
N 00°19'00" W 109.00' FT; TH N 35°37'55" E 128.48' FT TO THE POINT
OF BEGINNING, CONTAINING 1.72 ACRES, SUBJECT TO THE RIGHTS OF
PUBLIC OVER THE NORTHERLY 33 FEET FOR GARAGE HALL ROAD, ALSO
SUBJECT TO THE RIGHTS OF THE PUBLIC OVER THE NORTHERLY 33 FEET FOR
FISH LAKE ROAD, ALSO SUBJECT TO EASEMENTS & RESTRICTIONS OF
RECORD, IF ANY.
 3. EXISTING & PROPOSED ZONING: C-2 GENERAL COMMERCIAL
EXISTING ZONING: C-2 GENERAL COMMERCIAL
PROPOSED ZONING: C-2 GENERAL COMMERCIAL
 4. SETBACKS: EXISTING 23.17/16.1 FT
FRONT 30 FT
SIDES 10 FT
REAR 30 FT
EXISTING BUILDING HEIGHT - 1 STORY
EXISTING GARAGE = 1,977 SF
EXISTING BUILDING = 1,240 SF
TOTAL BUILDING SIZE = 2,937 SF
FUTURE ADDITION = 1,240 SF
BUILDING USE: HEATING & COOLING CONTRACTOR BUSINESS.
SEE CALCULATIONS THIS SHEET.
 5. BUILDING SIZE: EXISTING BUILDING = 1,977 SF
EXISTING GARAGE = 1,240 SF
TOTAL BUILDING SIZE = 2,937 SF
FUTURE ADDITION = 1,240 SF
BUILDING USE: HEATING & COOLING CONTRACTOR BUSINESS.
SEE CALCULATIONS THIS SHEET.
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EXISTING GARAGE = 1,240 SF
TOTAL BUILDING SIZE = 2,937 SF
FUTURE ADDITION = 1,240 SF
BUILDING USE: HEATING & COOLING CONTRACTOR BUSINESS.
SEE CALCULATIONS THIS SHEET.
 7. BUILDING USE: HEATING & COOLING CONTRACTOR BUSINESS.
SEE CALCULATIONS THIS SHEET.
 8. PARKING REQUIREMENTS: SEE CALCULATIONS THIS SHEET.
 9. WATER SUPPLY: EXISTING ON-SITE WELL.
 10. SEWER DISPOSAL: EXISTING ON-SITE SEPTIC SYSTEM.
 11. STORM DRAINAGE: EXISTING STORM DRAINAGE PATTERNS TO REMAIN.
 12. SIGNAGE: EXISTING SIGNAGE TO REMAIN.
 13. LIGHTING: BUILDING MOUNTED AND SCREENED IN ACCORDANCE WITH TOWNSHIP
REQUIREMENTS.
 14. DUMPSTER: EXISTING TO BE RELOCATED PER PLAN.
 15. LANDSCAPE: SEE SEPARATE LANDSCAPE PLAN IF REQUIRED.

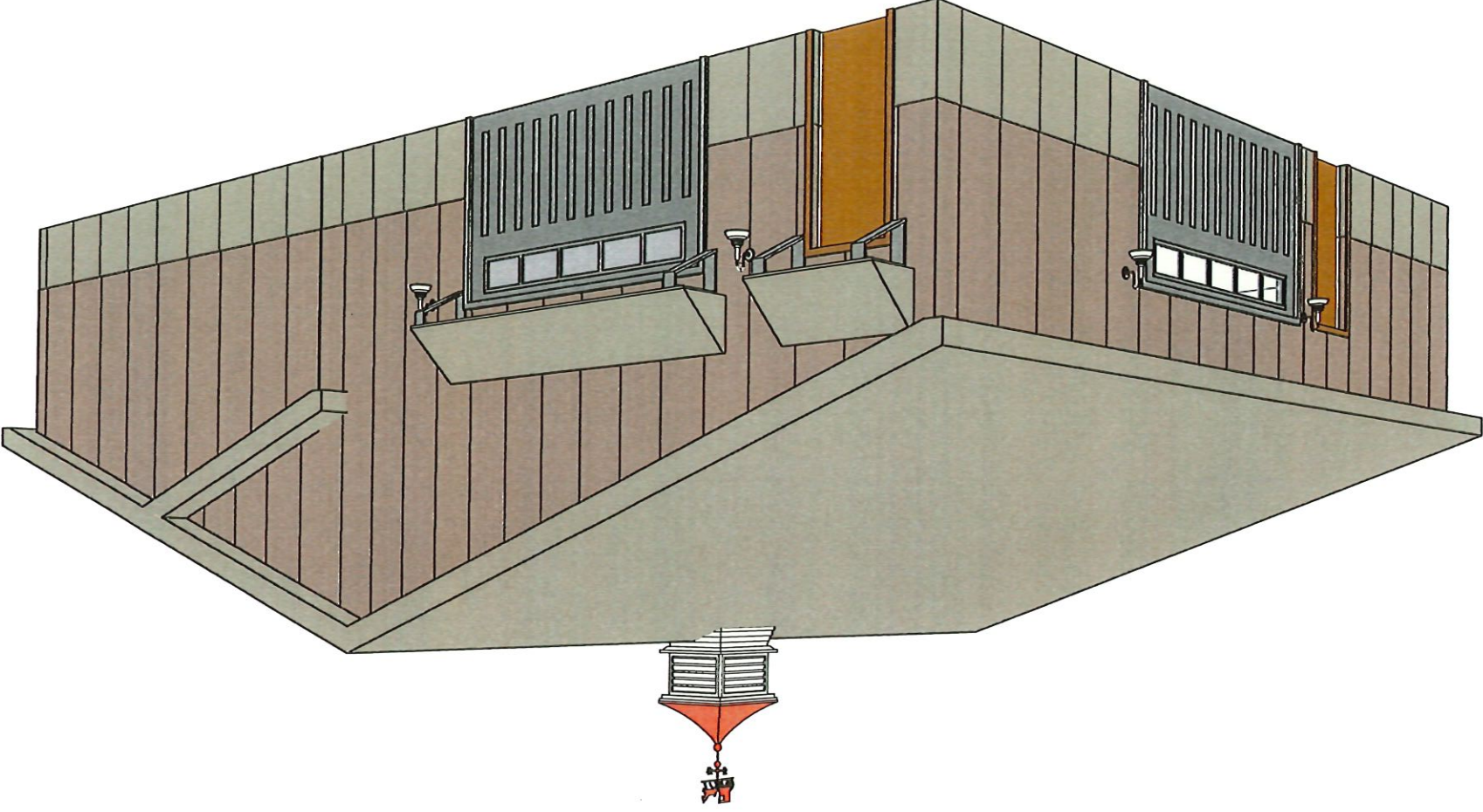
Parking Calculations:
PROPOSED SPACES: 1 PER EACH EMPLOYEE
NUMBER OF EMPLOYEES = 6
TOTAL REQUIRED = 6 SPACES
PROVIDED = 6 SPACES (INCLUDES 1 ADA SPACE)
BUILDING SPACE = 1,977 SF
GARAGE SPACE = 960 SF
FUTURE ADDITION = 1,240 SF
TOTAL GROSS SPACE = 4,177 SF
LOAD ZONE: (1) LOADING SPACE IS PROVIDED
CHANGE IN IMPERVIOUS AREA:
REMOVE CONCRETE PAD - 504 SF
REMOVE COMPACTED GRAVEL AREAS - 836 SF
TOTAL REMOVALS = 1,340 SF
ADD BUILDING ADDITION - 1,240 SF
ADD ASPHALT ADJACENT TO ADDITION - 96 SF
TOTAL ADDITIONS = 1,336 SF
THUS, THE PROPOSED IMPERVIOUS AREA IS ESSENTIALLY
THE SAME AS THE EXISTING IMPERVIOUS AREA

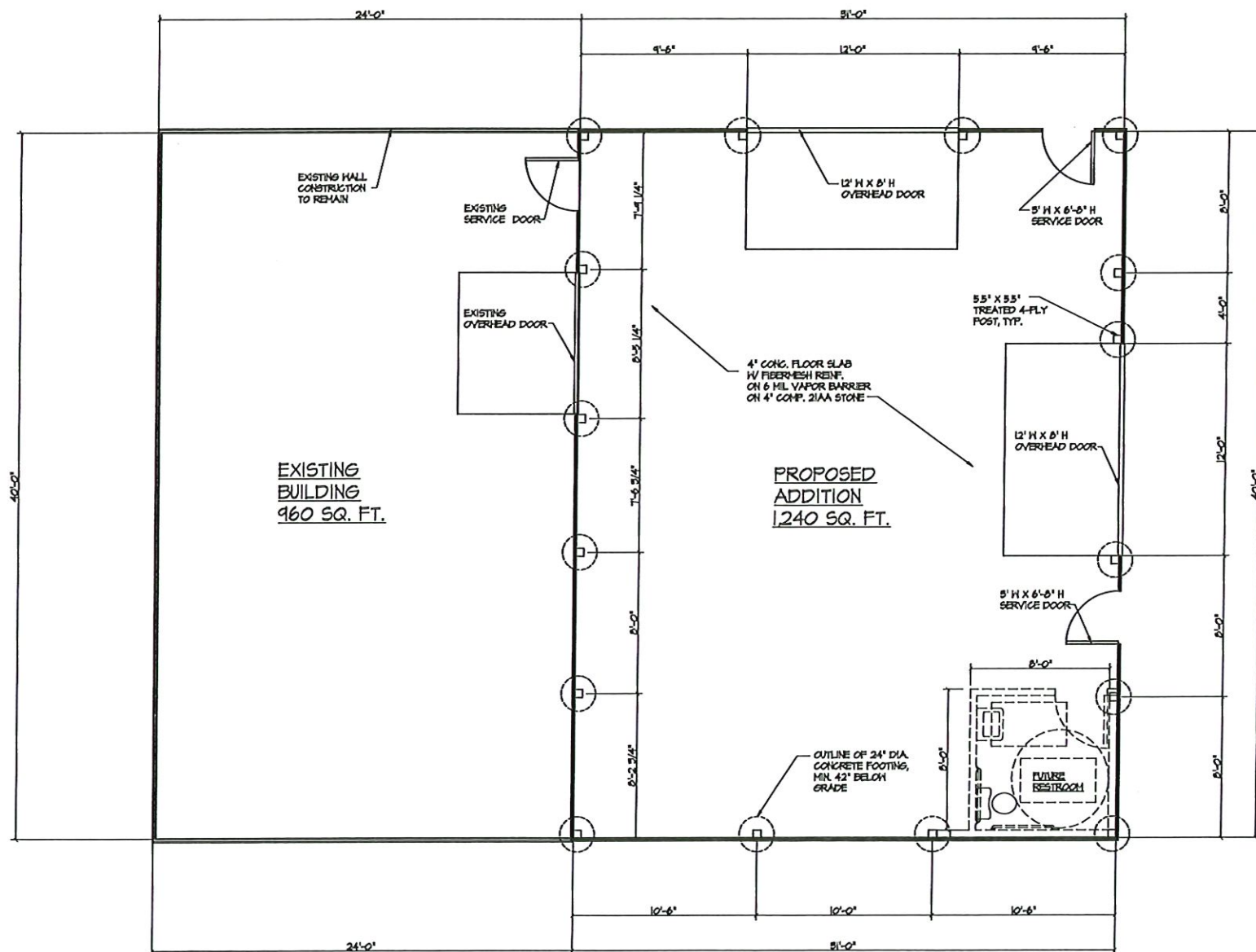
Dumpster Detail
NOT TO SCALE



On-Site Parking Lot Pavement Section
SIDEWALK PLW
NO SCALE
7-16-2025

LEGEND	
Existing	Proposed
WATER GRADE	WATER GRADE
GRADE	GRADE
UPST POLE	UPST POLE
POWER POLE	POWER POLE
CONTOURS	CONTOURS
WELL	WELL
REARWARD CATCH BASIN	REARWARD CATCH BASIN
RILET	RILET
STORM DRAINAGE	STORM DRAINAGE
EXISTING OVERHEAD	EXISTING OVERHEAD
ELEC. TELE. CABLE	ELEC. TELE. CABLE
GRASS	GRASS
STORM SINK	STORM SINK





ROOF FRAMING NOTES

1. HOOD TRUSS ROOF FRAMING SHOWN IS DIAGRAMMATIC AND IS TO BE USED AS A GUIDE ONLY.
2. TRUSS SUPPLIER IS TO PROVIDE ARCHITECT WITH SHOP DRAWINGS, FOR REVIEW, INDICATING LAYOUT AND TYPES OF MEMBERS USED PRIOR TO FABRICATION.
3. SHOP DRAWINGS ARE TO BE DESIGNED, SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER.
4. PROVIDE MIN. 22" x 30" ACCESS OPENING TO ATTIC.

STRUCTURAL NOTES

1. ALL CONCRETE SHALL DEVELOP 5000 PSI COMPRESSIVE STRENGTH IN 28 DAYS.
2. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL.
3. FOOTING DESIGN BASED ON ASSUMED SOIL BEARING CAPACITY OF 2500 PSF.
4. FOOTING DEPTH TO BE INCREASED IF NECESSARY TO ASSURE ADEQUATE SOIL BEARING PRESSURE.

DESIGN LOADS

1. Soil Pressure: 2,500 PSF
2. Ground Snow Load, (Pg): 30 PSF
3. Thermal Factor (Ct): 1.2
4. Snow Exposure Factor (Ce): 0.9
5. Snow Load Importance Factor (Is): 1.1
6. Sloped Roof Snow Load, (Ps): 25.0 PSF
 $CsP = Cs(1 + Ce \times Ct \times Is \times Pg)$
7. Wind Speed: 90 MPH
8. Wind Load Importance Factor: 1.0
9. Wind Exposure Category: 'B'

10. Design Roof Loads:

- Snow Load, (Ps): 25.0 PSF
 Live Load, (LL): 25.0 PSF

Dead Loads:

- Steel Roofing: 1.0 PSF
 Plywood Sheathing: 2.5 PSF
 Open Web Wood Truss: 4.0 PSF
 Mech./Elec./Plumb.: 5.0 PSF
 Fiberglass Insulation: 1.5 PSF
 Steel Panel Ceiling Panel: 1.0 PSF
 Dead Load, (DL): 15.0 PSF

Total Load, (LL)+(DL): 40.0 PSF

STRUCTURAL NOTES

1. ALL CONCRETE SHALL DEVELOP 5000 PSI COMPRESSIVE STRENGTH IN 28 DAYS.
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4. FOOTING DEPTH TO BE INCREASED IF NECESSARY TO ASSURE ADEQUATE SOIL BEARING PRESSURE.

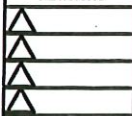
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ROOF & CARRIER NOTES

1. TRUSSES ENGINEERED BY OTHERS.
2. ALL OVERHANGS 12".
3. ALL CARRIERS ON INTERIOR SIDE OF LEAN-TO HALLS TO BE RECESSED WITH FACE OF CARRIER FLUSH WITH FACE OF POST TO MINIMIZE WALL THICKNESS.

REVISIONS



JOB NO: 025-021

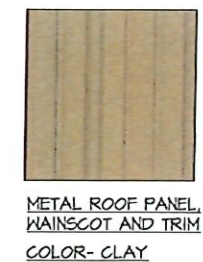
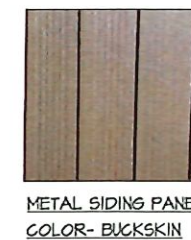
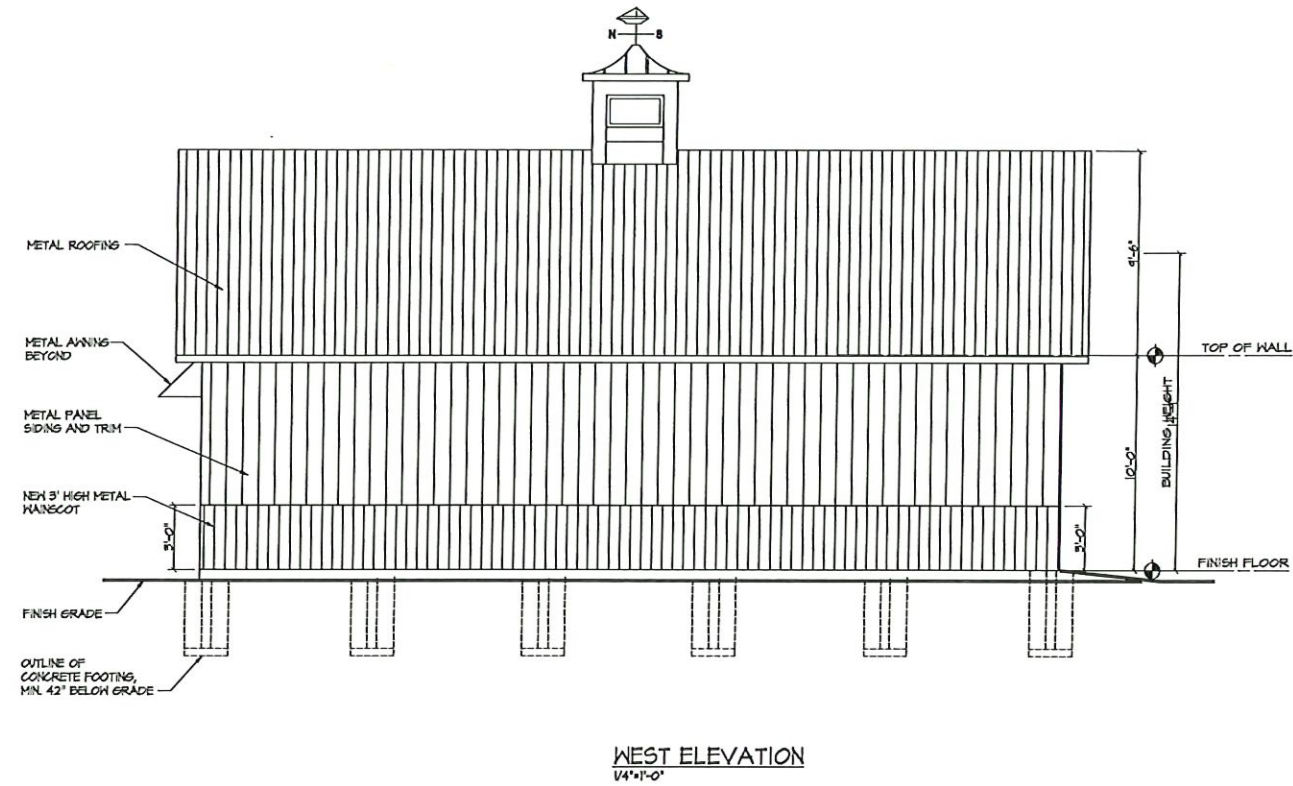
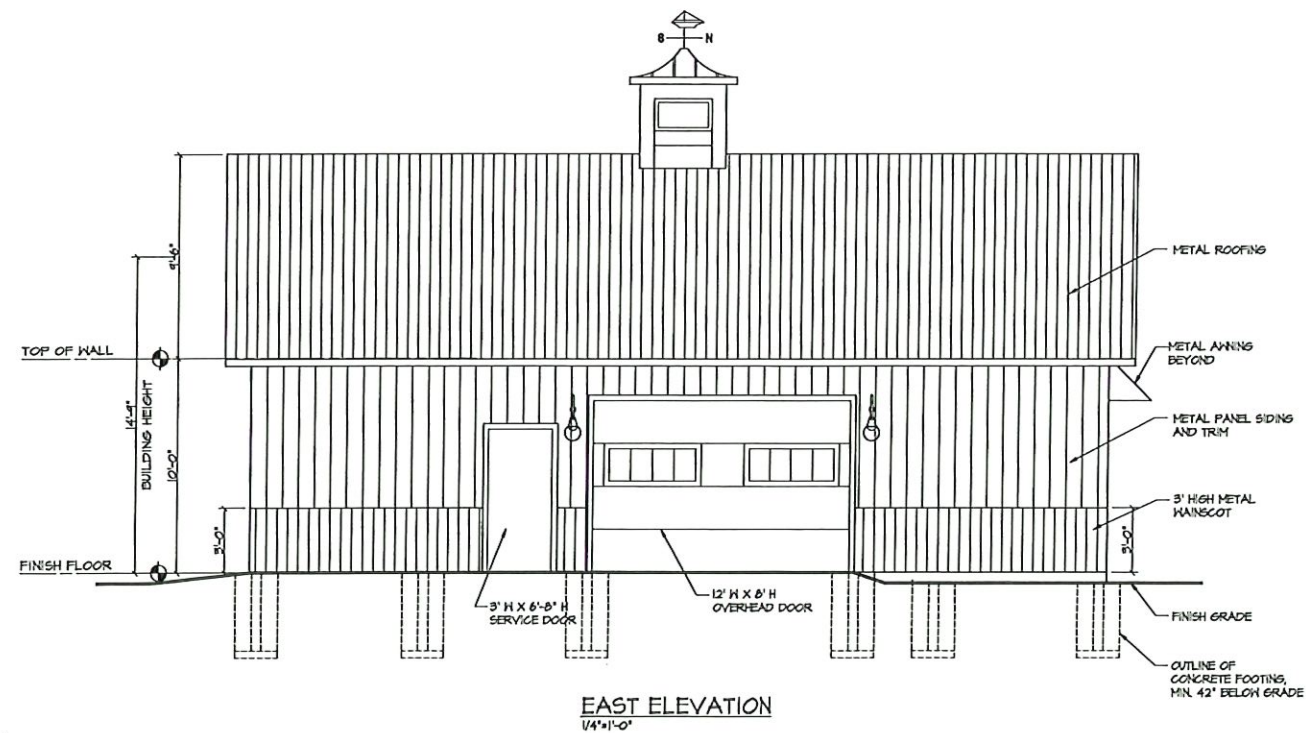
DATE: 5-24-2005

DRAWN BY: CH, JKC

SCALE: AS NOTED

SHEET NO:

A1



EXTERIOR ELEVATIONS

REVISIONS	
8-1-2025	
JOB NO. 025-021	
DATE 9-24-2025	
DRAWN BY: CH, JCC	
SCALE: AS NOTED	
SHEET NO.	

A3.1

PROPOSED STORAGE BUILDING ADDITION FOR
KRANE HEATING & COOLING, INC.
 3008 GRANGE HALL RD, HOLLY, MI 48442

JOHN K. COSTA, AIA
 ARCHITECTURAL DESIGN
 & CONSULTATION, PLLC
 417 OLDFIELD BLVD
 FARMING, MICHIGAN 48433
 810-659-3273 FAX 810-459-5379

